Vanderbilt University Undergraduate Catalog

VANDERBILT

Calendar 2006/2007

FALL SEMESTER 2006

Deadline to pay fall charges / Wednesday 16 August
Orientation begins for new students / Saturday 19 August
Registration ends / Tuesday 22 August
Classes begin / Wednesday 23 August
Change period for fall / Thursday 24 August–Wednesday 30 August
Family Weekend / Friday 29 September–Sunday 1 October
October break / Monday 16 October–Tuesday 17 October
Homecoming and related activities / Wednesday 18 October–Saturday 21 October
Course request period for spring / Monday 30 October–4:00 p.m. Friday 10 November
(Dates for spring registration will be published in the spring *Schedule of Courses*.)
Thanksgiving holidays / Saturday 18 November–Sunday 26 November
Classes end / Thursday 7 December
Reading days and examinations / Friday 8 December–Saturday 16 December
Fall semester ends / Saturday 16 December

SPRING SEMESTER 2007

Deadline to pay spring charges / Wednesday 3 January
Classes begin / Wednesday 10 January
Change period for spring / Thursday 11 January–Wednesday 17 January
Spring holidays / Saturday 3 March–Sunday 11 March
Founder's Day / Friday 16 March
Course request period for fall 2007 (continuing students) / begins Monday 9 April
Classes end / Tuesday 24 April
Reading days and examinations / Wednesday 25 April–Thursday 3 May
Deadline to register for fall to avoid the late registration fee / Friday 4 May
Commencement / Friday 11 May

MAY SESSION 2007

Registration; classes begin / Monday 7 May
Classes end; examinations / Friday 1 June

SUMMER SESSION 2007

Registration for most schools / Monday 4 June
Classes begin in Arts and Science, Blair, and Engineering / Tuesday 5 June
Module I begins in Peabody / Monday 11 June
Examinations for first-half courses / Friday 6 July
Module II begins in Peabody; supplementary registration for second-half courses in other schools / Monday 9 July
Second-half courses begin / Tuesday 10 July
Examinations for second-half and full-term summer courses / Thursday 9 August–Friday 10 August

Undergraduate Catalog

College of Arts and Science
Blair School of Music
School of Engineering
Peabody College

Vanderbilt
University
2006/2007

Containing general information
and courses of study
for the 2006/2007 session
corrected to 23 June 2006
Nashville

The university reserves the right, through its established procedures, to modify the requirements for admission and graduation and to change other rules, regulations, and provisions, including those stated in this bulletin and other publications, and to refuse admission to any student, or to require the withdrawal of a student if it is determined to be in the interest of the student or the university. All students, full- or part-time, who are enrolled in Vanderbilt courses are subject to the same policies.

Policies concerning non-curricular matters and concerning withdrawal for medical or emotional reasons can be found in the *Student Handbook*.

NONDISCRIMINATION STATEMENT
In compliance with federal law, including the provisions of Title IX of the Education Amendments of 1972, Title VI of the Civil Rights Act of 1964, Sections 503 and 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, Vanderbilt University does not discriminate on the basis of race, sex, religion, color, national or ethnic origin, age, disability, or military service in its administration of educational policies, programs, or activities; its admissions policies; scholarship and loan programs; athletic or other university-administered programs; or employment. In addition, the university does not discriminate on the basis of sexual orientation consistent with university non-discrimination policy. Inquiries or complaints should be directed to the Opportunity Development Officer, Baker Building, VU Station B #351809, 2301 Vanderbilt Place, Nashville, Tennessee 37235-1809. Telephone (615) 322-4705 (V/TDD); fax (615) 343-4969.

The text of this bulletin is printed on recyclable paper with biodegradable ink.

Copyright © 2006 Vanderbilt University

Printed in the United States of America

Contents

A&S

B

E

P

The University

COMMODORE Cornelius Vanderbilt, who gave a million dollars to build and endow Vanderbilt University in 1873, expressed the wish that it "contribute . . . to strengthening the ties which should exist between all geographical sections of our common country."

A little more than a hundred years later, the Vanderbilt Board of Trust adopted the following mission statement: "We reaffirm our belief in the unique and special contributions that Vanderbilt can make toward meeting the nation's requirements for scholarly teaching, training, investigation, and service, and we reaffirm our conviction that to fulfill its inherited responsibilities, Vanderbilt must relentlessly pursue a lasting future and seek highest quality in its educational undertakings."

Today as Vanderbilt pursues its mission, the university more than fulfills the Commodore's hope. It is one of a few independent universities with both a quality undergraduate program and a full range of graduate and professional programs. It has a strong faculty of more than 2,500 full-time members and a diverse student body of more than 11,000. Students from many regions, backgrounds, and disciplines come together for multidisciplinary study and research. To that end, the university is the fortunate recipient of continued support from the Vanderbilt family and other private citizens.

The 330-acre campus is about one and one-half miles from the downtown business district of the city, combining the advantages of an urban location with a peaceful, park-like setting of broad lawns, shaded paths, and quiet plazas.

Off-campus facilities include the Arthur J. Dyer Observatory, situated on a 1,131-foot hill six miles south.

The schools of the university offer the following degrees:

College of Arts and Science. Bachelor of Arts, Bachelor of Science.
Graduate School. Master of Arts, Master of Arts in Teaching, Master of Liberal Arts and Science, Master of Science, Doctor of Philosophy.
Blair School of Music. Bachelor of Music.
Divinity School. Master of Divinity, Master of Theological Studies.
School of Engineering. Bachelor of Engineering, Bachelor of Science, Master of Engineering.
Law School. Doctor of Jurisprudence, Master of Laws.
School of Medicine. Doctor of Audiology, Doctor of Medicine, Master of Laboratory Investigation, Master of Science in Medical Physics, Master of Public Health, Master of Science in Clinical Investigation.
School of Nursing. Master of Science in Nursing.
Owen Graduate School of Management. Master of Business Administration, Master of Science in Finance.
Peabody College. Bachelor of Science, Master of Education, Master of Public Policy, Doctor of Education.

No honorary degrees are conferred.

Accreditation

Vanderbilt University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033, telephone number 404-679-4500) to award bachelor's, master's, specialist's, and doctor's degrees. Vanderbilt is a member of the Association of American Universities.

The Libraries

The Jean and Alexander Heard Library

"We often tend to think of a library simply as a collection of books. What we sometimes forget is that a library is a place of interaction, where the minds of students and faculty collide with other minds removed in time and place." —*Chancellor Emeritus Alexander Heard*

The Jean and Alexander Heard Library is one of the important research libraries in the Southeast, with more than 3.0 million volumes in nine libraries. Most materials are shelved in open stacks and are available to students and faculty through Acorn, the library's online catalog. The Heard Library Web site also provides access to a growing number of full-text journals, as well as indexes and other research resources, and is accessible remotely via the campus network and from workstations in each library.

The divisions of the Heard Library include:

Annette and Irwin Eskind Biomedical Library
Central Library (contains resources in the social sciences and humanities)
Divinity Library
Alyne Queener Massey Law Library
Walker Management Library
Anne Potter Wilson Music Library
Peabody Library
Sarah Shannon Stevenson Science and Engineering Library
Special Collections and University Archives

For more information about library collections, facilities, and services, see the library's portal, *www.library.vanderbilt.edu.*

Information Technology Services

Information Technology Services (ITS) offers voice, video, data, and computing services to Vanderbilt students, faculty, and staff.

ITS maintains and supports VUnet, the campuswide data network that provides access to the Internet, and VUnetID, which enables Vanderbilt users to securely identify themselves to many services on VUnet. Services currently authenticated by VUnetID include OASIS, the university's course registration system; Online Access to Knowledge (OAK); VUspace, the university's network file system; and VUmail, the university's e-mail system. VUmail now includes VUmailguard, designed to protect your e-mail from viruses, unwanted mail (spam), and high-risk attachments.

ITS maintains the campus phone (voice) network, including a personal phone line for each resident student. Optional services include voice mail and long-distance calls from campus (V-net). ITS also partners with Sprint to offer discounts for cellular phone service.

For campus residents, ITS supports ResNet, which provides a direct connection to VUnet and the Internet. Phone and cable television ports are provided in each campus residence. For more information about ResNet, see *www.vanderbilt.edu/resnet*. For those who live off campus, ITS offers VUaccess, a dial-up connection to VUnet and the Internet.

Through the Digital Life initiative, Vanderbilt partners with Napster Music Services and FreshTracks Music to offer VUmix, a legal, safe, inexpensive, and easy way to explore and share music. See *digitallife.vanderbilt.edu* and *www.vanderbilt.edu/vumix* for details.

The ITS Help Desk provides information to students, faculty, and staff about VUnet and VUnet services. Help Desk locations, hours, contacts, and other information can be found at *www.vanderbilt.edu/helpdesk*.

For more information on IT services, visit *its.vanderbilt.edu*.

For more information on computing at Vanderbilt, visit *www.vanderbilt.edu/technology*.

Commencement

The university holds its annual Commencement ceremony following the spring semester. Degree candidates must have completed successfully all curriculum requirements and have passed all prescribed examinations by the published deadlines to be allowed to participate in the ceremony. A student completing degree requirements in the summer or fall semester will be invited to participate in Commencement the following May; however, the semester in which the degree was actually earned will be the one recorded on the diploma and the student's permanent record. Students unable to participate in the graduation ceremony will receive their diplomas by mail.

Special Programs for Undergraduates

Study Abroad

Vanderbilt offers study abroad opportunities for all undergraduate students from Arts and Science, Peabody, Engineering, and Blair. Through Vanderbilt study abroad programs with our own resident directors and through additional programs provided by agreements with other universities and agencies, Vanderbilt students can take direct credit courses of study abroad in Argentina, Australia, Austria, Brazil, Chile, China, the Czech Republic, Denmark, the Dominican Republic, England, France, Germany, Ireland, Israel, Italy, Japan, Mexico, New Zealand, Russia, Scotland, South Africa, South Korea, Spain, and Taiwan.

Study abroad programs are open to students in good academic, financial, and disciplinary standing, with an overall grade point average of 2.700 or better or a grade point average at this level in each of the two most recent semesters. Most programs require a higher grade point average and, with the exception of Vanderbilt's programs in France and Spain, the student's application must also be approved by the host university, institute, or consortium. Study abroad programs that are either controlled by or approved by Vanderbilt offer direct credit toward the Vanderbilt degree. Hours earned in them are treated as if earned on the Nashville campus and serve to satisfy the residence requirement (see the chapter on Academic Regulations). Other study abroad programs may be approved for transfer credit by the dean of the student's college/school. Information is available from the Study Abroad Office, Room 115, Student Life Center, and at *www.vanderbilt.edu/studyabroad*.

Vanderbilt Programs

The three oldest Vanderbilt study abroad programs are at Aix-en-Provence in France, Regensburg in Germany, and Madrid in Spain.

The Vanderbilt in France, Vanderbilt in Germany, and Vanderbilt in Spain programs give undergraduates an opportunity to develop greater fluency in the language of the host country and require students to have sufficient facility to take classes offered in that language. Residence in France or Spain may be for either the academic year, the fall or spring semester, or the summer. The program in Germany is offered in partnership with Wesleyan University and is primarily for the spring semester, but arrangements can be made for students wishing to study for the academic year.

The exchange programs at the Universidad de las Americas (UDLA) in Puebla, Mexico, at Rikkyo University in Tokyo, Japan, and at Seoul National University in Seoul, Korea, offer students an opportunity for

study at a partner university. At UDLA, students can learn more about the culture and society of Mexico and with sufficient language proficiency can take regular classes at the university with their Mexican counterparts. Participation in the program can be for the entire academic year, fall or spring semesters. During the summer an intensive program in Spanish language and Mexican culture and society is offered at UDLA for students at all levels of language proficiency, beginning to advanced. At Rikkyo University, students can learn more about the culture and society of Japan while studying the Japanese language intensively. Through the support of the Freeman Foundation, participants can receive a scholarship to cover most of their living and travel costs. At Seoul National University, students can study the culture and society of Korea and take course work in the Korean language. Interested students should contact the Study Abroad Programs office for more information.

In addition, programs are offered in Jerusalem at the Hebrew University, in Palma de Mallorca at the University of the Balearic Islands, and in Rome through the Intercollegiate Center for Classical Studies (ICCS). The ICCS is a consortium of thirty-seven universities and colleges and is open only to majors in the departments of Classical Studies and History of Art. More information is available about this program in the Department of Classical Studies, 329 Furman Hall.

Vanderbilt Summer Programs

While summer study abroad opportunities are available through many Vanderbilt programs, two programs of special long-standing are directed by Vanderbilt faculty. These are Humanities in London and International Studies in London, both offered each summer and held in the facilities of the University of London. The Humanities in London program emphasizes the literature, history, and art of Great Britain. The International Studies in London program emphasizes the social, economic, business, and political aspects of contemporary international problems. Additional summer study is provided in Bilbao, Spain, at the University of Deusto.

Some additional summer study abroad opportunities are offered in cooperation with the agencies listed below.

Vanderbilt-Approved Programs

Through arrangements with the Council on International Educational Exchange (CIEE), CET Academic Programs (CET), Denmark's International Studies (DIS), Institute for the International Education of Students (IES), and the Institute for Study Abroad (IFSA) Butler University, Vanderbilt students may select from a wide range of study abroad opportunities.

The Council on International Educational Exchange (CIEE) offers Vanderbilt-approved programs in China at Peking University in Beijing, at Nanjing University in Nanjing, and East China Normal University in Shanghai; in Taipei, Taiwan, at the National Chengchi University; and in Japan at Sophia University in Tokyo. In Latin America, programs are

available in Buenos Aires, Argentina, at the Facultad Latinoamericana de Ciencias Sociales, the Pontifícia Universidad Católica Argentina, and the Universidad de Buenos Aires; in Brazil, at the Pontifícia Universidade Católica (PUC) de São Paulo; in Chile at the Universidad de Chile and the Pontifícia Universidad Católica de Chile in Santiago and at Universidad Católica de Valparaíso; in the Dominican Republic at the Pontifícia Universidad Católica Madre y Maestra in Santiago; and in South Africa at the University of Cape Town. Students may also attend, through CIEE, Murdoch University in Perth, Australia, and St. Petersburg State University in St. Petersburg, Russia. For more information about all CIEE programs, see their Web site at *www.ciee.org*.

CET sponsors Vanderbilt-approved programs at four Chinese universities: the Beijing Institute of Education, the Harbin Institute of Technology, Zhejiang University of Technology in Hangzhou, China, and, for summer only, at the Johns Hopkins-Nanjing Center for Chinese and American Studies at Nanjing University. Study is also available in Florence and Siena, Italy. For more information about all CET opportunities, see their Web site at *www.cetacademicprograms.com*.

DIS offers course work in multiple subject areas—European culture and history, politics and society, international business and economics, medical practice and policy, marine and environmental biology, psychology and child development, and others in Copenhagen.

Through the IES program in Vienna, Austria, qualified students can pursue course work in music studies (performance and theory), and take courses in art history, cultural studies, drama, economics, German, history, political science, and other social sciences. Students who have adequate language proficiency may be able to take regular university courses.

Through the Institute for Study Abroad (IFSA) Butler University, qualified students can study in Australia, Ireland, New Zealand, Northern Ireland, and Scotland. In Australia, students may study at the University of Adelaide (Adelaide), Australian National University (Canberra), the University of Melbourne (Melbourne), Monash University (Melbourne), New South Wales University (Sydney), the University of Queensland (Brisbane), the University of Sydney (Sydney), and the University of Western Australia (Perth). In Ireland, students may study at Trinity College (Dublin), National University of Ireland-Galway (Galway), University College Cork, the National University of Ireland-Dublin (Dublin), and in Northern Ireland at Queens University (Belfast). In New Zealand, study is available at the University of Auckland, the University of Canterbury (Christchurch, South Island), or Victoria University (Kelburn, Wellington, North Island). And in Scotland, study is available at the University of Edinburgh, the University of St. Andrews, The University of Stirling, and the University of Glasgow. For more information, see the IFSA-Butler Web site at *www.ifsa-butler.org*.

ENGAGE Scholars Program

The ENGAGE (Early Notification of Guaranteed Admission for Graduate Education) Scholars Program seeks to connect Vanderbilt's exceptional undergraduates with the university's diverse array of graduate and professional schools, including the Divinity School, Law School, Owen Graduate School of Management, Peabody College, School of Engineering, School of Medicine, and School of Nursing.

ENGAGE is designed to give students the opportunity to pursue a broad curriculum and take full advantage of course offerings in all areas offered at Vanderbilt. Though individual courses may be recommended by some of the graduate schools, students may pursue any major within the university. ENGAGE Scholars also receive funding of up to $5,000 for one summer study abroad or research experience after the sophomore year. With its emphasis on comprehensive education, ENGAGE is not designed to reduce the number of years required to graduate from an undergraduate or graduate program. Students interested in pursuing one of the combined "3-2" programs offered in education, nursing, engineering, and business may work in consultation with their adviser to organize their curriculum of study with the programs in order to complete the requirements necessary for combined program options.

The ENGAGE Scholars application process is separate from the freshman application process for Vanderbilt's undergraduate schools and selection is very competitive. Applications are available from the Office of Undergraduate Admissions for incoming students and from the Office of Honor Scholarships for first-year students. A record of outstanding achievement throughout high school in academic, personal, leadership, and community arenas is important. Strong candidates are intellectually curious and able to clearly articulate their ideas.

Students have two opportunities to apply for ENGAGE: as an incoming freshman or at the end of the freshman year. This applies to all of the graduate programs except medicine, where the second opportunity to apply is available at the end of the sophomore year. ENGAGE Scholars must eventually meet the admissions criteria established by their graduate/professional school in order to secure enrollment there. These criteria include GPA requirements and achievement of established minimum graduate school standardized test scores. Enrollment is nonbinding, with the exception of the School of Medicine where a binding agreement will be expected at the end of the sophomore year.

Joint Programs

Vanderbilt undergraduates in education, engineering, and music take their background liberal arts and science courses in the College of Arts and Science—and may take other elective courses in these areas as individual degree programs will allow. In like manner, students in the College of Arts and Science may take approved courses in the other schools for

regular or professional credit toward the liberal arts degree. A list is available in the College of Arts and Science Registrar's Office. Students may earn a second major or minor outside of their school, as well.

Several joint programs, combining undergraduate study with work toward a master's degree, may make possible saving a year in the time required to complete both degrees. Details of the various joint programs will be found in the appropriate school sections of this catalog.

Preparation for Careers in the Health Professions

Study programs leading to careers in medicine, dentistry, veterinary science, public health, and many related areas are under the general supervision of the Advisory Committee on Health Professions. Dr. Robert Baum is health professions adviser for students in Arts and Science and Blair. Professors Thomas R. Harris and Vera Stevens Chatman are advisers to Engineering and Peabody students, respectively.

Medicine

Students interested in premedical studies should plan their undergraduate programs in consultation with Dr. Baum or the appropriate adviser for their school. There is no formal premedical program of courses at Vanderbilt. Each student should plan a program to meet individual requirements. Premedical studies should include whatever courses may be necessary to meet medical school admission requirements and to satisfy the requirements of the student's undergraduate degree program.

See the Vanderbilt *Medical Center Catalog* for the official statement on minimum requirements for admission to Vanderbilt University School of Medicine. *Admission to the Vanderbilt University School of Medicine is competitive. There is no course of study that will ensure admission.*

Students are urged to consult the directory *Medical School Admission Requirements: United States and Canada*, published by the Association of American Medical Colleges, as a guide to planning their undergraduate programs. Additional information on preparation for medical study can be found in the College of Arts and Science section of this book.

Nursing

Students interested in nursing may earn a Master of Science in Nursing (M.S.N.) degree in five years. Interested students apply for admission to either the College of Arts and Science or Peabody College and indicate on their applications that pre-nursing is their intended program of studies. In addition to their faculty advisers in the College of Arts and Science or Peabody, pre-nursing students will be assigned faculty advisers in the School of Nursing to assist them in planning their program of studies.

Pre-nursing students obtain both the baccalaureate degree and the M.S.N. degree by combining three and one-half years (a minimum of 105 earned hours) of study in the College of Arts and Science with six semesters

of study in the School of Nursing. Students will receive the baccalaureate from the College of Arts and Science at the end of the eighth semester under the senior-in-absentia program, and the M.S.N. from the School of Nursing after completing an additional five consecutive semesters of study. This program of study requires that students complete the general curriculum requirements (including CPLE or AXLE and major) for the baccalaureate degree and satisfy the prerequisite courses for admission to the School of Nursing. The first three semesters in nursing are accelerated generalist nursing courses and serve as a "bridge" into the Master of Science in Nursing program by preparing students for the NCLEX exam to become a Registered Nurse (R.N.). These courses also provide the foundation equivalent to the bachelor's degree in nursing for course work in the selected nursing specialty. Upon completion of three semesters of pre-specialty courses, students enter an additional three semester sequence of courses in their declared specialty in order to earn the M.S.N. degree.

Students must apply to the Nursing School and to the Administrative Committee of the College of Arts and Science for admission to the senior year in absentia program by December 1 of their junior year. Students are subject to all Nursing School admission requirements, and no student is assured of admission to the Nursing School. Up to 16 hours of Nursing School courses approved by the College of Arts and Science may be counted toward completion of the undergraduate degree. Upon acceptance to the Nursing School, students will be assigned an adviser and should schedule an advising appointment.

Pre-nursing students at Peabody College may either (a) complete a major in Child Development and earn a B.S. through a senior-in-absentia program or (b) complete a major in Human and Organizational Development and earn a B.S. through a senior-in-absentia program or (c) complete 78 hours of prerequisite courses and apply for admission to the School of Nursing for either their junior or their senior year. Upon admission to the School of Nursing, the student is required to complete six semesters (two calendar years) of full-time study to earn the M.S.N. Additional information may be found in the Peabody College section of this catalog.

Admission to the Graduate Nursing Program. Prior to admission to the School of Nursing, applicants must have completed prerequisite courses, including the following:

Six hours of English composition, literature, or other Vanderbilt courses designated with a "W."

Six hours of humanities courses concerned with human thought, including literature, classics, theater, fine arts, history, music, philosophy, and religion. Technical or skill courses, such as music performance or studio art, are not acceptable humanities courses.

A required introductory course in statistics that includes descriptive and inferential statistical techniques; Mathematics 127a–127b, Mathematics 180, Mathematics 218, or Peabody Psychology 2101 will fulfill this requirement.

Nine hours of social science courses in psychology, sociology, anthropology, political science, or economics.

Eleven hours of natural science courses. Courses in human anatomy and physiology (Nursing 210a and 210b) and microbiology (Nursing 150) are required. Chemistry 101a–101b or 102a–102b and Biological Sciences 110a–110b are strongly recommended for admission but not required.

Three hours of lifespan development are required. Human and Organizational Development 1000, Applied Human Development; or Peabody Psychology 1630, Developmental Psychology will fulfill the lifespan development requirement.

Two hours of nutrition are required. Nursing 231a, Introduction to Nutritional Health, fulfills the requirement for nutrition.

The remaining hours of prerequisites must consist of courses with grades of *C* or above; physical education and Pass/Fail courses may not be included in the prerequisites.

Admission to the School of Nursing is competitive. Consult the School of Nursing catalog for specific requirements and admission procedures. Students are encouraged to write or call the School of Nursing's Office of Admissions, 226 Godchaux Hall, Nashville, TN 37240, (615) 322-3800, or see the Web site, *www.mc.vanderbilt.edu/nursing*, for further explanation of prenursing and graduate nursing programs.

Preparation for Other Professional Careers

Architecture, Law, and Journalism

Undergraduate students expecting to pursue architecture, law, or journalism at the graduate level may earn any major at Vanderbilt, but should be aware of graduate field requirements. See the chapter on Special Programs in the College of Arts and Science section of this catalog.

Teacher Licensure Programs

Vanderbilt offers programs through Peabody College leading to licensure for teaching. Students seeking teacher licensure should refer to the Peabody College section of this catalog. Students seeking licensure in music should see the Blair section of this catalog.

Undergraduate students in the College of Arts and Science, Blair School of Music, the School of Engineering, or Peabody College who are seeking licensure in early childhood, elementary, or secondary education must complete a major outside of teacher education and a Peabody College education major. Licensure in special education fields does not require a second major.

Officer Education Programs

Air Force Officer Training (AFROTC)

Currently there is no charge for tuition to take Air Force ROTC. The grade and credit can transfer back for graduation.

The Air Force Reserve Officer Training Corps (AFROTC) provides precommission training for college men and women who desire to serve as commissioned officers in the United States Air Force. When combined with the academic disciplines offered at the college level, the program provides the student a broad-based knowledge of management, leadership, and technical skills required for a commission and subsequent active-duty service in the Air Force. A minor in Aerospace Studies is available; contact your academic adviser or the AFROTC instructor for course requirements.

Graduates are commissioned as Second Lieutenants and will enter active duty within sixty days. Educational delays may be granted for nonflying graduates who desire to pursue advanced degrees prior to entry on active duty. The main objectives of producing officers through the AFROTC program are 1) to procure officers with a broad educational base, 2) to provide a basic military education for college students, 3) to teach fundamentals and techniques of leadership, management, and decision making, and 4) to develop, in conjunction with other academic disciplines, individual character and attributes required of a commissioned officer in the United States Air Force.

AFROTC Program/Scholarships

Enrolling in AFROTC. **Please go to *www.tnstate.edu/rotc* for application deadlines.** Vanderbilt University students may participate in the Air Force ROTC Program in cooperation with Tennessee State University. Call Detachment 790, (615) 963-5931, and ask for a Cross-Town Application. Mail this short application and your unofficial transcripts with your immunization records back to Detachment 790. The program provides training and education that will develop skills and attitudes vital to the professional Air Force Officer. In this program students are eligible to compete for scholarships (2.5+ GPA) and receive the same benefits and privileges as full-time students enrolled at TSU. Vanderbilt may provide room and/or board to scholarship winners.

Curriculum. The General Military Course (GMC) is 1 credit hour and is composed of the first four semesters of aerospace studies (AERO) and is for freshmen and sophomores. The Professional Officer Course (POC) is 3 credit hours and constitutes the final four semesters of AFROTC study and enrolls juniors and seniors. The Leadership Lab is also 1 credit hour.

Civil Air Patrol Squadron. The Civil Air Patrol Squadron is a centralized flying program for AFROTC cadets conducted at any time while they are enrolled in AFROTC. Training consists of eight hours of flying instruction in a light, single-engine aircraft. Objectives of the program are to train

and motivate qualified cadets toward a rated (flying) career, and to introduce the cadets to the aviation career field.

Students who participate in the Air Force ROTC program must be enrolled at Vanderbilt University. The student is also jointly enrolled as a TSU student and participates in Aerospace Studies (Air Force ROTC) at TSU. For more information, contact the Unit Admissions Officer at (615) 963-5931 or check our Web site at *www.tnstate.edu/rotc* or *www.afrotc.com*.

General Benefits

All students enrolled in the AFROTC program are provided textbooks and uniforms at no expense. Professional Officers Course (POC) students (juniors and seniors) and all scholarship students receive a monthly subsistence allowance of up to $400 tax-free.

Sponsored Activities

Arnold Air Society is a national society of AFROTC cadets who excel in character and academics and exhibit interests in the study of aerospace technology. The group meets at TSU.

Aerospace Studies Courses

FRESHMAN YEAR
AERO 100. The U.S. Air Force Today
SOPHOMORE YEAR
AERO 200. The Development of Air Power
JUNIOR YEAR
AERO 300. Air Force Leadership and Management–The Professional Officer
SENIOR YEAR
AERO 400. National Security Affairs/Preparation for Active Duty

Army Reserve Officers' Training Corps (ROTC)

Army ROTC provides college-educated officers for the Army, Army Reserve, and Army National Guard. As the Army's largest commissioning source, it fulfills a vital role in providing mature young men and women for leadership and management positions in an increasingly technical Army. Admission is open to both men and women who meet mental, moral, and physical qualifications.

Training goes beyond the typical college classroom and is designed to build individual confidence and self-discipline, instill values and ethics, and develop leadership skills. The course load consists of one course per semester.

Scholarship students receive full tuition scholarships each year, an annual $900 book allowance, a monthly $300 tax-free stipend (increases annually), and all uniforms. Vanderbilt University also provides Vanderbilt ROTC scholarship students an additional $3,000 tuition grant each year. Students who are not on scholarship receive the monthly stipend during their junior and senior years.

Scholarships. Students can earn merit scholarships in several ways.

High school seniors and graduates compete for four-year scholarships that are determined by local competition among Vanderbilt applicants. Although determined locally, the application process is centrally managed. For more information, see the Web site at *www.armyrotc.com*.

College sophomores not enrolled in military science may enter the program by attending four weeks of summer training at Fort Knox, Kentucky, after their sophomore year. These students are then eligible to compete at the national level for two-year scholarships.

Enlisted members of the U.S. Army are eligible for Green-to-Gold scholarships that are determined by national competition or by the commanding generals of Army divisions and corps.

Enlisted members of the Army Reserve or Army National Guard or outstanding students who are interested in joining the Army Reserve or Army National Guard may be eligible for two-year scholarships. They must have successfully completed two years of college to apply.

Summer training. The five-week leadership exercise at Fort Lewis, Washington, is a commissioning requirement. This is normally done between the junior and senior years. Travel, room, and board are provided free, and cadets are paid approximately $700. Other training opportunities exist for qualified applicants who volunteer.

Commissioning and career opportunities. A commission in the U.S. Army is a distinctive honor earned through hard work, demonstrated commitment, and a desire to serve the nation. Post-graduate military education, usually starting within six months of graduation and commissioning and continuing through the officer's service career, begins with the basic officer leadership course followed by officer basic courses that qualify new lieutenants in their specialties. Afterwards they are usually assigned as platoon leaders, typically responsible for every aspect of training, supervising, and caring for sixteen to thirty soldiers and millions of dollars worth of equipment. Education delays are available for critical specialties requiring post-graduate civilian education such as law and medical degrees.

Service obligations. After the freshman year, scholarship students incur a service obligation of four years active duty and four years in the Inactive Ready Reserve. There are also opportunities to serve all eight years in the Guard or Reserves.

Course credit. During the four-year program, Army ROTC students complete eight courses of Military Science. Academic credit varies by school.

College of Arts and Science. Army ROTC students may count MS 102 and MS 201 as professional hours. Grading is on a P/F basis.

Blair School of Music. MS 102, 201, and 202 are acceptable as electives.

School of Engineering. MS 102, 201, and 202 may be taken as open electives.

Peabody College. MS 102, 201, and 202 are acceptable as electives.

Tuition. Tuition is waived for any military science course that is not applied toward the degree.

Information. Inquiries regarding enrollment in the Army ROTC program should be made to the Army ROTC Admissions Officer at (615) 322-8550 or (800) 288-7682 (ROTC). Also see *www.vanderbilt.edu/army*.

Military Science Department

COMMANDING OFFICER William H. Hedges
MILITARY INSTRUCTORS Edwin W. Summey, Shawn A. Waldrip

Military Science Courses

FRESHMAN YEAR
MS 101. Leadership and Personal Development
MS 102. Introduction to Tactical Leadership
SOPHOMORE YEAR
MS 201. Innovative Team Leadership
MS 202. Foundations of Tactical Leadership
JUNIOR YEAR
MS 301. Adaptive Tactical Leadership
MS 302. Leadership in Changing Environments
SENIOR YEAR
MS 401. Developing Adaptive Leaders
MS 402. Leadership in a Complex World

Naval Officer Education

The Naval Reserve Officer Training Corps (NROTC) unit at Vanderbilt conducts the Naval Officer Education program.

Challenging academic courses and experience-building events prepare a select group of highly accomplished students for the opportunity to serve their country and receive an education. Naval officer education prepares students for active duty service as officers in the U.S. Navy and Marine Corps. Its primary focus is to develop the ablest leaders possible by building upon the academic strength of Vanderbilt and providing essential military and leadership education.

Students participate in the NROTC unit in the scholarship program, the college program, or the naval science program. Scholarship students take the prescribed naval science course each semester, participate weekly in naval science lab, and engage in a four-week, summer training program after each academic year. The college program is identical to the scholarship program except for tuition financial benefit and that students only participate in summer training upon completion of their junior academic year. Any Vanderbilt student may take any or all of the naval science courses without participating in naval science lab or summer training.

Scholarship students receive tuition assistance, fees, $375 per semester for textbooks, uniforms, and a monthly stipend beginning at $250 for freshmen and increasing to $400 for seniors. Vanderbilt also provides scholarship students with a $3,000 per year stipend toward room and board. College program students are provided with uniforms, textbooks for naval science courses, and, upon commencement of their junior year, a monthly stipend of $350.

Scholarships. Students can earn scholarships in several ways. Four-year scholarships are determined by national competition among high school seniors and graduates. Based on the national ranking, students may be awarded a scholarship that covers full tuition. The application process begins as early as the spring semester of the student's junior year of high school, but no later than early January of the year prior to admission. College program students can be nominated for three- and two-year scholarships by the NROTC unit. These nominations are based on the students' academic and military performance at the college level. Sophomores not enrolled in the college program are eligible to apply for the two-year NROTC scholarship program. This is a national competition and application is made through the NROTC unit. Those selected will attend a six-week naval science program during the summer prior to joining the NROTC unit in their junior year.

Service obligation. At the beginning of their sophomore year, should they chose to continue with the NROTC program, scholarship students incur a service obligation of four years active duty and four years inactive reserve to be served upon graduation or withdrawal from the program. College program students incur a three-year active duty and five-year inactive reserve commitment upon graduation or withdrawal from the program.

Summer training. Summer training of about four weeks is conducted aboard naval vessels and naval shore stations after each of the first three academic years. Scholarship students are normally required to participate each year. All scholarship and college program midshipmen are required to participate in summer training prior to their final academic year.

Course credit. During the four-year program, NROTC students are required to complete a maximum of eight courses (24 hours) of naval science. Academic credit awarded varies by school and is outlined below.

College of Arts and Science. NS 231 may be taken for academic credit as professional hours. NS 241 may be taken for academic credit as professional hours by NROTC students; Sociology 247 may be taken in lieu of NS 241 with Naval Science instructor's permission. History 131 may be taken for credit as part of the NROTC requirements. All other naval science hours are earned in excess of the 120 hours required for the B.A. or B.S. degree.

School of Engineering. History 131 may be counted as a social science elective. Courses NS 121, 231, and 241 may be counted as open electives. Management of Technology 244 or 234 (technical electives) or Sociology 247 (social science elective) may be substituted for NS 241 with Naval Science instructor's permission. Mechanical Engineering 220a or Chemical Engineering 162 with a reading supplement may be substituted for NS 121 with Naval Science instructor's permission. Use of electives varies by major.

Blair School of Music and Peabody College. Courses NS 231 and 241 and History 131 are acceptable as electives. Sociology 247 or HOD 1100, 1200, or 2700 may be taken in lieu of NS 241 with Naval Science instructor's permission.

Tuition. Tuition is waived for any naval science course that is not applied toward the degree.

Required Courses for Navy/Marine Scholarship. The following courses are required for students on scholarship:

Calculus (Navy option only) (6 credits minimum): Mathematics 150a–b, or 155a–b completed by the end of the sophomore year.

Physics (Navy option only) (6 credits): 116a–b, 117a–b, or 121a–b completed by the end of the junior year.

English (6 credits): Two semesters of any English course or courses consisting of a writing component (e.g., 115F).

American History/Political Science (3 credits): HIST 170, PSCI 100, 101, 102, 220, 221, 222, 245, or 248.

World Studies (3 credits): Contact the Naval ROTC unit for a listing of courses fulfilling this requirement.

Information. Inquiries regarding enrollment in the Naval ROTC program should be made to the Naval ROTC unit recruiting officer at (615) 322-2671 or (800) 288-0118.

Admission to the program is open to both men and women. Physical qualification to Naval Service standards is required.

Naval Science

COMMANDING OFFICER Andy Johnson (Fall 2006)/Mark S. Laughton (as of Spring 2007)
EXECUTIVE OFFICER Brian M. Allen
MARINE INSTRUCTOR Christopher T. Clark
NAVAL INSTRUCTORS Kirk B. Hurme, Patrick J. Ingman, Tom Willard

Naval Science Courses

FRESHMAN YEAR
NS 100. Naval Orientation (Navy & Marine option)
History 131. Sea Power in History (Navy & Marine option)
SOPHOMORE YEAR
NS 241. Organization and Management (Navy & Marine option)
NS 231. Navigation (Navy option)
JUNIOR YEAR
NS 121. Naval Engineering Systems (Navy option)
NS 232. Naval Weapons Systems (Navy option)
SENIOR YEAR
NS 130. Naval Operations (Navy option)
NS 242. Leadership Seminar (Navy & Marine option)

The Marine option courses listed below are taught in the fall, rotating on a yearly basis. They are taken in the junior and senior year in lieu of those prescribed above.

NS 2311. Evolution of Warfare (Marine option)
NS 2411. Amphibious Warfare (Marine option)

Interdisciplinary Centers, Institutes, and Initiatives

Vanderbilt actively promotes research and teaching that crosses disciplines, departments, and institutional lines through a multitude of centers and institutes. Some of these programs receive funding through the Chancellor's Academic Venture Capital Fund, whose purpose is to launch major new interschool or transinstitutional initiatives in promising research fields. Below is a sampling of Vanderbilt's interdisciplinary initiatives. For more information, see *www.vanderbilt.edu/researchers.html*.

THE CAL TURNER PROGRAM FOR MORAL LEADERSHIP IN THE PROFESSIONS fosters an environment conducive to faculty research and teaching in areas associated with moral leadership, helps students develop the ability to provide moral leadership within their chosen professions and within the broader community, and serves as a resource for professionals. *www.vanderbilt.edu/moral_leadership*

THE CENTER FOR THE AMERICAS seeks to provide innovative perspectives on history, culture, and society by bringing together scholars whose research and teaching cross disciplinary boundaries and the political and geographical boundaries of North, Central, and South America. *www.vanderbilt.edu/americas*

THE CENTER FOR COMMUNITY STUDIES brings together psychologists, anthropologists, sociologists, and other social scientists with decades of experience in community development, community organizing, and community building. The center works locally, nationally, and internationally with public agencies, private companies, and local community organizations to conduct and apply academic research to improve quality of life in communities. *peabody.vanderbilt.edu/ccs*

THE CENTER FOR ETHICS fosters critical reflection, wide understanding, and types of engagement that encourage people with different ways of living and learning to examine their own values as well as those of others and to live constructively and wisely together. The center initiates and supports programs and projects that advance teaching, research, and public programs concerned with ethics. The center is particularly interested in drawing on expertise and resources across the university. It encourages university-wide exchange and cooperation and works to create new fields of knowledge, new opportunities for instruction, and new possibilities for personal and social life. The foci of the center's programs are faculty development, curriculum development, research, citizenship, and outreach. *www.vanderbilt.edu/CenterforEthics*

THE CENTER FOR INTEGRATIVE AND COGNITIVE NEUROSCIENCE supports the quest to comprehend how the brain produces thought and emotion. The purpose of this endeavor is not only to develop more effective treatments for mental and neurological disorders, but also to further our understanding of what it is to be human. CICN researchers focus on three areas: sensory science; development, learning and memory; and clinical neuroscience. *http://cicn.vanderbilt.edu*

THE CENTER FOR LATIN AMERICAN AND IBERIAN STUDIES, established in 1947, works to advance knowledge about and understanding of Latin America and Iberia. The center administers the Latin American Studies undergraduate and master's programs, as well as a joint master of arts and master of business administration program with the Owen Graduate School of Management. CLAIS also brings speakers, visiting scholars, and conferences to campus and arranges for Vanderbilt professors to visit local classrooms. *http://sitemason.vanderbilt.edu/clais*

THE CENTER FOR MEDICINE, HEALTH, AND SOCIETY has more than one hundred affiliates from all schools and colleges of the university. It offers an undergraduate program (minor and contract major in medicine, health, and society) and sponsors seminars, workshops, lectures, and conferences. Any interested faculty member or student may affiliate with the center. *www.vanderbilt.edu/mhs*

THE CENTER FOR THE STUDY OF RELIGION AND CULTURE draws from Vanderbilt's ten schools to advance a well-recognized history of excellence in the study of religion and culture. An intellectual incubator, the center helps develop projects that address the most current social, political, economic, and other issues involving religion and culture through small grants, graduate fellowships, and cosponsorship of lectures, seminars, and conferences. *www.vanderbilt.edu/csrc*

THE CURB CENTER FOR ART, ENTERPRISE, AND PUBLIC POLICY examines the complex, decentralized system through which federal legislation, government regulation, and the policies of film studios, record companies, and broadcasters shape America's cultural landscape. *www.vanderbilt.edu/curbcenter*

THE LEARNING SCIENCES INSTITUTE comprises a group of interdisciplinary scholars studying how we learn, with a special focus on new uses of technology and innovative teaching practices to enhance learning. *www.vanderbilt.edu/lsi*

THE ROBERT PENN WARREN CENTER FOR THE HUMANITIES promotes interdisciplinary research and study in the humanities, social sciences, and natural sciences. The center is designed to intensify and increase interdisciplinary discussion of academic, social, and cultural issues and also engages in outreach to the community by sponsoring teacher training, lectures and seminars, and publications designed to promote the importance of the humanities in today's world. *www.vanderbilt.edu/rpw_center*

THE VANDERBILT BILL WILKERSON CENTER FOR OTOLARYNGOLOGY AND COMMUNICATION SCIENCES welcomed patients, students, and researchers to its new $61 million home in 2005. The center houses the nation's top audiology program as well as programs in speech-language pathology and hearing and speech science. It serves more than 50,000 patients each year. *www.mc.vanderbilt.edu/root/vumc.php?site=aboutbw*

THE VANDERBILT BRAIN INSTITUTE promotes and facilitates the discovery efforts of Vanderbilt neuroscientists, the training of undergraduate and graduate students, and the coordination of public outreach in brain sciences. Research endeavors in the VBI include more than two hundred scientists from forty departments, centers, and institutes across the campus, spanning a spectrum of study from molecules to the mind. Vanderbilt's neuroscience training programs foster the development of trainees to independent research scientists and educators, preparing them for careers in an integrative discipline. The undergraduate neuroscience major is an interdisciplinary program from several departments and schools providing a comprehensive background in biology, chemistry, mathematics, and physics as well as a strong foundation in the fundamentals of neuroscience. *http://braininstitute.vanderbilt.edu*

THE VANDERBILT CENTER FOR CHILD AND FAMILY POLICY bridges research, policy, and best practice to benefit children and families. The center provides direct services to current and former foster youth and helps these individuals as well as families, community groups, and neighborhoods effect change on public policy at the local, state, and national level. *www.vanderbilt.edu/VIPPS/C&FPC*

THE VANDERBILT INSTITUTE OF CHEMICAL BIOLOGY provides research and training in the application of chemical approaches to the solution of important biomedical problems. Particular strengths of the institute include analytical methodology and molecular imaging, cellular responses to chemical stress, small molecule discovery, enzyme and receptor

chemistry, proteomics, structural biology, and chemical synthesis. The center trains graduate students, recruits new faculty members with needed expertise, and runs a seminar program. *www.vanderbilt.edu/vicb*

THE VANDERBILT INSTITUTE OF NANOSCALE SCIENCE AND ENGINEERING engages in theoretical and experimental research in science and engineering at the nanoscale (from one millionth to one billionth of a meter in size). VINSE works to acquire the equipment needed to conduct nanoscale research, trains graduate students, and provides a point of focus for chemists, physicists, and engineers at Vanderbilt with research interests in nanoscience. VINSE includes programs in nano-optics; nano-biopr ocesses; spintronics; nanoscale electronics; nanocrystal fabrication, characterization, and integration; and radiation effects and defect studies. *http://vinse.vanderbilt.edu*

THE VANDERBILT INSTITUTE FOR INTEGRATIVE BIOSYSTEMS RESEARCH AND EDUCATION unites biological and physical scientists and engineers who have interest in working at the multifaceted interface of biology, chemistry, education, engineering, medicine, and physics. VIIBRE targets much of its activities toward research and education in post-genomic systems biology. The institute is distinguished by its focus on the development and application of advanced cellular instrumentation and on the creation and implementation of pedagogically sound programs in interdisciplinary education. *www.vanderbilt.edu/viibre*

THE VANDERBILT INSTITUTE FOR PUBLIC POLICY STUDIES addresses a wide range of issues, including health policy, urban social policy and revitalization of low-income inner-city neighborhoods, crime and anti-social behavior, social welfare, and joint U.S.-Japan business and technical cooperation. VIPPS provides opportunities for undergraduate and graduate students to learn about research design, implementation, and data analysis. Students are mentored by senior researchers and participate in all phases of research projects. By participating in research projects, students develop critical thinking skills and learn how to translate research findings into practical policy recommendations. *www.vanderbilt.edu/VIPPS*

THE VANDERBILT KENNEDY CENTER FOR RESEARCH ON HUMAN DEVELOPMENT is one of fourteen national centers for research on mental retardation and developmental disabilities supported in part by the National Institute of Child Health and Human Development. It also is a University Center for Excellence in Developmental Disabilities Education, Research, and Service in the national network of sixty-four such centers in every U.S. state and territory supported by the U.S. Administration on Developmental Disabilities. The mission of the Kennedy Center is to improve, through research, training, and outreach, the quality of life of persons with disorders of thinking, learning, perception, communication, mood and emotion caused by disruption of typical development. The center is a university-wide institute, with interdisciplinary research programs addressing four broad areas: communication and learning, developmental neurobiology and brain plasticity, emotion and mood, and families. Students have the opportunity to collaborate in research with mentorship from renowned Kennedy Center scientists in Vanderbilt research training programs in developmental disabilities, developmental psychopathology, neurogenomics, neuroscience, vision science, and special education. Observation, practicum, and clinical experiences are available in the center's clinical programs. *http://kc.vanderbilt.edu*

THE VANDERBILT UNIVERSITY INSTITUTE OF IMAGING SCIENCE aims to support advances in physics, engineering, computing, and other basic sciences for the development and application of new and enhanced imaging techniques to address important problems in biology and medicine, in health and disease. *www.vuiis.vanderbilt.edu*

VANDERBILT UNIVERSITY SLOAN CENTER FOR INTERNET RETAILING leverages the expertise of eLab, founded by two Owen Graduate School of Management professors as the nation's first academic e-business research center, to study the enormous challenges and opportunities of Internet retailing. *http://elab.vanderbilt.edu*

Other initiatives include:

Addiction Research Center

Advanced Computing Center for Research and Education

American Economic Association

Arthritis and Joint Replacement Center

Biomathematics Study Group

Bishop Joseph Johnson Black Cultural Center

Career Center

Carpenter Program in Religion, Gender, and Sexuality

Center for Biomedical Ethics and Society

Center for Child Development

Center for Clinical Toxicology

Center for Community Studies

Center for Constructive Approximation

Center for Entrepreneurship Education

Center for Evaluation and Program Improvement

Center for Integrative and Cognitive Neuroscience

Center for Intelligent Systems

Center for Matrix Biology

Center for Medicine, Health, and Society

Center for Molecular Neuroscience

Center for Science Outreach

Center for Space Physiology and Medicine

Center for Teaching

Center for Vascular Biology

Center on School Choice, Competition, and Achievement

Classroom Organization and Management Program

Clinical Nutrition Research Unit

Clinical Trials Center

Cognitive Robotics Laboratory

Community Outreach Partnership Center

Comprehensive Care Center

Computational Science: Atomic Structure Calculations

Computational Science Education Project

Diabetes Center

Digestive Disease Research Center

Division of Sponsored Research

eLab (Digital Commerce Research Laboratory)

English Language Center

Family-School Partnership Lab

Financial Markets Research Center

Forum for Entrepreneurship Education

Freedom Forum First Amendment Center at Vanderbilt University

General Clinical Research Center

Genetic Epidemiology Centers

Geriatric Evaluation Program

Informatics Center

Initiative in Biomathematics

Institute for Software Integrated Systems

Institute for Space and Defense Electronics

Intelligent Robotics Laboratory

Interdisciplinary Graduate Program in the Biomedical Sciences (IGP)

IRIS Center for Faculty Enhancement

Joint Center for Nursing Research

Kelly Miller Smith Institute on Black Church Studies

Laser Diagnostics and Combustion Group

Law and Business Program

Leadership Development Center

Learning Technology Center

Living State Physics

Max Kade Center for European and German Studies

Margaret Cuninggim Women's Center

Mass Spectrometry Research Center

Middle Tennessee Poison Center

Opportunity Development Center

Owen Entrepreneurship Center

Peabody Center for Education Policy

Principals Leadership Academy of Nashville

Program in Human Genetics

Program in Law and Business

Program in Structural Biology

Proteomics and Functional Biology
- Cryo-electron Microscopy Facility
- Gene Profiling Laboratory
- Vanderbilt Inst. for Imaging Sciences Proteomics Laboratory

Radiation Effects and Reliability Group

Sleep Center

Smart Structures Laboratory

Specialized Center of Research in Acute Lung Injury

Specialized Center of Research in Newborn Lung Disease

Structural Biology Program

Susan Gray School for Children

Tennessee Lions Eye Center at Vanderbilt Children's Hospital

TV News Archive

Vanderbilt Addiction Research Center

Vanderbilt Breast Center

Vanderbilt Center for Better Health

Vanderbilt Center for Environmental Management Studies

Vanderbilt Center for Evidence-Based Medicine

Vanderbilt Center for Stem Cell Biology

Vanderbilt Engineering Center for Transportation Operations and Research

Vanderbilt Executive Development Institute

Vanderbilt Eye Center

Vanderbilt-Ingram Cancer Center

Vanderbilt Institute for Public Policy Studies (VIPPS)
- Center for Child and Family Policy
- Center for Evaluation Research and Methodology
- Center for Health Policy
- Center for Psychotherapy Research and Policy
- Center for State and Local Policy
- Center for U.S.-Japan Studies and Cooperation

Vanderbilt-Meharry Center for AIDS Research

Vanderbilt-Northwestern-Texas-Harvard/MIT Engineering Research Center for Bioengineering Educational Technologies

Vanderbilt Program for Talented Youth

Vanderbilt Sports Medicine Center

Vanderbilt Transplantation Center

Vanderbilt Voice Center

Vision Research Center

W. M. Keck Free-Electron Laser Center / Biophotonics Program

W. T. Bandy Center for Baudelaire and Modern French Studies

Zebrafish Program in Functional Genomics

Life at Vanderbilt

New-Student and First-Year Programs

Vanderbilt conducts three undergraduate first-year programs. (1) The Summer Academic Orientation Program (SAOP), although not mandatory, is attended by about two-thirds of the entering students and their families. During SAOP, students meet with faculty advisers, plan their fall schedules, and preregister for classes. (2) DoreWays programs begin during the week of August 14 and end the day before move-in day. The program is optional with limited enrollment. Students participating in DoreWays can choose from among a variety of experiences, including a leadership track, multicultural track, a service-learning track, a wilderness experience, or a team-building program led by faculty and upperclass students. (3) DoreSTEPS (Students Transitioning in their Educational and Personal Success) is required for all new freshmen and transfer students. Activities include a wide range of social and academic events to ensure a smooth transition into university life. Small groups of new students will be matched with upperclass mentors, called Vuceptors, to assist in their transition.

Vanderbilt is proud of the way new community members are welcomed to campus, but constantly aims to improve. Comments or suggestions about all orientation programs are encouraged and appreciated. See our orientation Web site for more information at *www.vanderbilt.edu/studentlife/orientation*.

The Honor System

The Honor System is a time-honored tradition that began with the first classes at Vanderbilt in 1875. Students established the system and continue to manage it today. It rests on the presumption that all work submitted as part of course requirements is produced by the student, without help from any other source unless acknowledgement is given in a manner prescribed by the instructor. Cheating, plagiarizing, or otherwise falsifying results of study are specifically prohibited. The system applies not only to examinations but also to written work and computer programs submitted to instructors. Detailed descriptions of Honor System violations and Honor Council procedures are published in the *Student Handbook,* available on the Web, *www.vanderbilt.edu/student_handbook.*

Responsibility for the preservation of the system falls on the individual student who, by registration, acknowledges the authority of the Honor Council. Students are expected to demand of themselves and their fellow students complete respect for the Honor Code. Ignorance of the regulations

is not a defense for abuse of regulations. All incoming students attend a mandatory signing ceremony and education program for the Honor System at the beginning of the fall semester. Additional information about the Honor System is available on the Web at *www.vanderbilt.edu /HonorCouncil*.

Student Conduct

All students who take courses, live in residence halls, or otherwise participate in the activities of the university are within the jurisdiction of the university's judicial bodies, whether or not they are registered primarily at Vanderbilt. Policies governing student conduct are published in the *Student Handbook,* on bulletin boards, or by other reasonable means of notification. The Office of Student Conduct and the Undergraduate Conduct Council have original jurisdiction over all matters of nonacademic misconduct involving undergraduate students.

Residential Living

Vanderbilt University is a residential campus, and the residential experience is understood to be an integral part of a Vanderbilt education. This commitment to residential education is clearly expressed in the university's residential requirement: "All unmarried undergraduate students, except those who live with their families in Davidson County, must live in residence halls on campus during the academic year, May session, and summer sessions. Authorization to live elsewhere is granted at the discretion of the Director of Housing Assignments in special situations or when space is unavailable on campus" (2005–2006 *Student Handbook*).

Residential living at Vanderbilt began in the 1880s when six cottages were constructed in response to a demand for on-campus housing. Today 5,000 undergraduate students live on campus, comprising 83 percent of the undergraduate student body. Additional undergraduate housing is currently under construction, and by the fall semester of 2008 nearly all undergraduates will live on campus. Housing for graduate and professional students is not available on campus.

Undergraduate Housing

Several types of housing are offered to meet the needs of a diverse student body—suites, singles, doubles, triples, apartments, and lodges.

Some housing is segregated by gender; most housing is coresidential. In the coresidential living space areas, men and women may be housed in different living spaces on the same floor but not in the same living space. Six officers from each fraternity and sorority may live in their fraternity or sorority houses.

TeleVu, the residence hall cable system, and ResNet, the residential data network, are available in each room of every residence hall on campus. Residents with personal computers can connect to ResNet for high-speed data services. In addition to existing Ethernet cable access to

ResNet for each student, all residence halls will provide wireless access to ResNet by spring semester 2007.

Freshman Students

Freshmen are usually housed in Kissam and Branscomb quadrangles and Barnard and Vanderbilt halls. Kissam Quadrangle consists of Hemingway, Reinke, Currey, Dyer, Mims, and Kissam halls. The halls are air conditioned, and the single rooms on each floor share a common bath facility. All residence halls have basic room furnishings that include bed, dresser, desk, chairs, and window coverings. Lounges, study rooms, and television rooms are located within the quadrangle.

Branscomb Quadrangle (Lupton, Scales, Stapleton, and Vaughn) is also air conditioned. There are two physical arrangements: (a) double rooms with a common bath on each floor and (b) suites of two double rooms connected by a half bath (with a common bath on each floor). The complex contains laundry facilities, lounges, study rooms, music practice rooms, and a convenience store.

Barnard and Vanderbilt Halls house first-year students in single and double air-conditioned rooms. Common area bath facilities are located on each floor. Study lounges, a television lounge, a convenience store, music practice rooms, and a laundry are located in the Vanderbilt/Barnard complex.

Upperclass Students

Cole and Tolman halls are located near Sarratt Student Center. Slightly more than 100 upperclass students live in single rooms in each hall. Cole and Tolman halls house upperclass female and male populations, respectively.

East, North, West, and Memorial halls on the Peabody area of campus contain primarily double rooms with common bath facilities on each floor. Two new residence halls on the Peabody campus, Building C and Building E, will open in fall 2006. All are air conditioned. Peabody residence halls have study lounges, television lounges, and common kitchens. There are three laundry facilities, several music practice rooms, and an exercise facility on the Peabody campus.

Upperclass students are also housed in the twelve-story, air-conditioned Carmichael Towers complex located on West End Avenue. Carmichael has two styles of living arrangements: (a) single and double rooms arranged in six-person suites with bath, kitchen, and common area and (b) single and double rooms arranged on halls, with common bath facilities and a lounge on each floor. The Towers are complete with lounges, meeting rooms, laundry facilities, storage rooms, recreation areas, music practice rooms, a convenience store, and a Food Court.

At the south end of the campus are Chaffin Place, Lewis House, Morgan House, and Mayfield Place. Chaffin contains two-bedroom apartments that house four students. Students share efficiencies and one- and two-bedroom apartments in Morgan and Lewis Houses. In Mayfield, units of ten single rooms cluster around a two-story living room area. A laundry facility and a convenience store are located in this residential area.

Special Interest Houses

McGill Hall is the home of the McGill Project, designed to stimulate and foster discussion and exploration of philosophical issues between students and faculty. Faculty members meet with residents in McGill for informal discussion (open to all students) and formal class work. Residents also participate in suppers, movies, and recreation.

The goals of McTyeire House are to improve the fluency of McTyeire residents in Chinese, French, German, Japanese, or Spanish languages, and to expand communication between international and American students by means of discussions, programs, and international coffees and festivals. An international interest hall is also offered for students with interest in global citizenship. This program is offered in English. Space is available for ninety-four upperclass students in single rooms. Living in McTyeire carries a commitment to take a predetermined percentage of one's meals in the McTyeire dining room.

Mayfield Living/Learning lodges are set aside for groups of ten students who want to establish their own special-interest houses. Such programs have included arts, community service, computers, environment/recycling, world religions, music, and wellness.

Residential Life Administration

The residential community at Vanderbilt is divided into seven geographic areas, each of which has a full-time assistant director living within the area. Upperclass and graduate or professional students serve as head residents and resident advisers in the residence halls. An associate vice chancellor, one director, and two associate directors of housing and residential education also live on campus. For more information, visit the Web site, *www.vanderbilt.edu/ResEd.*

Residence halls for freshmen have RAs on each floor. Assistant directors and their student staff are responsible for maintaining an atmosphere conducive to the students' general welfare and education.

Interhall, the representative body of student residents, plans programs and recreational and social activities, and advises the residential affairs administration on policy matters.

Room Assignment

Freshmen. Freshmen may apply for housing after payment of their matriculation fees. Students must indicate their preference for either a single room or a double room. Roommate or hallmate requests are considered. Admission to the university does not guarantee assignment to a particular kind of room or a particular roommate or hallmate.

Returning Upperclass Students. Returning unmarried upperclass students receive their housing assignments through a random selection process in the spring. A local hall selection is held for students who want to remain in the same room or to change rooms within the same residence hall. Eligibility for participation is determined by the director of housing

assignments with advice from Interhall. A specific number of current residents of a suite, apartment, or lodge must return in order to reserve that living space.

Transfer and Former Students. Requests for room assignments by new transfer students and former students returning to campus are made through the Office of Housing and Residential Education, and are determined by the date of deposit. The university tries to accommodate as many transfer students as possible, but acceptance at Vanderbilt does not guarantee campus housing.

The Commodore Card

The Commodore Card is the Vanderbilt student ID card. It can be used to access debit spending accounts, VU meal plans, and campus buildings such as residence halls, libraries, academic buildings, and the Student Recreation Center.

ID cards are issued at the Commodore Card Office, 184 Sarratt Student Center, Monday through Friday from 8:30 a.m. to 4:00 p.m., and Tuesdays until 7:00 p.m. For more information, see the Web site at *http://thecard.vanderbilt.edu*.

Eating on Campus

Vanderbilt Dining's meal plan program, VU Meal Plans, gives students comprehensive dining options. Features include extended hours, multiple locations, variety, a rollover account for missed meals, special events, Meal Money, Taste of Nashville (ToN) program, and three guest meals per semester.

All freshman Vanderbilt students living on campus are required to participate in the 19 Meal/Week Plan. Other students may purchase the 7, 14, or 19 Meal Plan by checking the selection on their housing applications or by purchasing the plans at the Commodore Card Office located in Sarratt Student Center.

There are a variety of options conveniently located across campus. The Rand Dining Center, The Pub, Stonehenge Deli, Grins Vegetarian Café, C.T. West, Quiznos, Chef's Table at Cohen, Engineering Café, and Blair Café all host the VU Meal Plans. Vanderbilt Dining also operates six convenience stores including the Varsity Marketplace in Branscomb and the Cohen Market on Peabody campus, which are open 24 hours and accept VU Meal Plans.

For more information on VU Meal Plans, visit *www.vanderbilt.edu/dining/vumealplans*. For more information on Vanderbilt Dining, visit *www.vanderbilt.edu/dining*.

Services to Students

Confidentiality of Student Records (Buckley Amendment)

Vanderbilt University is subject to the provisions of federal law known as the Family Educational Rights and Privacy Act (also referred to as the Buckley Amendment or FERPA). This act affords matriculated students certain rights with respect to their educational records. These rights include:

The right to inspect and review their education records within 45 days of the day the university receives a request for access. Students should submit to the University Registrar written requests that identify the record(s) they wish to inspect. The University Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. If the University Registrar does not maintain the records, the student will be directed to the university official to whom the request should be addressed.

The right to request the amendment of any part of their education records that a student believes is inaccurate or misleading. Students who wish to request an amendment to their educational record should write the university official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the university decides not to amend the record as requested by the student, the student will be notified of the decision and advised of his or her right to a hearing.

The right to consent to disclosures of personally identifiable information contained in the student's education records to third parties, except in situations that FERPA allows disclosure without the student's consent. One such situation is disclosure to school officials with legitimate educational interests. A "school official" is a person employed by the university in an administrative, supervisory, academic or research, or support staff position (including university law enforcement personnel and health staff); a person or company with whom the university has contracted; a member of the Board of Trust; or a student serving on an official university committee, such as the Honor Council, Student Conduct Council, or a grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

The Buckley Amendment provides the university the ability to designate certain student information as "directory information." Directory information may be made available to any person without the student's consent unless the student gives notice as provided for below. Vanderbilt has designated the following as directory information: the student's name, addresses, telephone number, e-mail address, student ID photos, date and place of birth, major field of study, school, classification, participation in officially recognized activities and sports, weights and heights of members of athletic teams, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student, and other similar information. Any new entering or currently enrolled student who does not wish disclosure of directory information should notify the University Registrar in writing. No element of directory information as defined above is released for students who request nondisclosure except in situations allowed by law. The request to withhold directory information will remain in effect as long as the student

continues to be enrolled, or until the student files a written request with the University Registrar to discontinue the withholding. To continue nondisclosure of directory information after a student ceases to be enrolled, a written request for continuance must be filed with the University Registrar during the student's last term of attendance.

If a student believes the university has failed to comply with the Buckley Amendment he or she may file a complaint using the Student Complaint and Grievance Procedure as outlined in the *Student Handbook*. If dissatisfied with the outcome of this procedure, a student may file a written complaint with the Family Policy and Regulations Office, U.S. Department of Education, Washington, D.C. 20202.

Questions about the application of the provisions of the Family Educational Rights and Privacy Act should be directed to the University Registrar or to the Office of the General Counsel.

Vanderbilt Directory Listings

Individual listings in the online *People Finder Directory* consist of the student's full name, school, academic classification, local phone number, local address, box number, and permanent address. The printed *Vanderbilt Directory* also contains these items unless the student blocks them by September 1 using the update option of the *People Finder Directory*. Student listings in the *People Finder Directory* are available to the Vanderbilt community via logon ID and e-password. Students have the option of making their *People Finder* listings available to the general public (viewable by anyone with access to the Internet), of adding additional contact information such as cellular phone, pager, and fax numbers, and of blocking individual directory items or their listing in its entirety. Students who have placed a directory hold with the University Registrar will not be listed in the online directory. To avoid being listed in the printed directory, the request for a directory hold must be on file prior to September 1.

Directory information should be kept current. Students may report address changes via the Web by going to *www.vanderbilt.edu/students.html* and clicking on *Student Web Applications* and *Address Change*.

Counseling and Advisory Services

Advising is an important part of Vanderbilt's central mission to help each student achieve individual goals. Many support services are provided, including pre-major and major academic advising and career and personal counseling. Residence hall staff are continuously on call.

Deans and professional staff in academic programs and in all areas of the Division of Student Life offer counseling services to students:

The Career Center
Office of Housing and Residential Education
Faculty Advisers
Health Professions Advisers
International Student and Scholar Services
Office of Student Activities

Office of the University Chaplain and Affiliated Ministries
Opportunity Development Center
Pre-Business Advisers
Pre-Law Advisers
Psychological and Counseling Center
Student Health Center
Teacher Education Adviser, Arts and Science
Teacher Licensure Office, Peabody College
Writing Studio

Career Center

The Vanderbilt Career Center empowers students of Vanderbilt University to develop and implement career plans. This is accomplished by offering a variety of services and educational programs that help students determine career options, learn job search skills, gain career-related experience, and connect with employers.

Services include individual career advising, career resource center, graduate and professional school services, career-related seminars and workshops, resume consultation, interview training, internship opportunities, career fairs, campus interviews, credentials services through Interfolio, part-time and full-time job listings, and resume referrals. For detailed information about the Career Center, view the Web site at *www.vanderbilt.edu/career*, or visit the office at 220 Student Life Center, 310 25th Avenue South.

Services for Students with Disabilities

Vanderbilt is committed to the provisions of the Rehabilitation Act of 1973 and Americans with Disabilities Act as it strives to be an inclusive community for students with disabilities. Students seeking accommodations for any type of disability are encouraged to contact the Opportunity Development Center. Services include, but are not limited to, extended time for testing, assistance with locating sign language interpreters, audiotaped textbooks, physical adaptations, notetakers, and reading services. Accommodations are tailored to meet the needs of each student with a documented disability. The Opportunity Development Center also serves as a resource regarding complaints of unlawful discrimination as defined by state and federal laws.

Specific concerns pertaining to services for people with disabilities or any disability issue should be directed to the Disability Program Director, Opportunity Development Center, VU Station B #351809, 2301 Vanderbilt Place, Nashville, Tennessee 37235-1809; phone (615) 322-4705 (V/TDD); fax (615) 343-0671; *www.vanderbilt.edu/odc/*.

Psychological and Counseling Center

The Psychological and Counseling Center is a broad-based service center available to full-time students, faculty, staff, and their partners and dependents. Services include: 1) family, couples, individual, and group

counseling and psychotherapy; 2) psychological and educational assessment; 3) career assessment and counseling; 4) programs such as assertiveness training; marital communication; individual reading and study skills/test-taking techniques; body image, stress, and time management; group support programs for acquiring skills such as relaxation; 5) administration of national testing programs; 6) outreach and consultation; 7) special programming related to diversity issues; 8) campus speakers and educational programs.

Eligible persons may make appointments by visiting the Psychological and Counseling Center or by calling (615) 322-2571. Services are confidential to the extent permitted by law. For more information, see the Web site, *www.vanderbilt.edu/pcc.* The site also contains self-reflection questions and information resources for counseling services.

Student Health Center

The Vanderbilt Student Health Center (SHC) in the Zerfoss Building is a student-oriented facility that provides routine and acute medical care similar to services rendered in a private physician's office or HMO.

The following primary care health services are provided to students registered in degree-seeking status without charge and without copayment: visits to staff physicians and nurse practitioners; personal and confidential counseling by mental health professionals; routine procedures; educational information and speakers for campus groups; and specialty clinics held at the SHC.

These SHC primary care services are designed to complement the student's own insurance policy, HMO, MCO, etc., coverage to provide comprehensive care. Students are billed for any services provided outside the SHC or by the Vanderbilt University Medical Center.

The entire medical staff is composed of physicians and nurse practitioners who have chosen student health as a primary interest and responsibility.

The Zerfoss Student Health Center is open from 8:00 a.m. to 4:30 p.m., Monday through Friday, and 8:30 a.m. until noon on Saturday, except during scheduled breaks and summer. Students should call ahead to schedule appointments, (615) 322-2427. A student with an urgent problem will be given an appointment that same day, or "worked in" if no appointment is available. When the Health Center is closed, students needing acute medical care may go to the Emergency Department of Vanderbilt University Hospital. They will be charged by the VU Medical Center for Emergency Department services.

Students may also call (615) 322-2427 for twenty-four-hour emergency phone consultation, which is available seven days a week (except during summer and scheduled academic breaks). On-call Student Health professionals take calls after regular hours. Calls between 11:00 p.m. and 7:00 a.m. are handled by the Vanderbilt University Emergency Department triage staff. More information is available on the Web (*www.vanderbilt.edu/student_health*).

Student Accident and Sickness Insurance Plan

All degree-seeking students, with the exception of Division of Unclassified Studies (DUS) students, who are registered for 4 or more credit hours are required to have adequate health insurance coverage. The university offers a sickness and accident insurance plan that is designed to provide hospital, surgical, and major medical benefits. A brochure explaining the limits, exclusions, and benefits of insurance coverage is available to students online at *www.kosterweb.com*, in the Office of Student Accounts, or at the Student Health Center.

The annual premium is in addition to tuition and is automatically billed to the student's account. Coverage extends from August 20 through August 19 of the following year, whether a student remains in school or is away from the university. The online waiver indicating comparable coverage must be completed every year in order to waive the Student Accident and Sickness Insurance Plan beginning with the class of 2010.

A student who does not want to subscribe to the insurance plan offered through the university must complete an online waiver form indicating the other insurance information at *www.kosterweb.com*. This process must be completed by August 1 for students enrolling in the fall for annual coverage. Newly enrolled students for the spring term must complete the online waiver process by January 1.

Family Coverage. Students who want to obtain coverage for their families (spouse, children, or domestic partner) may secure application forms by contacting the on-campus Student Insurance representative, (615) 343-4688. Dependents can also be enrolled online at *www.kosterweb.com* using a credit card. Additional premiums are charged for family health insurance coverage.

International Student Coverage

International students and their dependents residing in the United States are required to purchase the university's international student health and accident insurance plan. No exceptions are made unless, in the judgment of the university, the student provides proof of coverage that is equal to or greater than that in the university-sponsored policy. This insurance is required for part-time as well as full-time students. Information and application forms are provided through the Student Health Center.

Child Care Center

Vanderbilt Child Care Center operates as a service to university staff members, faculty members, and students. The program serves children from six weeks to five years of age, and offers placement through a waiting list. The center is accredited by the National Academy of Early Childhood Programs.

Bishop Joseph Johnson Black Cultural Center

The Bishop Joseph Johnson Black Cultural Center (BJJBCC) provides educational and cultural programming on the African and African American experience for the Vanderbilt and Nashville communities. Dedicated in 1984, the center is named for the first African American student admitted to Vanderbilt (in 1953), Bishop Joseph Johnson (B.D. '54, Ph.D. '58). The center represents one of Vanderbilt's numerous efforts at acknowledging and promoting diversity.

One of the center's aims is to foster an understanding of the values and cultural heritage of people of African descent worldwide. In this regard, the center serves as a resource for information on African and African American life and culture. Symposia, lectures, musical performances, art exhibitions, audiovisual materials, and publications on the African and African American experience provide a broad spectrum of activities for the university and the general public. The center also provides an office space for the *Afro-Hispanic Review*, which is edited by Vanderbilt faculty and graduate students.

Another of the center's aims is student support. The center does this by providing a meeting space for numerous Vanderbilt student groups. Additionally, center staff members advise campus student organizations on a range of projects. The center promotes student recruitment by hosting various pre-college groups and efforts. One additional goal of the center is community outreach and service. To this end, the center sponsors a Community Speakers Series designed to bring community leaders to campus for talks and forums. The center reaches out to civic and cultural groups and works cooperatively with them. The BJJBCC also provides space for tutoring sessions and mentoring activities for young people from Metro Nashville Public Schools and other institutions, such as the YMCA.

Recently expanded, and renovated, the center houses a computer lab, a small library, a seminar room, an auditorium, a student lounge area, and staff offices. The center is open to all Vanderbilt students, faculty, and staff for programs and gatherings throughout the year. More information is available on the BJJBCC Web site at *www.vanderbilt.edu/BCC*.

International Student and Scholar Services

International Student and Scholar Services (ISSS) fosters the education and development of non-immigrant students and scholars to enable them to achieve their academic and professional goals and objectives. ISSS provides advice, counseling, and advocacy regarding immigration, cross-cultural, and personal matters. ISSS supports an environment conducive to international education and intercultural awareness via educational, social, and cross-cultural programs.

ISSS provides immigration advising and services, including the processing of immigration paperwork, to more than 1,500 international students and scholars. The office works with admission units, schools, and departments to generate documentation needed to bring non-immigrant

students and scholars to the U.S. Further, ISSS keeps abreast of the regulations pertaining to international students and scholars in accordance with the Department of Homeland Security (Bureau of Citizenship and Immigration Services) and the Department of State. ISSS coordinates biannual orientation programs for students and ongoing orientations for scholars, who arrive throughout the year.

To help promote connection between international students and the greater Nashville community, ISSS coordinates the First Friends program, which matches international students with Americans both on and off campus for friendship and cross-cultural exchange. The weekly World on Wednesday presentations inform, broaden perspectives, and facilitate cross-cultural understanding through discussions led by students, faculty, and staff. International Education Week in the fall and International Awareness Festival in the spring provide the campus with additional opportunities to learn about world cultures and to celebrate diversity. ISSS provides a range of programs and activities throughout the year to address a variety of international student needs and interests. These programs include Vanderbilt International Volunteers, an International Stress Fest, and a selection of holiday parties. Additionally, ISSS staff have been instrumental in developing and implementing the Tennessee Conference for International Leadership which brings together international and study abroad students from across the state for workshops and activities.

Margaret Cuninggim Women's Center

The Margaret Cuninggim Women's Center was established in 1978 to provide support for women at Vanderbilt as well as resources about women, gender, and feminism for the university community. In 1987, the center was named in memory of Margaret Cuninggim, dean of women and later dean of student services at Vanderbilt.

Programs for students, faculty, and staff are scheduled throughout the fall and spring semesters and are publicized on the Web at *www.vanderbilt.edu/WomensCenter* and in the monthly newsletter *Women's VU*, which is distributed without charge to campus addresses on request. Vanderbilt Feminists, a student group that works closely with the women's center, is open to all interested students, both male and female.

The center houses a small library with an excellent collection of books, journals, and tapes. Books and tapes circulate for four weeks. Copy facilities are available. The women's center is also home to Project Safe (PS), a coordinated program of education about, prevention of, and response to violence against women on campus.

Office for GLBT Life

The Vanderbilt Office for Gay, Lesbian, Bisexual, and Transgendered Life serves the entire Vanderbilt community through education, research, programming, counseling, and social events. Visitors are invited to use the office's resource library for research around GLBT issues. The Office for

GLBT Life continually seeks to expand its resources and strives to ensure that Vanderbilt University has the most current information concerning GLBT life, gender and sexual diversity, inclusiveness, and social justice. For more information, visit *www.vanderbilt.edu/glbt*, e-mail *glbtoffice@vanderbilt.edu*, or phone (615) 322-3330.

Schulman Center for Jewish Life

The 10,000-square-foot Ben Schulman Center for Jewish Life was formally dedicated in the fall of 2002. The Ben Schulman Center is the home of Vanderbilt Hillel. Our goal is to provide a welcoming community for Jewish students at Vanderbilt to further religious learning, cultural awareness, and social engagement. The center offers worship, fellowship, lectures, and social action projects for Vanderbilt's growing Jewish community as well as any student who wants to learn more about Judaism. The Schulman Center is also home to Grin's Cafe, Nashville's only kosher and vegetarian restaurant. For further information about the Schulman Center, please call 322-8376 or e-mail *hillel@vanderbilt.edu*.

Religious Life

The Office of the University Chaplain and Affiliated Ministries (*www.vanderbilt.edu/religiouslife*) exists to provide occasions for religious reflection and avenues for service, worship, and action. There are many opportunities to clarify one's values, examine personal faith, and develop a sense of social responsibility.

The Holocaust and the Martin Luther King Jr. lecture series, as well as Project Dialogue, provide lectures and programs investigating moral issues, political problems, and religious questions.

Baptist, Episcopal, Jewish, Muslim, Presbyterian, Reformed University Fellowship, Roman Catholic, and United Methodist chaplains work with individuals and student groups. Provisions for worship are also made for other student religious groups. Counseling and crisis referrals are also available.

Parking and Vehicle Registration

Parking space on campus is limited. Motor vehicles operated on campus **at any time** by students, faculty, or staff must be registered with the Office of Traffic and Parking located in the Wesley Place garage. A fee is charged. Parking regulations are published annually and are strictly enforced. More information is available at *www.vanderbilt.edu/traffic_parking*.

Freshmen may not purchase a reserved parking space or park on campus at any time. Bicycles must be registered with the VU Police Department.

Vanderbilt Police Department

The Vanderbilt University Police Department, (615) 322-2745, is a professional law enforcement agency dedicated to the protection and security of Vanderbilt University and its diverse community.

The Police Department comes under the charge of the Office of the Vice Chancellor for Administration. As one of Tennessee's larger law enforcement agencies, the Police Department provides comprehensive law enforcement and security services to all components of Vanderbilt University including the academic campus, Vanderbilt University Medical Center, and a variety of university-owned facilities throughout the Davidson County area. Non-commissioned and commissioned officers staff the department. Commissioned officers are empowered to make arrests as "Special Police Officers," through the authority of the Chief of Police of the Metropolitan Government of Nashville and Davidson County. Vanderbilt officers with Special Police Commissions have the same authority as that of a municipal law enforcement officer while on property owned by Vanderbilt, on adjacent public streets and sidewalks, and in nearby neighborhoods.

The Police Department includes a staff of more than one hundred people. All of Vanderbilt's commissioned officers have completed officer training at a state certified police academy. Those officers hold Special Police Commissions and are required to attend annual in-service, as well as on-the-job training. The department also employs non-academy-trained officers for security-related functions.

The Police Department provides several services and programs to members of the Vanderbilt community:

Vandy Vans—The Vanderbilt University Police Department administers the Vandy Vans escort system at Vanderbilt University. The Vandy Vans escort system provides vehicular escorts to designated locations on campus. The service consists of two vans that operate from dusk to 5:00 a.m.

One van makes a continuous loop around campus, taking approximately thirty minutes, making the following ten stops : Police Headquarters, Lupton dormitory at Branscomb Quad, 24th Avenue between Carmichael Towers East and West, Kissam Quad at Hemingway, Terrace Place garage, Wesley Place garage, North Hall, Blair School of Music, Highland Quad at Morgan Circle, and McGugin Center.

A second van runs an express route stopping at the following locations: Lupton dormitory at Branscomb Quad, 24th Avenue between Carmichael Towers East and West, Kissam Quad at Hemingway, North Hall, and Highland Quad at Morgan Circle.

Stops were chosen based on location, the accessibility of a secure waiting area, and student input. Signs, freestanding or located on existing structures, identify each stop. A walking escort can be requested to walk a student from his/her stop to the final destination. A van is also accessible to students with mobility impairments. Additional information about Vandy Vans can be found at *http://police.vanderbilt.edu/services.htm* or by calling (615) 322-2558.

As a supplement to the Vandy Vans van service, walking escorts are available for students walking to and from any location on campus during nighttime hours. Walking escorts are provided by VUPD officers. The telephone number to call for a walking escort is 421-8888 (off campus) or 1-8888 (on campus).

Emergency Phones—Emergency telephones (Blue Light Phones) are located throughout the university campus and medical center.

Each phone has an emergency button that when pressed automatically dials the VUPD Communications Center. An open line on any emergency phone will activate a priority response from an officer. An officer will be sent to check on the user of the phone, even if nothing is communicated to the dispatcher. Cooperation is essential to help us maintain the integrity of the emergency phone system. These phones should be used *only* for actual or perceived emergency situations.

An emergency response can also be received by dialing 1-1911 from any campus phone. Cell phone users can use (615) 421-1911 to elicit an emergency response on campus. Cell phone users should dial 911 for off-campus emergencies. All callers should be prepared to state their location.

Security Alerts—Security Alerts are distributed throughout Vanderbilt to make community members aware of significant unsolved crimes that occur at the university. They are distributed by mail, postings on public bulletin boards, through Vanderbilt e-mail lists, and through the department's Web page, *http://police.vanderbilt.edu*.

Educational and Assistance Programs—The Community Relations Division of Vanderbilt Police Department offers programs addressing issues such as sexual assault, domestic violence, workplace violence, personal safety, RAD (Rape Aggression Defense) classes, and victim assistance.

For further information on available programs and services, call (615) 322-2558 or e-mail *crimeprevention.atwood@vanderbilt.edu*. Additional information on security measures and crime statistics for Vanderbilt is available from the Police Department, 2800 Vanderbilt Place, Nashville, TN 37212. Information is also available at *http://police.vanderbilt.edu*.

Campus Security Report

In compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act and the Tennessee College and University Security Information Act, Vanderbilt University will provide you, upon request, an annual Security Report on university-wide security and safety, including related policies, procedures, and crime statistics. A copy of this report may be obtained by writing or calling the Vanderbilt University Police Department, 2800 Vanderbilt Place, Nashville, Tennessee 37212 or by telephone at (615) 343-9750. You may also obtain this report on the Web site at *http://police.vanderbilt.edu/secatvu.htm*.

Extracurricular Activities

Student Governance

The Student Government Association (SGA) provides a number of activities, programs, and services through its seven divisions: the Student Senate, composed of representatives from each class and school, and six program and policy-making divisions composed of both appointed and elected student officials.

Students are encouraged to become involved with the SGA through the Student Senate or committees and to participate in the student association or council of their own schools. The Freshman Leaders Program (FLP) solicits applications from new students each fall. FLP provides an opportunity for leadership development through interactions with administrators and involvement in student government activities.

For more information, see the Web site, *www.vanderbilt.edu/sga.*

The SGA office is in the Sarratt Student Center, where adviser Courtney Salters also has an office.

Active Citizenship

Active citizenship is an important part of the student experience at Vanderbilt. Nashville's vibrant urban neighborhoods provide ample opportunities for students to make real-life connections to their studies, achieving both personal growth and meaningful action through work with the community. The Office of Active Citizenship and Service (OACS) encourages student civic engagement and advocacy throughout the Nashville area. OACS encourages students to become involved in a wide array of active citizenship organizations ranging from Habitat for Humanity, Amnesty International, the Sierra Club, Vanderbuddies, and the Vanderbilt Prison Project to Leaders Engaged for an Active Democracy (LEAD) and VandyCares. The service opportunities are many and varied. OACS offers students the chance not only to build relationships with other students and those in need in the community; it also encourages students to critically analyze the issues in American life that create the need for so many volunteers and to empower themselves and others to challenge those inequities.

OACS offers a residentially-based Washington, D.C., internship program, VIEW (Vanderbilt Internship Experience in Washington), during the summer including placements on Capitol Hill, at CNN, and the Smithsonian. OACS also offers the Summer Kampala Project on Global Citizenship providing service learning opportunities in the Ugandan capital.

Sarratt Student Center

The Sarratt Student Center (*www.vanderbilt.edu/sarratt*), named for former mathematics professor and dean of students Madison Sarratt, provides a variety of facilities, programs, and activities. The center houses a cinema; an art gallery; art studios and darkrooms for classes and individual projects; work and office spaces for student organizations; comfort-

able reading and study lounges fully wired for Internet access; large and small meeting rooms; and large, open commons and courtyard areas for receptions or informal gathering. The center also houses the Pub (Overcup Oak) restaurant and Stonehenge Cafe, and leads directly to Rand Dining Center, the Varsity Market, and the Vanderbilt Bookstore. The Vanderbilt Program Board plans concerts, film screenings, classes, speakers, receptions, gallery showings, and many other events throughout the campus. The center's Welcome Desk serves as a campus information center and is a Ticketmaster™ outlet, handling ticket sales for most of the university's and Nashville's cultural events. Sarratt Student Center is home to the Division of Student Life, the Office of Greek Life, the Commodore Card Office, and Vanderbilt Student Communications (including student newspaper, radio station, and yearbook).

Student Life Center

Opened in April 2005, the Vanderbilt Student Life Center (*www.vanderbilt.edu/studentlifecenter*) is the university's new community keystone. It is both the fulfillment of students' vision to have a large social space on campus and a wonderful complement to Sarratt Student Center.

The Student Life Center has more than 18,000 square feet of event and meeting-room space. The 9,000-square-foot Commodore Ballroom has become one of the most popular spaces to have events on campus.

The center is also home to the Career Center, International Student and Scholar Services, Health Professions Advisory Office, Office of Honor Scholarships and ENGAGE, Office of International Services, and Study Abroad Programs office.

Vanderbilt Student Communications, Inc. (VSC)

VSC has jurisdiction over the campus radio station, Vanderbilt Television, and undergraduate publications that are supported by the student activities fee. VSC functions chiefly to elect editors, supervise and audit financial records, maintain professional standards, and develop communications opportunities for students. VSC serves no programmatic or editorial function.

Among the divisions of the corporation are *The Vanderbilt Hustler,* the campus newspaper; *Versus*, a magazine; the *Commodore* yearbook; WRVU, the student-operated FM radio station; *The Vanderbilt Review*, an annual literary-photo magazine; Vanderbilt Television; *Orbis*, a liberal viewpoint publication; *The Torch*, a conservative viewpoint publication; and *The Slant*, a humor publication.

Recreation and Sports

Physical education is not required for undergraduates, but almost two-thirds of the students participate in sport clubs, intramurals, and activity classes. Numerous classes are offered in racquetball, flycasting, aerobics, and scuba, along with workshops offering rock climbing and kayaking.

The Student Recreation Center houses a 36 meter x 25 yard swimming pool; three courts for basketball, volleyball, and badminton; six racquetball and two squash courts; a weight and fitness room; a wood-floor activity room; a rock-climbing wall; an indoor track; a mat room; locker rooms; and a Wellness Center. Lighted outside basketball and sand volleyball courts and an Outdoor Recreation facility complement the center.

Men's and women's intramurals are popular on campus, and intramural teams are formed by residence halls and independent groups as well as by sororities and fraternities.

Thirty-eight sport clubs, most created at the request of students, provide opportunity for participation in such favorites as fencing, rugby, crew, and lacrosse. Southeastern Conference eligibility standards are not required for sport clubs.

The university recreation and athletic facilities include gymnasiums, indoor and outdoor tracks, an indoor tennis center and many outdoor hard courts, and softball diamonds. The ten acres of playing fields are irrigated and maintained to assure prime field conditions, and they are lighted for night use.

All students pay a mandatory recreation fee which supports the facilities, fields, and programs (see the chapter on Financial Information).

Varsity Athletics

Students interested in more highly competitive sports on the varsity level will find challenges in intercollegiate athletics sanctioned by the Southeastern Conference, the American Lacrosse Conference, and the NCAA. Women's teams compete in basketball, bowling, cross country, golf, lacrosse, soccer, swimming, tennis, and indoor and outdoor track and field. Men's teams compete in baseball, basketball, cross country, football, golf, and tennis. Women's lacrosse is in the American Lacrosse Conference. Women's bowling is independent. All other sports are in the Southeastern Conference.

Cultural Activities on the Campus

Working through volunteer student committees that plan and execute the programs, Sarratt Student Center and Office of Student Activities sponsor twelve to fifteen dance, music, and theatre events each year, featuring renowned artists. Student committees select the artists and handle all arrangements for the performances.

Three campus galleries regularly exhibit the work of recognized artists as well as students. Vanderbilt University Theatre annually presents four major productions and several one-act plays for which all students are invited to audition. Other campus groups and touring companies also give dramatic presentations during the year.

Noncredit classes at all levels are offered in a wide variety of dance styles, including ballet, modern, jazz, ballroom, and ethnic dance. Master classes are given on a regular basis. Momentum, the student dance company, sponsors a dance concert at the end of each semester. Each fall,

dance and drama auditions are held for the student-run Rhythm & Roots Performance Company. This group explores the use of performance art as an expression of social complexities and as a catalyst for social change.

The Sarratt Art Studios host noncredit art classes in pottery, photography, jewelry, drawing, painting, fiber arts, mosaics, and stained glass. Classes and weekend workshops are taught by Nashville professional artists. The studios are located on campus in the Sarratt Student Center.

Opportunities are available for student musicians in several groups. The Concert Choir and Chamber Singers; Chamber Choir, Symphonic Choir, and Opera Theatre; Vanderbilt Orchestra and Chamber Orchestra; and the Wind Ensemble and Jazz Band present a number of campus concerts each year.

Outstanding scholars and speakers visit the university frequently, enriching the academic and cultural life of the campus in many ways. Various academic departments sponsor regular speaker programs, as do the student-initiated Impact Symposium, the Speakers Committee, and the Gertrude Vanderbilt and Harold S. Vanderbilt Visiting Writers program.

Admission

ADMISSION as a freshman to Vanderbilt represents a selection based on the academic and personal records of applicants. All available information is considered, including secondary school academic record, evidence of academic maturity and independence, extracurricular activities, contributions to the school and community, and scores on standardized tests.

The admission process is designed to select a student body with high standards of scholarship and personal character with serious educational aims. An admissions policy that governs the selection process has been set by the dean of undergraduate admissions. Please refer to the nondiscrimination statement on the inside front cover.

Admission to the four undergraduate schools is managed by the Office of Undergraduate Admissions. Prospective students are encouraged to investigate the university by visiting the campus. Admissions staff members are available to answer questions, arrange for campus tours, provide additional information about degree programs, and link visitors with appropriate campus offices and members of the university community.

Academic Preparation

A candidate for admission must present a transcript of work from an accredited secondary school and the recommendation of the guidance counselor or the head of school. The high school record must show at least fifteen academic units of college preparatory work (a unit is a year's study in one subject), with grades indicating intellectual ability and promise. The pattern of courses should show purpose and continuity and furnish a background for the freshman curriculum offered at Vanderbilt.

Specific entrance requirements are as follows:

College of Arts and Science. At least 4 units of English, 2 units of algebra, 1 unit of plane geometry, 2 units of one foreign language (Latin, Greek, or a modern language), 2 units of science, and 2 units of social science are required. Additional units of mathematics, foreign language, science, and social science are strongly recommended.

Applicants of ability and achievement who do not entirely meet these requirements may request special consideration. Students without the requisite units in English or mathematics may be admitted on condition that they make up the missing work prior to their first registration in the College of Arts and Science. Students without the requisite two years in foreign language must enroll during their first semester in a foreign language course and must remain continuously enrolled until they successfully complete a full year of one foreign language. They must complete this requirement before the end of their fourth semester in the College of Arts and Science.

Blair School of Music. It is strongly recommended that applicants have at least 4 units of English, 2 units of algebra, 1 unit of plane geometry, 1 unit of history, and 2 units of a single foreign language. Students with fewer units may be offered admission but must complete the missing work at Vanderbilt.

Audition/Portfolio. Applicants to the Blair School performance degree program are required to audition on their primary instrument (or in voice). Auditions will be held at the school on December 2, 2006; January 26/27, 2007; February 9/10, 2007; and February 23/24, 2007. A high-quality videotape is an acceptable substitute for applicants living outside a 400-mile radius of Nashville. Any student who is unable to travel to campus or to attend a scheduled audition weekend should contact the Blair School to discuss alternate plans. Students seeking admission to the composition/theory degree program must interview and present a portfolio of original compositions. Any student auditioning on percussion must do so in person; tapes are not acceptable for this program.

School of Engineering. It is strongly recommended that applicants have at least 4 units of English, 2 units of algebra, 1 unit of geometry, 1 unit of trigonometry, and 2 units of science. Two units of foreign language and 1 unit of history are also desirable.

Peabody College. It is strongly recommended that applicants have at least 4 units of English, 2 units of algebra, 1 unit of geometry, 2 units of science, and 1 unit of history.

Application Procedure

1. Applications for admission are available online at *www.vanderbilt.edu/admissions/apply.html* or from the Office of Undergraduate Admissions. Applicants must submit the various parts of the application by January 3 for consideration for admission for the following fall semester. Certain scholarships require additional application materials and may have earlier deadlines. Interested students should contact the Office of Undergraduate Admissions for more information. Applications for admission submitted after January 3 will be considered, provided space is available. Admission decisions will be mailed by April 1.

2. Applicants must arrange for their high school to send an official transcript of their record to the Office of Undergraduate Admissions.

3. Applicants are responsible for having formal reports of their standardized test scores sent to Vanderbilt by the testing agency. Score reports appearing on official high school transcripts are acceptable for evaluation purposes, but official score reports are required.

4. The $50 application fee is not refundable. A nonrefundable matriculation deposit of $400 is required upon acceptance of the offer of admission. This deposit is credited to the student's account, and the amount is deducted from the bill for the first semester. Students with financial hardship may request a waiver of these fees.

Early Decision Plans

These plans are designed to give an early admission decision to well-qualified students whose first choice is Vanderbilt. In order to apply under the Early Decision plans, the student must complete the following steps:

1. Complete all parts of the regular application for admission and return it with the appropriate Early Decision Plan box checked and the $50 nonrefundable application fee. November 1 is the postmark deadline for Early Decision I, and January 3 is the postmark deadline for Early Decision II.
2. Sign the statement that Vanderbilt is your first choice, affirm your intention to enroll at Vanderbilt if offered admission under the Early Decision plans, and agree to withdraw applications to other colleges if admitted. Your parent and guidance counselor must also sign this statement.
3. Send an official high school transcript through the junior year to the Office of Undergraduate Admissions, along with a list of courses being taken and to be taken in the senior year.
4. Send Vanderbilt the official scores from the SAT Reasoning Test and/or the ACT. Scores appearing on official high school transcripts are acceptable for evaluation purposes, but official score reports are required.
5. Blair School of Music applicants must audition or submit a portfolio (see Audition/Portfolio in the section on Academic Preparation above) by December 2 for Early Decision I and by January 26–27 for Early Decision II.

Applicants under the Early Decision plans may be admitted, denied admission, or deferred for later consideration in competition with all applicants at the regular decision process in the spring. Applicants who are deferred until spring are encouraged to submit additional test scores, seventh semester transcripts, and any other information that may be helpful.

Admission without Diploma

Certain students who are recommended by their high school principals and are considered by the Office of Undergraduate Admissions to be ready for college work may be admitted following the completion of their junior year in high school. This program of admission without high school diploma is intended to serve applicants of unusual promise who will benefit from beginning their college career a year early. Application should be made by January 3 of the junior year in high school. Additional examinations may be required. Other criteria will also be considered, such as maturity and motivation.

Advanced Placement

Honors courses and other accelerated study in high school are excellent preparation for Vanderbilt. The well-established advanced-placement policy endeavors to recognize exceptional high school preparation, to avoid requiring freshmen to take courses clearly mastered in high school, and to encourage students to begin their college learning experience at the level most appropriate to their preparation. Advanced placement may be granted on the basis of good performance on the College Board Advanced

Placement Examinations, on the College Board SAT II Subject Tests, on International Baccalaureate tests, or, in some cases, on placement tests given by Vanderbilt. Entering students who have taken the British G.C.E. "A" level examinations, the Advanced International Certificate of Education (AICE), or similar tests, such as the French *baccalauréat* or the Swiss *maturité* examinations, may submit copies of the syllabi and an official report of the grades earned for evaluation for credit by the relevant departments. Appropriate documentation should be submitted to the Office of Undergraduate Admissions before matriculation at Vanderbilt. To qualify for credit for AICE examinations, students must have achieved an *A* or *B* thereon.

Advanced Credit

Advanced Placement Examination grades accepted for advanced placement with credit by the various departments at Vanderbilt are listed below.

United States Government and Politics. Grade of 4 or 5 earns 3 hours credit for Political Science 100.

United States History. Grade of 4 or 5 earns 6 hours credit for History 170–171.

Biology. Grade of 4 or 5 earns 4 hours credit for Biological Sciences 100.

Chemistry. Grade of 5 earns 8 hours credit for 102a–102b and 104a–104b. A grade 4 permits entry into Chemistry 218a, 219a.

Comparative Government and Politics. Grade of 4 or 5 earns 3 hours credit for Political Science 101.

Computer Science. Grade of 4 or 5 on the Java examination earns 3 hours credit for Computer Science 101.

Economics. Grade of 4 or 5 in macroeconomics earns 3 hours credit for 100; grade of 4 or 5 in microeconomics earns 3 hours credit for 101.

English. Grade of 4 or 5 in English language and composition or English literature and composition earns 6 hours credit for English 104W and 105W.

Environmental Science. Grade of 4 or 5 earns 4 hours of credit for Geology 104.

European History. Grade of 4 or 5 earns 6 hours credit for History 100–101.

Art. Grade of 4 or 5 in art history earns 6 hours credit for Art and Art History 110–111. Grade of 4 or 5 in art studio earns 6 hours credit.

French. Grade of 4 or 5 in language earns 8 hours credit for French 103 and 201. Grade of 4 or 5 in literature earns 8 hours credit for 103 and 220.

German. Grade of 4 or 5 in language earns 6 hours credit for German 103 and 104.

Latin. Grade of 4 or 5 in Vergil earns 3 hours credit for Latin 104. Grade of 4 or 5 in Latin Literature earns 3 hours elective credit at the 200 level.

Mathematics. Grade of 4 on AB calculus, or grade of 3 on BC calculus and an AB subscore of 4, earns 3 hours credit for Mathematics 150a. Grade of 5 on AB calculus, or grade of 3 on BC calculus and an AB subscore of 5, earns 4 hours credit for Mathematics 155a. Grade of 4 or 5 on BC calculus earns 8 hours credit for Mathematics 155a–155b.

Music. Grade of 5 in music theory permits entry into accelerated section of MUSC 121 and may earn credit pending evaluation by the department. A grade of 4 or 5 in music listening and literature may earn three hours credit in MUSL 141 pending evaluation by the department.

Physics. Grade of 5 in the B examination earns 4 hours credit for Physics 105–106. Grade of 5 in the C mechanics examination earns 4 hours credit for Physics 116a and 118a. Grade of 5 in the C electricity and magnetism examination earns 4 hours credit for Physics 116b and 118b.

Psychology. Grade of 4 or 5 earns 3 hours credit for Psychology 101.

Spanish. Grade of 4 in language or literature earns 5 hours credit for Spanish 104; grade of 5 earns 8 hours credit for 104 and 202.

Statistics. Grade of 4 or 5 earns 3 hours credit for Mathematics 127a.

World History. Grade of 4 or 5 earns 6 hours of elective credit.

At the determination of individual departments, Advanced Placement Examination grades with a score of 4 or 5 may be accepted for credit. The amount of credit that may be awarded corresponds to the course work waived, up to a maximum of 8 hours in any subject area. Advanced Placement credit does not affect the Vanderbilt grade point average. Students of the College of Arts and Science are limited to a total of 18 credit hours earned by any combination of advanced placement, international baccalaureate credit, advanced international credit, and credit by departmental examination, counting toward the minimum number of hours required toward the degree. No form of advanced placement credit can be used in fulfillment of the Achieving Excellence in Liberal Education (AXLE) requirements for students in the College of Arts and Science.

International Baccalaureate Credit Policy

International Baccalaureate test scores accepted for advanced credit by the various departments at Vanderbilt are listed below. Students who have taken tests in other areas may submit their scores to the Dean's Office for evaluation by the appropriate departments. The amount of credit that may be awarded is subject to the same limitations as credit for Advanced Placement.

Biology. Score of 6 or 7 (standard or higher) earns 4 hours credit for Biological Sciences 100.

Chemistry. Score of 6 or 7 (applied standard) earns 8 hours credit for 101a–101b or (higher) Chemistry 102a–102b and 104a–104b.

Economics. Score of 6 or 7 (higher) earns 6 hours credit for Economics 100 and 101.

English. Score of 6 or 7 (standard) earns 3 hours credit for English 100W or (higher) 6 hours credit for English 104W and 105W.

French. Score of 6 or 7 (standard) earns 5 hours credit for French 103 or (higher) 5 hours credit for French 103 and 3 hours elective credit.

History. Score of 6 or 7 (higher) earns 3 hours elective credit.

Japanese. Score of 6 or 7 (standard) earns 10 hours credit for Japanese 211–212 or (higher) 6 hours credit for Japanese 241–242.

Latin. Score of 6 or 7 (standard) earns 3 hours credit for Latin 103 or (higher) 6 hours credit for Latin 103 and 104.

Mathematics. Score of 6 or 7 (standard) earns 7 hours credit for Mathematics 140 and 180 or (higher) 8 hours credit for 155a and 180 and 1 hour elective credit.

Music. Score of 6 or 7 (standard) earns 3 hours credit for MUSL 140 or (higher) 3 hours credit for MUSL 141.

Physics. Score of 7 (standard) earns 3 hours credit for Physics 105 or (higher) 8 hours credit for Physics 116a–116b and 118a–118b.

Psychology. Score of 6 or 7 (standard or higher) earns 3 hours credit for Psychology 101.

Russian. Score of 6 or 7 (standard) earns 5 hours credit for Russian 102 or (higher) 6 hours credit for Russian 203–204.

Spanish. Score of 6 or 7 (standard) earns 5 hours credit for Spanish 104 or (higher) 5 hours credit for Spanish 104 and 3 hours elective credit.

Pre-College Summer School Program

Upon completion of the sophomore or junior year in high school, students may enroll, at the freshman level, for regular work in the Vanderbilt summer session.

The following conditions must be met: (a) students must be in the upper 25 percent of their high school class and be recommended by their principal or counselor; (b) courses taken in the Vanderbilt summer session must be chosen by the student in consultation with his or her high school counselor and the director of the Division of Unclassified Studies so as to supplement and not overlap the total high school program. A student may take two courses in any one summer, or three courses by special authorization of the director of the Division of Unclassified Studies.

Course work done at Vanderbilt by a pre-college student may count toward the high school diploma and as part of the entrance requirements for regular admission to Vanderbilt. All course work done at Vanderbilt by pre-college students will be credited toward the degree for those who may subsequently matriculate at Vanderbilt, unless the course work is required for high school graduation. Admission to the pre-college summer school program does not admit a student as a regular entering freshman, nor does it commit the university to a student's admission.

Credit for Previous College Work

Entering freshmen who have taken pre-freshman college work during their junior or senior year in high school or during summers prior to their offer of admission to Vanderbilt must report such work to the Office of Undergraduate Admissions. At the student's request, the dean of the appropriate undergraduate school will determine whether such work may be credited toward the Vanderbilt degree. Credit will be awarded only if the course is regularly offered by an accredited two-year or four-year college or university, if the teacher was a regular faculty member of that institution, and if a majority of the students in the course were candidates for a degree

at that institution. *This question of credit at Vanderbilt must be settled in advance of the student's first registration.*

The College of Arts and Science and Peabody College usually do not award credit for work at other colleges in the summer immediately preceding the student's first semester at Vanderbilt. Summer work elsewhere will be accepted for credit only if an unusual educational opportunity can be demonstrated and if the courses sought are as rigorous as courses offered at Vanderbilt. Approval for work to be taken elsewhere must be obtained in advance from the appropriate dean.

College of Arts and Science. In no case may credits completed elsewhere after the student has been offered admission by the College of Arts and Science satisfy CPLE or AXLE requirements.

International Students

Vanderbilt has a large international community representing approximately one hundred countries. The university welcomes the diversity international students bring to the campus and encourages academic and social interactions at all levels.

Admission. Students from other countries are required to complete **all** the admission requirements of the university. Applicants whose native language is not English are encouraged to present the results of the Test of English as a Foreign Language (TOEFL). Recommended scores for Vanderbilt are 230 (computer-based exam) or 570 (paper exam). You may access information regarding the TOEFL exam, including registration and sample tests, at *www.toefl.org*. Inquiries and requests for application forms should be addressed to TOEFL, Box 6151, Princeton, New Jersey 08541-6151, U.S.A.

English Instruction. Entering students who are not proficient in English should consider enrolling in an intensive English language program before beginning academic studies. In some cases the course may be required. Vanderbilt offers such a program at VU English Language Center (ELC). Academic studies for credit may begin after recommendation by ELC in consultation with the student's academic adviser. For information about Vanderbilt's English language program, write to English Language Center, Peabody Box 510, Nashville, Tennessee 37203-5701, U.S.A.; *www.vanderbilt.edu/ELC.*

Financial Resources. To meet requirements for entry into the United States for study, applicants must demonstrate that they have sufficient financial resources to meet the expected costs of their educational program. Applicants must provide documentary evidence of their financial resources before visa documents can be issued.

United States laws and regulations restrict the opportunity for international students to be employed. Students may be allowed to work off campus only under special circumstances. Many spouses and dependents of international students are not allowed to be employed while in the United States.

Limited need-based financial aid is available to students who are neither citizens nor permanent residents of the United States. The form to apply for this aid is contained in the applications. Admission for international students is "need-aware"; the larger the amount of financial aid needed, the greater the competition for admission.

Health and Accident Insurance. International students and their dependents residing in the United States are required to purchase the university's international student health and accident insurance plan. No exceptions are made unless, in the judgment of the university, the student provides proof of coverage that is equal to or greater than that in the university-sponsored policy. This insurance is required for part-time as well as full-time students. Information concerning the limits, exclusions, and benefits of this insurance coverage may be obtained from Student Health Services or from International Student and Scholar Services.

Information. Assistance in non-academic matters before and during the international student's stay at Vanderbilt is provided by International Student and Scholar Services, Vanderbilt University, Student Life Center, 310 25th Avenue South, Suite 103, Nashville, Tennessee 37240, U.S.A.; *www.vanderbilt.edu/isss.*

Transfer Students

Admission of transfer students from both inside and outside the university is competitive, with the primary criterion being academic merit. The priority deadline for fall and summer admission is February 1, and the extended deadline is April 1. The deadline for spring admission is November 1.

To be considered for transfer admission to Vanderbilt, applicants must satisfy the following conditions:

1. Meet all freshman admission requirements, including results from either the SAT Reasoning Test and/or the ACT;
2. Be in good standing at the institution last attended;
3. Provide an official secondary school transcript;
4. Provide official transcripts from each college attended;
5. Submit academic recommendations from college/university instructors;
6. Respond to application essay questions;
7. Agree to attend a Vanderbilt undergraduate program for at least four semesters (at least 60 hours) of full-time work. Two of these semesters (at least 30 hours) must be within the senior year.

Work presented for transfer must be from an accredited college and is subject to evaluation in light of the degree requirements of this university. Correspondence and online courses will not be considered for transfer credit.

Work transferred to Vanderbilt from another institution will not carry with it a grade point average. No course in which a grade below *C*– was received will be credited toward a degree offered by the university.

College of Arts and Science. Transfer students must complete at least 60 hours of work in the College of Arts and Science.

Blair School of Music. Transfer students must comply with university standards. An audition (or, in the case of composition/theory applicants, the presentation of a portfolio and an interview) is required and is of major importance in the evaluation of the application. Transfer students will be assigned a level of program study based on the entrance audition. Credit for music courses may be granted following an examination at Blair. Credit for non-music courses is subject to evaluation by the College of Arts and Science. Transfer students must complete at least 63 hours at Blair.

School of Engineering. Transfer students must complete at least 60 hours of work in the School of Engineering.

Peabody College. Transfer students must complete at least 60 hours of work at Peabody. Two of the four semesters in residence must be the last two semesters of the student's degree program.

Intra-University Transfer

Undergraduate students in the College of Arts and Science, Blair School of Music, School of Engineering, and Peabody College may request a transfer between the schools. Students are eligible for intra-university transfer after having been enrolled on a full-time basis at Vanderbilt for two semesters. To be eligible for transfer, students must meet the requirements of the school they wish to enter.

Applications are available on the University Registrar Web site and should be submitted to the Office of the University Registrar by December 1 for the spring session, April 28 for the summer session, and August 11 for the fall session of the following year.

Students seeking transfer between schools within the university must meet the following requirements: a) a student who has been in residence for two regular semesters must have a minimum of 24 hours and a cumulative grade point average of 1.800; b) a student who has been in residence for three regular semesters must have a minimum of 39 hours and a cumulative grade point average of 1.850; c) a student who has been in residence for four regular semesters must have a minimum of 54 hours and a cumulative grade point average of 1.900; d) a student who has been in residence for five regular semesters must have a minimum of 69 hours and a cumulative grade point average of 1.950.

Individual schools and/or majors may impose additional restrictions beyond the minimum requirements listed above. Students applying to the Blair School of Music must audition as part of the process. Transfer to the School of Engineering biomedical engineering major may be on a competitive and space-available basis and the academic requirements for transfer may be higher than those stated above.

Division of Unclassified Studies

The Division of Unclassified Studies provides an opportunity to take courses at Vanderbilt to the following: a) adults not interested in working

toward a degree, b) transient students working toward a degree at another institution (students in this category may not remain enrolled in the division for more than two regular semesters and one summer session), and c) rising junior and senior students in high school who have received special permission to enroll in courses for college credit.

Such students register with the Division of Unclassified Studies. Records are kept of their work, and a transcript may be made available to them as it would be if they were regularly enrolled at Vanderbilt. Work taken in the division may be transferred to a degree-granting unit of the university provided it is work that will count as part of the program of that unit. Work so transferred may not amount to more than one-fourth of the requirements for the degree. Requests for transfer to a Vanderbilt degree-granting school must be made to the Office of Undergraduate Admissions. Division of Unclassified Studies students are not eligible for intra-university transfer.

Students who want to enroll in the Division of Unclassified Studies must apply and be admitted to the division at least two weeks before the first day of classes for the term they wish to attend. Requests for exceptions to the admission criteria for the Division of Unclassified Studies must be addressed in writing to the provost, whose decision is final.

All university regulations, including the Honor System, apply to students registered in the division.

Degree candidates have priority in enrollment at Vanderbilt, and students registering in the Division of Unclassified Studies should be prepared for this contingency. Tuition is charged at the standard rate.

Students enrolled in the Division of Unclassified Studies are not charged student activity, recreation center, or health insurance fees, and do not have access to recreation or student health services. Students enrolled in the Division of Unclassified Studies as full-time students (particularly transient students or others living in campus residence halls) may petition to be allowed to purchase these services.

Summer Session

The ten-week summer session begins in early June and ends early in August. In addition, some units of the university offer an accelerated four-week May Session. Vanderbilt offers the summer program for regularly enrolled students at the university, for part-time students, and for students enrolled during the regular year in other colleges and universities (transient students).

Summer courses are normally offered by the College of Arts and Science, Blair School of Music, the School of Engineering, the Graduate School, the School of Nursing, and Peabody College.

Some courses extend over the entire summer session and complete the work of a full semester. Others are offered in modular units of eight, six, or four weeks, for full semester credit. Still other summer courses complete a full semester's work in the first five-week or second five-week half of summer session, with classes meeting twice as many hours per week. In full-

year courses offered in summer, the work of the first semester is covered in the first half-session, the work of the second semester in the second half.

Classrooms, residence halls, libraries, and dining halls are air conditioned. The Student Recreation Center and other athletic facilities are open in the summer. Information about the summer session is available on request from the Division of Unclassified Studies or from the registrar of each school.

May Session

In the interval of several weeks between final examinations in the spring semester and the beginning of summer session, Vanderbilt offers educational travel opportunities and a variety of "total immersion" courses that would be difficult to offer during a regular semester.

Students are permitted to take no more than one course during the May Session. Housing and food services are provided during the session.

Transient students are eligible for May Session courses.

Financial Information

TUITION for undergraduates for the 2006/2007 academic year is $32,620 ($16,310 a semester). A $610 laboratory equipment fee is charged for students enrolled in the School of Engineering (freshman Engineering students' lab fee is $2,850/year). A full-time undergraduate student takes 12 to 18 hours. Students taking more than 18 hours per semester are charged $1,359 per hour for each extra hour. Students who, for approved reasons, enroll for fewer than 12 hours are charged $1,359 per hour, with a minimum tuition charge of $1,359 per semester. The $400 deposited with the Office of Undergraduate Admissions when the student is accepted is applied to the bill for the first semester.

Rates for tuition and fees are set annually by the Board of Trust and are subject to review and change without further notice.

Estimate of Expenses

Basic expenses (excluding travel and personal expenses) should be approximately $46,078 a year, itemized as follows:

Tuition (2006/2007)	$32,620
Room and board (estimate)	10,890
Books and supplies (estimate)	1,104
Student activities and recreation fees (estimate)	820
Hospitalization insurance	644

Other Academic Fees

Application fee	$ 50
Freshman Engineering laboratory fee (year)	2,850
Upperclass Engineering laboratory fee (year)	610
Late registration fee	30
Senior-in-absentia minimum semester tuition charge (hourly rate)	1,359
Special examination fee	5
Credit by departmental examination fee	50
Transcript fee (one time only)	30

Special charges for the use of the university computer are added to the cost for some courses.

The change period of registration extends from the second through the sixth day of classes.

Late registration fees are charged to students who should have registered by the published dates and did not. Registration dates for each school are shown in the *Schedule of Courses*.

Payment of Tuition and Fees

Tuition, fees, and all other university charges incurred prior to or at registration are due and payment must be received by August 16 for the fall semester and January 3 for the spring semester. All charges incurred after classes begin are due and payment must be received in full by the last business day of the month in which they are billed to the student. If payment is not made within that time, cancellation of V-Net (long-distance telephone) access, cell phone, and Napster for campus residents may result, and additional charges to campus dining or flexible spending accounts may be prohibited. Visit our Web site at *www.vanderbilt.edu/stuaccts* for payment options.

Students/Guarantors will be responsible for payment of all costs, including reasonable attorney fees and collection agency fees, incurred by the university in collecting monies owed to the university. The university will assess a $25.00 fee for any check returned by the bank and reserves the right to invoke the laws of the State of Tennessee governing bad checks.

Refunds of Tuition and Housing Charges

University policy for the refund of tuition and housing charges provides a percentage refund based on the time of withdrawal. Students who withdraw officially or who are dismissed from the university for any reason may be entitled to a partial refund in accordance with the established schedule shown below. Students who register for more than 18 hours and later reduce their registration to 18 hours or fewer may be entitled to a partial refund of the extra tuition for hours over 18 in accordance with the same schedule. Fees are nonrefundable.

Tuition Refund Insurance is offered through the Office of Student Accounts. This elective plan provides coverage for tuition and housing in the event a student withdraws from school due to medical reasons. You may visit *www.collegerefund.com* for more information or to apply online.

Fall 2006 Withdrawal/Refund Schedule

Week 1	August 23–August 26	100%
Week 2	August 27–September 2	95%
Week 3	September 3–September 9	85%
Week 4	September 10–September 16	80%
Week 5	September 17–September 23	75%
Week 6	September 24–September 30	70%
Week 7	October 1–October 7	60%
Week 8	October 8–October 14	55%
Week 9	October 15–October 21	50%
Week 10	October 22–October 28	45%

No refund after October 28, 2006

Spring 2007 Withdrawal/Refund Schedule

Week 1	January 10–January 13	100%
Week 2	January 14–January 20	95%
Week 3	January 21–January 27	85%
Week 4	January 28–February 3	80%
Week 5	February 4–February 10	75%
Week 6	February 11–February 17	70%
Week 7	February 18–February 24	60%
Week 8	February 25–March 2	55%
Spring Break	March 3–March 10	
Week 9	March 11–March 17	50%
Week 10	March 18–March 24	45%

No refund after March 24, 2007

Tuition Payment Programs

Two voluntary programs are available through Tuition Management Systems (TMS): The Vanderbilt Ten-Month Interest-Free Monthly Payment Plan and the Tuition Stabilization Plan. The interest-free payment option is one of the best ways to fit education costs into a monthly budget without borrowing. The Tuition Stabilization Plan allows families to prepay up to four years of tuition, thereby eliminating any worry of future tuition increases. Plan details are available upon request from the Office of Student Accounts by calling (615) 322-6693 or (800) 288-1144. You may also visit our Web site at *www.vanderbilt.edu/stuaccts*, e-mail us at *student.accounts@vanderbilt.edu,* or send a fax to (615) 343-8511.

Late Payment of Fees

All charges not paid by the specified due dates will be assessed a late payment fee of $1.50 on each $100 owed.

Financial Clearance

Students will not be permitted to attend classes for any semester if there is an unpaid balance. Transcripts (official or unofficial) will not be released until the account has been paid. Diplomas of graduating students will not be released until all indebtedness to the university is cleared.

Activities and Recreation Fees and Identification Card

All degree-seeking undergraduate students pay activities and recreation fees that entitle them to admission to certain athletic, social, and cultural events and to subscription to certain campus publications. Specific information on these fees is published annually in the *Student Handbook.* The undergraduate student's identification card will admit students to university activities and the Student Recreation Center. It is also used as a library card and to stamp other documents. The card should be carried at all times and be returned to the university if the student withdraws for any reason.

Transcripts

Official academic transcripts are supplied by the University Registrar on authorization from the student. Transcripts are not released for students with financial or other university holds.

Fraternity and Sorority Membership

Like any opportunity for involvement in college, there is a financial commitment associated with joining a fraternity or sorority. The costs go toward inter/national fees, chapter operating expenses, and social functions. Financial obligations differ for men and women and among individual chapters. New members can expect to pay higher dues their first semester. Dues range from $550 to $1,200 per semester for Interfraternity Council (IFC) men, $700 to $1,200 for Panhellenic women, and $70 to $500 per semester for National Pan-Hellenic Council (NPHC) men and women. Additional costs throughout the semester may be for meal plans, pictures, gifts, parties, T-shirts, etc. There are payment plans available for students, as well as scholarships within the individual chapters.

Need-Based Financial Aid

For students who require financial assistance, three forms of need-based aid are available: scholarships/grants, loans, and work assistance. The amount of aid will be determined by an annual evaluation of need, recalculated each year on the basis of updated financial information. The university attempts to fill the gap between the cost of attending Vanderbilt and the amount that students and their families are expected to contribute.

Application Procedure

Prospective students need to complete a Free Application for Federal Student Aid (FAFSA) and a College Scholarship Service PROFILE. The FAFSA may be obtained from the student's high school guidance counselor or completed online, *www.fafsa.ed.gov*. Students may complete the CSS PROFILE online, *www.collegeboard.com*. The student must submit the FAFSA and PROFILE no later than February 1 of the senior year in high school. Further information regarding the application process is available from the Office of Student Financial Aid, *www.vanderbilt.edu/financialaid*.

Students must reapply for financial aid each year, by submitting a Vanderbilt Financial Aid Application, CSS PROFILE, and the FAFSA by April 15 of each year. Renewal applicants must be in good standing and making satisfactory academic progress in order to continue receiving federal and state student aid funds. Renewal of university need-based assistance requires a minimum cumulative GPA of 2.0 for the sophomore, junior, and senior years. The priority consideration date for filing renewal applications is April 15.

Financial Aid for Early Decision Applicants

Early Decision applicants seeking financial aid must complete the College Scholarship Service PROFILE. Students may complete the CSS PROFILE online, *www.collegeboard.com*. Early Decision I applicants should complete the PROFILE no later than November 1 of the senior year in high school. Early Decision II applicants should complete the PROFILE process no later than January 1 of the senior year in high school. Students will receive an estimate of their eligibility for financial aid with their offer of admission. The student must then file the FAFSA no later than February 1. The original estimated aid award will be confirmed or revised, as appropriate, after the FAFSA and PROFILE together are reviewed by the Office of Student Financial Aid.

Federal and State Aid

Financial aid is available from several federal and state student financial aid programs. Any citizen or permanent resident of the United States who is accepted for admission and who demonstrates financial need is eligible to participate. This aid may be renewed annually by students who continue to qualify on the basis of financial need, if they are in good academic standing and are making satisfactory academic progress in accordance with standards prescribed by the U.S. Department of Education. (See Satisfactory Academic Progress.)

The FAFSA establishes eligibility for participation in federal aid programs. The loan programs also require completion of loan applications and/or promissory notes. Applicants should contact their state agencies for information regarding state aid programs and application procedures.

Vanderbilt participates in the following federal student financial aid programs:

Federal Pell Grant Program
Federal Supplemental Educational Opportunity Grant Program (FSEOG)
Federal Work-Study Program (FWSP)
Federal Perkins Loan Program
Federal Stafford Loan Program
Federal Parent Loan for Undergraduate Students (PLUS)

In addition to the federal student financial aid programs, Vanderbilt administers a number of need-based institutional scholarship, grant, and loan programs, some of which are described briefly in the Scholarship section of this catalog. University general sources of need-based assistance and loan funds available to students in all schools are listed.

Satisfactory Academic Progress Standards

Satisfactory Academic Progress for Student Financial Aid—Undergraduate Students

For full-time undergraduate students, a maximum time frame of five years (ten semesters) is established for attainment of the baccalaureate degree, and federal financial assistance will be limited to a maximum of five years. Full-time undergraduate students will be required to progress to sophomore, junior, and senior standing in accordance with the requirements of each of the undergraduate schools. Students who fail to earn the minimum hours and grade point average to progress to the next higher class level as determined by each of the undergraduate schools will be reviewed by the Academic Committee of the school of enrollment and may be allowed to continue their enrollment on academic probation for one or more additional semesters in order to correct their academic deficiencies.

Satisfactory Progress Standards—Federal/State Recipients

The academic progress and performance of all financial aid applicants will be reviewed by the Office of Student Financial Aid at the end of each academic year and satisfactory progress will be verified by the Financial Aid staff before an award of federal/state funds will be approved for the subsequent year. For students who are making satisfactory progress, the award commitment for the subsequent year will normally be for the entire academic year. For students who fail to complete the required credit hours within the specified time frame and/or fail to maintain the minimum GPA required by the undergraduate school, the financial aid commitment will be for one probationary semester only and further review will be required at the end of the probationary semester.

Financial Aid Probation

During the probationary semester, students must earn a minimum of 12 hours and a GPA of 2.0 and qualify for the next higher class level in order to continue receiving federal/state financial assistance for the following semester. After qualifying for junior standing, all full-time aid recipients are expected to earn a minimum of 12 hours per semester and a GPA of 2.0.

Students who fail to earn the minimum credit hours and GPA specified above during the probationary semester will be considered as not making satisfactory academic progress and all financial assistance will be terminated or suspended until the academic deficiency is corrected. After receiving aid for one probationary semester, students who then consistently earn a minimum of 12 hours per semester with a minimum 2.0 GPA will be considered to be making satisfactory progress for purposes of receiving federal student aid provided that they do not exceed the maximum time frame for degree completion as specified by the undergraduate school.

Students who are terminated from federal/state financial assistance may have such aid reinstated by subsequently attaining the minimum cumulative credit hours and GPA required for the appropriate time increment.

Less than Full-Time Status

For undergraduate students who have approval from the dean of their school to enroll for less than full-time status, credit hours must be earned on a pro-rata basis of the full-time requirements and the minimum specified GPA must be maintained in order to be eligible for federal/state financial assistance. Peabody (undergraduate) students enrolled for their "professional semester" (student teaching or internship) will be considered to be full-time students for this purpose.

Satisfactory Progress Standards—Institutional Aid Programs

University need-based grants are typically awarded for the academic year to undergraduate students on the basis of financial need, grade point average, and academic progress. The minimum required cumulative GPA for renewal of university need-based grant funds is a 2.00 after the freshman year, but we anticipate that the level of academic performance for each student will be higher. In addition, for renewal, the student must be making satisfactory progress toward his/her degree.

For students who fail to complete the required credit hours within the specified time frame and/or fail to maintain the minimum GPA stipulated above, the need-based grants will be terminated.

Typically, students are notified prior to the academic year that they may appeal for a reinstatement of grant funds if the number of required credit hours to advance to the next higher level is achieved and/or their overall GPA is raised to the 2.00 level in the following subsequent semester. It will be the responsibility of the student to contact the Office of Student Financial Aid to request the reinstatement of institutional aid.

Appeal and Reinstatement Procedures for All Students

Any student whose federal/state/institutional student aid is terminated due to unsatisfactory academic progress may submit an appeal for reinstatement of such assistance to the Office of Student Financial Aid. The appeal will be considered by the director of financial aid or his/her designate, with the right for further appeal to the associate provost for academic affairs. If it is determined that the student's lack of academic progress was the result of illness, death in the family, or other exceptional or mitigating circumstances, eligibility for federal/state/institutional student aid funds may be reinstated on a probationary basis by a financial aid officer.

Student Employment

Students interested in part-time on- or off-campus employment should contact the Student Employment Office, in the Office of Student Financial Aid, 2309 West End Avenue, Room 325. It is the primary responsibility of the Student Employment Office to assist those students who have applied and are eligible to work under the Federal Work-Study Program. In addition, the Student Employment Office staff will assist other students with

job referrals (depending upon availability) to on-campus institutional employment (non-work-study jobs) as well as off-campus postings listed through the office. Students and other interested individuals may pursue job opportunities at *www.hireadore.com* and view other student employment related information at *www.vanderbilt.edu/financialaid/fwsstudy.htm*.

Students interested in summer or intern jobs off campus in recreation, education, community service, government, business, and industry should inquire at the Career Center (220 Student Life Center, 310 25th Avenue South), which acts as a clearinghouse for full-time and summer jobs offered to students by off-campus employers. The Career Center also maintains directories and some resource information.

University General Medals, Prizes, and Awards

THE ACCOLADE AWARD was established in 1987 to acknowledge the intent and effort of the Accolade—a formal dance to raise funds for minority scholarships. The award is presented to a rising minority senior in recognition of academic achievement and participation in extracurricular activities which contribute to the diversification of the Vanderbilt student body.

THE JESSICA ACESTE AND ELISABETH BEALE RIPPLE IN THE POND AWARD was endowed in 2002 by Mr. and Mrs. George G. Strong, Jr. The award was created to express their gratitude for the assistance and care their daughter, Meredith, received from her friends and the Vanderbilt community as she was stricken with meningococcal meningitis. Physicians credit the quick action taken by Strong's classmates and the Vanderbilt personnel with saving Meredith's life. Jessica Aceste and Elisabeth Beale were honored as the first recipients at the 2002 Kudos Ceremony.

THE CHARLES FORREST ALEXANDER PRIZE IN JOURNALISM was established in 1978 in memory of Charles F. Alexander (B.A. 1950) who served as editor of the *Commodore* and *V Book* and as a staff member of the *Hustler*. It is awarded to a student who has achieved distinction in Vanderbilt student journalism.

THE GREG A. ANDREWS CIVIL ENGINEERING MEMORIAL AWARD was established in 1969 by James M. Andrews, Sr. in memory of his son, Greg, who died while a student at Vanderbilt. It is awarded to a senior majoring in civil engineering who has made the greatest academic progress and who plans graduate study in environmental and water resources engineering.

THE THOMAS G. ARNOLD PRIZE was established in 1989 by family and friends of Thomas Arnold, in recognition of his distinguished service as instructor of biophysics in medicine from 1952 until 1989. It is awarded for the best design of a biomedical engineering system or the best research project in the application of engineering to a significant problem in biomedical science.

THE MORRIS H. BERNSTEIN JR. PRIZE IN LATIN DECLAMATION was established in 1983 by William H. Bernstein (B.A. 1983) in memory of his father, Morris H. Bernstein, Jr. (B.A. 1943, M.D. 1946). It is awarded to an undergraduate who has studied two semesters of Latin and wins the competition requiring participants to deliver from memory selected Latin passages that reflect the classical ideal.

THE GLENN AND ELIZABETH BOGITSH AWARD was established in 1989 by the parents of Glenn Carlisle Bogitsh (B.S. 1977) and Elizabeth Norris Bogitsh (B.S. 1982), who died in a

1988 plane crash. It is awarded to the student who best demonstrates a strong commitment to physical fitness and who, by example and leadership, inspires participation and honorable competition in campus recreation programs.

MARGARET BRANSCOMB PRIZE was established in 1993 by family and friends in memory of Margaret Branscomb, wife of Chancellor Emeritus Harvie Branscomb. It is awarded to a freshman judged to have the personal and musical qualities that best exemplify the spirit and standards of Blair School of Music.

THE FRANKLIN BROOKS MEMORIAL AWARD was established in 1994 by faculty, students, and friends in memory of H. Franklin Brooks, associate professor of French and three-time director of the Vanderbilt in France program. Additional support came from Alliance Française of Nashville and the estate of Barbara Shields Kelley (B.A. 1937). The award is given to an outstanding student enrolled in the Vanderbilt in France program.

THE LARRY ROSS CATHEY AWARD was endowed in 1974 in memory of Larry Ross Cathey (B.A. 1966 with honors in astronomy; M.A. 1968; Ph.D. University of California at Santa Cruz, 1974). It is awarded to an outstanding undergraduate astronomy major.

THE COOLEY PRIZE was originally established in 1920 at the George Peabody College for Teachers as an endowed medal fund. Reinaugurated in 1996, it is presented to the graduating senior majoring in fine arts with the highest grade point average.

THE ARTHUR J. DYER JR. MEMORIAL PRIZE was established in 1938 by Arthur J. Dyer, Sr. (B.E. 1891) in memory of his son, a former Vanderbilt student who died working on a bridge construction in 1928. The prize is awarded to a senior who performed the best work in structural steel engineering.

THE ROBERT V. DILTS AWARD was established in 1994 by the chemistry department and friends in honor of Robert V. Dilts, professor of chemistry, emeritus. It is presented to an outstanding graduating senior in analytical chemistry, with preference given to a student who plans a career in the field.

THE EDWIN S. GARDNER MEMORIAL PRIZE FOR EXCELLENCE IN FRENCH was established in 1980 by Grace D. Gardner (B.A. 1932) in memory of her husband, Edwin (B.A. 1927), Vanderbilt Treasurer Emeritus. It is awarded to a senior for excellence in French studies.

THE GEYER AWARD was established in 1970 by Richard A. Geyer, Jr. (B.A. 1970), to stimulate healthy journalistic competition and to help foster the belief that "the newspaper, radio, and television station (of the university) should delve into and interpret events and trends occurring within the university." The award is presented to the reporter who has most consistently prepared articles or reports based on thorough research and which have been at the same time "lively, informative, and logical."

THE MARGARET STONEWALL WOOLDRIDGE HAMBLET FELLOWSHIP was endowed in 1985 by Clement H. Hamblet and Margaret H. Sarner, husband and daughter of Margaret Hamblet, to commemorate her love of art. She was a graduate of Peabody College in the Class of 1926. Given to a senior who shows outstanding merit in studio art, it provides for one year of travel to study art and develop creativity.

THE MICHAEL B. KEEGAN TRAVELING FELLOWSHIP is awarded to a graduating senior for a year of worldwide travel and study on a self-designed project broadly related to international concerns. The award seeks to develop a prospective leader in the nation and the world.

THE JEAN KELLER HEARD PRIZE was established in 1985 by the Vanderbilt Women's Club to honor violinist Jean Keller Heard, wife of Chancellor Emeritus Alexander Heard. It is awarded for excellence in musical performance to a string major seeking the bachelor of music degree.

THE WALTER GILL KIRKPATRICK PRIZE was established in 1926 with a bequest from Walter Kirkpatrick (B.E. 1886, C.E. 1887, M.S. 1889). It is awarded to the most deserving third-year student majoring in civil engineering.

THE C. MAXWELL LANCASTER MEDAL FOR EXCELLENCE IN ITALIAN was established in 1991 in memory of C. Maxwell Lancaster, professor of French and Italian at Vanderbilt from 1939 to 1976. It is awarded to a student who maintains the highest standard throughout four semesters of Italian.

THE AVERY LEISERSON AWARD was established by students to honor Avery Leiserson, professor of political science, emeritus, a member of the faculty from 1952 until his retirement in 1978. He served as chair of the department from 1952 to 1964. The award is presented annually for the best research paper or essay written by an undergraduate in a political science course.

THE S. S. AND I. M. F. MARSDEN AWARD IN MUSICAL SCHOLARSHIP was established by Sullivan S. Marsden, Professor Emeritus of Petroleum Engineering at Stanford University, and Blair faculty member Kathryn Plummer's father-in-law. The award is designated for an outstanding major paper by a Blair undergraduate.

THE THOMAS W. MARTIN MEMORIAL AWARD was established in 1992 in memory of Thomas W. Martin, professor of chemistry from 1957 to 1991 and department chair from 1967 to 1970. It is presented to a graduating chemistry major who has excelled in physical chemistry and plans graduate study in chemistry.

THE JOHN T. MCGILL AWARD was established in 1960 by Lizzie McGill in memory of her husband, John T. McGill (B.A. 1879), who spent his life in service to Vanderbilt, first as a student and then as professor and historian of the university. The award is presented to the resident of the McGill Philosophy and Fine Arts Project who, in the eyes of fellow residents, "has established qualities of leadership, as well as being a good student of gentle bearing."

THE JOHN T. AND LIZZIE ALLEN MCGILL FRESHMAN AWARD honors Dr. and Mrs. McGill, both of whom served as friends of Vanderbilt students, providing them hospitality and guidance. It is given to two "academically accomplished freshmen of gentle bearing who show kindness and respect for all others, and who have established qualities of leadership."

THE JOHN T. AND LIZZIE ALLEN MCGILL UPPERCLASS AWARD, which is given in honor of Dr. and Mrs. McGill, is given to two upperclass students "who are academically accomplished, who have demonstrated qualities of leadership, and whose efforts have led to an increased understanding of other students' needs, and a more civil campus atmosphere."

THE HENRIETTA HICKMAN MORGAN MEMORIAL PRIZE was established in 1946 by William B. Morgan II in memory of his wife, a member of the Class of 1938. It is awarded for the best piece of original writing submitted by a member of the freshman class.

THE MERRILL MOORE AWARD was established in 1961 by Ann Leslie Nichol Moore in memory of her husband, Merrill Moore (B.A. 1924, M.D. 1928), a Fugitive poet and renowned psychiatrist. The award is presented to a junior or senior who shows literary promise.

THE NED PARKER NABERS AWARD was established by colleagues and friends in memory of classics professor Ned Parker Nabers who served on the faculty from 1966 until his death

in 1984. It recognizes the best essay or research paper by an undergraduate in the fields of classical archaeology or ancient art or architecture.

THE DANA W. NANCE PRIZE FOR EXCELLENCE IN THE PRE-MEDICAL CURRICULUM was endowed in 1985 by family and friends of Dana W. Nance (B.A. 1925, M.D. 1929). It is awarded to a student who has demonstrated perseverance to succeed in the pre-medical curriculum and who embodies the attributes of a caring physician.

ELLIOTT AND AILSA NEWMAN CLARINET AWARD was established in 1998 with a bequest from Ailsa MacKay Newman and memorial gifts from her family and friends. It is presented to a clarinet major for professional advancement.

THE AWARD FOR OUTSTANDING RESEARCH IN MOLECULAR BIOLOGY is presented to a senior for outstanding research performed in the molecular biology major program.

THE OUTSTANDING SENIOR IN CHEMISTRY AWARD is presented to the graduating senior planning graduate work in chemistry who, in the opinion of the faculty in the department, shows the most promise for an outstanding career.

THE DONALD E. PEARSON AWARD was established in 1980 by the chemistry department to honor Donald E. Pearson, professor of chemistry, emeritus, who served on the faculty from 1946 until his retirement. It is presented to a graduating senior majoring in chemistry who has been judged the most distinguished in undergraduate chemistry research.

THE ROBERT PETER PRATT MEMORIAL AWARD was established in 1991 by family, colleagues, and friends to honor Robert Peter Pratt (1954–1991), associate director of undergraduate admissions and leader in promoting student diversity. It is presented to a Chancellor's Scholar of junior or senior standing whose leadership and service exemplify Peter Pratt's commitment to diversity and unity.

THE ROB ROY PURDY AWARD was established in 1979 by the student affairs staff to honor the senior vice chancellor, emeritus. The award is presented to the upper class student judged by the student affairs staff to have demonstrated in his or her leadership the qualities of humaneness, dedication, loyalty, and unselfish service to Vanderbilt University so exemplified by Rob Roy Purdy.

THE DAVID RABIN PRIZE was established in 1985 by family and friends in memory of David Rabin, Professor of Medicine and Professor of Obstetrics and Gynecology from 1975 to 1984. It is awarded to a Blair School of Music undergraduate for excellence in musical performance.

THE JIM ROBINS AWARD was established in 1969 by Michael G. Wagner (B.A. 1957). It is given to perpetuate the memory of James A. Robins (B.A. 1892) whose "life and teachings exemplified selfless devotion to learning, to honor, to participation in . . . sports, and to service to youth and alma mater." It is awarded to a "Vanderbilt athlete of the senior class in whose life these virtues are most evident."

THE KATHRYN SEDBERRY POETRY PRIZE was established in 2003 through a gift from the estate of Kathryn Sedberry.

THE DAVID STEINE ECONOMICS AND BUSINESS AWARD IN MANAGERIAL STUDIES was established in 2005 by James B. Johnson, Jr. (B.A. 1954) to honor the memory of David Steine, a favorite professor of Mr. Johnson. The award recognizes undergraduates for excellence in the Corporate Strategy Competition.

THE STEIN STONE MEMORIAL AWARD was established in 1984 by Mrs. Stone in memory of her husband, James N. "Stein" Stone, an "All Southern" center for the football team from 1904–1907. It is presented to a senior who has lettered in varsity sports and has been judged to have made the most scholastic and athletic progress.

THE HENRY LEE SWINT AWARD was established in 1976 by Frank A. Woods (B.A. 1963, L.L.B. 1966), a former student of Henry Swint, Holland N. McTyeire Professor of History who served on the faculty from 1939 until 1977. It is presented for the best history essay or research paper.

THE JOEL TELLINGHUISEN PHI BETA KAPPA AWARD was established in 2003 by James B. Johnson, Jr., (B.A. 1954) to recognize the career of Professor Tellinghuisen and the impact he has made on his students, and to recognize the outstanding scholarship of Phi Beta Kappa members in their senior year.

THE UNDERWOOD MEMORIAL AWARD was endowed in 1961 by the late Newton Underwood in memory of his father, Judge Emory Marvin Underwood, long-time member of the Board of Trust. The award is given to the most deserving and promising graduating senior or graduate student in physics.

THE WALTER C. WATTLES FELLOWSHIP was established in 1969 by Walter C. Wattles (B.A. 1936), Atlanta, Georgia. It is awarded to three outstanding graduating senior women who will spend one year in an international insurance training program at Lloyd's of London.

THE SUSAN FORD WILTSHIRE ESSAY PRIZE is cosponsored by the Women's Studies Program and the Women's Faculty Organization. It recognizes the best undergraduate and graduate papers on topics concerning gender. Depth of research, quality of analysis, originality, and clarity of presentation are considered.

THE KATHERINE B. WOODWARD PRIZE IN SPANISH was established in 1943 by Katherine Woodward (B.A. 1919), who taught high school Spanish from 1919 until 1956. It is awarded to a senior who demonstrates excellence in Spanish studies.

THE YOUNG ALUMNI TRUSTEE is nominated by the Alumni Association to serve on the Board of Trust. Members of the graduating class, the preceding class, and the succeeding class of the four undergraduate schools vote on a slate of three graduating seniors. Young Alumni Trustees are eligible to serve two successive two-year terms on the Board.

Scholarships and Need-Based Financial Aid

Honor Scholarships

Vanderbilt's highly competitive Honor Scholarship program is based on academic merit and leadership. Honor Scholarships are awarded in recognition of exceptional accomplishment and high promise in some field of intellectual endeavor. The applicant's total record is considered, with particular attention to academic performance, standardized test scores, and recommendations. For applicants to the Blair School of Music, the entrance audition is an important factor.

To be considered for Honor Scholarships, students need only complete their application for admission to the university by January 1. Honor Scholarships normally are awarded to incoming freshmen and continued for four years of undergraduate study, subject to satisfactory academic performance. Unless noted as providing full tuition, the honor scholarships offer a partial-tuition award.

Financial need is not considered in the awarding of Honor Scholarships. Students who desire need-based student financial aid should apply through regular university channels.

University General Honor Scholarships

THE SOPHIE D. ABERLE SCHOLARSHIP was established in 1997 with a bequest from Sophie D. Aberle, Ph.D., M.D., whose distinguished career in anthropology and government service with the Bureau of Indian Affairs spanned almost seventy years. She died in 1996 at the age of 100. Awarded on the basis of academic merit, preference is given to students of Native American origin who are members of the Navajo Tribe or Nation.

THE CARELL SCHOLARSHIPS were established in 1998 by Monroe J. Carell, Jr. (B.E. 1959) and his wife, Ann Scott Carell, a Peabody graduate in the class of 1957. Mr. Carell is chairman of Central Parking System, a Nashville philanthropist, and Vanderbilt University Board of Trust member since 1991. The full-tuition scholarships are based on academic achievement, extracurricular activities, financial need, and student employment.

THE CHANCELLOR'S SCHOLARS PROGRAM, initiated in 1985 by Chancellor Joe B. Wyatt, is funded with gifts from alumni, faculty, staff, students, corporations, and friends. Chancellor's Scholars are selected on the basis of commitment to diversity, leadership, strength of character, and academic achievement. Scholars receive full tuition and $5,000 for one summer study abroad or research experience after the sophomore year, and participate in a leadership enrichment program. Scholarships are renewed each year as long as the student maintains a cumulative GPA of 3.0. To be considered, candidates complete the Chancellor's Scholarship application, available from the Office of Undergraduate Admissions. Potential scholars may

also be nominated by teachers, counselors, alumni, or community members who believe they meet the standards set forth by the program.

THE CHRONICLERS OF DISCOVERY SCHOLARSHIP was established in 1998 for students who will pursue a course of study and a career in the communication of science, engineering, and technology. This contract interdisciplinary major can prepare students for a variety of careers, including science journalism, public health, public relations, environmental law, and technical management. A panel of judges from Vanderbilt, NASA, Discovery Communications, and the U.S. Space and Rocket Center choose one winner annually, who must also apply to the College of Arts and Science through regular admission channels. Winners receive a full tuition scholarship and a summer internship at the Discovery Channel. Applications may be obtained from the Office of Undergraduate Admissions, and must be completed by January 15.

THE MAGGIE S. CRAIG MEMORIAL SCHOLARSHIP, established by Cornelius A. Craig in honor of his wife, is awarded each year to an entering freshman who is a resident of Giles County, Tennessee, and has attended school there for at least five years. The amount awarded is equivalent to full freshman-year tuition and an additional stipend to help with other educational costs, if funds allow. Awards for subsequent years will continue at the freshman-year level unless adequate funds are available to increase the awards for all Craig Scholarship recipients. Candidates are chosen by the Vanderbilt Craig Scholarship Committee and the Giles County Craig Scholarship Committee. If the scholarship is not awarded to an entering freshman, the committees may choose a Craig Scholar from among second-, third-, or fourth-year undergraduate students who meet the criteria.

THE CONSTANCE BUMGARNER GEE SCHOLARSHIP was established in 2005 by Chancellor E. Gordon Gee to honor his wife, Dr. Constance Bumgarner Gee, and to provide annual full-tuition support to a worthy undergraduate student.

THE WILLIAM D. AND VIOLET H. HUDSON HONOR SCHOLARSHIP was established in 1987 by William D. Hudson, Jr. (B.A. 1941), Thomas M. Hudson (B.A. 1942), and John H. Hudson (E 1945) to honor their parents. The award benefits students from Montgomery County, Tennessee.

THE INGRAM SCHOLARS PROGRAM was established in 1993 by the late E. Bronson Ingram (A 1953) and his family. Ingram, who joined the Vanderbilt University Board of Trust in 1967, was president of the Board from 1991 until his death in June 1995. In addition to academic merit, scholars are selected on the basis of a strong record of community service. Recipients design and implement projects that address significant societal needs. The Ingram Scholarship Program provides full-tuition support each year to entering freshmen, half-tuition support each year to current Vanderbilt students, stipends for special summer projects, and project expense budget. Applications and brochures are available in the Office of Undergraduate Admissions. For more information, call the Ingram Scholarship Program at (615) 322-8586, visit *www.vanderbilt.edu/ingram*, or write to Ingram Scholarship Program, Office of Undergraduate Admissions, Vanderbilt University, 2305 West End Avenue, Nashville, Tennessee 37203-1727.

THE JESSE H. JONES AND MARY GIBBS JONES SCHOLARSHIP was established in 1994 by the Houston Endowment, Inc., to honor Jesse Holman Jones (founder of the Houston Endowment and a member of the Peabody College Board of Trust from 1929 until his death in 1956) and his wife. The scholarship is awarded to talented and promising students from Houston, Texas, and the surrounding region.

THE GARRETT C. KLEIN MEMORIAL SCHOLARSHIP was established in 2004 by Stacy Klein to provide scholarships based on academic merit to deserving undergraduates at

Vanderbilt who have exhibited a commitment to diversity. This memorial fund was established in the name of Garrett Klein following the tragic accident that took his life and that of his young son, Bennett. Garrett C. Klein, senior associate director of undergraduate admissions, recruited students to the university, working closely with the College of Arts and Science and athletics. He worked his entire career at Vanderbilt. "He was a gifted admissions officer who loved his Vanderbilt colleagues and his work equally," said William M. Shain, dean of undergraduate admissions.

LANIER FAMILY SCHOLARSHIPS are a part of the Chancellor's Scholarship program. Funded with gifts from the Lanier family and friends, these full-tuition scholarships are available to minority students from the Atlanta area and Georgia.

THE LANIER SCHOLARSHIP PROGRAM was established with the generous support of the Lanier family of Atlanta and Vanderbilt alumni in the greater Atlanta area. Sartain Lanier (B.A. 1931), a leader in the Atlanta business community, was a Vanderbilt Board of Trust member from 1960 until his death in 1994. Two scholarships, covering tuition and fees, are awarded annually to graduates of secondary schools in the Georgia counties of Clayton, Cobb, DeKalb, Douglas, Fulton, Gwinnett, Henry, and Rockdale. Applications can be obtained from the Office of Undergraduate Admissions.

THE MEMPHIS VANDERBILT HONOR SCHOLARSHIP was established in 1984 by an individual from Memphis, Tennessee. Contributions from Memphis alumni have expanded the fund, which provides an award to entering freshmen from Memphis.

NATIONAL ACHIEVEMENT SCHOLARSHIPS are awarded each year to entering freshmen who are named Finalists by the National Merit Scholarship Corporation. Recipients must not have been awarded a National Achievement Scholarship by a corporate sponsor. Finalists must list Vanderbilt University as their first choice school by the designated deadline. These scholarships are administered by the National Merit Scholarship Corporation.

NATIONAL MERIT SCHOLARSHIPS are awarded each year to entering freshmen who are named Finalists by the National Merit Scholarship Corporation. Recipients must not have been awarded a National Merit Scholarship by a corporate sponsor. Finalists must list Vanderbilt University as their first-choice school by the designated deadline. These scholarships are administered by the National Merit Scholarship Corporation.

THE JOHN E. ROVENSKY SCHOLARSHIP was established in 2002 as a full-tuition scholarship available to undergraduates with one or more parents employed by the United Parcel Service. Mrs. Jane R. Grace, daughter of Mr. Rovensky and mother of Jack Rovensky Grace (B.A. 1988), established the scholarship in honor of her father who provided integral support for the expansion of the United Parcel Service in its earliest days. Preference may be given to students with financial need. Academic achievement, leadership qualities, and outstanding character will be considered. The ideal recipient will embody Mr. Rovensky's personal creed of "being the best that you can be."

THE JOHN SEIGENTHALER SCHOLARSHIP was established in 2001 by The Freedom Forum to honor First Amendment Center founder John Seigenthaler. The endowment will support the awarding of one Seigenthaler Scholarship each year to an entering freshman with an interest in journalism. The scholarships will be awarded to students of color, providing full tuition for four years. Scholars may participate in an internship at The Freedom Forum or First Amendment Center.

THE DINAH SHORE SCHOLARSHIP was established in 1992 by Miss Dinah Shore (B.A. 1938). After a distinguished career in entertainment, she died in 1994.

UNITED STATES STEEL FOUNDATION HONOR SCHOLARSHIPS were initiated in 1982. Awards are available to freshmen and sophomores on a competitive basis for up to three years of study. Outstanding academic performance and leadership potential are the principal selection criteria, but financial need will be considered. Preference will be given to sons and daughters of United States Steel Corporation employees and retirees.

HAROLD STIRLING VANDERBILT (HSV) HONOR SCHOLARSHIPS honor the memory of Harold Stirling Vanderbilt, great-grandson of Commodore Cornelius Vanderbilt and president of the university's Board of Trust from 1955 to 1968. One full-tuition HSV Scholarship is awarded annually in the Blair School of Music with two awarded in both the School of Engineering and Peabody College. Nine full-tuition HSV Scholarships, which include a summer study opportunity abroad, are awarded in the College of Arts and Science.

College of Arts and Science Honor Scholarships

DEAN'S SELECT SCHOLARSHIPS provide 75 percent of tuition and are awarded each year to a varying number of entering freshmen.

THE JULIA P. ARNOLD HONOR SCHOLARSHIP was established in 1983 with a bequest from Julia A. Powell Arnold (B.A. 1923, M.A. 1926).

THE FIELDING JEWELL BOLES HONOR SCHOLARSHIP was established in 1995 with a bequest from Dr. William McDonald Boles (B.A. 1931) and his wife, Eva Carol, of New Orleans, to honor his father. The full-tuition award is available to students from the Kentucky counties of Allen, Barren, Cumberland, Logan, Metcalfe, Monroe, Simpson, and Warren, with preference given to those from Barren County. Fielding Boles, a lifelong resident of Glasgow in Barren County, served as a banker to the people of this region.

THE GAIL ANDERSON CAÑIZARES SCHOLARSHIP was established in 2000 by the Rose-Marie and Jack R. Anderson Foundation in honor of Mr. and Mrs. Anderson's daughter. Gail Anderson Cañizares was graduated from the College of Arts and Science in 1974. The scholarship will provide half-tuition.

THE CLASS OF '61 SCHOLARSHIP was established in 2005 by an anonymous member of the class to provide honor scholarship awards, helping Vanderbilt attract and support outstanding undergraduates in the College of Arts and Science. The donation was in recognition of the many friendships established during their four years together, and in appreciation of the significant contribution each made to the personal development of all.

THE COLLEGE CABINET HONOR SCHOLARSHIP was initiated in 1984 with gifts from members of the College Cabinet, the donor society for the College of Arts and Science. The scholarship covers the cost of tuition.

THE STEPHEN HARRIS COOK MEMORIAL FELLOWSHIP was established in 1976 by his parents as a memorial. It is awarded each year to a rising senior on the basis of need and ability, to enable the student to continue undergraduate research during the summer. The recipient is selected by the faculty of the Department of Chemistry.

THE DERAMUS FAMILY SCHOLARSHIP was endowed in 1998 by the Deramus Foundation, which was created by the late William N. Deramus III, former chairman of Kansas City Southern Industries and MAPCO, Inc., and his wife, the late Patricia W. Deramus. Members of the family, including Baird Deramus Fogel (B.A. 1993), Dawn Deramus Fogel (B.A. 1995), Marshall Harkless Dean III (B.A. 1999), and Jennifer Watson Dean (A 2001) are involved with the foundation, which contributes to the support of education.

THE JAYNE LOREE DRUSHAL MEMORIAL SCHOLARSHIP was established in 1968 by the Drushal family in memory of Jayne, a member of the class of 1967. The award provides assistance to a Vanderbilt student attending the Vanderbilt in France program, with preference given to those majoring in French. Apply by April 15 to the chair of the French department.

THE JAMES W. EDWARDS JR. SCHOLARSHIP, established in 1984 by Mr. and Mrs. James W. Edwards as a memorial for their son, is awarded annually to a Vanderbilt student attending the Vanderbilt in Germany program. For more information, contact the director of the Study Abroad Program.

THE MARVIN P. FRIEDMAN SCHOLARSHIP, established in 1982 by Mr. Friedman (B.A. 1947), is available to an entering freshman from California or the West Coast. Financial need is a consideration.

THE EMMARYNE H. GENY HONOR SCHOLARSHIP was created in 1985 with a gift from Mr. Charles W. Geny (B.A. 1936), a life member of the Vanderbilt Board of Trust.

THE ROBERT HARVEY HONOR SCHOLARSHIP was established in 2002 with a gift from the estate of the late Arkansas Senator Robert Harvey (B.A. 1937, LL.B. 1939). The endowment will provide a full-tuition scholarship for an outstanding freshman applicant to the College of Arts and Science from the state of Arkansas, with preference given to applicants from Jackson County, Senator Harvey's home county.

THE JOANNE FLEMING HAYES SCHOLARSHIP was established in 1993 by Joanne Fleming Hayes (B.A. 1968) in celebration of her twenty-fifth class reunion. She served as class chair for Reunion '93 and general chair for Reunion '98.

THE RICHARD G. HOLDER HONOR SCHOLARSHIP was established by the Reynolds Metals Company Foundation in 1996 to honor Richard G. Holder (B.A. 1952) for his leadership and service to the company. He retired as chairman and CEO in 1996.

THE KIRBY E. AND MARGARET A. JACKSON HONOR SCHOLARSHIP was established in 1992 with a bequest from Kirby E. Jackson, a former Vanderbilt chemistry professor. The fund honors Jackson (B.A. 1918, M.S. 1919) and his wife, Margaret Arthur, who attended Peabody College.

THE MORTON C. JOHNSON SCHOLARSHIP FUND FOR HONOR STUDENTS was established in 1987 with a bequest from Mrs. Morton C. Johnson (B.A. 1921). The award provides full tuition.

THE ERNEST A. JONES SCHOLARSHIP was established in 1985 by family, colleagues, and friends to honor Professor Emeritus Ernest A. Jones (M.S. 1943). The scholarship is awarded to an outstanding sophomore majoring in physics or physics–astronomy.

THE CHARLES WICKLIFFE KENNERLY HONOR SCHOLARSHIP was established in 1986 by family members and the Owen Cheatham Foundation. It honors the memory of Charlie Kennerly, who died midway through his freshman year at Vanderbilt. The award provides full tuition.

THE JAMES C. LANCASTER HONOR SCHOLARSHIP was established in 1982 by Mr James C. Lancaster (B.A. 1927).

THE MR. AND MRS. T. A. LOVELACE HONOR SCHOLARSHIP, established in 1985 by Mozart Lovelace (B.A. 1929) and his wife, pays tribute to the memory of his parents, Thomas Augustus and Beulah Campbell Lovelace. The scholarship is available to a student from Weakley, Carroll, Henry, or Obion counties in Tennessee.

THE MITCHELL S. AND MADELINE L. MAGID HONOR SCHOLARSHIP was established in 1997 with a bequest from Mitchell Magid and his wife, Madeline Lightman, a member of the Class of 1939. Their daughter, Emily, is a 1975 graduate of Peabody College. Award is based on academic merit and financial need.

THE DAVID C. MCDONALD SCHOLARSHIP was established in 2000 by the Rose-Marie and Jack R. Anderson Foundation in honor of Mr. and Mrs. Anderson's son-in-law. David C. McDonald was graduated from the College of Arts and Science in 1979. The scholarship will provide half-tuition.

WILLIAM A. AND NANCY F. MCMINN HONOR SCHOLARSHIPS IN THE NATURAL SCIENCES were established in 1993 by William A. McMinn, Jr. (B.A. 1952), and his wife, Nancy, to encourage students majoring in the natural sciences, with preference for those from underrepresented groups such as women or minorities who want to study physics. These full-tuition scholarships include a summer research stipend.

THE MARTIN F. MCNAMARA JR. HONOR SCHOLARSHIP was established in 1985 by the McNamara family to honor the memory of Martin F. McNamara, Jr. (B.A. 1932, L 1932). Preference is given to students from Kentucky.

THE COLEMAN D. OLDHAM HONOR SCHOLARSHIP was endowed with bequests from Coleman D. Oldham (B.A. 1924) and his sister, Emma C. Oldham, both of Richmond, Kentucky. It benefits students from Kentucky, with preference for those from Madison County.

THE CLAUDE AND VINCENETTE PICHOIS SCHOLARSHIP IN FRENCH LITERATURE was established in 1984 by Claude Pichois, Distinguished Professor of French, and his wife, Vincenette. The scholarship supports graduate and undergraduate study of French and may include awards to junior or senior French majors who are participating in the Vanderbilt in France program in Aix. For more information, contact the chair of the French department.

THE PUGH-HERNANDEZ SCHOLARSHIP was established in 1980 by Mr. Robert D. Pugh to honor his daughter and son-in-law. An award is made annually to a student attending the Vanderbilt in Spain program. For more information, contact the director of the Study Abroad Program.

THE RUTH AND G. A. PURYEAR HONOR SCHOLARSHIPS were established in 1994 with a bequest from Ruth Burr Puryear (B.A. 1928), who died in 1993. The scholarships honor Mrs. Puryear and her husband, a graduate in the class of 1928.

THE FRANK C. RAND SR. AND NORFLEET H. RAND HONOR SCHOLARSHIP was established in 1985 with a bequest from Mr. Rand (B.A. 1934), a member of the Vanderbilt Board of Trust from 1966 to 1978.

THE JAMES C. AND LISTON ROBERTS HONOR SCHOLARSHIP was established in 1982 by Mr. James C. Roberts (B.A. 1934) and his son, J. Liston Roberts (B.A. 1965).

THE RUSSELL LEE RUA HONOR SCHOLARSHIP was established in 1983 by Mr. and Mrs. Ernest Rua in memory of their son, Russell (B.A. 1978). The award provides full tuition.

THE FRED RUSSELL–GRANTLAND RICE SCHOLARSHIP FOR SPORTS JOURNALISM (established in 1956 as the Thoroughbred Racing Association–Grantland Rice Memorial Scholarship) was renamed after it was endowed in 1986 by Charles J. Cella as a tribute to Fred Russell (B.A. 1927) and Grantland Rice (B.A. 1901), two of America's most distinguished sports writers. The award is available to an entering freshman who plans a career in sports journalism. Applications may be obtained from the Office of Undergraduate Admissions.

THE DEEG SEZNA SCHOLARSHIP was endowed in 2003 by Davis Sezna and Gail Sezna to honor the memory of their son, Davis "Deeg" Grier Sezna, Jr, a 2001 graduate of the College of Arts and Science.

THE CLIFTON AND RENEE PRICE SMITH HONOR SCHOLARSHIP was established in 1983 by Dr. and Mrs. Smith, both graduates in the class of 1965. The award provides full tuition.

THE GEORGE AND PEGGY WEISE SPIEGEL HONOR SCHOLARSHIP IN SCIENCE AND ENGINEERING was established in 1998 by George Spiegel (B.E. 1948) and his wife, Peggy (B.A. 1948), in celebration of their fiftieth class reunion. The scholarship is awarded to a student enrolled in the School of Engineering or to an Arts and Science student who is majoring in a field of science or mathematics.

THE STRAYHORN HONOR SCHOLARSHIP was endowed in 1986 by Mrs. Elizabeth Strayhorn Walsh (B.A.1924) in memory of her father, William David Strayhorn (B.A. 1897), and her three brothers: William D. Strayhorn, Jr. (B.A. 1925, M.D. 1928), Joseph M. Strayhorn (B.A. 1930, M.D. 1933), and Eugene H. Strayhorn (B.A. 1935, J.D. 1938).

THE BARBARA AND FREDERICK R. SUITS HONOR SCHOLARSHIP was created in 1986 with a bequest from Barbara Suits in memory of her husband, Frederick (B.A. 1937).

THE CATHY AND BILL TURNER SCHOLARSHIP was established in 2000 by William E. Turner, Jr. (B.A. 1954) and his wife, Cathy Wilson Turner, both of Nashville. It is awarded on the basis of academic merit to undergraduates in the College of Arts and Science.

THE EUGENE H. VAUGHAN UNDERGRADUATE RESEARCH ASSISTANTSHIP IN GEOLOGY was endowed in 1999 by Mr. and Mrs. Ernest J. Cockrell to honor Eugene H. Vaughan (B.A. 1955), a member of the Vanderbilt University Board of Trust since 1972. It is awarded to earth and environmental sciences majors who demonstrate exceptional potential and motivation for conducting high quality research. Financial need is a consideration. Inquiries should be directed to the chair of the Department of Earth and Environmental Sciences.

JESSE WILLS HONOR SCHOLARSHIPS were established in 1985 by the Wills family to honor the memory of Jesse Ely Wills (B.A. 1922), one of Vanderbilt's "Fugitive" poets. He was a life member of the Vanderbilt Board of Trust and, for ten years, chairman of the board of the Joint University Libraries. These full-tuition scholarships include a summer stipend.

THE GEORGIA WILSON HONOR SCHOLARSHIP was established in 1982 by John W. Wilson as a memorial to his wife, who graduated from Vanderbilt in 1928.

THE REBECCA AND SPENCE WILSON SCHOLARSHIP was endowed in 1998 by Spence Wilson (B.A. 1964) and his wife, Rebecca Webb Wilson (B.A. 1965) to provide scholarship support to deserving undergraduates in the College of Arts and Science who will add to the diversity at Vanderbilt and who have financial need. Preference will be given to students from Memphis who demonstrate leadership potential and academic achievement.

Blair School of Music Honor Scholarships

BLAIR DEAN'S HONOR SCHOLARSHIPS are awarded each year to selected students entering the Blair School. The annual stipend provides partial tuition.

THE FRANCES HAMPTON CURREY MUSIC SCHOLARSHIP was established in 1987 in memory of Mrs. Frances H. Currey by members of her family: Mr. Brownlee O. Currey, Jr. (B.A. 1949), and Mrs. Currey, and Mrs. Jesse Henley. The award provides full tuition.

THE PETER AND LOIS FYFE SCHOLARSHIP was established in 1984 to provide tuition aid for students in the precollegiate program. In 1995, the Fyfes designated the scholarship to benefit undergraduates. Peter Fyfe joined the Blair faculty in 1964 as adjunct professor of organ and serves as the university organist.

THE LAURA KEMP GOAD HONOR SCHOLARSHIP was established in 1987 to honor Laura Kemp Goad by members of her family: Mr. Cal Turner, Sr. (E 1937), and Mrs. Turner; Mr. Cal Turner, Jr. (B.A. 1962), and Mrs. Turner; and Mr. Steve Turner (B.A. 1969) and Mrs. Turner. Preference is given to a student majoring in piano. The award provides full tuition.

THE WILLIAM W. AND SAIDEE L. JARRELL SCHOLARSHIP was established in 1996 with a bequest from Anne J. Segars (A 1929) to honor her parents. She was Georgia's first female state commissioner. Her mother, a 1904 *magna cum laude* graduate, was an avid social crusader. Her father received a Vanderbilt medical degree in 1901 and practiced medicine in Thomasville.

THE MARION A. KATZ MUSIC SCHOLARSHIP was established by Peter and Marion Katz to be awarded to a cello student in the Blair School of Music.

THE RAE S. MILLER PIANO SCHOLARSHIP was established in 1987 by Martin and Enid Katahn to honor Mrs. Katahn's mother, Rae S. Miller. The $5,000 award is given to a piano major.

THE WILDA AND WILLIAM MOENNIG SCHOLARSHIP was established in 1987 in memory of Blair's distinguished master luthier by his wife, Wilda Tinsley Moennig. The $12,000 annual award is given to a string major.

THE KENNETH L. AND ANNE FOSTER ROBERTS SCHOLARSHIP was endowed in 1993 by Kenneth L. Roberts (B.A. 1954, J.D. 1959) and his late wife, Anne Foster (B.A. 1955). Financial need is a consideration in selecting recipients.

THE DEL SAWYER TRUMPET SCHOLARSHIP was established in 1993 by the Justin and Valere Potter Foundation to honor the service of John F. "Del" Sawyer, founding director of Blair Academy in 1964 and dean of the Blair School of Music from 1984 until 1993.

THE WILMA WARD SCHOLARSHIP was inspired by Anne Potter Wilson's legacy of service and generosity to the Blair School of Music. Established in 1995 by Wilma Ward, the scholarship provides four half-tuition awards for four years of study.

THE GREGORY B. WOOLF SCHOLARSHIP was originally a loan fund established at Peabody College in 1971 by family and friends to honor the memory of Gregory B. Woolf, a music faculty member at George Peabody College. The fund was moved to the Blair School of Music in 1987. It was endowed as a scholarship in 1998. First preference is given to students majoring in composition and theory, with second preference given to students majoring in piano.

School of Engineering Honor Scholarships

THE CRENSHAW W. AND HOWELL E. ADAMS SR. MEMORIAL SCHOLARSHIP was established in 1968 by Howell E. Adams, Jr. (B.E. 1953), his brother Thomas E. Adams (B.E. 1958), and his sister, Mrs. Dabney Hart (M.A. 1949) in memory of their father, Howell Adams (E 1916) and their mother, Crenshaw W. Adams.

THE NANCY AND BRUCE M. BAYER HONOR SCHOLARSHIP was established in 2000 by Professor Emeritus Bruce M. Bayer (Founder's Medalist, B.E. 1935). During his tenure, Professor Bayer served as chair of the Department of Mechanical Engineering. The Bayer Scholarship provides full tuition.

THE CHARLES K. BRUCE SCHOLARSHIP was established in 1972 under the will of Allenda Webb Bruce as a memorial to her husband, an engineering alumnus and Founder's Medalist in the class of 1912.

THE ALEX J. BULLINGTON MEMORIAL SCHOLARSHIP was established in 1995 to honor the memory of Alex J. Bullington (B.E. 1993, *cum laude*) who died in a 1995 automobile accident. The endowment was funded by gifts from the family and friends of both Alex and his grandfather, John M. Swalm, Jr., who had planned to create the scholarship, but also died in 1995, before he could do so.

THE DEAN F. CHASE SCHOLARSHIP was established in 2005 and will be annually funded by Dean F. Chase (B.E. 1968) to benefit undergraduate students in the School of Engineering.

THE ALETHA AND THAD DORSEY SCHOLARSHIP was endowed in 1992 with a bequest from Thad L. Dorsey (B.E. 1925).

THE DOUG DURANDO SCHOLARSHIP was established in 2002 by friends and classmates to honor the memory of Doug Durando (B.S. Engineering 1991). Doug died in the spring of 2001 and is remembered by many for "his loyalty to family and friends, overwhelming generosity, fun-loving spirit, sense of humor, and especially his love of life at Vanderbilt." The scholarship will provide full tuition to an incoming student based on academic merit with financial need.

EL PASO CORPORATION EXCELLENCE IN ENGINEERING SCHOLARSHIP was established in 1994 by the Sonat Foundation to benefit undergraduate engineering students in their junior and senior years. Preference is given to students majoring in chemical engineering, electrical engineering and computer science, and mechanical engineering. In 2000, Sonat was acquired by El Paso Energy Corporation and the name of the fund was changed.

EL PASO CORPORATION EXCELLENCE IN ENGINEERING DIVERSITY SCHOLARSHIP was established in 1994 by the Sonat Foundation to benefit undergraduate engineering students in their junior and senior years. Preference is given to students majoring in chemical engineering, electrical engineering and computer science, and mechanical engineering who contribute to the diversity of the student body at Vanderbilt. In 2000, Sonat was acquired by El Paso Energy Corporation and the name of the fund was changed.

THE ENGINEERING MINORITY SCHOLARSHIP was established in 1976 with gifts from E. I. du Pont de Nemours & Company and the Gulf Oil Foundation.

THE JAMES GEDDES SCHOLARSHIP was established in 1975 by James Geddes Stahlman (B.A. 1919), a member of the Vanderbilt University Board of Trust from 1930 until his death in 1976, to honor his grandfather, who was for sixty-three years a location and design engineer for the Louisville and Nashville Railroad. The scholarship is awarded to students from the six states (Alabama, Florida, Kentucky, Louisiana, Mississippi, and Tennessee) originally traversed by the railroad.

PAUL HARRAWOOD HONORS UNDERGRADUATE SCHOLARSHIPS were established in 1986 by the late Professor Emeritus J. Dillard Jacobs, Jr. (Founder's Medalist, B.E. 1932), in recognition of the nineteen years of outstanding leadership given by Dean Paul Harrawood to the School of Engineering. Harrawood was dean from 1979 to 1986 and associate dean prior to that time. He joined the faculty in 1967. The award provides full tuition.

THE DILLARD JACOBS SCHOLARSHIP was established in 1974 by the late Professor Emeritus J. Dillard Jacobs, Jr. (Founder's Medalist, B.E. 1932), who taught mechanical engineering from 1947 until his retirement in 1976. Preference is given to former students of Presbyterian College in South Carolina or children of current faculty members of that institution.

THE CLAYTON KINCAID MEMORIAL SCHOLARSHIP was established in 1982 with a bequest from Mr. Kincaid.

THE FRED J. LEWIS SOCIETY SCHOLARSHIP was established in 1996 with contributions from Lewis Society members, including a gift from Edmund C. Rogers (B.E. 1929), who died in 1996, and a gift from Mrs. Helen P. Glimpse in honor of her son, Steven B. Glimpse (B.E. 1969). The Fred J. Lewis Society is a donor society honoring Fred Justin Lewis, who served as dean of the School of Engineering from 1933 to 1959.

THE RICHARD E. MARTIN SCHOLARSHIP was established in 1995 through the trust of Clata Ree Martin Brent (P.B.S. 1955, M.A.L. 1962) to honor the memory of her father. He was a close friend of Professor William H. Rowan, Sr. (B.E. 1926), who taught in the School of Engineering for twenty-six years.

THE MCCLESKEY HONOR SCHOLARSHIP was endowed in 1998 by Samuel W. McCleskey (B.E. 1951). He attended Vanderbilt on a scholarship. This scholarship benefits well-rounded individuals who clearly demonstrate broad-based interests.

THE ROBERT H. MCNEILLY MEMORIAL SCHOLARSHIP, established in 1981 by Edwin L. White (E 1920), honors the late Professor McNeilly, a member of the engineering faculty from 1908 until his death in 1925. Preference is given to students at the sophomore level or higher who work part time to finance their education.

THE WILSON L. AND NELLIE PYLE MISER SCHOLARSHIP FUND was established in 1965 by Professor Miser, who taught mathematics to engineers from 1925 until his retirement in 1952. The fund provides an award to a student studying engineering or applied mathematics.

THE GEORGE W. F. MYERS SCHOLARSHIP was endowed in 1991 with a bequest from George Myers, an engineer from St. Louis, Missouri.

THE DANIEL ROBINSON MEMORIAL SCHOLARSHIP was endowed in 1996 with contributions from Andersen Consulting and from the Robinson family and their friends to honor the memory of Daniel Burwell Robinson (B.E. 1994) who died in 1995. He was an analyst at Andersen Consulting of Nashville. The scholarship benefits juniors or seniors who are interested in business technology and who are majoring in computer science, engineering science, civil engineering, electrical engineering, or mechanical engineering.

THE WILLIAM H. ROWAN SCHOLARSHIP was endowed in 1969 by family and friends to honor Professor William H. Rowan, Sr. (B.E. 1926), who taught civil engineering in the School of Engineering from 1946 until his retirement in 1968. The scholarship is available to engineering students who compete in minor intercollegiate sports while at Vanderbilt.

THE W. D. SEYFRIED HONOR SCHOLARSHIP was established in 1986 by W. D. Seyfried (B.E. 1938).

THE A. MAX AND SUSAN S. SOUBY SCHOLARSHIP was established in 1976 by Armand Max Souby, Jr. (B.E. 1938) to honor his parents. The fund provides an award for a student majoring in chemical engineering.

THE GEORGE AND PEGGY WEISE SPIEGEL HONOR SCHOLARSHIP IN SCIENCE AND ENGINEERING was established in 1998 by George Spiegel (B.E. 1948) and his wife, Peggy (B.A. 1948), in celebration of their fiftieth class reunion. The scholarship is awarded to a student enrolled in the School of Engineering or to an Arts and Science student who is majoring in a field of science or mathematics.

JAMES WILLIAM STEWART JR. HONOR SCHOLARSHIPS were established in 1978 by James W. Stewart (B.E. 1949) and his wife in memory of their son, Jim, Jr. (B.E. 1973). The award provides tuition at the freshman-year tuition level.

THE LADY JEAN BARKER TATUM HONOR SCHOLARSHIP was established in 1988 by Joseph F. Tatum, Sr. (B.E. 1945) to honor the memory of his late wife, Lady Jean Tatum (B.A. 1946).

THE KAREN TODD SCHOLARSHIP was established in 1982 by the parents of Karen Dawn Todd (B.S. 1980) to honor their daughter, who was a Stewart Scholar.

THE COLONEL CHARLES M. AND LOUISE D. TURNER SCHOLARSHIP was endowed in 1992 with a bequest from Charles Turner (B.E. 1925, M.E. 1931).

THE J. LAWRENCE AND BARBARA B. WILSON SCHOLARSHIP was established in 2002 by J. Lawrence Wilson (B.E. 1958) and his wife, Barbara Burroughs Wilson, an Arts and Science graduate in the class of 1958. The scholarship will be based on academic achievement and leadership.

OTHER HONOR SCHOLARSHIPS IN ENGINEERING, providing from $1,000 to full tuition, are offered in limited number each year.

Peabody College Honor Scholarships

THE ANONYMOUS SCHOLARSHIP was endowed in 2002 to provide half-tuition honor scholarships to deserving undergraduates enrolled at Peabody College.

DEAN'S SELECT SCHOLARSHIPS provide 75 percent of tuition and are awarded each year to a varying number of entering freshmen.

THE DOROTHY CATE FRIST HONOR SCHOLARSHIP was established in 1997 with a gift from the Dorothy and Thomas Frist Sr. Foundation and members of the Frist family. The fund honors Dorothy Cate Frist (P.B.S. 1932) and her lifetime commitment to education. The scholarship is awarded based on academic merit to students majoring in education.

THE JOEL C. GORDON HONOR SCHOLARSHIP was endowed in 1998 by William J. Hamburg, CEO of MediSphere Health Partners, to honor his friend and mentor, Joel D. Gordon, chairman and CEO of The Gordon Group. The scholarship benefits a junior or senior who is majoring in human and organizational development with a focus on health care business or services. Preference is given to students who are participating in a health-care related internship. Financial need is a consideration. Inquiries should be addressed to the director of the Human and Organizational Development program.

THE INGRAM HONOR SCHOLARSHIP IN COMMUNITY LEADERSHIP AND DEVELOPMENT was established in 2002 by Orrin H. Ingram II, B.A. 1982, and member of the Vanderbilt University Board of Trust. The scholarship will be awarded to an undergraduate in Peabody College's Human and Organizational Development program and will include a semester-long internship working in a Boys and Girls Club site.

THE MITCHELL S. AND MADELINE L. MAGID HONOR SCHOLARSHIP was established in 1997 with a bequest from Mitchell Magid and his wife, Madeline Lightman, a member of the Class of 1939. Their daughter, Emily, is a 1975 graduate of Peabody College. Award is based on academic merit and financial need.

THE J. RIDLEY MITCHELL MEMORIAL SCHOLARSHIP was established in 1987 with a bequest from Olivia Hague Mitchell to honor the memory of her husband, John Ridley Mitchell, a Peabody Class of 1896 graduate. A native of Crossville, Tennessee, and a 1904 graduate of Cumberland University Law School, he was a Fourth District congressman from 1931 to 1941. He also served for many years as an assistant to the U.S. attorney general. He retired in 1953 and died in 1962. Mrs. Mitchell died in 1985.

THE JERE PHILLIPS HONOR SCHOLARSHIP was established in 1994 by Alton W. Phillips (B.A. 1957), Keith Phillips, and Warren Phillips to honor Jere Phillips (P.B.S. 1958), wife and mother. A tribute to Mrs. Phillips' contributions to the advancement of Peabody College, the scholarship is awarded to a rising senior who demonstrates academic merit and extraordinary qualities of leadership and community service.

THE PROVOST'S AWARD FOR TEACHER EDUCATION is awarded to Peabody undergraduate students with high ability and financial need entering a Teacher Education program.

THE REEVES HONOR SCHOLARSHIP was established in 1991 by the Reeves Foundation to honor Katherine Mercer Reeves (P.B.S. 1992, P.M.Ed. 1993). The scholarship is awarded to students majoring in early childhood or elementary education. A second Reeves Scholarship was established in 1997.

THE SCHWAB FAMILY SCHOLARSHIP was established in 2005 with a gift from the Charles C. Schwab family. This annually funded scholarship benefits undergraduate students in Peabody College based on academic merit with financial need.

JOHN E. WINDROW HONOR SCHOLARSHIPS were established in 1982 by Dr. Arthur A. Smith (P.M.A. 1929, V.Ph.D. 1933) in memory of John E. Windrow, who devoted sixty years to Peabody College as archivist and historian. These full-tuition scholarships are available to students majoring in education.

Need-Based Financial Aid

Students who demonstrate financial need, as described in the Application Procedure, may qualify for need-based scholarships/grants, loans, and work assistance. The amount of aid will be determined by an annual evaluation of need, recalculated each year on the basis of updated financial information. The university attempts to fill the gap between the cost of attending Vanderbilt and the amount that students and their families are expected to contribute.

University General Sources of Need-Based Assistance

THE UNIVERSITY NEED-BASED GRANT PROGRAM, funded by the undergraduate schools, makes grants available to applicants who need assistance to enroll or continue their study at Vanderbilt. These grants are based on financial need and academic performance. Students must apply each year as described under Application Procedure.

THE ALUMNI ASSOCIATION SCHOLARSHIP, initiated in 1977, is an endowed scholarship supported by gifts from the Alumni Association.

THE ENOCH BROWN SCHOLARSHIP FUND was established in 1963 by Elizabeth Eggleston Brown in memory of her husband, Enoch Brown, Jr. (B.A. 1914, L 1916), noted publisher and Vanderbilt trustee. Preference is given to applicants from Williamson and Shelby counties in Tennessee.

THE INNIS AND MARGUERITE BROWN MEMORIAL SCHOLARSHIP was established in 1974 by the will of Marguerite S. Brown to honor the memory of her husband, William Innis Brown (B.A. 1906). Preference is given to students who combine the fields of athletics and journalism. Recipients are encouraged, but not required, to repay the amount of scholarship assistance received.

THE CARTMELL SCHOLARSHIP was established in 1876 by the will of W. M. Cartmell. This scholarship is unique in that the recipient must be elected by the voters of the City of Lebanon, Tennessee, during regular municipal elections held every two years. The recipient must be a resident of Wilson County or Lebanon, Tennessee, and meet certain other requirements specified in the will. Further information is available in the Office of Student Financial Aid.

THE NORA C. CHAFFIN SCHOLARSHIP FUND was established in 1956 by the Women's Student Government Association to honor Miss Chaffin, who was the dean of women at Vanderbilt for twelve years. Recipients are chosen from the junior class by a selection committee. The award is based on service to the university in the areas of student government and the arts, and religious, literary, and scholastic activities.

THE CHELLGREN FAMILY SCHOLARSHIP was established in 2000 by Mr. and Mrs. Paul W. Chellgren to honor their three children: Sarah (B.A. 1995), Matthew (B.A. 1996), and Jane (B.S. 1999). The scholarship benefits undergraduates in the College of Arts and Science and Peabody College who are residents of Kentucky.

THE DICK AND BARBARA DAVIS FAMILY SCHOLARSHIP was established in 2005 by Richard H. Davis (B.E. 1969) and Barbara C. Davis (B.S.N. 1969) to provide annual scholarship support to deserving undergraduate students enrolled in the College of Arts and Science or the School of Engineering.

THE DUNCAN SCHOOL MEMORIAL SCHOLARSHIP was established in 1965 by the Duncan School Memorial Foundation to provide scholarship assistance to male graduates of Nashville or Davidson County high schools.

THE FELIX SCHOLARSHIP was established in 1967 by Charles B. Knisker n, Jr. (B.A. 1941), in memory of his maternal grandfather, Frank L. Felix, and his uncle, Douglas E. Felix. Recipients are encouraged to repay the amount received.

THE BERNARD FENSTERWALD MEMORIAL FUND was established in 1951 by Mrs. Fensterwald (Blanche Lindauer) in memory of her husband, a graduate of the class of 1911 and a member of the Vanderbilt Board of Trust.

THE FREEMAN-STRINGER MEMORIAL SCHOLARSHIP was established in 1965 by Mrs. William K. Stringer (Nancy Freeman) as a memorial to her father, Judge Robert Wesley Freeman (B.S. 1879), and to her deceased son, William Kenneth Stringer, Jr. (B.A. 1932).

THE CHARLES V. HARRIS SCHOLARSHIP was endowed in 1993 with a bequest from Charles V. Harris, formerly of Jackson, Tennessee. His will also established scholarships at Lambuth College and Union University in Jackson. Preference is given to students from Madison County and other West Tennessee counties outside of Shelby County.

THE HASSELL SCHOLARSHIP was established in 1995 through a trust given by Thomas Frank Hassell, a member of the class of 1920. He died in 1988. Preference is given to students from Decatur, Hardin, Lawrence, Lewis, McNairy, Perry, and Wayne counties in Tennessee.

THE RONALD E. AND ANNE S. HENGES FAMILY SCHOLARSHIP was established in 2005 by Anne Sterry Henges (A. 1956) and Ronald E. Henges (B.A. 1954) to provide scholarship assistance to deserving undergraduate students in the College of Arts and Science, the School of Engineering, and Peabody College. Preference should be given to students from the greater St. Louis, Missouri, area.

THE HINES FAMILY SCHOLARSHIP was established in 2005 by Jeff and Wendy Hines to provide annual scholarship assistance to students who meet the university's requirements for need-based aid with preference given to students enrolled in the College of Arts and Science.

THE FRANK K. HOUSTON SCHOLARSHIP was established in 1974 with a bequest from Frank Houston (B.A. 1904). He was a member of the Vanderbilt Board of Trust from 1937 until his death in 1973. Preference is given to students from the counties of Bedford, Cannon, Coffee, DeKalb, Lincoln, Marshall, Moore, Rutherford, and Wilson in Tennessee.

THE PAUL E. HUSSEY SCHOLARSHIP was established in 1961 with a bequest from Paul Hussey (B.A. 1917). Preference is given to students residing in Montgomery County, Tennessee.

THE I. LEONARD JAMES SCHOLARSHIP was established in 1968 with a bequest from Mrs. James (Eva Valodin) in memory of her husband, Isaac Leonard James (Pharmacy 1904).

THE JOHN W. AND ANN JOHNSON SCHOLARSHIP was established in 1978 by Mr. and Mrs. Willard M. Johnson to honor their son and daughter-in-law, both Vanderbilt graduates. Preference is given to students from Fentress, Morgan, Scott, Cumberland, Roane, Overton, and Pickett counties in Tennessee.

THE LEOPOLD AND PAULINE KAUFMAN SCHOLARSHIP was initiated in 1938 by E. R. Kaufman (B.A. 1909) and his sister Bessie Kaufman Mayer to honor their parents. It was annually funded by their descendants until it was endowed in 1995 by Mrs. Mayer's grandson, Ivan Mayer (B.E. 1936). The scholarship is available to students from Louisiana who are enrolled in the College of Arts and Science or the School of Engineering.

THE KEITH-GLASGOW SCHOLARSHIP was established in 1966 with a bequest from Mrs. Samuella Keith Glasgow in memory of her father, Samuel Keith, and her husband, Dr. Samuel McPheeters Glasgow.

THE JOHN WALTON KNIGHT SCHOLARSHIP was endowed in 1999 with distributions from the Jane K. Lowe Charitable Trust, established by Mrs. Jane Knight Lowe of Huntsville, Alabama. The scholarship honors her father. First preference is given to students from Northern Alabama. Secondary preference is given to students from broader Southeastern region.

THE ISABEL AND ALFRED W. LASHER SCHOLARSHIP was established in 1968 by Alfred W. Lasher, Jr. (A 1942), in memory of his parents. The scholarship is awarded to students from (1) Houston, (2) Harris County, (3) the state of Texas, in that order of preference.

THE DR. J. OWSLEY MANIER SCHOLARSHIP was established in 1955 to honor the memory of Dr. Manier (B.A. 1907), professor emeritus of clinical medicine at the Vanderbilt School of Medicine. First preference is given to students from Giles County, Tennessee, with second preference to residents of other Middle Tennessee counties.

THE MAYS FAMILY SCHOLARSHIP was established in 2005 by Mark P. Mays (B.A. 1985) and Patricia Sullivan Mays (B.S. 1986) to benefit under graduate students in the College of Arts and Science and Peabody College based on high academics and financial need. The scholarship is annually funded.

THE ALLEN AND RUTH MCGILL SCHOLARSHIP was established by Allen L. McGill (B.A.1916) and Ruth Conklin McGill. Mr. McGill's father, Dr. John T. McGill (B.A. 1879, Ph.D. 1881), was professor emeritus of chemistry and dean of the School of Pharmacy. The scholarship is available to students enrolled in the College of Arts and Science or the School of Engineering.

THE MCNICHOLS-OWEN VANDERBILT SCHOLARSHIP was established in 1983 by the will of Mable McNichols Owen in memory of members of her mother's family, many of whom attended Vanderbilt.

THE DOROTHY L. MINNICH MEMORIAL SCHOLARSHIP honors the memory of Dorothy L. Minnich, who was associate dean for student services at the time of her death in 1974.

THE THOMAS E. MITCHELL SCHOLARSHIP, established with a bequest in 1931, is awarded to residents of the state of Georgia.

THE ELISE WALLACE MOORE SCHOLARSHIP was endowed in 1998 with a bequest from Sara Walker Moore in memory of her sister, Elise (B.A. 1923). Their mother, Fannie Goodlet Moore, a graduate in the class of 1893, was one of the first women to attend Vanderbilt.

THE JAMES ELMO OVERALL SCHOLARSHIP was established in 1966 by Dr. Nadine Webb Overall (B.A. 1915, M.A. 1925) and her brother, John R. Overall (E 1923), in memory of their oldest brother, James Elmo (B.A. 1913, M.A. 1914).

THE PARENTS' SCHOLARSHIP was endowed in 1976 and continues to be enlarged with gifts from parents in appreciation for the scholarships received by their sons and daughters when they were students at Vanderbilt.

THE PARISH FAMILY SCHOLARSHIP was established in 1999 by John L. Parish, Sr. (B.A. 1959) to celebrate his fortieth class reunion. His sons, Robert (P.B.S. 1988, M.B.A. 1990) and John, Jr. (P.B.S. 1990), and John's wife, Ann Noel (B.A. 1990), also support the fund.

THE WILLIAM H. AND HAMILTON PARKS SCHOLARSHIP was established in 1979 with gifts from William H. Parks (A 1907) and his son, Hamilton (A 1945). The scholarship is available to graduates of Dyer County High School in Newbern, Tennessee. Recipients are chosen on the basis of academic qualification and financial need.

THE CHARLES L. AND JEAN RUYLE POWELL SCHOLARSHIP FUND was established in 2006 through a bequest from Jean Ruyle Powell to benefit undergraduate students at Vanderbilt University.

THE ALFRED S. AND EVELYN L. PRICE MEMORIAL SCHOLARSHIP was established in 1985 through a bequest from Evelyn Lipscomb Price. Preference is given to qualified students from Trousdale County, Tennessee.

THE QUINQ SCHOLARSHIP FUND was established in the spring of 2000 to enrich the academic lives of deserving undergraduate students. It benefits one senior in each of the undergraduate schools. Quinqs are Vanderbilt alumni who have graduated fifty or more years ago.

THE RILEY SCHOLARSHIP was established in 1980 by Harris D. Riley (B.A. 1945, M.D. 1948) and members of the Riley family, many of whom attended Vanderbilt.

THE JAMES A. ROBINS MEMORIAL SCHOLARSHIP was established in 1961 in memory of "Dr. Jim," dedicated student, alumnus, trustee, and faculty member of Vanderbilt.

THE BRITT ROGERS JR. MEMORIAL SCHOLARSHIP was established in 1972 by family and friends as a tribute to Brittain Allen Rogers, Jr. (A 1930, LL.B. 1931). This scholarship is awarded to students from Tupelo, Mississippi, or northeastern Mississippi, in that order.

THE FRED SCHOEPFLIN SCHOLARSHIP was established in 2003 from a bequest of Fred Schoepflin of San Francisco, California. The fund will provide scholarship support for a deserving undergraduate from Kentucky for a full four-year degree program, or five years if within the School of Engineering.

THE CLYDE H. SHARP SCHOLARSHIP was established in 1983 with a bequest from Mrs. Sharp (Ivy Simpson) in memory of her husband, Clyde (A 1911), and their son, Clyde, Jr. (A 1936). The fund provides financial assistance to students from West Tennessee.

THE ELI GOULD AND SUE JONES SHERMAN MEMORIAL SCHOLARSHIP was established in 1963 with a bequest from Frances Sherman in memory of her parents.

THE SHIMONEK FOUNDATION SCHOLARSHIP was established in 1968 through a private trust from Frank and Joseph Shimonek. Income from the trust is equally divided among Beloit College, Lawrence University, University of the Pacific, and Vanderbilt University.

THE ADA BELL STAPLETON–BLANCHE HENRY WEAVER SCHOLARSHIP, originally the Ada Bell Stapleton Scholarship, was renamed in 1995. The fund honors Miss Stapleton, the first dean of women, and Mrs. Weaver, who served as dean of women, assistant professor of history, director of the Master of Arts in Teaching program, and assistant dean of the Graduate School. Funded by the Vanderbilt Woman's Club, the award is given to a rising junior or senior who is "an outstanding citizen on campus."

THE LERA STEVENS MEMORIAL SCHOLARSHIP was endowed in 1974 through the will of Lera Stevens (B.A. 1933, L 1935) who was employed by Vanderbilt in the offices of the chancellor, vice chancellor, and alumni secretary from her student years until her death in 1971.

ELDON STEVENSON SCHOLARSHIPS were established in 1987 with a bequest from Sarah and Eldon Stevenson. Mr. Stevenson (B.A. 1914) spent his entire business career with the National Life and Accident Insurance Company. He served the university as a member of the Board of Trust for thirty-five years until his death in 1972. These scholarships are available to the sons and daughters of employees of the American General Life and Accident Insurance Company.

THE D. W. STUBBLEFIELD SCHOLARSHIP, established in 1960 by D. W. Stubblefield (B.S. 1911), is available to residents of West Virginia who rank in the top 25 percent of their graduating class and are outstanding in an extracurricular activity. First preference is given to students from Kanawha County.

THE I. B. TIGRETT–E. E. WILSON SCHOLARSHIP was established in 1970 by Elmer Edwin Wilson (B.A. 1921, LL.B. 1924). Preference is given to residents of Davidson and Madison counties in Tennessee.

THE HILL TURNER SCHOLARSHIP was established in 1970 by John Turner (B.E. 1932) in memory of his uncle, Hill Turner (B.A. 1917), who was the Vanderbilt alumni secretary for many years.

THE UNDERGRADUATE SCHOLARSHIP FUND FOR UNIVERSITY GENERAL was established in 1993 with gifts from several donors.

GERTRUDE VANDERBILT MINORITY SCHOLARSHIP utilizes the endowment income from $1 million of the estate of Gertrude C. Vanderbilt to provide scholarships for minority undergraduate students. Approval for the allocation of these funds to increase undergraduate minority student enrollment was voted by the executive committee of the Board of Trust in February 1979.

THE C. F. WALL SCHOLARSHIP was established in 1925 through the will of Mr. C. Flem Wall. It is awarded to students from Middle Tennessee, with preference being given to residents of Williamson County.

THE CHARLES S. WATSON MINORITY SCHOLARSHIP was established in 1977 by Charles S. Watson (Ph.D. 1966) to provide financial assistance for minority students.

THE NEWTON H. WHITE SCHOLARSHIP was established in 1958 by Newton H. White, Jr., to honor the memory of his father. Preference is given to students from Giles County, Tennessee.

THE C. W. WHITTHORNE SCHOLARSHIP was established in 1873 by Congr essman Whitthorne from Middle Tennessee. Recipients are nominated by the County Executive of Maur y County, Tennessee.

THE JOHN MILFORD WILLIAMS SCHOLARSHIP was established by former students of Galloway Woman's College, Searcy, Arkansas, in memory of Professor J. M. Williams, president of Galloway from 1907 to 1933 and an alumnus of Vanderbilt. The recipient must be a direct or collateral descendant of a former student of Galloway Woman's College. He or she may be enrolled in either undergraduate or graduate study in any school of the university . Inquiries should be directed to the Office of Student Financial Aid.

THE ELLEN ROSS WILSON SCHOLARSHIP was established in 1963 by Joseph E. Wilson, who served as Vanderbilt University Auditor. The scholarship is available to students enrolled in the College of Arts and Science or the School of Engineering.

THE L. S. WOOD SCHOLARSHIP was established in 1967 with a bequest fr om Leighton S. Wood (B.E. 1932).

THE YOUNG MEMORIAL SCHOLARSHIP was established in 1958 by Logan C. B. Young (A 1930, LL.B. 1932) in memor y of his two br others, Joe Clay Young (A 1927, LL.B. 1929) and Andrew Welbey Young (B.A. 1923, LL.B. 1925). Pr eference is given to students r esiding in the First Congressional District of Arkansas.

Loan Funds Available to Students in All Schools

The FAFSA and the PROFILE are used to determine borrowing eligibility.

THE FEDERAL PERKINS LOAN PROGRAM enables the university to pr ovide low-interest loans to students. Beginning nine months after a bor rower ceases to be enrolled on at least a half-time basis, the Perkins loan is repayable within a period of ten years at 5 percent simple interest. Interest does not accrue while a borrower is enrolled in school or during the nine-month grace period.

THE VANDERBILT AID SOCIETY LOAN FUND, raised by yearly contributions of members of the Vanderbilt Aid Society, makes about $40,000 available for new loans each year . Loans are r epayable at 7 per cent simple inter est over a six-year period following depar ture from Vanderbilt. Interest does not accrue while the borrower is enrolled at Vanderbilt.

THE FEDERAL STAFFORD LOAN PROGRAM provides loans through banks and other commercial lenders for up to $2,625 for the first year, $3,500 for the second year, and $5,500 for each subsequent under graduate year, with liberal ter ms including defer ment of r epayment while one is enr olled as at least a half-time student. Need-based eligibility must be established for the subsidized Stafford Loan, whereas need-based eligibility is not required for the unsubsidized Stafford Loan. However, the aid application materials must be completed for both loan types in order to determine total eligibility.

THE VANDERBILT UNIVERSITY UNDERGRADUATE EDUCATION LOAN PROGRAM provides loans to assist students beyond existing federal and other student loan programs. The interest rate is variable and loans ar e r epayable within a period of ten to twenty years (depending upon the amount borr owed). Repayment begins immediately following graduation or less than half-time enrollment status at Vanderbilt.

College of Arts and Science Scholarships

THE ABELL FAMILY SCHOLARSHIP was established in 1992 by Hughes Abell (B.A. 1972), along with his parents and family, as a tribute to the teachers of the Monroe City Schools and Vanderbilt University, especially Walter Dunn (Lee Junior High School), Eleanor "Nibby" Thompson (Neville High School), and V. Jacque Voegeli (Vanderbilt). Preference is given to students from Monroe/Ouachita Parish; northeastern Louisiana; and Louisiana, in that order.

THE ANGIE AND SAMUEL ALLEN SCHOLARSHIP was established in 1998 by Samuel E. Allen (B.A. 1958) and his wife, Angie, to celebrate his fortieth class reunion.

THE ARNOLD FAMILY SCHOLARSHIP was established in 2005 by John Douglas Arnold (B.A. 1995) to provide two full-tuition need-based scholarships for undergraduate students enrolled in the College of Arts and Science. Awards go to incoming freshmen for their tenure at Vanderbilt.

THE FRANCES L. BALL CHEMISTRY SCHOLARSHIP was established in 2001 with a bequest from former Rutherford County schoolteacher and Oak Ridge National Laboratory chemist Frances L. Ball. The scholarship will be awarded annually to full-time chemistry students who demonstrate "need, aptitude, and dedication." Miss Ball received her undergraduate degree from Middle Tennessee State University and her master's degree in chemistry from Vanderbilt.

THE SARAH OVERTON COLTON BARRY SCHOLARSHIP was established in 1939 by Robert P. Barry, Jr. (B.E. 1933, M.S. 1934), in memory of his wife, Sarah.

THE BERNICK FAMILY SCHOLARSHIP was established in 2005 by Carol and Howard Bernick to provide an annual full-tuition, need-based award to an incoming freshman in the College of Arts and Science that is renewable for four years. Preference should be given to a student from a rural area.

THE EULEEN BROWN BERRY SCHOLARSHIP was endowed in 1990 through the bequest of Euleen Berry (B.A. 1923), a former teacher in Tennessee and Arkansas.

THE BOURLAY-HAMBRICK SCHOLARSHIP was endowed in 1999 by retired professor emeritus Charles H. Hambrick (B.A. 1952), Professor of Religious Studies, College of Arts and Science, and his wife, Joy Bourlay Hambrick, to aid students of Asian American heritage. They have lived and taught in Japan.

THE CAWTHON A. BOWEN JR. SCHOLARSHIP FUND was established in 2003 through a gift from the estate of the late Cawthon A. Bowen, Jr.

THE J. M. BRECKENRIDGE MEMORIAL CHEMISTRY SCHOLARSHIP was established in 1965 by Mrs. Breckenridge in memory of her husband. He was a member of the Vanderbilt faculty for thirty years and was at one time chair of the chemistry department. Recipients of Breckenridge scholarships will be chosen from juniors and seniors who plan careers in chemistry.

THE WILLIAM H. CAMMACK SCHOLARSHIP was established in 2002 by William H. Cammack (B.A. 1952). Preference will be given to male students from the Southeast. Demonstrated leadership, service to community and school, and involvement in other extracurricular activities will be considered in the awarding of the scholarship.

THE MATT AND VIOLA CARLOSS SCHOLARSHIP was established in 1978 by John Raymond "Matt" Carloss, who was originally from Lebanon, Tennessee, and his wife, Viola, born in Brownsville, Tennessee. Both were graduates in the class of 1936. They died in 1993. Preference is given to students from Wilson and Haywood counties in Tennessee.

THE MARY AND ELMER COHEN SCHOLARSHIP was endowed in 1998 with a bequest from Elmer Cohen (B.A. 1931).

THE CECIL D. CONLEE SCHOLARSHIP FUND was established in 2002 by Cecil D. Conlee (B.A. 1958) of Atlanta, Georgia, to provide need-based assistance to deserving students. Mr. Conlee is a member of the Vanderbilt University Board of Trust.

THE MICHELE AND STACIA CONLON SCHOLARSHIP was endowed in 1994 by Mr. and Mrs. Michael W. Conlon to honor their daughters, Michele (B.A. 1994) and Stacia (B.A. 1997).

THE WILLIAM PHILLIP CONNELL SCHOLARSHIP was established in 1941 with the proceeds of a trust from Eleanor Connell Witter, daughter of Phil Connell, B.S. 1897, Board of Trust 1914–1932. Both were from Baton Rouge, Louisiana.

THE COUSINS SCHOLARSHIP was established in 1982 by Mr. and Mrs. R. B. Cousins and their sons, Robert (B.A. 1967) and Ralph (B.A. 1970).

THE MARTIN AND MILDRED DEITSCH SCHOLARSHIP was established in 1987 by Ira J. Deitsch (B.A. 1974) to honor his parents and to encourage the study of mathematics.

THE DUNBAR FAMILY SCHOLARSHIP was established in 2005 by Wallace H. and Nancy J. Dunbar to provide need-based scholarship support to deserving undergraduate students enrolled in the College of Arts and Science.

THE IVAR LOU AND EDGAR DUNCAN SCHOLARSHIP was established in 1987 by family, former students, and other friends to honor Mrs. Duncan (B.A. 1924, Ph.D. 1940), a teacher, and her late husband, who served as professor of Latin and English, chairman of the English department, and director of graduate studies in English. Mrs. Duncan died in 1997.

THE WILLIAM H. AND SUSAN C. EASON SCHOLARSHIP was endowed in 1998 by William H. Eason (B.A. 1939) and his wife, Susan Cheek Eason (B.A. 1941).

THE ELLISTON SCHOLARSHIP was derived from a bequest in 1910 from Mrs. William R. Elliston (Elizabeth Boddie). She was closely associated with Vanderbilt in its early days and gave the land on which much of the original campus is located.

THE EPSTEIN-MCCLAIN FAMILY SCHOLARSHIP was established in 1997 with a gift from John C. McClain, a member of the Class of 1946 and his wife, Virginia. It was given in gratitude for the educations received by their daughter, Laurie, a member of the Class of 1975, and their son-in-law, Marc Epstein, a 1981 graduate married to their daughter, Bonnie. The scholarship benefits students from the state of Texas.

THE JANE EVANS MEMORIAL SCHOLARSHIP was endowed in 2004 through gifts by Ruth Montgomery Cecil (B.A. 1965) to honor the memory of Ms. Evans and her many contributions to Vanderbilt. Additional contributions were made by several classmates and by KB Home in honor of Ms. Evans' service as a board member.

THE GO FAMILY SCHOLARSHIP was established by Mae K. Go (A&S 1972) and Qung W. Go (A&S 1973) in honor of their parents, Mr. Jip Y. Go and Mrs. Sit Moore Hing Go. Mr. and Mrs. Go were very supportive of higher education and ensured that Mae, Qung, and their sisters and brothers all obtained college degrees. Preference in awarding will be given to students of Asian American heritage.

THE DAWN GROSS MEMORIAL SCHOLARSHIP was established in 1992 by Jenard M. Gross (B.A. 1950) and his wife, Gail, in memory of their daughter who died in 1990 while pursuing a career in acting. Preference for the scholarship is given to students majoring in theatre.

THE JENARD M. GROSS SCHOLARSHIP was established in 1969 by Jenard Gross (B.A. 1950).

THE ALLISON HALL GROVE SCHOLARSHIP was established in 2005 by Brian Allen Grove (B.A. 1982, M.B.A. 1983) to honor the memory of his wife (B.A. 1984). The scholarship provides assistance to deserving Arts and Science undergraduates. First preference is given to female students from Texas in the College of Arts and Science. Secondary preference is given to female students in the College of Arts and Science.

THE MARJORIE V. HAMRICK SCHOLARSHIP was endowed in 1992 with a bequest from Marjorie Vandill Hamrick (A 1944), who died in 1988.

THE CLEBURNE LEE AND ELIZABETH PURSLEY HAYES SCHOLARSHIP was established in 1982 by Annie Lee Hayes Cooney (B.A. 1920) and her sister, Edith Brevard Hayes Kitchens (B.A. 1922), in memory of their parents. Mrs. Cooney died in 1985 and Mrs. Kitchens died in 1991.

THE ETTORE F. INFANTE SCHOLARSHIP was endowed in 2000 by an anonymous donor in honor of College of Arts and Science Dean Ettore F. "Jim" Infante. Dean Infante came to Vanderbilt in August 1997 and retired in June 2000. The scholarship will be awarded to an undergraduate student in the College of Arts and Science on the basis of financial need, academic accomplishment, and potential.

THE E. DOUGLAS JOHNSON JR. FAMILY SCHOLARSHIP was established in 1993 by Mr. and Mrs. E. Douglas Johnson, Jr., to honor their three daughters: Courtney (B.S. 1991), Leslie (B.S. 1993), and Kelley (B.A. 1995). First preference is given to students from New Orleans with second preference to students from Louisiana.

THE MORTON C. JOHNSON SCHOLARSHIP was established in 1987 with a bequest from Mrs. H. Dwight Johnson (Morton Covington, B.A. 1921).

THE RHODA KAUFMAN MEMORIAL SCHOLARSHIP was established by the will of Berenice Kaufman in memory of her sister, a Phi Beta Kappa graduate in the Vanderbilt class of 1908. Preference is given to students from the State of Georgia who are majoring in one of the social sciences or preparing for a career in international relations.

THE VANCE AND JULIE LANIER MINORITY SCHOLARSHIP was endowed in 1980 by Vance W. Lanier (B.A. 1961).

THE JEANNE AND ALFRED W. LASHER JR. SCHOLARSHIP was established in 1992 by Mr. Lasher (A 1942) to honor his fiftieth reunion year. Preference is given, but not restricted, to residents of (1) West Palm Beach, (2) Palm Beach County, and (3) Florida.

THE DIANE v.S. LEVY AND ROBERT M. LEVY SCHOLARSHIP was established in 1997 by Robert M. Levy (B.A. 1972) of Chicago. The scholarship will be awarded to students who are U.S. citizens who have proven financial need. Preference should be given to students from Chicago and Atlanta who are underrepresented minorities.

THE BRYN SARA LINKOW FOUNDATION SCHOLARSHIP was established in 1994 by Dr. and Mrs. Mark A. Linkow in memory of their daughter, Bryn, who died during her junior year at Vanderbilt. The scholarship is available to students with a cumulative grade point average of 3.0 or above.

THE JOHN LOOMIS SCHOLARSHIP was established in 1996 by John R. Loomis (B.A. 1951) who served as general chair for Reunion '96.

THE C. F. "DOC" MAGINNIS SCHOLARSHIP was established in 2006 by Sharon Maginnis Munger (B.A. 1968) in honor of her father to benefit worthy undergraduate students in the College of Arts and Science.

THE MALLOY FAMILY SCHOLARSHIP was established in 2005 by Candice and Patrick E. Malloy III to provide need-based scholarship support to deserving undergraduate students enrolled in the College of Arts and Science. Preference in awarding should be given to children of a parent(s) serving in the military, if such information is readily and reasonably known to the university.

THE PAUL E. MANNERS–LILLIAN BAYER SCHOLARSHIP was endowed in 1996 by Paul E. Manners (B.A. 1942) as a tribute to his former high school teacher, the late Miss Lillian Bayer of Cumberland City, Tennessee.

THE BRANK AND ELIZABETH CARLEN MCLEAN SCHOLARSHIP was established in 1984 by Brank McLean and his wife Elizabeth (B.A. 1942).

THE W. PATRICK MCMULLAN SCHOLARSHIP was established in 2005 by W. Patrick McMullan III (B.A. 1974) to provide assistance to students enrolled in the College of Arts and Science.

THE MARY L. MEFFORD MEMORIAL SCHOLARSHIP was established in 1995 by William R. "Pete" Mefford (B.A. 1963) in memory of his mother who served Vanderbilt with dedication for many years as a telephone operator. She died shortly after retiring.

THE OSCAR GUSTAF NELSON SCHOLARSHIP was established by the family of Dr. Nelson (B.A. 1911, M 1915). The scholarship provides assistance for students to pursue a premedical course of study. Although this is not a loan, the recipients are asked to accept a moral obligation to repay the scholarship when they are able.

THE CLEO AND FRED NIEDERHAUSER SCHOLARSHIP was endowed in 2004 by Amy and Richard Wallman (B.E. 1972) to honor the memory of Richard Wallman's maternal grandparents. Mr. Niederhauser was a dairy farmer in Brentwood, Tennessee, and worked very hard to send his four daughters to Vanderbilt. Preference is given to freshman female students from the Nashville area. Secondary preference should be given to freshman female students from Tennessee.

THE LACY R. OVERBY MEMORIAL SCHOLARSHIP was established in 1994 as a tribute to Lacy Overby (B.A. 1942, M.S. 1948, Ph.D. 1951) by his wife, Elizabeth Hulette Overby (B.A. 1947), family, colleagues, and friends. Dr. Overby served on the Vanderbilt chemistry faculty from 1947 to 1948. He died in 1994 after a long and distinguished career in the pharmaceutical and biotechnology industries. Mrs. Overby died in 1998.

THE STEPHEN L. OVERBY MEMORIAL SCHOLARSHIP was established in 1959 by Dr. and Mrs. Lacy R. Overby in memory of their son who died at the age of three.

THE CHARLES PARMER AND MARGARET MANSON PARMER SCHOLARSHIP was established in 1989 with a bequest from Margaret Manson Parmer.

THE CAROLINE PENROD-MARTIN MEMORIAL SCHOLARSHIP was established in 1989 by family and friends in memory of Caroline Penrod-Martin (B.A. 1969).

THE CRAIG S. PHILLIPS SCHOLARSHIP FUND was established in 2001 by Craig S. Phillips (B.A. 1976). First preference will be given to students from New York City. Secondary preference will be given to students from New York, New Jersey, and Connecticut.

THE SUE SUGG PIANT MEMORIAL SCHOLARSHIP was established in 1972 by Dr. W. D. Sugg (B.A. 1919, M.D. 1923) as a memorial to his sister, who was a Vanderbilt graduate. The scholarship, awarded to students majoring in classical studies, is based on financial need and/or academic merit.

THE EDGAR M. AND ESTHER M. PILKINTON SCHOLARSHIP was endowed in 1990 through the bequest of Edgar Merrill Pilkinton (B.A. 1925, M.S. 1926).

THE JAMES A. AND MATILDA D. PILKINTON SCHOLARSHIP was endowed in 1991 through the bequest of Edgar Merrill Pilkinton (B.A. 1925, M.S. 1926) to honor his parents.

THE JOHN AND MARY POITEVENT REDWINE SCHOLARSHIP was established in 2001 by Mr. and Mrs. Walter H. Clark of Mandeville, Louisiana, through the trust of Mrs. Clark's late aunt, Mary Poitevent Redwine. It is given in honor of Pauline Poitevent Clark (B.A. 1999), Mims Maynard Zabriskie (B.A. 1976), and George F. Maynard (B.A. 1980, J.D./M.B.A. 1984).

THE REVES FAMILY SCHOLARSHIP was endowed in 2000 by Dr. Joseph Gerald Reves, Jr. (B.A. 1965) and his wife, Margaret. The scholarship benefits students from North Carolina, South Carolina, Alabama, and Mississippi.

THE I. A. AND LUCILE ROSENBAUM SCHOLARSHIP was established in 1992 by Ike A. Rosenbaum, Jr. (B.A. 1942), and his wife, Lucile Reisman Rosenbaum (B.A. 1935). The scholarship benefits students from the city of Meridian and the county of Lauderdale in Mississippi.

THE SAMUELS SCHOLARSHIP was endowed in 2002 by John M. Samuels (B.A. 1966) to provide need-based scholarships to deserving undergraduates.

THE SAVAGE-ZERFOSS SCHOLARSHIP was established in 1986 by Dr. Thomas B. Zerfoss, Jr. (B.S. 1917, M 1922), and his wife, Dr. Kate Savage Zerfoss (B.S. 1918). The scholarship provides assistance to students preparing for medical school.

THE SCHIFF FAMILY SCHOLARSHIP was endowed in 2004 by Dr. and Mrs. Robert C. Schiff, Jr., and Mr. and Mrs. Robert C. Schiff, Sr., through gifts from the Robert and Adele Schiff Foundation.

THE A. L. SELIG SCHOLARSHIP was established in 1981 by Bebe Selig Burns (B.A. 1968) in memory of her grandfather.

THE WALTER A. SNELL SCHOLARSHIP was established in 2005 by Maureen M. Snell in memory of her husband, Walter A. Snell (B.A. 1942), to benefit worthy undergraduate students in the College of Arts and Science.

THE ELIZABETH MORGAN SPIEGEL SCHOLARSHIP was established in 1999 by Elizabeth Morgan Spiegel to celebrate her fortieth class reunion.

THE GEORGE AND PEGGY WEISE SPIEGEL SCHOLARSHIP was endowed in 2003 to provide need-based scholarship assistance to deserving students. This is the second scholarship endowed by George Spiegel (B.E. 1948) and his wife Peggy Weise Spiegel (B.A. 1948). The scholarship will rotate on a four-year cycle between the School of Engineering and the College of Arts and Science.

THE MARY ELEANOR STEELE SCHOLARSHIP was established in 1941 through a bequest from Professor Emeritus Robert Steele and his wife, Elizabeth, in memory of their daughter. Professor Steele was a member of the faculty from 1901 until 1938. Preference is given to a female student majoring in Latin or classical studies.

THE SARA EDMOND SAWYER STONE, BELO STONE, M.D., AND LARRY STONE JR. SCHOLARSHIP was established in 1979 by Dr. Lawrence A. Stone (B.A. 1954) to honor his father, Belo Stone (M.D. 1927), and the memories of his mother, Sara (A 1927) and his son, Larry, Jr. Dr. Belo Stone died in 1993. His bequest increased the fund, which benefits premedical students from South Texas.

THE STRATIGOS FAMILY SCHOLARSHIP was established in 2000 by Dr. William Stratigos and Dr. Deborah Feller in honor of their daughter, Stephanie Stratigos (B.A. 2004). The scholarship provides assistance to deserving Arts and Science undergraduates who are citizens and residents of the United States. First preference is given to female students from the states of New York and New Jersey. Secondary preference is given to female students from one of the other forty-eight states.

THE UNDERGRADUATE SCHOLARSHIP FUND FOR THE COLLEGE OF ARTS AND SCIENCE is made possible through gifts from:

Ms. Judy Kemp Amonett (B.A. 1969)

The late Ann Dillon (B.A. 1933) in memory of her nephew, Lewis F. Lyne (B.A. 1943), Board of Trust member 1970 to 1982

Dr. Charles M. Myer III (B.A. 1975) and Mrs. Virginia A. Myer (B.S.N. 1975)

Dr. Lee E. Preston (B.A., 1951)

A bequest from John David Raeber (B.A. 1981), who died in 1997

Mr. Julius Ellis Talton, Jr. (B.A. 1982) and Mrs. Ruth Jackson Talton (B.A. 1984)

Mrs. Patricia Early White (B.A. 1976)

Mrs. Carolyn Kemp Wittenbraker (B.A. 1971)

Mrs. Grace Ying

Mr. James M. Zimmerman

THE VANMETER FAMILY SCHOLARSHIP was endowed in 2003 by the VanMeter family of Lexington, Kentucky, to provide scholarships with preference to students who are graduates of Episcopal High School in Alexandria, Virginia, and to students from the Commonwealth of Kentucky.

THE DICK H. AND DOROTHY N. WALLMAN MEMORIAL SCHOLARSHIP was endowed in 1997 by Richard F. Wallman (B.E. 1972) and his wife, Amy, in memory of his mother, Dorothy Niederhauser Wallman (B.A. 1939), and his father, Dick H. Wallman. Preference is given to female students from Nashville.

THE ROSA LEE WALSTON SCHOLARSHIP was established in 1970 by Lester H. Smith (B.E. 1954) and his wife, Kathryn L. Smith (B.A. 1953), to honor her aunt. Dr. Walston headed the Department of English at Georgia Women's College for many years. She died in 1995.

THE BERTHA EVANS WARD SCHOLARSHIP was established in 1970 by Mabel Ward in memory of her sister. This award is made to a female student majoring in the humanities.

THE WILLIAM K. WARREN FOUNDATION SCHOLARSHIP was established in 1984 by Mrs. William K. Warren (Natalie Overall, B.A. 1920) in honor of her sisters, Katrina Overall McDonald (B.A. 1918) and Dorothy Overall Wells (B.A. 1930). The fund was renamed in 2003.

THE MARION B. AND BRENT S. WATTS MEMORIAL SCHOLARSHIP, established in 1975 with a bequest from Marion B. Watts, is available to students majoring in science.

THE EUGENIA HOLDER WILCOX AND WILLIAM J. WILCOX JR. SCHOLARSHIP was established in 2005 by William H. Wilcox (B.A. 1974) and Elizabeth L. Todd, Ph.D., to provide need-based scholarship support to deserving undergraduate students enrolled in the College of Arts and Science. Preference in awarding should be given to students from Oak Ridge and East Tennessee. The donors wish for consideration to additionally be given to selecting students who have indicated an interest in science or who have shown that they possess a science background. The scholarship honors Eugenia Holder Wilcox and William J. Wilcox Jr., parents of William H. Wilcox.

THE ALFRED W. WILSON MEMORIAL SCHOLARSHIP was established in 1989 by family and friends to honor Alfred Wilson (B.A. 1964), who died in a 1985 plane crash.

THE CAROLINE C. AND WILLIAM MOSS WILSON SCHOLARSHIP was established in 2005 by Mr. William M. Wilson (B.A. 1970) to provide annual scholarship support, full-tuition, to an undergraduate with high ability and financial need enrolled in the College of Arts and Science.

THE J. DOUGLASS AND DOROTHY K. WOOD SCHOLARSHIP was established in 1990 by a Vanderbilt alumnus to honor his parents. The fund provides financial assistance to women and minority students majoring in physics.

THE LINDA ELIZABETH WYTHES CLASS OF 1993 SCHOLARSHIP was endowed in 1993 by Mr. and Mrs. Paul M. Wythes to honor their daughter.

School of Engineering Scholarships and Loan Funds

THE WILBERT E. CHOPE MEMORIAL SCHOLARSHIP was established in 1993 by Douglas B. Chope (B.S.E. 1986, M.B.A. 1988) and his wife, Teresa Ford Chope (B.A. 1987), to honor the memory of his father, who died in 1984. A member of the class of 1945, Wilbert Chope was the founder and CEO of Industrial Nucleonics/AccuRay. Awards are available to majors in computer science and electrical engineering.

THE CORENSWET MEMORIAL SCHOLARSHIP was established in 1975 by Abe Corenswet (B.E. 1931) to honor members of his family. He died in 1994.

THE DOUG AND PENNY DAVIS SCHOLARSHIP was established in 2005 by Douglas S. Davis (B.E. 1965) to provide scholarship assistance to deserving undergraduates enrolled in the School of Engineering.

THE deZEVALLOS FAMILY SCHOLARSHIP was established in 2005 by Pamela Hathcock deZevallos (E. 1967) and Edward deZevallos (B.A. 1965) to provide scholarship assistance to deserving undergraduates enrolled in the School of Engineering. Preference should be given to students from Houston, Texas, with second preference to students from Texas.

THE DYER FAMILY SCHOLARSHIP was endowed in 2003 by David F. (B.E. 1971) and Harriet E. Dyer (E 1973).

THE JOSEPH AND LORI FLOWERS SCHOLARSHIP was established in 2003 by Joseph K. Flowers (B.E. 1988) and Lori Manix Flowers (B.A. 1988) to provide scholarship assistance to deserving undergraduates enrolled in the School of Engineering.

THE F. J. LEWIS/J. R. HENDRICKSON LOAN FUND was established by alumni and friends of the late Fred J. Lewis, dean of the School of Engineering from 1933 to 1959, and the late Joe R. Hendrickson, professor of applied mechanics.

THE EDGAR W. HERTENSTEIN SCHOLARSHIP was established in 2005 by Edgar W. Hertenstein (B.A. 1941) to provide scholarship assistance to deserving undergraduates enrolled in the School of Engineering.

THE DAVID K. MATTHES SCHOLARSHIP was established in 1971 by Ann Johnson Matthes (B.E. 1968) in memory of her husband. Recipients must maintain a grade point average of at least 2.5, continue to demonstrate financial need, and be involved in service and/or leadership activities on campus.

THE CHARLES PARMER AND MARGARET MANSON PARMER SCHOLARSHIP was established in 1989 with a bequest from Margaret Manson Parmer.

THE WILL H. SHEARON JR. SCHOLARSHIP was endowed in 1964 through the will of Mr. Shearon, who graduated from Vanderbilt in 1936, *magna cum laude,* with a B.E. in chemical engineering.

THE GEORGE AND PEGGY WEISE SPIEGEL SCHOLARSHIP was endowed in 2003 to provide need-based scholarship assistance to deserving students. This is the second scholarship endowed by George Spiegel (B.E. 1948) and his wife Peggy Weise Spiegel (B.A. 1948). The scholarship will rotate on a four-year cycle between the School of Engineering and the College of Arts and Science.

THE UNDERGRADUATE SCHOLARSHIP FUND FOR THE SCHOOL OF ENGINEERING was established in 1999 with gifts from alumni and friends including:

Commander Robert Lee Brown, Sr. (B.E. 1950)

Mr. M. Timothy Carey (B.E. 1966)

Mr. John A. Carter, Jr. (B.E. 1968, M.S. 1970)

Mr. James D. Carvell, Jr. (B.E. 1961)

Mr. Leonard W. Casson (B.E. 1980, M.S. 1982) and Mr. Walter A. Casson, Jr. (B.E. 1956)

Mr. Gregory W. Iglehart (B.E. 1983)

Mrs. Ann V. Roberts, Mrs. Meredith Roberts Henry (B.E. 1989, M.E. 1995), and Mr. Martin S. Roberts III (E.M.B.A. 2004) in memory of Martin S. Roberts, Jr. (B.E. 1957)

Mr. Alva Terry Staples (B.E. 1969)

THE J. R. WAUFORD SCHOLARSHIP IN ENGINEERING was endowed in 2003 by J. Roy Wauford, Jr. (B.E. 1952) to provide need-based scholarships to deserving undergraduates from Tennessee. Preference should be given to undergraduates majoring in civil and environmental engineering.

THE JAMES PAUL YOUNGBLOOD MEMORIAL SCHOLARSHIP was established in 2000 through a bequest from the estate of Florence Youngblood. The scholarship, in memory of her late husband, James Paul Youngblood, will provide scholarship assistance to students in the Department of Chemical Engineering.

Peabody College Scholarships and Loan Funds

THE EULEEN BROWN BERRY SCHOLARSHIP was endowed in 1990 through the bequest of Euleen Berry (B.A. 1923), a former teacher in Tennessee and Arkansas.

THE JOSEPHINE R. BINNS SCHOLARSHIP FOR TEACHERS was established in 1997 by Josephine R. Binns, a 1930 Peabody graduate and Nashville community leader. The scholarship benefits students who plan teaching careers, with preference given to students from the Southeast.

THE HUGH L. W. BRINKLEY SCHOLARSHIP was established in 1940 by Mrs. Elizabeth Currier in memory of her brother.

THE BURLESON FAMILY SCHOLARSHIP was established in 2004 by Mr. and Mrs. Gene E. Burleson in honor of their children Lauren Ashley Burleson (B.S. 2001, M.Ed. 2002) and Alan Edward Burleson (B.S. 2005). Preference is given to students from Atlanta, Georgia.

THE A. J. CAVERT MEMORIAL SCHOLARSHIP was established in 1921 by Misses Annie Cavert, Corrine Cavert, Ida Cavert, and Mr. and Mrs. Tillman Cavert to honor the memory of Dr. A. J. Cavert. Preference is given to graduates of Hume-Fogg High School in Nashville.

THE ELIZA M. CLAYBROOKE MEMORIAL SCHOLARSHIP was established in 1947 by the bequest of Virginia O. Claybrooke in memory of her sister, Eliza, to provide financial assistance to "a lineal descendent of some Confederate Soldier."

THE MAGGIE P. CUNNIGGIM MEMORIAL SCHOLARSHIP was established in 1934 with a bequest from Mrs. Alberta P. Bourne.

THE JAMES ATCHISON AND MAME S. DALE MEMORIAL SCHOLARSHIP was established in 1959 with a bequest from Dr. James Atchison Dale (D.D.S. 1891) and his wife, Mame Shuler Dale.

THE MARY CRITTENDEN THOMAS BISHOP DALE SCHOLARSHIP was established in 1996 by Nancy Dale Palm to honor her mother, a Peabody graduate in the class of 1910. An elementary school teacher, Mary Dale educated six daughters after the 1926 death of their father, Dillard Young Dale, a 1904 Peabody graduate. The six sisters are Vanderbilt alumnae: Katherine Dale Potts (B.A. 1946), Nancy Dale Palm (B.A. 1942), Lillian Dale Trabue (A 1941), Ruth Dale Carmichael (A 1938), Dorothy Dale Gray (A 1935), and the late Mary Elizabeth Dale Spearman (B.A. 1932). The scholarship benefits elementary education majors with a preference given to students from Tennessee or Texas.

THE CHRISTINE EHRING MEMORIAL STUDENT ASSISTANCE FUND was established as a loan fund by friends and family.

THE ALBERT J. AND MARGARET K. GASSER MEMORIAL SCHOLARSHIP was established in 1976 by Albert Gasser in honor of his late wife.

THE CAROLINE LUCY HEAFEY SCHOLARSHIP was established in 1997 by Mr. and Mrs. Richard John Heafey to honor their daughter, Caroline, a Peabody graduate in the Class of 1997.

THE WILLIAM AND SALLIE HUME SCHOLARSHIP was established in 1967 with a bequest from Mrs. Hume (Sallie McKay) to honor her husband, William Bradford Hume (B.S. 1909, L 1910).

THE H. REID HUNTER ENDOWED LOAN FUND was established in 1989 with a bequest from H. Reid Hunter (Ph.D. 1937).

THE JAMISON SCHOLARSHIP FUND was established in 1971 by Henry D. Jamison, Jr., and the Jamison Foundation, Inc.

THE BILL JUSTICE MEMORIAL FUND was established by friends of Bill Justice (B.S. 1973) to provide emergency student loans at the discretion of the dean.

THE KURZ FAMILY SCHOLARSHIP was established in 2002 by Charles Kurz II of Haverford, Pennsylvania, together with additional gifts from other members of the Kurz family and the Kurz Foundation. Charles Kurz III received his undergraduate degree from Peabody College with honors in 2004 and a master's degree from Peabody College in 2005. The awarding of the Kurz Scholarship may rotate to provide financial assistance to: (1) undergraduates in the Human and Organizational Development program at Peabody College for their junior and senior year; (2) undergraduates of Peabody College who, in their senior year, have enrolled in the fifth-year master's program in Organizational Leadership; and (3) graduate students of Peabody College who are enrolled in the Institutional Advancement program. Recipients should have proven financial need, demonstrate satisfactory academic progress, and remain in good academic standing.

THE MINA LATIMER LANHAM SCHOLARSHIP was established in 1997 with a bequest from Elizabeth Lanham in honor of her mother, a Peabody graduate in the Class of 1897. Mrs. Lanham served as a teacher and principal in schools located in Georgia, Louisiana, and Texas.

THE JOHN W. LITTLE EMERGENCY LOAN FUND was established by Mrs. John W Little and friends of her late husband to provide emergency loans to students.

THE J. C. LOONEY AND MYR TLE LOONEY SCHOLARSHIP was established in 1964 with gifts from Mrs. Myr tle Looney (P.B.A. 1903) and her nephew , the Honorable James Cullen Looney (P.B.A. 1921, B.A. 1924, L 1926).

THE MCALLEN-LOONEY SCHOLARSHIP was endowed in 2002 by Mrs. Margaret L. McAllen (B.A. 1957) of W eslaco, Texas. First pr eference will be given to students majoring in secondary education. Secondar y preference will be given to students majoring in education. In conjunction with the above pr eferences in major field, pr eference will be given to a student from Texas. High academic achievement will also be a consideration in the selection process.

THE JAMES SPENCER MCHENR Y SCHOLARSHIP was established by Mrs. Carrie Hoyte McHenry to honor the memory of her husband, James Spencer McHenry (A 1887).

THE MONTELEONE F AMILY SCHOLARSHIP was established in 2005 by the Monteleone Family Foundation and its directors, Mr. and Mrs. William Monteleone, Jr., to provide scholarship assistance to deserving undergraduates enrolled at Peabody College.

THE LAVERNE NOYES SCHOLARSHIP was established with a bequest in 1938 to pr ovide scholarship assistance to World War I veterans and their descendants.

THE LANIER AND IRENE PARNELL SCHOLARSHIP was endowed in 1979 to assist students from Tennessee, South Carolina, Georgia, Alabama, Mississippi, Louisiana, or Arkansas.

THE PENDLETON-MALCOM SCHOLARSHIP was endowed in 1993 with a bequest fr om Louzelle Thompson Malcom (P .M.A. 1943) of T ulsa, Oklahoma. Pr eference is given to students with a second major in English.

THE CHARLES L. AND JEAN RUYLE POWELL SCHOLARSHIP FUND was established in 2006 thr ough a bequest fr om Jean Ruyle Powell to benefit undergraduate students at Peabody College.

THE MARJENE MOGAN PROCTOR SCHOLARSHIP was established in 2005 thr ough a bequest from Tom H. Proctor (B.A. 1949, J.D. 1951) to be used for need-based merit scholarships for undergraduate students in their senior year at Peabody College.

THE MARY SCALES MEMORIAL SCHOLARSHIP was established in 1986 by Mrs. Bonnie Scales Foster (P.B.S. 1935, P.M.A. 1939) in memor y of her sister , Mary (P.B.S. 1932, P.M.A. 1939). Mrs. Foster died in 1990.

THE BONNIE L. TERWILLIGER TEACHING LOAN FUND was established in 1992 by Mr. and Mrs. J. Ronald Terwilliger to honor their daughter, Bonnie Leigh, a 1992 Peabody *magna cum laude* graduate. She received her M.Ed. in 1994 and began a car eer in teaching. One year of documented teaching service after graduation will forgive the loan amount r eceived for one year of undergraduate study.

THE UNDERGRADUATE SCHOLARSHIP FUND FOR PEABODY COLLEGE was established with several contributions including:

A gift from Gary E. Gross, M.D., FACP, in honor of his daughter, Natalie (PB 2004)

A gift in 2000 fr om Virginia Perry Johnson to honor the late V irgie Wolfe for her benevolence in the Peabody College education of Virginia Perry Johnson (1949 graduate)

A gift from Michele and Tom Kahn, in honor of their daughter Elizabeth Joy (B.S. 2006)

A gift from Mr. and Mrs. Michael A. McLain, in honor of their daughter, Jordan (PB 2006)

A gift from Martha Roberts Meyer (1933) in memory of her father, James A. Roberts (1903)

A gift in 2003 from Dr. Hans F. E. Wachtmeister (Ed.D. 1986) and Mrs. Anne Marie Wachtmeister

THE UNITED DAUGHTERS OF THE CONFEDERACY SCHOLARSHIP was established in 1927 by the Mary Mildred Sullivan Chapter of the UDC.

Military Scholarships

ARMY ROTC SCHOLARSHIPS. Refer to the chapter on Special Programs for Undergraduates for information concerning eligibility and application procedures for these awards.

NAVAL ROTC SCHOLARSHIPS. Refer to the chapter on Special Programs for Undergraduates for information concerning eligibility and application procedures for these awards. In addition to the traditional scholarship program, Tweeddale Scholarships are available for freshmen and sophomores not previously affiliated with the NROTC program. Preference for Tweeddale Scholarships is given to African Americans and Hispanic Americans in any major and to other students majoring in engineering, chemistry, or physics.

AIR FORCE ROTC SCHOLARSHIPS are available to Vanderbilt students in the Air Force ROTC program administered through Tennessee State University. Information on application procedures for these scholarships can be obtained from Commanding Officer, AFROTC, Tennessee State University, Nashville, Tennessee 37209.

College of Arts and Science

A&S

A Community for Liberal Learning

"The work of the College of Arts and Science is fundamental. It is the basis of all professional study. No professional school can be self-sufficient. The College in its undergraduate and graduate work must remain the heart of the whole situation, and send its quickening life blood into every fiber and tissue."

—Chancellor James H. Kirkland
at the semicentennial celebration
of the university
October 1925

CHANCELLOR Kirkland's words were prophetic of our times as well as true of his own. Since its founding Vanderbilt has pursued its mission of excellence in the liberal arts with a commitment to liberal learning that is the special concern of the College of Arts and Science. Liberal learning endures because it brings men and women to subjects, concepts, and modes of thought that enable them to think critically about where humanity has been and where it ought to be going. The liberal arts spark curiosity and broaden vision, help to instill understanding of matters otherwise unknown, and encourage individuals to live their lives with a sense of purpose, context, and relatedness. A liberal education has perennial relevance and usefulness: it should prepare its recipients to think precisely, to reason clearly, and to judge wisely—all practical considerations in the pursuit of constructive and satisfying lives and in the practice of today's professions and vocations.

Today the College of Arts and Science maintains its historic position as the heart of the university. Excellence in undergraduate and graduate education is its unwavering aim.

The College of Arts and Science provides intellectual stimulation, training, and incentive designed to foster the lifelong liberal learning of its graduates. It offers challenging, forward-looking programs of study in the humanities, natural sciences, and social sciences resourcefully taught by distinguished faculty recognized for excellence in research, scholarship, and creative expression. It promotes self-realization and expression in the context of social responsibility.

Faculty and Students

The College of Arts and Science derives its strength from the range of its academic offerings, from the quality of the faculty who teach, and from the quality of the students who come to learn. Traditionally fortunate in

its ability to attract and retain a superior faculty, the College of Arts and Science has about 375 full-time professors who supplement their achievements in the classroom with significant research and writing. Many faculty members hold awards for distinguished scholarship and have been elected to high offices in their professional associations, including the Classical Association of the Middle West and South, the American Economics Association, the American Political Science Association, the American Philosophical Association, the American Physical Society, the American Historical Association, and the Biophysical Society.

The quality of the College's faculty is matched by that of its diverse student body. Undergraduates come from the fifty states and fifteen to twenty foreign countries and are almost evenly divided between men and women.

Academic Support

The Writing Studio

The Writing Studio, located on central campus on the first floor of historic Alumni Hall, provides undergraduate students the opportunity to meet with trained writing consultants to discuss individual writing concerns, from invention to drafting to revision. The Writing Studio provides a space for students to discuss work-in-progress with expert writers, to create their own writing, and to utilize available resources for improving both writing and critical thinking skills.

The mission of the Vanderbilt Writing Studio is to enhance student writing and writing instruction, and to encourage regular conversation about the writing process. The Writing Studio's extensive programming includes individual consultations, workshops, ESL conversation sessions, creative writing groups, workshops focused on specific issues in academic writing, open-mike readings, and student-run writers' support groups.

The Writing Studio's Web site can be accessed at *www.vanderbilt.edu/writing*.

Technology

The College of Arts and Science has fifty "demonstration classrooms" that contain a full complement of audio, visual, and digital resources for instruction. In addition to these facilities, more than 50 percent of Arts and Science course offerings incorporate Online Access to Knowledge (OAK) software that allows easy access to course information. Both of these enhancements are designed to enrich, not replace, human contact in the classroom.

In addition to the demonstration classrooms, Arts and Science supports several full computer classrooms with one computer per student. Four of these facilities also serve as walk-in computer labs for student use. Combined, they house a total of 134 systems. The facilities are conveniently located in the following buildings:

Language Center (Furman Hall 001) — 20 Windows systems, focusing on language instruction
Microcomputer Laboratories (Garland Hall 119) —24-seat lab/30-seat classroom with 54 Windows systems
Microcomputer Laboratories (Stevenson Center 2200) — 30 Windows systems
Microcomputer Laboratories (Wilson Hall 120) — 30 iMac systems

All of the college's computer labs and classrooms offer a wide variety of "courseware" and commercial "productivity software," including word processing packages. All of the systems allow access to VUspace. Color printing and scanners are available in most of the labs. In addition to accessing software on the local servers, students may also connect to both campus services and the Internet, including VUmail and e-resources in the libraries, as well as course materials in OAK. While use of the above facilities is free, printing is charged at a rate of four cents per page.

The Garland and Wilson labs are open seven days a week, with the Garland lab available for walk-in use for more than ninety hours per week. The computer classrooms in the Language Center, Stevenson Center, and Wilson Hall are available for walk-in use during the late afternoon and evening hours. In addition to the college facilities, a few "kiosk" systems are available in the Sarratt Student Center. As a result, access to computers in the College of Arts and Science is quite good. During the course of the last academic year, the labs were full for only a total of about five hours.

At last count, more than 98 percent of Vanderbilt students own a personal computer. Since all students also have a high-speed network connection, it is convenient for students to have their own system (please consult the ResNet guidelines for supported systems). However, most students will find that the college computing facilities provide all of the computing resources that are needed for success at Vanderbilt.

The Advising System

Entering freshmen are assigned faculty advisers, all regular members of the College of Arts and Science faculty. These first advisers, called "pre-major advisers," counsel students during their first three and one-half semesters, or until the students choose majors, when they are assigned advisers in their major department or program. Pre-major advisers are especially trained to help students move efficiently through the requirements of AXLE and the College Program in Liberal Education (CPLE).

During the last two years of study, when a student is acquiring depth of knowledge in a major field, studies are guided by a specialist in that field. Students are encouraged to see their advisers at any time since the advisers are available for guidance and counseling and are faculty members with whom advisees may be studying.

All students are required to see their advisers prior to registration for each semester.

Advisers are generally happy to talk over any problems students may have, although their chief function is academic counseling. In addition, three members of the Office of the Dean of the College, themselves teaching faculty members, have as their principal duty counseling students and referring them to sources of expertise on non-academic problems.

Public Lectures

THE BERRY LECTURES. Established in 1988 through the generosity of Kendall and Allen Berry, John and Shirley Lachs, Steve Turner, and Jim Burke. Three annual lectures—the Berry lecture, the Steve Turner lecture, and the Jim Burke lecture—are given by distinguished philosophers.

THE LOUIS JACOB BIRCHER LECTURE IN CHEMISTRY. Established in 1976 in recognition of Professor Bircher's forty-one years of service to Vanderbilt beginning in 1921. He served as the sole professor of physical chemistry until 1954, was chair of the Department of Chemistry from 1955 to 1961, and retired as professor emeritus in 1962. Family, colleagues, students, and friends of Professor Bircher have provided generous support for the series. The lecture is presented by a leading physical chemist.

THE BYRN HISTORY LECTURE. Established in 1986 and endowed by the late J. W. Byrn of Dickson, Tennessee, a student and admirer of the thought of the British historian Arnold Toynbee. Annual lectures deal with his fields of interest: world history, philosophy of history, and historiography.

THE FREDERICK LEROY CONOVER MEMORIAL LECTURE. First given in 1977 in honor of Vanderbilt's first analytical chemist. Professor Conover came to Vanderbilt in 1923 and remained for thirty-seven years. Lectures given by a distinguished analytical chemist are supported by family, colleagues, students, and friends of Professor Conover.

THE WALTER CLYDE CURRY SHAKESPEARE LECTURE. Inaugurated in 1982 and funded by one of his former students, this lectureship honors the late Walter Clyde Curry, distinguished medieval and Renaissance scholar, author of books on Chaucer, Shakespeare, and Milton, and for forty years beloved professor of English at Vanderbilt. Bringing to campus in alternate years eminent Shakespearean scholars and experienced Shakespearean performers, the lectureship gratefully recognizes Professor Curry's devoted service and lasting contributions to the university.

THE WAITE PHILIP FISHEL LECTURE. Established in 1974 as a tribute to Professor Fishel, who was known as an outstanding, popular teacher and was renowned for his research in metallurgy. Through the generosity of family, colleagues, students, and friends, the lecture is presented by a leading inorganic chemist.

THE HARRY C. HOWARD JR. LECTURESHIP. Established in 1994 at the Robert Penn Warren Center for the Humanities in honor of Harry C. Howard Jr. (B.A. 1951). The lectureship was endowed by Mr. and Mrs. Thomas Nash Jr. and Mr. and Mrs. George Renfro, all of Asheville, North Carolina, in honor of their longtime friend and attorney. The lectureship allows the Warren Center to bring an outstanding scholar to Vanderbilt annually to deliver a lecture on a significant topic in the humanities.

THE ARTHUR WILLIAM INGERSOLL MEMORIAL LECTURE. Established in 1973 to honor Arthur Ingersoll, professor of organic chemistry at Vanderbilt until his death in 1969. Each year contributions for this lecture are received from family, colleagues, students, and friends. A leading organic chemist is invited to present the lecture.

THE CARL K. SEYFERT LECTURE IN ASTRONOMY. Established in 1983 as part of the astronomy program's commemoration of the thirtieth anniversary of the Arthur J. Dyer Observatory. The lectureship recognizes the untiring efforts and contributions to astronomy made by Carl K. Seyfert, professor of astronomy and first director of the Dyer Observatory. A distinguished astronomer is invited to present this lecture every third year.

THE SHANKS LECTURES. Established in 1984 and named for E. Baylis Shanks and Olivia H. Shanks in honor of their accomplishments in the fields of mathematics and education and in recognition of their loyalty and service to Vanderbilt University, these lectures are presented on two successive days in the fall of each year. A special committee from the Department of Mathematics, influenced by the professional interests of Professor and Mrs. Shanks, chooses the lecturers from mathematicians of the highest reputation. The topics of the lectureship vary from year to year according to the area of specialization of the speaker chosen. The lectures have been endowed by members of the family of Olivia and Baylis Shanks.

THE FRANCIS G. SLACK LECTURES IN PHYSICS. Established in 1977 by the Department of Physics and Astronomy in honor of Francis G. Slack, former Landon C. Garland professor of physics and chair of the department, these lectures recognize his many contributions to physics. The series was first partially endowed by his colleagues and students and then with the generous help of Professor Slack. Each speaker gives one lecture of general interest to the university and one more specialized lecture for the department.

THE DAVID STEINE LECTURE. Established in 1978 as a memorial to David Steine, professor of business administration in the Department of Economics and Business Administration, by members of his family, friends, and associates. The lecture is devoted to an economic problem of interest to the general public.

THE GERTRUDE VANDERBILT AND HAROLD S. VANDERBILT VISITING WRITERS PROGRAM. Established in the Department of English in 1958 under the generous sponsorship of the late Mrs. Vanderbilt, this program has annually presented readings and public lectures by a poet, a novelist, and a critic—each of whom also visits classes and meets informally with members of the university and Nashville communities. Recent participants have included Dannie Abse, Madison Smartt Bell, Ellen Gilchrist, Alison Lurie, Czeslaw Milosz, Wyatt Prunty, Ann Thwaite, Anthony Thwaite, and Helen Vendler.

Degree Programs in the College

Degrees Offered by the College of Arts and Science

Currently, the College of Arts and Science offers two degrees, the Bachelor of Arts and the Bachelor of Science. Students in the two degree programs are subject to the same academic standards and to the same policies concerning honors, probation, academic discipline, and residence requirements.

At the time a major is declared, the student indicates the desired degree. A change from one plan to the other may be made at any time prior to the final semester of residence, but only one baccalaureate degree will be conferred.

Beginning with students entering in fall 2005, the Bachelor of Arts will be the only degree offered by the College of Arts and Science.

The Bachelor of Arts

The Bachelor of Arts degree is granted upon successful completion of the following five requirements:

1. at least 120 semester hours of creditable college work,
2. a final grade point average of at least 2.000,
3. completion of the AXLE requirements or College Program (CPLE) requirements,
4. completion of one of the options listed under Area of Concentration,
5. completion of at least 102 hours of course work within the College of Arts and Science, or a minimum of 90 hours for those students with a second major outside the College of Arts and Science.

The Bachelor of Science

The Bachelor of Science degree differs from the Bachelor of Arts degree in the extra flexibility it provides for including work offered outside the College of Arts and Science. Otherwise, the requirements for the two degrees are the same.

Students who entered Vanderbilt prior to fall 2005 are eligible to complete the Bachelor of Science under the old rules as follows:

The student must complete all of the requirements listed under the Bachelor of Arts, above, except for the minimum hours that must be completed "within the College of Arts and Science."

Limitation on Hours outside the College

Candidates for the Bachelor of Arts degree must successfully complete a minimum of 102 hours within the College of Arts and Science. Students who are completing an approved second major from one of the other

schools within Vanderbilt are only required to complete 90 hours within the College of Arts and Science for the Bachelor of Arts degree.

AXLE: Achieving Excellence in Liberal Education

The Arts and Science core program of study—known as AXLE—is anchored in intensive practice in writing and a diverse thirteen-course component of classes that has been designed to allow maximum choice in course selection (based on student interests and achievement levels). At the same time, the distribution requirements of AXLE ensure that students will explore intellectually and academically the breadth of possibilities represented by the liberal arts.

What is Liberal Education?

The study of the liberal arts—what is historically called a liberal education—is the oldest and most venerable form of higher education. It has proved itself to be perennially flexible and adaptive over the past centuries, and it remains the single best educational preparation for further, specialized study in the professions (medicine, law, education, business, et al.), and to prepare for doctoral work in the humanities and social sciences and advanced research in the sciences. The holistic focus of a liberal education encompasses all areas of human knowledge: the sciences, mathematics, foreign languages and cultures, the arts, and the humanities. The empirical-based disciplines tell us what to do to live most productively and efficiently. But the rest of the curriculum—the humanities and the arts—makes it possible to reflect upon what is right to do with the remarkable scientific knowledge we have acquired. In a liberal arts education, content is always considered in its larger context. Thus, the reflective and discursive aspects of study in the liberal arts call upon students to move beyond the mere acquisition of information to inquire into the deeper issues within their studies, and to connect their learning across disciplines and cultures as they live and work in the communal environment of Vanderbilt. The end product of a successful liberal arts education is a thoughtful citizen who is prepared to take up his or her rights and responsibilities in a democratic society, to analyze and critique received information, to articulate the issues at hand or the personal values at stake, and whose intellectual life is marked by ongoing internal dialogue with the self about the quality and meaning of life for him or her, as well as for the community at large.

Fear No Learning!

The interdisciplinary inclination of many courses in the College of Arts and Science is an ideal training ground for learning new methodologies for problem solving in the complex, global world of the 21st century. Here, students may work with biologists and psychologists in the Neuroscience program; study with creative writers, sociologists, historians, or film studies

scholars in the African American and Diaspora Studies program; or take a class, team taught, by professors from the School of Music and the Department of English in the College of Arts and Science. Over the course of a Vanderbilt education, students challenge themselves with the academic demands of the classes they select, and are challenged by new ideas and unfamiliar ways of looking at issues. Exploring beyond the boundaries of one's intellectual comfort zone in order to admit new ideas is one of the most important aspects of higher education. The time and effort devoted to thoughtfully selecting the courses to take for the fulfillment of AXLE requirements prepares students for the more specialized study that they undertake in their major (or majors) beginning in the third year of study.

What Is AXLE?

The Class of 2009 was the first group of students to matriculate under AXLE. The Arts and Science faculty approved it in February 2004, after an eighteen-month-long process of discussion and debate that involved faculty, administration, students, and alumni. The AXLE curriculum is flexible and very user-friendly. It consists of three parts: the First-Year Common Experience, the Writing Requirement, and the Liberal Arts Requirement.

The First-Year Common Experience focuses on a First-Year Writing Seminar. The Writing Requirement has three segments: demonstration (by a combined score of 1220 on the Writing and Critical Reading portions of the SAT test with a minimum score of 500 in each or by appropriate AP or IB credit in English) of basic skills in English Composition; completion of a 100-level (introductory) writing course no later than the fourth semester in residence; and completion of either a second 100-level writing course or a 200-level (discipline-specific, major-oriented) writing course.

The Liberal Arts Requirement is composed of a total of thirteen courses taken at Vanderbilt, and distributed across seven areas of inquiry. The First-Year Writing Seminar and all 100-level and 200-level writing courses are also counted in the thirteen-course Liberal Arts Requirement.

1. The First-Year Common Experience
    a. First-Year Writing Seminar (one course)
2. The Writing Requirement (2–3 courses)
    a. English Composition (appropriate test score or one course)
    b. 100-level W Requirement (one course)
    c. One 100-level or 200-level W or Oral Communications Course
3. The Liberal Arts Requirement (13 courses)
    a. HCA — Humanities and the Creative Arts (three courses)
    b. INT — International Cultures (three courses)
    c. US — History and Culture of the United States (one course)
    d. MNS — Mathematics and Natural Sciences (three courses)
    e. SBS — Social and Behavioral Sciences (two courses)
    f. P — Perspectives (one course)

All students must also complete requirements for at least one major (between 27 to 48 hours of course work) and earn a minimum number of 120 earned hours in order to graduate.

How to Get Started

The program of studies is divided approximately into thirds:

1/3 — courses to meet the requirements of the writing and Liberal Arts requirements;
1/3 — courses required to complete the chosen major;
1/3 — electives, which will complete the 120 hours required for graduation.

These divisions are approximate and may differ for individual students.

For a student's first semester, most selections should be from the first group, courses that will fulfill the writing and Liberal Arts requirements. Academic background, career goals, and general talents and interests will affect choice of courses.

Upon graduation, students in the College of Arts and Science will receive a Bachelor of Arts degree upon completion of the other four requirements in addition to AXLE: fulfillment of requirements for one major, a *C* average in the major, 120 cumulative earned hours, and a *C* average overall.

Where to Get Information

In addition to this catalog's sections on the rules, regulations, and policies of the College of Arts and Science as well as descriptions of the academic programs of all the undergraduate schools, students may refer to the booklet, *On the Road with AXLE*, a College of Arts and Science manual for entering freshmen.

Where to Get Advice

Entering freshmen are assigned faculty advisers. These pre-major advisers will counsel students through their first three and a half semesters or until they declare a major. At that time, students are assigned advisers in their major departments. Pre-major advisers are specially selected and receive special training on how to help students proceed effectively through the requirements of AXLE.

Students are encouraged to see their advisers at any time; they must, however, see their pre-major adviser three times during the freshman year: during orientation for the fall semester, during the Course Request Period of registration for the spring semester, and during the Course Request Period of registration for the fall semester of their second year. Students who attend Summer Orientation before the freshman year will meet with a pre-major adviser at that time, and the adviser will help with course selections for registration for the fall.

Overview of AXLE

AXLE consists of three parts: the First-Year Common Experience, the Writing Requirement, and the Liberal Arts Requirement.

The First-Year Experience

The common experiences of the freshman year are critical to integrating students into the intellectual life of Vanderbilt University. All freshmen must complete the First-Year Common Experience no later than the end of their second semester at Vanderbilt University. A foundation of this experience is the First-Year Writing Seminar.

The First-Year Writing Seminar Program

The First-Year Writing Seminar Program is an integral part of the freshman-year experience in the College of Arts and Science. Through these seminars, freshmen engage in independent learning and inquiry in an environment in which they can express knowledge and defend opinions through intensive class discussion, oral presentations, and written expression. The small-group nature of these seminars allows for direct student-faculty interaction that stresses training in techniques of scholarly inquiry. The students' written work and oral presentations are subject to thoughtful critical review by the faculty member, providing feedback that can be used to reconsider the manner in which they articulate their ideas and to refine their skills in these areas. Thus, freshmen learn not only about the subject matter of the seminar, but are also exposed to new methods of acquiring knowledge, different ways of expressing and sharing ideas, and unique opportunities to participate in critical inquiry.

All freshmen must enroll in a First-Year Writing Seminar. This course may be taken during the fall or the spring semester. All First-Year Writing Seminars also count in their appropriate distribution areas within the Liberal Arts Requirement.

The Writing Requirement

Excellent communication skills, including the ability to articulate ideas and defend positions in writing, will be paramount for the 21st century graduates of Vanderbilt University; therefore, all students in the College of Arts and Science must successfully complete the Writing Requirement.

a) All students must demonstrate competence in English composition. Appropriate skills in composition are essential to successful progress at the university. Most students will complete the requirement by presenting a score of 560 or above on the SAT II Writing examination, or by appropriate AP or IB credit in English. Students who do not must enroll in English 100 in the freshman year.

Starting in fall 2006, students with SAT test scores less than 500 on the Writing section, less than 500 on the Critical Reading section, or less than 1220 combined on the Writing and Critical Reading sections must enroll in English 100. AP English scores of 4 or 5 are the equivalent of SAT II Writing scores higher than 560 or SAT 500 Writing, 500 Critical Reading, and 1220 Writing + Critical Reading.

b) All students must successfully complete at least one 100-level writing course (indicated by a "W") at Vanderbilt University, regardless of AP or IB credits or SAT I scores earned prior to matriculation. These writing-intensive courses emphasize general writing skills within the context of discipline-specific subject matter. All students are encouraged to complete Part b of the Writing Requirement as soon as possible; **this requirement must be completed no later than the fourth semester** at Vanderbilt University. All 100-level W courses also count in their appropriate distribution areas within the Liberal Arts Requirement.

c) All students must successfully complete either (1) a second 100-level W course, or (2) a 200-level W course, or (3) an approved course in oral communication at Vanderbilt University, regardless of test scores earned prior to matriculation. The 200-level W courses foster advanced, discipline-specific writing skills. Departments or programs that offer these courses determine their specific writing content. In 200-level W courses, continued attention to the process of writing is included in the classroom. Students receive regular feedback on their writing that will contribute toward enhancing writing skills appropriate to specific disciplines. The process of revising written work allows students to reflect on the writing process; writing tutorials may also be included. Oral communication courses focus on developing improved public speaking skills. These courses introduce students to the principles and practices of public discourse and reasoned argument. Attention to the process of effective oral communication is inherent to these classes. Students receive regular speaking assignments throughout the semester and regular feedback on their speaking that will contribute toward enhancing effective speaking skills. **All students must complete Part c of the Writing Requirement before graduation.** All 200-level W courses and approved oral communication courses also count in their appropriate distribution areas within the Liberal Arts Requirement.

The writing courses approved for 2006/2007 are:

English 102W, 106W, 112W, 118W, 120W
Honors 181, 182, 183, 184, 185, 186 (open to College Scholars only)
Humanities 105W, 106W, 107W, 108W
Philosophy 100W

For 200-level writing courses, please see *www.vanderbilt.edu/cas/axle/WritingRequirement*.

The Liberal Arts Requirement

The Liberal Arts Requirement consists of successful completion of thirteen courses from the College of Arts and Science. Most courses in the College of Arts and Science fulfill one of these Liberal Arts requirements.

Courses must carry three or more credits to count toward the AXLE Liberal Arts requirement. Although some courses may be appropriate to more than one requirement, each course will fulfill only one requirement. These thirteen courses must be distributed as outlined below. They must be taken from at least seven departments or subject areas.

a) Humanities and the Creative Arts — HCA (3 courses)

Courses in the humanities and the creative arts challenge students to examine their personal understanding of life and how their individual experiences overlap with those of the rest of humankind. These courses testify to the varying ways in which people think, form values, confront ambiguity, express spiritual and aesthetic yearnings, and grapple with moral and ethical problems. By analyzing and interpreting literary, philosophical, religious, or artistic works, students examine the foundations of human experience. By producing original artistic works in imaginative writing, studio art, theatre, film, music, and dance, students have the opportunity to connect the universal sources of human inspiration with their own creative processes.

b) International Cultures — INT (3 courses)

The study of international culture provides students with a basis for understanding the diversity of experiences and values in our contemporary, global society. Options in this category include not only international history and cultural studies courses, but also courses in literature, film studies, the social sciences, art, music, and languages. Students may satisfy this requirement by choosing courses that focus on the history and culture of a single society or time period in human history and/or that represent a broad spectrum of different human societies and time periods.

Language courses introduce students to the language of a different culture and provide insight into that culture in ways that are not possible to achieve through detached study. At intermediate and advanced levels, students are able to explore the culture in depth, using the language itself to read, discuss, and write about its various aspects. Even at the most basic level, exposure to the language of a different culture prepares students to think and act in terms of living in a global community.

Intermediate and advanced language courses prepare students for study abroad programs, which the College of Arts and Science strongly recommends. Study abroad in one or more of Vanderbilt's direct credit foreign study programs will count as only one course in this requirement.

Classical Studies in Rome
Humanities in London (summer only)
International Studies in London (summer only)
Vanderbilt in France (semester or summer)
Vanderbilt in Germany
Vanderbilt in Spain (semester or summer)
The Vanderbilt Program in Argentina
The Vanderbilt Program in Australia
The Vanderbilt Program in Austria

The Vanderbilt Program in Brazil
The Vanderbilt Program in Chile
The Vanderbilt Program in the People's Republic of China
The Vanderbilt Program in the Republic of China
The Vanderbilt Program in the Czech Republic
The Vanderbilt Program in Denmark
The Vanderbilt Program in the Dominican Republic
The Vanderbilt Program in England
The Vanderbilt Program in Germany (Berlin, summer only)
The Vanderbilt Program in Ireland
The Vanderbilt Program in Israel
The Vanderbilt Program in Italy (semester or summer)
The Vanderbilt Program in Japan
The Vanderbilt Program in Mexico (semester or summer)
The Vanderbilt Program in New Zealand
The Vanderbilt Program in Northern Ireland
The Vanderbilt Program in Russia
The Vanderbilt Program in Scotland
The Vanderbilt Program in South Africa
The Vanderbilt Program in South Korea
The Vanderbilt Program in Spain

All students must complete three courses in this category, irrespective of previous language study or proficiency in a language other than English. At least one of the three courses presented in fulfillment of this category must be a second-semester (or higher) language acquisition class taught at Vanderbilt University, unless the student successfully demonstrates proficiency in a language other than English at or above the level achieved by second-semester language acquisition classes taught at Vanderbilt University. Students may demonstrate proficiency in a number of ways: SAT II subject test scores (French, 540; German, 470; Hebrew, 530; Italian, 540; Japanese with Listening, 440; Latin, 530; Spanish, 520); departmental placement tests (French, 350; Spanish, 20); or with AP or IB credit in a foreign language. The first semester of an introductory language acquisition class in any language a student has studied for at least two years in high school, or in which a student transfers credit from another institution, cannot be used in partial fulfillment of this requirement. Intensive elementary language courses that cover the content of two semesters in one shall count as one course toward this category.

c) History and Culture of the United States — US (1 course)

The study of the history and culture of the United States provides students with a basis for understanding the American experience and the shaping of American values and viewpoints within the context of an increasingly global society. Interpreting history and culture in the broadest sense, options in this category include traditional history and cultural studies courses, but also courses in literature, film studies, the social sciences, art, and music, which illuminate historical periods or cultural

themes in United States history. Students may satisfy this requirement by choosing a course that focuses on the history and culture of a single social group or time period in American history and/or that represents a broad spectrum of different social groups and time periods.

d) Mathematics and Natural Sciences — MNS (3 courses, one of which must be a laboratory science)

Courses in mathematics emphasize quantitative reasoning and prepare students to describe, manipulate, and evaluate complex or abstract ideas or arguments with precision. Skills in mathematical and quantitative reasoning provide essential foundations for the study of natural and social sciences. Students are generally introduced to mathematical reasoning through the study of introductory courses in calculus or probability and statistics.

Courses in the natural sciences engage students in hypothesis-driven quantitative reasoning that enables natural phenomena to be explained, the roles of testing and replication of experimental results, and the processes through which scientific hypotheses and theories are developed, modified, or abandoned in the face of more complete evidence, or integrated into more general conceptual structures. Laboratory science courses engage students in methods of experimental testing of hypotheses and analysis of data that are the hallmarks of the natural sciences. Natural science courses prepare students to understand the complex interactions between science, technology, and society; teach students to apply scientific principles to everyday experience; and develop the capacity to distinguish between science and what masquerades as science.

e) Social and Behavioral Sciences — SBS (2 courses)

Social scientists endeavor to study human behavior at the levels of individuals, their interactions with others, their societal structures, and their social institutions. The remarkable scope represented by these disciplines extends from studying the underpinnings of brain function to the dynamics of human social groups to the structures of political and economic institutions. The methods employed by social scientists are correspondingly broad, involving approaches as varied as mapping brain activity, discovering and charting ancient cultures, identifying the societal forces that shape individual and group behavior, and using mathematics to understand economic phenomena. By studying how humans and societies function, students will learn about individual and societal diversity, growth, and change.

f) Perspectives — P (1 course)

Courses in Perspectives give significant attention to individual and cultural diversity, multicultural interactions, sexual orientation, gender, racial, ethical, religious, and "Science and Society" issues within a culture across time or between cultures, thereby extending the principles and methods associated with the liberal arts to the broader circumstances in which students live. These courses emphasize the relationship of divergent ethics and moral values on contemporary social issues and global conflicts.

Courses offered by "Vanderbilt-in"programs, and other courses offered by Vanderbilt-approved study abroad programs that are considered to be direct equivalents to College of Arts and Science courses offered in Nashville, may be used to satisfy the same AXLE Curriculum requirement(s) as the equivalent College of Arts and Science course. Courses that are considered to be "no equivalent" or "no credit" do not satisfy any AXLE Curriculum requirement.

The Major

All students must successfully complete a course of study leading to one of the approved major programs in the College of Arts and Science, or successfully complete an independent contract major designed in consultation with College of Arts and Science faculty and approved by the College of Arts and Science.

AXLE Curriculum Course Distribution

In addition to the following courses, all First-Year Writing Seminars are classified into the AXLE distribution categories. Please consult *The First-Year Writing Seminars* booklet or the College of Arts and Science Web site *www.vanderbilt.edu/cas/axle/fyws*.

Humanities and the Creative Arts (HCA)

Students are required to take three courses from this distribution category.

AFRICAN AMERICAN AND DIASPORA STUDIES 202, 215, 270
AMERICAN STUDIES 294
ANTHROPOLOGY 130, 219, 226, 255, 263, 264
ART STUDIO all courses
COMPARATIVE LITERATURE 224, 225, 239
CLASSICAL STUDIES 150, 203, 204, 205 206, 216, 217
COMMUNICATION STUDIES 100, 150, 200, 201, 204, 210, 222, 237, 241, 250, 254, 257
ENGLISH all courses except 100, 211, 212, 243, 246, 253, 260, 263, 267, 268, 268A, 268B, 271, 275, 276, 277, 279G, 285, 285G, 286A, 286B
EUROPEAN STUDIES 225
FILM STUDIES 125, 130
FRENCH 220, 224, 225, 234, 237, 238, 239, 251, 253, 256, 257, 260, 261, 265, 267, 270
GERMAN 172, 223, 242, 269, 271, 274, 275, 278
GREEK 212, 215, 216, 218, 240
HISTORY 180, 233
HISTORY OF ART all courses except 200, 230, 234, 239, 240, 241, 242, 256, 257
HUMANITIES 105W, 106W, 108W, 140, 141, 150, 151, 175
ITALIAN 220, 231, 232
JEWISH STUDIES 135, 250, 251, 254, 255
LATIN 201, 202, 203, 205, 206, 212, 215, 220, 260, 268
LATIN AMERICAN STUDIES 234
MUSIC LITERATURE 103, 114, 140, 141, 144, 145, 153, 183, 184, 218, 219, 242, 243, 244, 247, 249, 256

PHILOSOPHY 100, 100W, 120, 210, 212, 213, 217, 218, 220, 224, 226, 231, 234, 238, 240, 241, 242, 243, 247, 248, 249, 251, 257, 260, 261
POLITICAL SCIENCE 103, 201, 202, 203, 205, 206, 207, 208, 253, 263
PORTUGUESE 205, 232, 285, 297, 298
RELIGIOUS STUDIES 103, 106, 108, 109, 112, 113, 114, 122, 150, 201, 207, 208, 209, 211, 212, 213, 216, 218, 220, 222, 233, 245, 248, 251, 256, 259, 260
RUSSIAN 221, 222, 233
SOCIOLOGY 203, 241, 245
SPANISH 203, 231, 232, 233, 234, 235, 236, 237, 239, 240, 246, 251, 256, 260, 272, 276, 280, 281, 293
THEATRE 100, 110, 170, 212, 213, 214, 219, 220, 223, 225, 227, 230, 232, 275, 277, 278
WOMEN'S AND GENDER STUDIES 212, 259, 261

International Cultures (INT)

Students are required to take three courses from this distribution category.

ANTHROPOLOGY 210, 212, 213, 217, 220, 221, 232, 233, 243, 245, 247, 248, 249, 253, 254, 256, 257, 258, 259
ARABIC 210B, 212A, 220A, 220B
CATALAN 102, 200
CHINESE 202, 214, 216, 241, 242, 251, 252
CLASSICAL STUDIES 130, 146, 207, 208, 209, 212, 213, 231, 232, 236, 238
COMPARATIVE LITERATURE 202, 203, 285, 286, 287
EAST ASIAN STUDIES 211, 212, 240, 278
ECONOMICS 244, 288
ENGLISH 253, 271, 276, 285, 285G
EUROPEAN STUDIES 201, 230, 231, 235, 260
FRENCH 101B, 102, 103, 201, 203, 204, 207, 208, 209, 210, 215, 226, 239, 287A, 287B
GERMAN 102, 103, 104, 201, 213, 214, 216, 220, 221, 222, 235, 237, 244, 248, 262, 263, 264, 265, 266, 267, 268, 270, 280
GREEK 202, 203, 204
HEBREW 111B, 113A, 113B, 201
HISTORY 100, 101, 130,140, 152,154, 155, 156, 157, 160, 161, 172, 188, 210, 211, 212, 213, 214, 215, 218, 220, 223, 225, 226, 230,231, 234, 235, 237, 238, 239, 240, 242, 243, 244, 245, 247, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 264, 266, 270
HISTORY OF ART 200, 230, 234, 245, 251, 252, 253, 256, 257
ITALIAN 101B, 102, 103, 105, 106, 201, 214, 230, 240
JAPANESE 202, 211, 212, 241, 242, 251, 252
JEWISH STUDIES 120, 121
LATIN 100, 102, 103, 104, 156
LATIN AMERICAN STUDIES 201, 235
MUSIC LITERATURE 160, 170, 171, 250
PHILOSOPHY 103, 211, 228, 257
POLITICAL SCIENCE 210, 211, 212, 214, 216, 217, 228, 231, 232
PORTUGUESE 102, 200, 225
RELIGIOUS STUDIES 130, 131, 132, 133, 206, 214, 224, 227, 249, 253, 254
RUSSIAN 102, 171, 172, 203, 204, 223, 224, 231, 232, 234
SOCIOLOGY 220, 239, 242, 243, 270, 275, 276, 277, 278, 279, 281, 291
SPANISH 102, 104, 200, 201, 202, 204, 206, 207, 208, 209, 210, 211, 212, 213, 221, 223, 226
THEATRE 201, 202, 203

History and Culture of the United States (US)

Students are required to take one course from this distribution category.

AFRICAN AMERICAN AND DIASPORA STUDIES 110
AMERICAN STUDIES 100, 101
ANTHROPOLOGY 214, 229
CLASSICAL STUDIES 222
COMMUNICATION STUDIES 220, 221, 224, 228
ECONOMICS 226, 245, 266
ENGLISH 211, 263, 267, 268A, 268B, 286A, 286B
HISTORY 131, 168, 169, 170, 171, 173, 176, 177, 201, 205, 263, 267, 268, 272, 273, 275, 276, 277, 278, 279, 280, 281, 282, 283, 285, 286, 287, 288, 289, 290, 291
HISTORY OF ART 239, 240, 241, 242
MUSIC LITERATURE 147, 148, 149, 151, 152, 255, 262, 264
PHILOSOPHY 222
POLITICAL SCIENCE 100, 150, 204, 245, 246, 247, 248, 261
RELIGIOUS STUDIES 107, 117, 145, 204, 205, 217, 219, 252
SOCIOLOGY 235, 249, 258
THEATRE 204, 205, 271
WOMEN'S AND GENDER STUDIES 272

Mathematics and Natural Sciences (MNS)

Students are required to take three courses from this distribution category, one of which must be a laboratory science. Laboratory science courses may consist of single 3, 4, or 5 credit hour courses that encompass a laboratory component, or coupled courses in which the lecture and laboratory components are listed as separate courses. In the latter case, credit for the AXLE laboratory component requirement will only be granted when a student has completed both the laboratory component and its corresponding lecture course.

ANTHROPOLOGY 103, 270, 271, 273, 274, 280
ASTRONOMY all courses except 203
BIOLOGICAL SCIENCES all courses except 105 and 273
CHEMISTRY all lecture/laboratory sequences
GEOLOGY all courses except 100, 108, 150, 205
MATHEMATICS all courses except 133, 196, 216
NEUROSCIENCE 255
PHILOSOPHY 102, 202
PHYSICS all lecture/laboratory courses except 238
PSYCHOLOGY 201, 209, 214, 216, 232, 234, 235, 236, 253, 254, 269, 272, 274, 275, 279
SOCIOLOGY 127

Social and Behavioral Sciences (SBS)

Students are required to take two courses from this distribution category.

AFRICAN AMERICAN AND DIASPORA STUDIES 201, 210, 215, 228, 270
AMERICAN STUDIES 226, 240, 295, 297
ANTHROPOLOGY 101, 104, 201, 203, 206, 207, 211, 216, 222, 223, 224, 228, 230, 234, 240, 246, 251, 262, 265, 267, 275, 282, 284
CLASSICAL STUDIES 160, 171, 211, 220

COMMUNICATION STUDIES 101, 202
ECONOMICS 100, 101, 150, 209, 212, 222, 231, 232, 235, 240, 246, 251, 252, 253, 254, 256, 257, 259, 261, 262, 263, 264, 265, 266, 267, 268, 270, 271, 274, 277, 278, 279, 280, 282, 283, 284, 285, 286, 287
FINANCIAL ECONOMICS 220, 240, 261, 275
HISTORY 181, 202, 229, 292
JEWISH STUDIES 155, 244, 252
MANAGERIAL STUDIES 185, 190, 191, 192, 194, 195, 196, 198
PHILOSOPHY 246, 253, 254, 256, 272
POLITICAL SCIENCE 101, 102, 213, 215, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 229, 230, 233, 234, 236, 238, 239, 240, 241, 242, 243, 244, 260, 262, 270, 291A, 291B
PSYCHOLOGY 101, 208, 211, 215, 217, 222, 225, 226, 231, 241, 244, 245, 246, 247, 251, 256, 258, 261, 265, 266, 268, 273, 276, 277, 278
RELIGIOUS STUDIES 110W, 120, 121, 180, 215, 221, 234, 235, 236, 237, 241
SOCIOLOGY 101, 102, 103, 204, 211, 215, 222, 227, 228, 229, 231, 232, 233, 234, 236, 237, 240, 244, 246, 247, 248, 250, 251, 253, 254, 255, 256, 257, 260, 261, 262, 264, 265, 267; 268, 269, 272
SPANISH 214, 215, 216, 217, 218, 219, 220, 291
WOMEN'S AND GENDER STUDIES 245, 264, 268

Perspectives (P)

Students are required to take one course from this distribution category.

AFRICAN AMERICAN AND DIASPORA STUDIES 101, 150, 280, 294
AMERICAN STUDIES 226
ANTHROPOLOGY 102, 215, 237, 250, 260, 266, 272, 283
ASTRONOMY 203
BIOLOGICAL SCIENCES 105, 273
CLASSICAL STUDIES 224
COMMUNICATION STUDIES 223, 235, 242
COMPARATIVE LITERATURE 278
GEOLOGY 100, 108, 150, 205
ENGLISH 243, 275, 277, 279G
FILM STUDIES 201
FRENCH 214, 222, 232, 255, 258, 295
GERMAN 238, 241, 243, 273
HISTORY 187, 190, 204, 206, 207, 221, 222, 246, 248
HUMANITIES 107W
INTERDISCIPLINARY STUDIES 201
ITALIAN 295
JEWISH STUDIES 121, 245
LATIN AMERICAN STUDIES 260
MEDICINE, HEALTH, AND SOCIETY 167, 201
MUSIC LITERATURE 200, 201, 261, 278
PHILOSOPHY 105, 108, 206, 230, 235, 239, 244, 245, 252, 258, 270, 271
PHYSICS 238
PSYCHOLOGY 240, 243, 252
PORTUGUESE 225
RELIGIOUS STUDIES 102, 104, 202, 203, 223, 226, 228, 229, 230, 231, 232, 239
SOCIOLOGY 104, 105, 201, 224, 226, 230, 263
SPANISH 243, 244
THEATRE 216, 276, 280
WOMEN'S AND GENDER STUDIES 150, 201, 210, 226, 239, 243, 244, 265, 267, 269, 270, 271

College Program in Liberal Education

Students plan their early studies under the College Program in Liberal Education (CPLE). This program is designed to help students refine their skills and to bring them into contact with the variety of disciplines, subjects, and modes of thought essential to a liberally educated person.

The College Program sets requirements in *writing*, *mathematics*, and *foreign language* as well as in the following four areas:

History and Culture. *9 to 12 hours, including*
- American Component. *6 hours*
- International Component. *3 to 6 hours*

Humanities. *9 hours*

Natural Science. *11 hours, including*
- Basic Science. *8 hours*
- Science and the World. *3 hours*

Social Science. *6 hours*

2006/2007 CPLE Approved Courses

The courses and test scores presented below are those approved for 2006/2007 for the CPLE. Because the program will continue to be refined in the future, it is likely that new courses will be added, that some courses now listed will be deleted, and that achievement levels will change.

Students who in 2006/2007 complete listed CPLE courses satisfactorily or who matriculate with achievement scores at the indicated levels will be certified as having satisfied the 2006/2007 CPLE requirements, regardless of any changes that may be made in the future. In subsequent years, a student's courses and test scores will qualify only if they appear on the program description for that year.

Although the College of Arts and Science provides assistance through the advisory system, various publications, and consultations in the Office of the Dean and the Office of Records and Institutional Research, each student is responsible for selecting a program of courses that fulfills CPLE requirements.

Skills

Writing

Fluency in writing the English language is critical for success in college work and for effectiveness as an educated person in our society. (Indeed, it is so critical that the writing requirement is the only one in the CPLE that must be completed according to a schedule; see the last paragraph of this section on Writing.) Therefore all students, except those noted below, must first successfully complete English 100 (formerly 100W) and then complete two other W courses (courses that meet the writing requirement are indicated with a "W" in this catalog and in the *Schedule of Courses*).

Students who score 560 or above on the College Board SAT II Writing Test are not required to take English 100 (indeed, it will not count toward their writing requirement, although they may take it as an elective) but must successfully complete two other W courses.

Students who score 760 or above on the College Board SAT II Writing Test or who score a four or a five on an Advanced Placement Examination in English (either English language and composition or English literature and composition) are obligated to take one W course (other than English 100) at Vanderbilt. Transfer students who receive transfer credit for two or more W courses must, nevertheless, complete one W course (other than English 100) at Vanderbilt. Both groups must successfully complete this W course by the end of the first academic year at Vanderbilt.

Students required to take English 100 must complete that course and one additional writing course during the first year. Other students who are required to take writing courses must complete at least one during the first year, and all students must satisfy the full requirement before the end of the second year.

Mathematics

The methods of mathematics are important in the study of the natural and social sciences—and these methods are becoming increasingly useful in the humanities. As confirmation that they possess the necessary foundation in mathematics, all students are required either to have a College Board SAT II Mathematics Test score of at least 620 (Level I) or 570 (Level II) or to complete one of the following alternatives:

1. Mathematics 127a–127b, or
2. Mathematics 140, or
3. Mathematics 155a, or
4. Mathematics 150a and Mathematics 180, or
5. A course sequence involving mathematics listed under the options in Mathematical Reasoning/Foreign Language below.

Foreign Language

A basic capability in foreign language represents a beginning that can eventually lead to direct acquaintance with other literatures and cultures. It can also improve one's use of English. To demonstrate this beginning competence, all students are required to present a satisfactory score on an Achievement Test or SAT II Test in foreign language or to complete a first-year course sequence or a higher-level course in foreign language at Vanderbilt. Students who have at least the following scores on College Board SAT II Subject Tests will have satisfied the first-year language requirement: French, 540; German, 470; Hebrew, 530; Italian, 540; Japanese (with listening), 440; Latin, 530; Spanish, 520. The Foreign Language requirement may be fulfilled by completing satisfactorily one of the following courses or a higher numbered course: Arabic 210b, Chinese 202, French 101b, German 102, Greek 202, Hebrew 111b, Italian 101b, Japanese 202, Latin 100, Latin 102, Portuguese 102, Russian 102, Spanish 102.

Further Study in Mathematical Reasoning or Foreign Language

All students should develop their abilities in abstract reasoning, symbolic manipulation, ordering, memory-work, and other types of analysis involving the expression of ideas in a way other than through the English language. Students therefore are required to complete at least one of the following two options:

1. Further Study in Mathematical Reasoning
    a. Mathematics 150a–150b, or
    b. Mathematics 155a–155b, or
    c. Mathematics 140 plus Economics 150, or Mathematics 180, or Philosophy 202.
    d. Mathematics 155a plus Economics 150, or Mathematics 180, or Philosophy 202.

2. Further Study in Foreign Language

One of the third-semester or higher-level courses in a foreign language or a College Board SAT II Test score at or above the levels indicated: French, 590; German, 600; Hebrew, 570; Italian, 600; Japanese (with listening), 490; Latin, 630; Spanish, 630. Third-semester foreign language courses are as follows: Arabic 220a, Chinese 202, French 103, German 103, Greek 203, Hebrew 113a, Italian 103, Japanese 202, Latin 103, Portuguese 200, Russian 203, Spanish 104.

It is expected that a well-rounded student will elect to fulfill both of these options, for they are valuable in their own right as well as preparatory for advanced work in many fields. Students who want to be considered for membership in Phi Beta Kappa should also fulfill both options.

Areas of Study

Students must satisfy the requirements in all four areas described below. In designing their programs, students should be aware of the following restrictions: (a) no area requirement may be fulfilled by courses taken solely within one department; (b) no more than one course that satisfies the writing requirement may be offered in satisfaction of any area requirement; (c) courses listed in more than one area may be used to satisfy only one area requirement.

History and Culture (9 to 12 hours)

Students will study the history and culture of their own and other societies. Certain course work in the humanities, social science, and natural science can contribute to such historical and cultural understanding. The requirements in History and Culture, however, demand a sustained consideration of the American national experience and a grasp of the thoughts, language, or experiences that have contributed to the formation of at least one other cultural or national tradition.

This requirement must be completed with courses from two or more departments. Credit for courses in a single department will not satisfy the requirement. Crosslisted courses may not be used to defeat this rule.

History and Culture: American Component (6 hours).

The American Component offers insights into the nature and development of distinctive aspects of the American experience. Courses that satisfy this requirement deal with important themes in the American experience, provide a historical perspective, and cover a substantial period of time.

American Studies 100
Classical Studies 222
Communication Studies 220, 221
Economics 226, 245
English 212, 217, 263, 266
History 115W(50), 115W(51), 170, 171, 268, 269, 270, 279, 280, 282, 283, 285, 286, 287, 288, 290, 291
History of Art 240, 241
Music (MUSL) 147, 261
Political Science 100
Religious Studies 122
Sociology 217, 249, 251, 269
Theatre 204

History and Culture: International Component (3 to 6 hours).

The International Component expands cultural horizons by providing insight into the distinctive features and patterns of a major culture or cultural tradition, either contemporary or historical. Courses satisfying this requirement also provide perspective on American society by showing it against the background of a different age or culture.

Language is both a part of culture and a vehicle affording further insight into other cultures. The College Program requires a minimum level of competence in a foreign language, and offers incentives to continue language study to the intermediate level and beyond. The student will choose one of three options:

1. Completion of the intermediate level (or higher) in a foreign language and an additional approved course in the foreign language or a course taught in English dealing with the history or culture of that area or civilization.
2. One semester of full-time study in one of the study abroad programs listed in the chapter on Special Programs for Undergraduates in the front section of this catalog.
3. Two broadly conceived survey courses taught in English and dealing with a single major cultural area or tradition significantly different from that of the United States. Approved courses are listed below.

International Component Option 1. Completion of the intermediate level in a foreign language and one additional course in the literature, culture, or history of that area or civilization.

Language	*Intermediate Level*	*Additional Course*
Chinese	202	Chinese 241, 242; History 154, 155, 248; History of Art 252; Political Science 216
French	103	French 207, 208, 215; History 234, 235, 236
German	104	German 221, 222; History 231
Greek	204 or 240	Greek 212; Classics 130, 204, 205, 208, 209; History 208, 209; History of Art 204, 205
Hebrew	113b	Religious Studies 112
Italian	201	History 232; Italian 230
Japanese	202	History 249; History of Art 253, 254; Political Science 214; Religious Studies 246, 247
Latin	104	Latin 201, 202, 205, 206, 220; Classics 146, 206, 212, 213; History 210, 211; History of Art 206
Portuguese	200	History 264
Russian	204	History 237, 238; Political Science 212, 235; Sociology 273
Spanish	104	Spanish 203, 221, 223; History 258, 259

International Component Option 2. Full-time study in the fall or spring semester at one of the following programs: Classical Studies in Rome, Vanderbilt in France, Vanderbilt in Germany, Vanderbilt in Spain, or one of the Vanderbilt Programs in Argentina, Australia, Austria, Brazil, Chile, China, the Czech Republic, Denmark, the Dominican Republic, England, Ireland, Israel, Italy, Japan, Mexico, New Zealand, Russia, Scotland, South Africa, South Korea, and Taiwan. Also full-time summer programs in Humanities in London, International Studies in London, Vanderbilt in France, Vanderbilt in Berlin, Vanderbilt in Spain, Vanderbilt Program in Italy, and Vanderbilt Program in Mexico.

International Component Option 3. Two courses taught in English that survey the traditions and cultural achievements of one of the following six areas. Both courses must be taken in the same area.

Africa: Two courses from History 254, Music (MUSL) 171, Political Science 219, or Sociology 275

Classical Civilization: Two courses from Classics 130, 146, 208, 209, 210, 212, or 213, or Philosophy 210, except that 130 cannot be paired with 208 or 209

Early Civilization: Anthropology 103, 104, 245; History of Art 245

East Asia: Two courses from History 157; Music (MUSL) 170; Religious Studies 130

European History and Civilization: Two courses from History 100 or 115W (Ideas and Culture of Western Civilization to 1700), 101 or 115W (Ideas and Culture of Western Civilization since 1700); European Studies 201

Latin America: Two courses from Anthropology 210; History 160, 161; History of Art 234; Latin American Studies 201, 234; Music (MUSL) 250; Political Science 217; Sociology 277; Spanish/Portuguese 293

Middle Ages: Two courses from History 212, 213; Philosophy 211

Humanities (9 hours)

Courses in the humanities seek to improve the student's understanding of the traditions of human thought and art, of the relationships among the various subjects in the humanities, and of the importance of humanistic concerns to the daily lives of all thoughtful persons. Nine hours of course work chosen from the approved list meet this requirement. Courses must be completed in more than one department. Crosslisted courses may not be used to defeat this rule.

Anthropology 130
Classics 115F (The Good Life), 115F (Music and Society: Views from Greece and Rome), 115F (The Intellectual Crisis of Athens), 115F (Women in Classical Literature), 130, 146, 150, 175, 204, 205, 206, 210
Communication Studies 210, 222
Comparative Literature 215, 237, 285, 286, 287
English 102W, 104W, 105W, 106W, 109W, 112W, 118W, 214a–214b, 215, 253, 257, 285
French 220
German 115F (Pioneers in Literary Modernism: Brecht, Kafka, and Rilke), 221–222
Greek 216
History 180
History of Art 110–111, 130, 204, 205, 206
Honors 181, 181W (open to College Scholars only)
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175, 293
Interdisciplinary Studies 201
Music (MUSL) 115F (Music and Modernism), 115F (Shakespeare and Music), 140, 141, 160, 183, 200
Philosophy 100, 100W, 105, 115F (Concepts of God), 210, 211, 261, 262
Political Science 103
Portuguese 293
Religious Studies 106, 107, 108, 109, 110W, 112, 113, 114, 125, 130, 131, 132, 140, 205
Russian 171–172, 221–222
Spanish 203, 293
Theatre 100, 115F (Treasure or Trash), 201–202, 203
Women's and Gender Studies 150

Natural Science (11 hours)

The natural sciences study entities, processes, and relations in the natural world. Courses in this area seek to improve the student's understanding of the basic principles that order natural phenomena, of the way these principles apply to various fields of knowledge and to technical developments, and of science itself as a way of examining and viewing the world. This requirement must be completed in more than one department (Physics and Astronomy are here considered to be different departments).

Natural Science: Basic Science Component (8 hours).

The goal of the Basic Science requirement is to give students sufficient foundation in science to enable them to (a) grasp some of the fundamental principles that order natural phenomena; (b) appreciate the scope, accuracy, and quantitative precision of scientific theories; and (c) understand the parts played by observation and experiment, deduction, imagination, accident, and influences from the larger society in the development of scientific theories.

Two 4-hour courses including laboratory or three lecture courses meet this requirement.

Astronomy 102, 103, 115F (Galaxies and Cosmologies), 115F (Birth, Life, and Death of Stars)
Biological Sciences 100, 110a–110b, 111a–111b, 218
Chemistry 101a–101b, 102a and 104a, 102b and 104b
Geology 101, 102, 103, 104, 111, 113
Honors 185 (open to College Scholars only)
Physics 105, 106, 110, 111, 116a–116b, 117a–117b, 121a–121b

Natural Science: Science and Society Component (3 hours).

The objective of this requirement is to introduce students to scientific or technical knowledge and to relate that knowledge to the broader context of the world. Courses meeting this requirement are devoted to both (a) helping students comprehend how scientific knowledge advances and is cumulative, how new theories refute or supersede old ones, what scientific research can and cannot do; and (b) examining the effects of scientific knowledge and technology on human beings by showing the importance of science in our culture and exploring the historical effects of scientific theories and discoveries.

Astronomy 115F (Planetary Systems and the Search for Life in the Universe), 115F (Nature of Discovery), 130, 203
Biological Sciences 105, 115F (Biotechnology and the New GenEthics; Biological Clocks and Human Behavior; or Conservation Ecology), 249, 273
Geology 100, 115F (Controversies in the Geosciences or The Meaning of Fossils and the Age of the Earth), 108, 150, 201, 205
German 238, 241
History 202, 204
Honors 182 (open to College Scholars only)
Philosophy 244, 245
Physics 101, 115F (Atomic and Nuclear Physics), 115F (Lasers), 238
Religious Studies 202, 203, 241, 245
Sociology 115F (Environment and Society)

Social Science (6 hours)

The social sciences seek to understand human beings and their relation to the diverse structures and institutions of their social environment. The social sciences study subjects ranging from the individual to the primary

group (such as the family), through more complex groups (religious, social, economic, and other institutional forms), to the political affiliations of modern states and the framework of an international order. Six hours of course work chosen from the approved list, and in more than one department, meet this requirement. Crosslisted courses may not be used to defeat this rule.

Anthropology 101, 102, 103, 104
Economics 100
Honors 183 (open to College Scholars only)
Political Science 100, 101, 102, 150
Psychology 101, 115F (General Psychology—not 115a)
Sociology 101, 102, 103, 237

AXLE, CPLE, the Major, and the Optional Minor

Courses used to satisfy requirements of AXLE or the College Program may also be used to satisfy requirements of the major or the optional minor.

Advanced Placement and Transfer Credit under AXLE and CPLE

In general, only courses taken in the College of Arts and Science may be used to satisfy requirements of the College Program; but credit awarded to students through Advanced Placement Examinations, approved international examinations such as the International Baccalaureate, credit by examination, or transfer credit earned before admission to Vanderbilt may be used toward the satisfaction of CPLE requirements. For students under the AXLE requirements, only courses taken in the College of Arts and Science may be used; however, transfer credit earned before admission to Vanderbilt may be used toward fulfilling AXLE requirements.

Vanderbilt Study Abroad Programs, AXLE, and CPLE

Courses offered by "Vanderbilt-in"programs, and other courses offered by Vanderbilt-approved study abroad programs that are considered to be direct equivalents to College of Arts and Science courses offered in Nashville, may be used to satisfy the same AXLE Curriculum requirement(s) as the equivalent College of Arts and Science course. Courses that are considered to be "no equivalent" or "no credit" do not satisfy any AXLE Curriculum requirement.

Courses offered by the Vanderbilt study abroad programs that are equivalent to College Program courses offered in Nashville may be used to satisfy the same College Program requirement as the equivalent College Program course. This provision also applies to courses offered by those programs sponsored by the Council on International Educational Exchange (CIEE), CET, DIS, IES, and IFSA Butler in which Vanderbilt participates.

For more information on study abroad, see the chapter on Special Programs for Undergraduates in the front section of this catalog.

Area of Concentration

During the junior and senior years, much of the student's work is concentrated in one large unit of intellectually related courses. The program of concentration may be arranged through a single major, an interdisciplinary major, or a double major. Each of the three options is described below. A triple major may be declared with the approval of the Administrative Committee.

Major Field

Under this plan, the student majors in one of the recognized fields. There shall not be fewer than 27 hours in the major field, but a given department may require up to 36 hours. Students may take more than the required number of hours in any major; any given department, however, may limit the total permissible hours in a discipline.

An average of at least 2.00000 is required in all courses taken in the major discipline. A major discipline is defined as all courses offered by the department(s) owning the major and all courses that can count toward fulfilling hours required for the major as indicated in the *Undergraduate Catalog*. A contract for an interdisciplinary major is deemed to be a statement of required courses within a major discipline. Therefore all courses, including those listed in the *Undergraduate Catalog* as options within an interdisciplinary area and those that have previously been included in the student's contract, are considered to be part of the major discipline.

Within the framework of these general requirements, each department has its own policies governing major work, which are published elsewhere in this catalog or otherwise available to students.

Academic programs of the College of Arts and Science are varied and broad in scope, with majors offered in the following fields:

- Ancient Mediterranean Studies
- Anthropology
- Art
- Biological Sciences
- Chemistry
- Classical Languages
- Classics
- Communication Studies
- Earth and Environmental Sciences
- Ecology, Evolution, and Organismal Biology
- Economics
- English
- French
- German
- History
- History of Art
- Mathematics
- Molecular and Cellular Biology
- Philosophy
- Physics
- Political Science
- Psychology
- Religious Studies
- Russian
- Sociology
- Spanish
- Theatre
- Women's and Gender Studies

Approved Majors Outside the College

Students may combine one of the majors listed above with a second major taken within or outside the College of Arts and Science. For additional infor-

mation on one of the following programs which Arts and Science students are eligible to declare as second majors, see the departmental listings in the Blair, Engineering, and Peabody sections of this catalog.

Through Blair — Music
Through Engineering — Computer Science
Through Peabody — Child Development, Cognitive Studies

Declaration of the Area of Concentration

Students may formally declare a major at any time during the third or fourth semester of residence. The student selects a department and applies to that department for assignment to an adviser. Students wanting to develop an interdisciplinary program apply to the dean.

A major must be declared no later than the fourth semester. Each fall a program is arranged that provides for consultation of sophomores with department chairs, for the purpose of helping students select a major. Sophomore students who have not declared a major should participate in this program if they intend to attain junior standing before the next spring.

The selection of a major is of considerable importance, and the entire program of concentration for the junior and senior years should be planned with the major adviser before the beginning of the junior year. Students officially declare their majors by registering with the chosen department(s) or with an interdisciplinary adviser approved by the dean, and with the Office of Records and Institutional Research. When the student's major has been registered, the student's file is transferred from the pre-major adviser to the new major adviser.

Interdisciplinary Programs of Concentration

This plan permits students to contract for an individually designed program of concentration consisting of at least 48 hours of approved work. The program is constructed around a coherent academic purpose and may draw together the academic resources of a number of departments and schools. The program's purpose may include topical, period, or area studies. The student may be required to achieve a standard of proficiency in appropriately related areas such as foreign languages or mathematics in addition to the 48 hours constituting the program of concentration. A student who wants to develop such a program must first discuss it with the dean.

The student's contract for an interdisciplinary major is deemed to be a statement of required courses within a major discipline. Furthermore, because of the nature of interdisciplinary majors, all courses listed in this catalog as options within an interdisciplinary area and all courses that have previously been included in the student's contract are considered to be part of the major discipline. The student must achieve at least a 2.000 average in all work taken in these categories.

This plan also permits students to major in one of the defined interdisciplinary programs listed below. There shall not be fewer than 36 hours in the major field, but a given program may require up to 48 hours. The student must achieve at least a 2.000 average in all work taken in the major.

Defined Interdisciplinary Programs:

African American and Diaspora Studies
American Studies
Communication of Science and Technology
East Asian Studies
Economics and History
English and History
European Studies
Film Studies
French and European Studies
Jewish Studies
Latin American and Iberian Studies
Medicine, Health, and Society
Neuroscience
Public Policy Studies
Russian Studies
Russian and European Studies
Spanish and European Studies
Spanish, Portuguese, and European Studies

Students may combine an interdisciplinary major with a major in one of the recognized fields listed at the beginning of this chapter. Upon approval of the Committee on Individual Programs and the student's adviser, (a) as many as 6 hours may be counted as part of both the interdisciplinary major and the second major, or (b) normally, no more than three introductory-level courses will be counted toward the interdisciplinary major.

Double and Triple Majors

This program permits a student to concentrate in two or three fields, which may or may not be intellectually related. With approval of the departments concerned, the student completes all of the requirements stipulated for the majors. Triple majors require approval of the Administrative Committee.

Additional Programs

For information on the College Scholars program and departmental honors, please see the chapter titled Honors.

The Optional Minor

A minor is a program within a recognized area of knowledge offering students more than a casual introduction to the area but less than a major in it. Although the completion of a minor is not a degree requirement, students may elect to complete the courses specified for one or more minors. A student who completes all designated courses in a minor with a grade point average of at least 2.000 will have the minor entered on the transcript at the time of graduation.

Minors may be combined with any departmental major or interdisciplinary major. Each minor must, however, include at least 15 credit hours that are being counted solely toward the minor. Courses may not be taken on a P/F basis if they are offered in the department of the minor or if they are being counted toward an interdisciplinary minor (see Academic Regulations).

Minors consist of a minimum of five courses of three or more credits each. Many minors require a greater number of hours and specific courses. When a minor is offered in a discipline that offers a major, only those courses that count toward the major may be counted toward the minor.

Students should refer to the appropriate sections of this catalog for specific requirements. Minors available at present are listed below.

Students should declare their intention to pursue specific minors by completing forms available in the Office of the Dean as well as the various departmental and program offices. Departments and programs assign advisers to students who declare minors in their respective areas. Students have the responsibility to know and satisfy all requirements for minors that they intend to complete.

Changes to the minor may not be made after students begin the second semester of their senior year.

Optional minors are offered in the following fields:

African American and Diaspora Studies
Architectural History
Art
Astronomy
Biological Sciences
Chemistry
Classical Studies
Communication of Science and Technology
Communication Studies
Comparative Literature
Earth and Environmental Sciences
East Asian Studies
Economics
English
Environmental Science
Environmental Studies
European Studies
Film Studies
French
German
History
History of Art
Islamic Studies
Italian
Italian Studies
Japanese Language and Culture
Jewish Studies
Latin American Studies
Managerial Studies:
- Corporate Strategy
- Financial Economics
- Leadership and Organization

Mathematics
Neuroscience
Philosophy
Physics
Political Science
Portuguese
Psychology
Religious Studies
Russian
Russian Studies
Russian and European Studies
Sociology
Spanish
Theatre
Women's and Gender Studies

Approved Minors Outside the College

Through Blair
- Music
- Music History
- Music Performance

Through Engineering
- Computer Science

Through Peabody
- Child Development
- Cognitive Studies
- Special Education

Senior Scholar Program

Under the Senior Scholar program, students may spend the entire senior year pursuing projects of their own devising. A project shall result in a finished document that constitutes material evidence that the time has been profitably spent in terms of intellectual development. Senior Scholars have presented a broad variety of projects, including documentary films, novels, and research monographs. Scholars work under the supervision of one or more faculty members, and the project is graded Distinguished, Pass, or Fail. Admission into the Senior Scholar program will normally waive major requirements for the degree. The program is directed by the Committee on Individual Programs. Juniors wanting to apply for this option may obtain further details from the Office of the Dean.

Undergraduate Research

All students have ample opportunity to participate in faculty research projects or to pursue research projects independently, both on campus and at remote sites. Such research has led to the publication of coauthored or

student-authored papers and other presentations to the scholarly community. Summer research by undergraduates in all fields may be subsidized by the university.

Exchange Program with Howard University

Through an agreement with Howard University in Washington, D.C., a limited number of undergraduates in the College of Arts and Science may study at Howard for one semester (in exchange with Howard undergraduates who may spend a semester at Vanderbilt). This program is available to sophomores and juniors with an overall grade point average of 2.700 or a grade point average at this level in each of the two most recent semesters. Transfer credit is offered, as described under Study Abroad in the chapter on Special Programs for Undergraduates in the front section of this catalog. For more information, contact the Office of the Dean, College of Arts and Science, 311 Kirkland Hall.

Study Abroad Programs

Vanderbilt offers study programs for all undergraduate students from Arts and Science, Blair, Engineering, and Peabody. Programs are offered in Argentina, Australia, Austria, Brazil, Chile, China, the Czech Republic, Denmark, the Dominican Republic, England, France, Germany, Ireland, Israel, Italy, Japan, Mexico, New Zealand, Russia, Scotland, South Africa, South Korea, Spain, and Taiwan to provide undergraduates immediate contact with cultures different from their own and to aid in the mastery of foreign languages. Students interested in applying for study abroad should consult their advisers to determine whether all degree requirements can be completed on schedule.

Brochures on all programs are available in the Study Abroad Programs office in Room 115, Student Life Center. Study Abroad also maintains a Web site, *www.vanderbilt.edu/studyabroad*. The study abroad programs are described in more detail in the chapter on Special Programs for Undergraduates in the front section of this catalog.

Additional Options

Students interested in receiving transfer credit for study abroad programs through other universities should apply to the Committee on Individual Programs. They must meet the same academic standards required for participation in Vanderbilt's study abroad programs. Information is available from the Office of the Dean.

Pre-Professional Studies

Medicine

Students interested in the study of medicine should plan their undergraduate programs in consultation with Robert Baum, doctor of orthopaedics and rehabilitation, health professions adviser. There is no formal premedical program of courses in the College of Arts and Science or elsewhere at Vanderbilt. Each student should plan a program to meet individual needs. The program should include whatever courses may be necessary to meet medical school admission requirements, all courses required for the major, all AXLE or College Program requirements, and elective options. Students may choose majors from the humanities, mathematics, the laboratory sciences, or the social sciences, and may elect to pursue a double major or an interdisciplinary program of concentration.

A student who plans to apply for admission to the Vanderbilt University School of Medicine may choose either of the following options:

1. A student may qualify for admission with either a B.A. or B.S. degree, whether completed in three years or in four. Minimum requirements for admission generally would be met by completing one year of English; Biological Sciences 110a–110b and labs; Chemistry 102a–102b and labs and 220a–220b or 218a–218b and labs; and Physics 116a–116b, 117a–117b, or 121a–121b and labs (see the Medical Center catalog for the official statement).

2. A student may qualify as a three-year student in the senior-in-absentia program (see the chapter on Academic Regulations).

Any student contemplating application to medical school should take at least a year of English, two years of chemistry including organic, a year and a half of biology, one year of physics, general psychology, and at least one semester of calculus. These courses, together with the AXLE or College Program requirements, meet the admission requirements of most medical schools.

Early Acceptance to the Vanderbilt University School of Medicine

A limited number of Vanderbilt undergraduates may apply for and be accepted into the Vanderbilt University School of Medicine at the end of the sophomore year.

Dentistry

Students interested in predental studies should plan their undergraduate program in consultation with Robert Baum, doctor of orthopaedics and rehabilitation, health professions adviser. There is no formal predental program of courses at Vanderbilt. Predental studies should include courses necessary to meet dental school admission requirements, all courses required for the major, all AXLE or College Program requirements, and elective options. Students may choose majors from the humanities, mathematics, natural science, or the social sciences. They may also elect a double major or an interdisciplinary program of concentration.

A student may apply to dental school under the senior-in-absentia program (see Senior-in-Absentia) or apply for admission after three years of college work without a degree.

Interested students are urged to consult the directory, *Admission Requirements of U.S. and Canadian Dental Schools*, published by the American Association of Dental Schools, as a guide to planning their undergraduate programs.

Any student contemplating application to dental school should take at least a year of English, two years of chemistry including organic, a year and a half of biology, one year of physics, general psychology, and at least one semester of calculus. These courses, together with the College Program or AXLE requirements, meet admission requirements of most dental schools.

Nursing

Students interested in developing a program that could lead to a Master of Science in Nursing are advised to consult the Office of Admissions in the School of Nursing. For further information on pre-nursing studies, see the chapter on Special Programs for Undergraduates near the front of this catalog.

Hearing and Speech Sciences

The Division of Hearing and Speech Sciences at Vanderbilt offers a core of undergraduate courses suggested as preparation for graduate work in the field: Hearing and Speech Sciences 205, 206, and 217. These courses provide an introduction to human communication and its disorders that may be of interest to liberal arts majors. Further information is available in the Graduate School catalog and from Edward G. Conture, professor of hearing and speech sciences.

Architecture

Undergraduate students in the College of Arts and Science expecting to pursue architecture at the graduate level should complete at least one year of analytic geometry and calculus and one year of physics. Students may select any major but would want to include courses that emphasize a broad sense of art and architectural history, including courses in studio art. Before applying to specific schools of architecture, they would develop a portfolio of creative work. Further information is available from Professor Michael L. Aurbach of the Department of Art.

Engineering

Undergraduate students in the College of Arts and Science expecting to pursue engineering at the graduate level should normally major in a natural science or mathematics and, at a minimum, should complete two years of calculus or its equivalent, one year each of chemistry and physics, and at least an additional year of a natural science or mathematics. A minimum of

one year of computer science is highly desirable. Students should seek specific information concerning admission from the engineering school of their choice as early as possible, preferably by the end of the sophomore year, to assure optimum preparation for entry into that school. Standards for admission vary, but usually a *B* average or better is required.

Law

There is no formal program of prelaw studies at Vanderbilt. Most law schools have no specific requirements for a prelaw curriculum but place great emphasis on the development of the student's ability to read and comprehend accurately, thoroughly, and rapidly; to speak and write clearly and correctly; to think precisely; and to analyze complex situations and weigh and appraise their several elements. The development of analytical skills and of mature study habits is vital. A broad cultural background is important—since law touches life at every point, every subject in the college curriculum may bear on the lawyer's work. Students interested in the study of law should plan their undergraduate programs in consultation with Associate Professor Kassian A. Kovalcheck Jr., prelaw adviser.

Management

Joint Five-Year Baccalaureate–M.B.A. Program. By combining one and one-half years of study in the Vanderbilt Owen Graduate School of Management with three and one-half years in Vanderbilt's College of Arts and Science, students may obtain both the baccalaureate degree and the M.B.A. degree in five years—the baccalaureate from the College of Arts and Science at the end of the fourth year under the senior-in-absentia program, and the M.B.A. from the Owen School after the fifth.

Students may major in any subject in the College of Arts and Science.

Students must apply to the Owen School for admission to the five-year program during their junior year and to the Administrative Committee for acceptance into the senior-in-absentia program. Students are subject to normal Owen School admission requirements, and no student is assured of admission to the Owen School. Students who are accepted will be registered in the Owen School for three semesters (a minimum of 48 hours). Up to 16 hours of Owen School courses approved by the College of Arts and Science may be counted toward completion of the undergraduate degree. Upon acceptance to the Owen School, students should contact the Office of Student Services for an advising appointment. The Owen School registrar will review undergraduate courses and arrange for transfer of those credits toward the student's M.B.A. degree.

Financial Aid. The scholarship or other financial aid commitment of the College of Arts and Science will not be continued automatically beyond the seventh semester for students enrolled in the joint program. Eighth semester scholarships or other financial aid are the responsibility of the Owen School. Prior to their enrollment in the joint program, the Owen School will advise students of the level of financial support, if any, to be provided during the

eighth and subsequent semesters. This ensures that an eighth semester scholarship from the College of Arts and Science is protected for the student until a final decision is made to enroll in the Owen School.

Planning for the Program. Students interested in this program should consult William Damon or Malcolm Getz in the Department of Economics, or the Owen Admissions Office, for advice on planning undergraduate studies to meet the program's requirements.

Teacher Education

Details will be found in Licensure for Teaching in the Peabody College section of this catalog.

Internships

Students may earn academic credit for internships in the College of Arts and Science on a Pass/Fail basis through interdisciplinary or departmental internships. Credit hours earned will not count toward major or minor requirements but as part of the total hours required for graduation. Students obtain their own placement and faculty adviser who works with them to develop a list of readings or research agenda for the internship, which must be approved by the director of internships in the College of Arts and Science (Associate Dean Yollette Jones) and the chair of the Curriculum Committee (Associate Dean Russell McIntire). The necessary forms for earning academic credit for an internship may be obtained from Associate Dean Yollette Jones in the A&S Dean's Office in 311 Kirkland Hall, although students register for internships through the registrar's office of their respective school. The deadline for submitting registration forms to Dean Jones's office for internship courses taken during summer term and fall semester is April 1. Students expecting to intern during the spring semester submit registration forms by November 1.

Finding an Internship

Students needing to find an internship locally or elsewhere should contact the Career Center regarding the Venture, Internship Exchange, and Commodore Connection programs. Arts and Science students may also seek assistance in locating internships through the Arts and Science Internships program (ASI) Web site, *www.vanderbilt.edu/cas/asi*.

Interdisciplinary Internships
INDS 280a–b–c. 1 credit hour (repeatable)

Any student classified as at least a sophomore and in good academic standing can earn one credit hour per semester or summer for an internship under this designation. This course may be taken once and repeated twice for a maximum of three credit hours exclusively on a Pass/Fail basis.

Departmental Internships
Maximum of 15 hours (nonrepeatable)

Under this option students from any discipline may earn academic credit for internships in the following departments if they meet the minimum GPA requirements and have 6 hours of prior work in the department in which they wish to intern. Again, students are responsible for securing a faculty adviser for the internship and developing an academic plan of work for the internship opportunity, which must then be approved by the director of undergraduate studies in the department in which the internship is housed. (In some instances, the DUS will serve as the faculty adviser for all internships taken in that discipline.) All internships under this designation are taken concurrently with a research and/or readings course. The latter is taken on a graded basis and may count toward requirements for a major or minor. Students should consult the director of undergraduate studies in the department of interest to obtain additional information about internships in that discipline. The following departments offer up to 15 hours of academic credit per semester or summer for the following courses (internship courses are offered during FALL, SPRING, and SUMMER sessions):

AADS 280a–280b. Internship Research and Readings [1–6], Internship Training [1–9].
AHST 293a–293b. Internship Research [1–6], Internship Training [1–9].
AMST 280a–280b. Internship Research and Readings [1–6], Internship Training [1–9].
CMST 280a–280b–280c. Internship Training [1–9], Internship Research [1-3], Internship Readings [1–3].
GER 293a–293b–293c. Internship Training [1–9], Internship Research [1–3], Internship Readings [1-3].
HIST 293a–293b–293c. Internship Training [3–9], Internship Research [3], Internship Readings [3].
LAS 280a–280b. Internship Research and Readings [1–6], Internship Training [1–9].
MHS 293a–293b–293c. Internship Training [3–9], Internship Research [3], Internship Readings [3].
PSCI 280a–280b–280c. Internship Training [1–9], Internship Research [1–3], Internship Readings [1–3].
RUSS 280a–280b. Internship Training [1–9], Internship Research and Readings [1–6].
SOC 280a–280b. Internship Research and Readings [1–6], Internship Training [1–9].
WGS 288a–288b–288c. Internship Training [1–9], Internship Research [1–3], Internship Readings [1–3].

More complete information on departmental internship courses may be found in the course descriptions in this catalog. (Courses which have been approved recently by the faculty may not appear in the most recent edition of the catalog.)

Cost of an Internship

Internships taken during the fall or spring semester will fall under the normal tuition charge unless the student falls below 12 or exceeds 18 hours during the semester. In both instances, the hourly tuition charge will apply with permission for an underload/overload from the appropriate academic dean. Students will be charged for internships taken during summer on the basis of the hourly tuition rate for summer school.

Integrated B.A./M.A. (4+1) Program

The College of Arts and Science offers students in most departments and programs the opportunity to earn both the bachelor's degree and the master's degree in a shorter period of time and at less cost than is normally the case. Exceptional students in the College of Arts and Science can obtain both degrees in an expedited period, typically within but not less than five years.

The usual period of study for both the bachelor's and the master's degree is six years. Through the 4+1 option, the student and her or his adviser plan a five-year program of study. It is important to note that there is no provision for obtaining both degrees in a period shorter than five years. The program is intended for selected students for whom the master's degree is sufficient preparation for their career goals, is desirable as a goal in itself, or is viewed as additional preparation before pursuing a doctorate or a professional degree.

The areas of study available for the Integrated B.A./M.A. (4+1) option within Arts and Science are determined by individual departments and programs, who also determine the policies and guidelines to be followed. Students will be admitted to the Integrated B.A./M.A. program only by the invitation and the approval of the department or program.

Programs of Study

The 4+1 option is currently available in Chemistry, English, French, German, History, Jewish Studies, Mathematics, Philosophy, Political Science, and Religious Studies. Students are welcome to discuss the Integrated B.A./M.A. (4+1) option with any of these departments and programs. Other departments and programs are expected to participate in the 4+1 option at a later date.

Admissions Overview

The Integrated B.A./M.A program allows Vanderbilt University students to study for both degrees often, but not necessarily, in the same department. Undergraduates with strong academic records may apply for admission to the program after the first semester of their junior year. Qualifying students are normally accepted into the program in the second semester of the junior year.

To apply for admission, students will first consult with the appropriate adviser for post-baccalaureate programs, and then submit to the prospective graduate department or program a statement of purpose, a formal application to the Graduate School, a preliminary program proposal, two letters of recommendation from Vanderbilt faculty, and a current transcript. Application forms are available for download or can be completed online at *www.vanderbilt.edu/gradschool*. GRE scores or other admissions requirements may be specified by the prospective department. Admission to the 4+1 option is highly selective. An accomplished academic record, a demonstrated commitment to pursue graduate study, and a strong endorsement

from Vanderbilt faculty are key elements to the successful applicant. Students will be provisionally accepted as graduate students, pending completion of all undergraduate requirements.

Advising

Prospective students should discuss with one of their advisers general information on the program and how this program is appropriate to their long-term goals. All students are encouraged to discuss their plans and goals with their undergraduate pre-major and major adviser. Especially in those cases where the intended graduate program differs from the undergraduate major, the student is further encouraged to seek advice from the advisers in the graduate program, too.

Curriculum

Students in this program must satisfy all requirements for both degrees. Advanced Placement (AP) credits will often be used toward satisfying a comparable number of general curriculum requirements, for a maximum of 18 credit hours. The principal distinction between this program and the standard graduate program is two-fold: (1) students are allowed to take master's courses while completing the bachelor's degree, and (2) students are thereby enabled to complete both degrees within five years.

In order to complete the program in five years, students will be expected to complete most, if not all, of the requirements for their undergraduate degree by the end of the first semester of the senior year. It is also suggested that students begin taking graduate courses toward the master's degree in the second semester of the senior year. Most graduate programs participating in this option have a nonthesis plan of study requiring 30 graduate credit hours in addition to the requirements for the undergraduate degree. An average load per semester as a graduate student is 9–12 credit hours.

Scholarships and Financial Aid

Students who are receiving scholarships or other forms of financial aid as a Vanderbilt undergraduate are advised that such aid applies in most cases only toward the completion of the bachelor's degree or the first four years of their studies (which may include their taking some graduate courses during their senior year). Students wishing to pursue the 4+1 option should seek support for their fifth year of study through student loans and other financial aid.

A limited amount of scholarship funds is available in support of a small number of 4+1 students in the fifth year of study. Any student accepted into this program who wishes to be considered should consult the associate dean for post-baccalaureate programs.

For additional information, contact Associate Dean Martin Rapisarda, Stevenson Center 7332C/D, *martin.rapisarda@vanderbilt.edu*, or consult the Web site at *www.vanderbilt.edu/cas/4plus1*.

Honors

Founder's Medal

The Founder's Medal, signifying first honors, was endowed by Commodore Cornelius Vanderbilt as one of his gifts to the university. The recipient is named by the dean after consideration of faculty recommendations and overall academic achievements, as well as grade point averages of the year's highest ranking *summa cum laude* graduates.

Latin Honors Designation

Honors noted on diplomas and published in the Commencement program are earned as follows:

For students graduating in August or December 2009 and May 2010

Summa Cum Laude. Students whose grade point average equals or exceeds that of the top 7 percent of the previous year's Vanderbilt graduating seniors.

Magna Cum Laude. Students whose grade point average equals or exceeds that of the next 11 percent of the previous year's Vanderbilt graduating seniors.

Cum Laude. Students whose grade point average equals or exceeds that of the next 17 percent of the previous year's Vanderbilt graduating seniors.

Students whose grade point average equals or exceeds that of the above percentages within their own schools or colleges will also earn the designated honors.

For students graduating in August or December 2008 and May 2009

Summa Cum Laude. Students whose grade point average equals or exceeds that of the top 9 percent of the previous year's Vanderbilt graduating seniors.

Magna Cum Laude. Students whose grade point average equals or exceeds that of the next 14 percent of the previous year's Vanderbilt graduating seniors.

Cum Laude. Students whose grade point average equals or exceeds that of the next 22 percent of the previous year's Vanderbilt graduating seniors.

Students whose grade point average equals or exceeds that of the above percentages within their own schools or colleges will also earn the designated honors.

Founder's Medalist Jimmy Lee Kerrigan and Dean Richard McCarty

For students graduating before August 2008

Summa Cum Laude. Students earning a grade point average of 3.75 or above.

Magna Cum Laude. Students earning a grade point average of 3.5 or above.

Cum Laude. Students earning a grade point average of 3.25 or above.

Graduates who complete the requirements of the College Scholars program are awarded "Honors in the College of Arts and Science," and this designation appears on their diplomas. Candidates successfully completing departmental honors programs are awarded honors or high honors in their major field, and this designation appears on their diploma.

College Scholars Program

Entering freshmen with outstanding academic records and freshmen who achieve academic distinction during their first semester at Vanderbilt are invited to participate in the College Scholars program. These students have the exclusive opportunity to pursue advanced scholarly work in honors seminars and enriched courses or independent-studies projects. They may earn the designation "Honors in the College of Arts and Science" on their diplomas.

To earn the designation, College Scholars must accumulate fifteen "honors points" by achieving the grade *B* or better in approved courses and projects. A maximum of thirteen of these honors points may be earned in honors seminars. Honors seminars in the humanities, natural sciences, and the social sciences serve toward satisfaction of AXLE or College Program requirements in these areas. For a complete description of how honors points may be earned and a listing of honors seminars offered, see the entry on Honors in alphabetical order under Courses of Study.

The College Scholars Center, available to all students in the program (at any time), includes a seminar room where many of the honors classes meet, study space, microcomputers, a small kitchen, and a collection of reference books. It provides space for study, special lectures, and informal exchanges among College Scholars.

College Scholars are not required—although many will choose—to earn honors in the College of Arts and Science; all, however, may enroll in as many honors seminars as they want. To remain in good standing in the program, students must maintain a minimum grade point average of 3.000. Further information on the College Scholars program and honors in the College of Arts and Science may be obtained from the Office of the Dean.

Departmental Honors

To encourage individual development and independent study in a special field of interest, many departments of the College of Arts and Science offer honors programs for selected, superior candidates. Students normally

begin departmental honors work in the junior year, but exceptions may be made in the case of outstanding seniors. To qualify for consideration, students must have (a) attained a minimum grade point average of 3.000 in all work previously taken for credit and in the program of concentration, and (b) exhibited to the department(s) concerned such other evidence as may be required to indicate a capacity for independent study. Some departments require higher grade point averages in the major. Formal admission is by the Office of the Dean after election by the department(s) concerned, with the approval of the director of honors study, who supervises the program with the aid of the Committee on the Honors Program.

Provisions vary somewhat from department to department (see descriptions in the appropriate department sections of this catalog), but generally honors students are exempted from some normal junior and senior class work in their major fields in order to devote time to independent study under the supervision of a faculty adviser. Candidates are required to demonstrate some degree of originality and maturity in the methods of independent investigation, analysis, and criticism, and skill in the written presentation of independent work. This standard usually requires a senior thesis but may be satisfied, in departments that have gained approval of this procedure, by a series of briefer critical papers.

Departmental honors work culminates in an examination given in the second semester of the senior year. The examination shall be both oral and written except in departments where honors students must take all courses required of standard majors in addition to those required of honors students. These departments have the option of making the examination either oral or both oral and written. The examination shall be conducted by a committee with a majority of examiners who have not participated in the candidate's honors work. Where feasible, examiners from other institutions may be included. The examination shall cover the thesis and specific fields of the independent work and may, at the discretion of the department, include all of the major work. Successful candidates are awarded honors or high honors in their field, and this designation appears on their diplomas.

Dean's List

The Dean's List recognizes outstanding academic performance in a semester. Students are named to the Dean's List when they earn a grade point average of at least 3.500 while carrying 12 or more graded hours, not receive a grade of *F*, and not have any temporary or missing grades.

Phi Beta Kappa

The Alpha Chapter of Phi Beta Kappa in the state of Tennessee honors scholarly attainments in the liberal arts and sciences and annually elects seniors and juniors to membership during the spring semester.

Seniors who have completed at least 60 semester hours in the College of Arts and Science and earned a grade point average of 3.600 or better are

eligible for consideration, as are juniors with a grade point average of 3.850 who have completed at least 70 semester hours at Vanderbilt.

Attainment of the minimum average is not a guarantee of election. Membership is based on broad cultural interests and scholarly achievements. The following guidelines normally apply: at least 90 hours of the student's total program must be liberal, rather than applied or professional, in nature; and the breadth of a candidate's program, as shown by the number and variety of courses taken outside the major, is considered. Grades earned in applied or professional work are not counted in computing the grade point average. Candidates are expected to have satisfied both of the upper-level options in Mathematical Reasoning/Foreign Language of the College Program in Liberal Education. These mathematics and language courses cannot be taken on a P/F basis.

To be considered for election in the junior year, students should have completed all of the CPLE or AXLE requirements by the end of the junior year, including both of the upper-level options in mathematical reasoning/foreign language. Students who go abroad on foreign study programs in their junior year are not eligible for election as juniors, but are considered in due course during their senior year.

In no event may the total number of persons elected from any senior class exceed 10 percent of the class, and from any junior class exceed six persons.

Requirements for those entering under AXLE are currently under review.

For additional information, contact the chapter secretary, Ken Schriver, at (615) 343-0514 or *ken.schriver@vanderbilt.edu*.

Honor Societies for Freshmen

Freshmen who earn a grade point average of 3.500 or better for their first semester are eligible for membership in the Vanderbilt chapters of Phi Eta Sigma and Alpha Lambda Delta.

Other Awards and Prizes

MORRIS H. BERNSTEIN JR. PRIZE IN LATIN DECLAMATION. Established in 1983 by William H. Bernstein (B.A. 1983) in memory of his father (B.A. 1943, M.D. 1946). Awarded after a competition, open to any undergraduate who has studied two semesters of Latin, in which participants deliver from memory Latin passages selected to reflect classical ideals.

FOUNDER'S MEDAL FOR ORATORY. Awarded to the senior who has demonstrated the highest standard in public speaking.

FRENCH GOVERNMENT PRIZES. Awarded for excellence in French studies.

EDWIN S. GARDNER MEMORIAL PRIZE FOR EXCELLENCE IN FRENCH. Awarded to a graduating senior who majored in French.

ALEXANDER HEARD AWARD. Presented annually to the outstanding senior political science major.

AVERY LEISERSON AWARD. Presented for the best research paper or essay written by an undergraduate in a political science course.

MERRILL MOORE AWARD. Endowed in 1961 by Mrs. Merrill Moore, Squantum, Massachusetts, in memory of her husband. Presented to a graduating senior or a student entering the junior or senior class, selected by the Department of English on the basis of "literary promise and the psychological or practical usefulness of the award" to the student.

DANA W. NANCE PRIZE FOR EXCELLENCE IN A PREMEDICAL CURRICULUM. Endowed in 1985 by the family and friends of Dana W. Nance (B.A. 1925, M.D. 1929). Awarded annually to a student who has demonstrated the perseverance to succeed in a premedical curriculum and who embodies the attributes of a caring physician.

JUM C. NUNNALLY AWARD. Established in 1987 in memory of this professor of psychology from 1960 to 1982. Presented to a graduating senior in the honors program of the Department of Psychology for the best research project.

DONALD E. PEARSON AWARD. Presented annually to a graduating senior in chemistry adjudged the most distinguished in undergraduate research in chemistry.

PHI BETA KAPPA FRESHMAN SEMINAR AWARD. Awarded annually to students who have done outstanding creative work in freshman seminars.

A&S

AWARD FOR OUTSTANDING RESEARCH IN MOLECULAR BIOLOGY. Presented to a senior in molecular biology for outstanding research performed as part of the major program in molecular biology.

OUTSTANDING SENIOR IN CHEMISTRY AWARD. Presented annually to that graduating senior in chemistry who, in the opinion of the faculty of the Department of Chemistry, shows most promise of an outstanding career.

HENRY LEE SWINT PRIZE. Awarded since 1978 for the best essay in history.

D. STANLEY AND ANN T. TARBELL PRIZE IN ORGANIC CHEMISTRY. Awarded annually to a graduating senior who has excelled in organic chemistry by earning the highest grades in courses or performing outstanding research in organic chemistry.

UNDERWOOD MEMORIAL AWARD. Endowed in 1961 by the late Newton Underwood in memory of his father, Judge Emory Marvin Underwood, long-time member of the Board of Trust. The cash award is given to the most deserving and most promising graduating senior or graduate student in physics.

SUSAN FORD WILTSHIRE PRIZE. Cosponsored by the Women's and Gender Studies program and the Women's Faculty Organization, this award is given annually for the best undergraduate essay that deals with gender issues.

KATHARINE B. WOODWARD PRIZE. Awarded since 1943 and endowed in 1962 by Miss Katharine B. Woodward, Class of 1919, for excellence in Spanish studies.

MARGARET STONEWALL WOOLDRIDGE HAMBLET AWARD. Endowed in 1983 by Clement H. Hamblet in memory of his late wife, who began her art studies at Peabody College. The award is given to a graduating student of outstanding merit in studio art to enable the pursuit of his or her creative development through one year of extensive travel and further studies in studio art.

Academic Regulations

Honor System

All academic work at Vanderbilt is done under the Honor System. (See the chapter on Life at Vanderbilt.)

Class Attendance

Students are expected to attend all scheduled meetings of classes in which they are enrolled; they have an obligation to contribute to the academic performance of all students by full participation in the work of each class. At the beginning of the semester, instructors explain the policy regarding absences in each of their classes, and thereafter they report to the Office of the Dean of the College of Arts and Science the name of any student whose achievement in a course is being adversely affected by excessive absences. In such cases the dean, in consultation with the instructor, takes appropriate action, which may include dropping the student from the class; students dropped after the deadline for withdrawal (see Period for Withdrawal) receive the grade *F*. Class attendance may be specified as a factor in determining the final grade in a course, and it cannot fail to influence the grade even when it is not considered explicitly.

The last day before and the first day after official holidays are considered to be the same as any other day on which classes are scheduled. Assignments are made for classes scheduled on these days, and tests may be given in them. Students should take this fact into account in making travel plans.

The faculty of the College of Arts and Science recognizes that occasions arise during the academic year that merit the excused absence of a student from a scheduled class or laboratory during which an examination, quiz, or other graded exercise is given. Examples include participation in sponsored university activities (e.g., debate team, varsity sports), observance of officially designated religious holidays, serious personal problems (e.g., serious illness, death of a member of the student's family), and matters relating to the student's academic training (e.g., graduate or professional school interviews). While determination of the merit of a case is left primarily to the discretion of the individual instructor, conflicts arising from personal travel plans or social obligations do not qualify as excused absences.

The primary determination of whether a student's absence from class occurs for a reason that warrants rescheduling a graded exercise for that student is left to the judgment of the individual instructor. A standard of reasonableness should apply in making such judgments.

Except in cases of true emergency, student petitions for making up missed graded exercises must be made prior to the missed class, preferably

at the beginning of the semester or at the earliest time thereafter when the need to be absent is known to the student. Faculty members retain discretion in the form and timing of makeup exercises or in devising other strategies for accommodating students.

The faculty of the College of Arts and Science authorizes the Office of the Dean to resolve through arbitration any cases that cannot be directly resolved between students and their instructors.

Course Registrations

Normal Course Load

Each semester, regular tuition is charged on the basis of a normal course load of 12 to 18 semester hours. No more than 18 or fewer than 12 hours may be taken in any one semester without authorization of the Administrative Committee or the dean. (There is an extra charge for more than 18 hours at the current hourly rate.) Students permitted to take fewer than 12 hours are placed on probation, unless their light load is necessary because of outside employment or illness. During the summer session, there is no minimum course load. Summer loads exceeding 14 hours must be authorized by the dean.

Auditing

Regularly enrolled Arts and Science students who want to audit courses in any of the undergraduate schools of the university must obtain the oral consent of the instructor to attend the class but do not register for the course. No record is kept of the audit. Regular students may audit classes each semester free of charge.

Taking Courses for No-Credit

Students may want to take elsewhere in the university courses that are not creditable toward the bachelor's degree. They may do so on a no-credit basis, attending classes, doing all the work of the course, and receiving a grade that is recorded on the transcript with a notation that it does not count toward the degree.

No-credit courses count in computation of the student's academic load and in computation of tuition, but not in computation of the grade point average. They also do not count toward the attainment of class standing.

Taking Courses for P/F Credit

Students may elect to take some courses in which they can receive the grade *P* (Pass). This grade is entered for a student enrolled under the P/F option who is awarded the grade *D*– or higher. The record of a student enrolled under this option who fails the course will show an *F*.

To be eligible for the P/F option, the student must have been admitted to sophomore, junior, or senior standing and must not be on academic probation. Second-semester freshmen with 24 hours including all AP credit are not considered sophomores until their third semester. No student may offer toward the degree more than 18 hours graded *P*. No more than one course per term may be taken on a P/F basis. The P/F option does not apply to courses in the following categories:

1. Courses counted toward AXLE or College Program requirements;
2. For students with a single or double or triple major, courses in the major field(s) or other courses that may be counted toward the major(s);
3. For students with an interdisciplinary major, courses listed in the student's plan of study;
4. For students planning an optional minor, courses in the minor or those counting toward an interdisciplinary minor;
5. Courses taken previously, whether for a regular grade *A* through *F* or under the P/F option;
6. Courses that have been specifically excluded from the P/F option. Such courses are designated in the *Schedule of Courses*.

Students taking a course on a P/F basis must be enrolled for at least 12 hours on a regularly graded basis. If a student drops a course and falls below 12 graded hours, the P/F course is converted automatically to a regularly graded basis. A small number of courses are offered in which only the grades P/F are possible. These courses cannot be converted to a regularly graded basis.

A graduating senior who has permission to take fewer than 12 hours on a graded basis may take one course on a P/F basis in addition to the courses required for graduation. If the student does not graduate at the end of that semester, the grade *P* is automatically converted to the grade actually earned.

The limit of 18 hours on grades of *P* applies to all credit of this type, including any received in another school of the university, in an affiliated institution, or by transfer. Candidates for teacher licensure should be aware that part of the Teacher Education program is offered only with the grade *P* or *F*. These candidates should, therefore, plan their programs so that the total hours of *P*, including student teaching, will not exceed 18.

The grade *P* is not counted in the grade point average nor used in the determination of honors. The grade of *F* earned under the P/F option is included in the calculation of grade point average just as it would be when earned on a regularly graded basis.

All P/F students are expected to meet normal course requirements (e.g., reports, papers, examinations, laboratory attendance) and are graded in the normal way. At the end of the semester, students enrolled on a P/F basis are awarded a regular grade. Any grade of *D*– or above is converted in the Student Records System to a *P*, while other grades remain as awarded. A student taking a course on a P/F basis must meet the course prerequisites as set forth in this catalog.

Students register on a P/F basis through OASIS within the change period of registration during the first week of classes (see Registration). After this, they may change from a P/F basis to a regularly graded basis—but not vice versa—until the end of the eighth week of classes. These deadlines are published in the calendar. When a student wants to complete a major or a minor in a field in which the grade *P* has been received, the Office of Records and Institutional Research converts this grade to the regular grade originally earned.

Undergraduate Enrollment in Graduate Courses

A qualified Vanderbilt University senior undergraduate may enroll in courses approved for graduate credit and receive credit that, upon the student's admission to the Vanderbilt Graduate School, may be applicable toward a graduate degree. Vanderbilt cannot guarantee that another graduate school will grant credit for such courses. The principles governing this option are as follows:

1. Work taken under this option is limited to those courses approved for graduate credit and listed as such in the Graduate School catalog, excluding thesis and dissertation research courses and similar individual research and readings courses.
2. The student must, at the time of registration, have a *B* average in all prior work to be counted toward the bachelor's degree, or a *B* average in all prior work to be counted toward the undergraduate major, or a *B* average in the preceding two semesters.
3. The total course load, including both graduate and undergraduate courses, must not exceed 15 hours in any semester.
4. A registration form for undergraduate Arts and Science students wishing to exercise this option is available in the College of Arts and Science office. The interested student must use this form to obtain the written approval of the following:
   a) their academic adviser,
   b) the instructor of the course,
   c) and the director of graduate studies of the department or program.

Reserving Credit for Graduate School

1. Arts and Science students who are interested in reserving the credit earned in a graduate course should consult with the the Graduate School before attempting to register for graduate courses under this option.
2. The work must be in excess of that required for the bachelor's degree.
3. All of the above criteria apply under this option.
4. The student must declare their intention to reserve this credit on the registration form.
5. Permission for Vanderbilt undergraduates to enroll in graduate courses does not constitute a commitment on the part of any department to accept the student as a graduate student in the future.
6. An undergraduate student exercising this option is treated as a graduate student with regard to class requirements and grading standards.

Independent Study and Directed Study Courses

Independent study and directed study courses are intended for students in their junior and senior years. Juniors or seniors wanting to take such courses must use the following procedure:

1. Obtain permission to enroll from the instructor of their choice. Consult the instructor prior to the course request period of registration for the semester in which the study is to be undertaken.
2. Register for the course through the appropriate department.
3. Make a written study plan detailing the nature of the project and the amount of credit and have it approved by the instructor and the department chair (or the chair's designee) by the tenth day after classes begin.

Students who have not met these requirements are reported on the tenth-day enrollment report as "registered but not attending" and are dropped from the course.

Students may not repeat independent study or directed study courses for grade replacement. Independent study courses in other schools approved by the College Curriculum Committee may be taken for credit if the project is approved by the Committee on Individual Programs.

Duplication of Course Content

It is the responsibility of the individual student to avoid duplication in whole or in part of the content of any course counting toward the degree. Such duplication may result in the withdrawal of credit.

Repeated Courses

Most courses offered in the College of Arts and Science may be repeated. If a course was failed the last time it was taken, credit is awarded when the course is repeated with a passing grade. If a course was previously passed, no new credit is earned. If a course previously passed is repeated and failed, credit originally earned for it is lost. In any case all grades earned are shown on the transcript. Under conditions explained below, the most recent grade in a course replaces the previous grade in determining credit, in computing the grade point average, and in verifying the completion of degree requirements and progress toward the degree.

The policy of grade replacement applies when all of the conditions below are met.

1. A previously passed course is repeated within one year or (for courses not offered within a year) the first time it is offered. Passed courses may be repeated only once. Failed courses may be repeated at any time and any number of times.
2. Exactly the same course (same department and course number) is completed. In addition, a very small number of differently numbered courses as approved by the faculty may be substituted under this policy. These are designated in the departmental course listings.

3. The course is repeated on a regularly graded basis. This limitation applies even if the course was originally taken on a P/F basis.
4. The course is not one in independent study or directed study.

In most instances, enrollment in a course similar to one already completed but with a different course number will result in the award of no credit for the second course and will have no effect on the grade point average. The Office of Records and Institutional Research should be consulted as to the status of similar but differently numbered courses.

Courses taken in the College of Arts and Science may not be repeated elsewhere for grade replacement; nor may courses taken elsewhere be repeated in the College of Arts and Science for grade replacement.

When registering for a course previously completed, a student should indicate that the course is being repeated. On OASIS the student should respond correctly when asked whether the course is being repeated. Failure to do so could result in an incorrect record, a subsequent adjustment of credit, and a delay in the student's graduation.

Students are cautioned that while repeating for grade replacement a course previously passed may improve their cumulative grade point average, it may also lead to a problem in meeting minimum hours requirements for class standing because no new credit is earned.

The Registration Process

Students register for courses using OASIS, an online course registration system. Basic information about OASIS can be found at *www.vanderbilt.edu/secureoasis*. Those with computers capable of accessing the campus network may access OASIS from residence hall rooms or from off campus. Computers with connection to OASIS are available in the Microcomputer Laboratories.

Students are asked to plan their immediate and long-range educational programs with their faculty advisers before registering and to consult their advisers when they make changes in their registration.

Students not meeting specified tuition payment deadlines are not permitted to register. See the chapter on Financial Information for details.

Before registering, students should check their own records carefully with respect to the following items:

1. AXLE or College Program requirements;
2. Major requirements;
3. Requirements of any optional minor(s) sought;
4. Course prerequisites;
5. Professional hour limit, if the student is a candidate for the B.A. degree (see Limitation on Professional Hours).

Course Request Period

Registration material is mailed to continuing students at their school address on a date in the preceding semester announced in the official Vanderbilt University Calendar, in a simplified calendar issued by the Office of

Records and Institutional Research, and in the student newspaper, the *Vanderbilt Hustler*. During a period of about three weeks, these students register for courses, sections, and meeting times through OASIS, the computer-assisted registration system that controls all undergraduate courses. By a specified date, students must have registered for a full load of courses (minimum of 12 hours). Continuing students are able to make changes in their schedules without charge after this deadline.

New students are also given the opportunity to register during the course request period. In the summer, freshmen attending summer orientation in June see advisers and then register for fall courses using OASIS. Freshmen not attending summer orientation or entering for the spring semester are sent registration material by mail and may send their course choices by mail to the Office of Records and Institutional Research or give their choices to a faculty adviser by telephone. Re-admitted students can access OASIS on the university network through a modem or send their course requests to the Office of Records and Institutional Research.

Because registration during the course request period is of great value to students in obtaining desired courses and sections and to department chairs in planning class sizes and adjusting number of sections to student demand, students are urged to register at that time. Those who do not may lose valuable time and will find their choice of courses limited.

At the end of the course request period no further registration activity is permitted for a period in which deans and department chairs analyze enrollment data and make adjustments in course and section offerings as needed. Every effort is made to enroll students in the courses and sections requested, but the Office of Records and Institutional Research reserves the right to move students from over-enrolled sections or to "bump" them from over-enrolled courses.

Registration Period

This period begins with e-mail notification to students concerning the status of their registration. During registration period students may access OASIS any number of times to make changes in their registration or to register late. Courses and sections are available on a first come, first served basis depending upon seat availability. Students "bumped" from an over-enrolled course have first access to the system during this period, then non-registered students, then all other students.

Before classes begin, all registered undergraduate students must confirm enrollment for the semester by clearing their student account of all charges associated with the beginning of the semester. Tuition, fees, and all other charges for undergraduates are due by specific dates before the beginning of the semester. These dates are specified in the University Calendar and the *Undergraduate Catalog* (under "Financial Information" in the front matter) and on the billing statement for the coming semester. The registration of students who miss the payment deadline will be cancelled unless they have made payment arrangements with the Office of Student Accounts.

Registration period ends at 4:00 p.m. on the day before the first day of classes.

Change Period

Beginning on the second day of classes and extending through the sixth day of classes students may use OASIS to fine-tune their registrations and may declare P/F status in a course. The sixth day of classes is the deadline for students to add a course, change a course, change sections in a course, drop a course without its appearing on their transcripts, or declare P/F status in a course.

Waiting lists are available for most closed courses through the fifth day of classes. At 4:00 p.m. on that day waiting lists are cancelled. Students unable to secure a seat in a closed course make changes on the sixth day of classes on a first come, first served basis depending upon the availability of seats.

Any change not handled by OASIS (e.g., courses in the Owen School or Nursing) must be made by the student using a Change of Course card. The student must file this card with the Office of Records and Institutional Research by the end of the change period for the change to be official.

Period for Withdrawal or Change from P/F Status

After the change period, and extending to the end of the eighth week of classes, a course may be dropped with the consent of the student's adviser. During the same period students may change their status from P/F to regularly graded—but not vice versa—in a course.

These changes must be made with a Change of Course card, which the student must submit to the Office of Records and Institutional Research. After the end of the eighth week, withdrawal is possible only in the most extraordinary circumstances, such as illness or unusual personal or family problems. In every case the student, the instructor, and the dean must agree that late withdrawal is justified by the circumstances. Cases in which agreement is not possible are decided by the Administrative Committee. After the end of the eighth week, change from P/F to regularly graded status is not possible.

Students who withdraw from a course after the change period receive the grade *W* (withdrawal). This grade is not used in the computation of the grade point average or class rank. Students who default in a course without officially dropping it receive the grade *F*.

Minimum Graded Hours

A course may not be dropped without authorization of the Administrative Committee or the dean if the student is left with a course load of fewer than 12 hours on a regularly graded basis.

Mid-Semester Progress Reports

At the end of the seventh week of each semester, instructors assess the progress of all students in their classes and report those whose work at that point is deficient or whose work is being harmed by excessive absences. Grades to be reported are *C–*, *D+*, *D*, *D–*, *F*, and *I* (for incomplete, meaning that some work due by that point has not been submitted). Instructors may

combine with one of these grades or assign separately a notation of excessive absences from a class. Reports of these deficiencies are sent to students, their faculty advisers, and (for students who are dependents of their parents or have authorized such reports) their parents. Grades given at midsemester do not become part of the permanent record but are intended to warn students about performance judged unsatisfactory.

Examinations

Each department establishes procedures for evaluating student performance, and normally the method of evaluation is the responsibility of the course instructor. At the beginning of the semester instructors should clearly state the evaluation procedures, including types of examinations, to be used in their courses. Students should have adequate opportunity during the semester to demonstrate their knowledge of the subject matter and should be given an indication of their progress in the course prior to the deadline for dropping courses. Instructors are cautioned against placing excessive weight on the final examination when determining a student's grade in a course.

Dead Week

No examinations of any type—including quizzes, hour examinations, and portions of final examinations—are allowed during the last week of classes. But the Administrative Committee may grant special permission to the instructor in charge of a course to give laboratory examinations during the last regular laboratory period of the last week of classes. The last week of classes is defined as the last seven calendar days preceding the end of classes. If, for example, classes end on Tuesday, then the "dead week" begins the preceding Wednesday and lasts through Tuesday. Students should notify the Office of the Dean of any violation.

Final Examinations

The primary and alternate final examination schedules issued each semester allow two hours for a final examination in each course. Each in-class final examination must be given at the time indicated on the primary schedule. The alternate schedule is used only if the instructor decides to give an in-class examination at two times. The final examination period lasts for about a week and a half.

Alternatives to the standard in-class final examination are permitted at the instructor's discretion. Some examples are take-home examinations, oral examinations, and term papers; there need not be a final examination if adequate evaluation procedures have been used during the term. A take-home or oral examination should make approximately the same demand on a student's time as an in-class examination and should be conducted during the final examination period. A take-home examination must be distributed at the last regular class meeting and must be completed by either the primary or the alternate examination date, whichever is later.

All examinations are conducted under the Honor System.

The instructor's record of grades given during a course and any final examination papers not returned to students must be kept on file by the instructor for the first month of the semester following the conclusion of the course. For spring semester and summer session courses, this rule means the first month of the fall semester.

Monitoring these regulations is the responsibility of the departments, under the supervision of the dean. Variations from the regulations—such as changing the time of an in-class final examination for an entire class—are allowed only on approval of the Administrative Committee.

Comprehensive Examination

Any department or interdisciplinary program may require a comprehensive examination of its major students as a condition of graduation.

Senior Reexamination

Candidates for graduation who fail not more than one course in the final semester of the senior year are allowed one reexamination, provided the course failed prevents the student's graduation and provided the student could secure a passing grade in the course by passing the reexamination. The reexamination for removal of the grade *F* is given immediately after the close of the last semester of the student's senior year, but not until all grades for the senior year have been received by the Office of Records and Institutional Research.

Students taking a senior reexamination receive either *D–* or *F* in the course.

Credit by Examination

In certain circumstances, students may be awarded course credit by departmental examination. (This procedure is distinct from the award of credit through the College Board Advanced Placement Tests taken prior to the student's first enrollment.)

Students wanting to earn credit by departmental examination should consult the Office of Records and Institutional Research concerning procedures. To be eligible, students must be carrying a minimum of 12 hours and be in good standing.

Students must obtain the approval of the chair of the department that is to give the examination and the instructor designated by the chair. Students may earn up to 30 hours of credit by any combination of credit through advanced placement examinations and credit by departmental examination. Students may earn up to 8 hours of credit by examination in any one department. Students may attempt to obtain credit by examination no more than twice in one semester, no more than once in one course in one semester, and no more than twice in one course. Students may not repeat a course for grade replacement under the credit by examination procedures.

Credit hours and grade are awarded on the basis of the grade earned on the examination, subject to the policy of the department awarding credit.

Students have the option of refusing to accept the credit hours and grade after learning the results of the examination.

Students enrolled for at least 12 hours are not charged extra tuition for hours earned through credit by examination, so long as the amount of credit falls within the allowable limits of an 18-hour tuition load, including no-credit courses and courses dropped after the change period. Students in this category must pay a $50 fee for the cost of constructing, administering, and grading the examination. Since this cost has already been incurred, students who refuse the credit hours and grade are charged the $50 fee nevertheless.

Full-time students with a tuition load exceeding 18 hours and students taking fewer than 12 hours pay tuition at the regular rate with no additional fee.

Grades and Credit

Grade Reports

Grade reports are sent to students at established addresses as soon as possible after the conclusion of each semester. (Copies of these reports are sent to the parents of students who are dependents of their parents or have authorized such reports.) A report is also sent to each student at the beginning of the senior year, showing total hours, quality points earned, grade point average, and degree requirements still to be met. Students should examine these reports carefully and discuss them with their faculty advisers. Any errors should be reported immediately to the Office of Records and Institutional Research (see also Change of Grade).

Grading System

A: excellent
B: good
C: satisfactory
D: minimum pass work
F: failure

Under certain circumstances the following grades may be awarded:

W: withdrawal
P: (see P/F Course Provision)
M: absent from final examination
I: incomplete in some requirement other than final examination
E: condition, with permission to retake final examination

Plus and minus modifiers may be associated with letter grades *A* through *D* as shown in the table below. Grade point averages are calculated using indicated grade point values.

Defined Grades with Corresponding Grade Points Per Credit Hour

A	= 4.0	C	= 2.0
A–	= 3.7	C–	= 1.7
B+	= 3.3	D+	= 1.3
B	= 3.0	D	= 1.0
B–	= 2.7	D–	= 0.7
C+	= 2.3	F	= 0.0

Grade Point Average

A student's grade point average is obtained by dividing the quality points earned by the hours for which the student has registered, excluding courses taken for no credit, those from which the student has officially withdrawn (see Withdrawal Period under Registration above), and those completed with the grade *P*.

In no case is the grade point average affected by transfer credit. No course at another institution in which a grade below *C*– was received is credited toward the degrees awarded by the College of Arts and Science.

Temporary Grades

M: *Missing a Final Examination*

The grade *M* is given to a student who misses a final examination and is not known to have defaulted in the course, unless the student could not have passed the course even with the final examination, in which case the grade *F* is given. The course grade of a student known to have defaulted on a final examination is computed on the basis of a score of zero for the final examination. It is the responsibility of the student who misses a final examination to present an excuse to the dean immediately. If the excuse is considered adequate, the grade *M* is authorized. In the event that an excuse is not presented to the dean before the first day of the makeup examination period in the next semester, the grade in the course becomes an *F*. This action is taken regardless of whether the student is in residence the following semester.

A student who secures authorization for an absence at the proper time is obliged to take a makeup examination during the first full week of the next semester, provided the student is in residence. It is the student's responsibility to contact the Office of the Dean (311 Kirkland Hall) before the second day of classes to schedule the makeup. If the student is not in residence, the grade *M* must be removed by a makeup examination given within a maximum period of one year from the date of the missed examination and during one of the regular makeup examination periods. Otherwise, the grade *M* becomes an *F* by default. Any student who has sufficient reason for retaining the *M* grade for longer than the period allotted or for taking the makeup examination at a special time may petition the Administrative Committee for permission. The grade *M* is counted as an *F* in calculating the grade point average until it is replaced with a permanent grade.

I: *Incomplete*

Essays, book reviews, laboratory reports, etc. must be submitted no later than the last regular class meeting of the semester or at an earlier date if so specified by an instructor in a particular course. Students are required to make up quizzes or examinations missed during the semester with an authorized excuse by no later than the last class day of the semester (not the date of the final examination). The grade of any student not complying with this schedule is computed on the basis of the grade zero for the missing work, unless an extension is granted by the dean upon petition by the student, with the endorsement of the instructor. These petitions must be presented on a day prior to the date on which the work is due.

Students for whom extensions have been authorized receive the temporary grade *I* (incomplete), which is removed at the end of the extension period. If the missing work is not completed at this time, it is computed as zero and a final grade is assigned. The grade for a student who misses a final examination and whose work is also incomplete in other respects is reported as *MI*. This grade may not be turned in without prior authorization by the dean. The grade *I* is counted as an *F* in calculating the grade point average until it is replaced with a permanent grade.

E: *Condition*

An instructor may give the grade *E* (condition) in a course when in the instructor's judgment (a) the work represents a borderline case and additional evidence is necessary to determine whether the student should be given the grade *D*– or *F* or (b) the results of the final examination are such that they reduce the student's average in a course from passing to slightly below passing. But if the examination grade reduces the student's average to considerably below passing, the student will receive the grade *F*. The grade *E* must be removed during the regular makeup examination period of the student's next semester in residence or it becomes an *F* by default. A student who takes a reexamination to remove an *E* will receive the final grade *D*– or *F* in the course, depending on whether the grade on the second examination is passing or failing. Only one reexamination is allowed to replace the grade *E*.

Makeup Examinations

For students who receive the authorized grade *M* or *E*, the Office of the Dean will arrange makeup examinations during the next semester, but it is the responsibility of the student to schedule the makeup at the Office of the Dean (311 Kirkland Hall) before the second day of classes. The makeup examination period is the first full week of each semester. The Administrative Committee may on occasion authorize a makeup examination at some time other than the makeup period for a particular student.

F: *Failure*

The grade *F* indicates failure. All *F*'s are counted in the computation of grade point averages, except when a course is repeated and is subsequently

passed. In this case the latest grade is used for computation of the grade point average (but the grade originally earned is not removed from the transcript). A course in which the grade *F* is received must be repeated as a regular course if credit is to be given. It may not be repeated as a course in independent or directed study, under the procedures for credit by examination, or on a P/F basis.

Change of Grade

A grade reported and recorded in the Office of Records and Institutional Research may be changed only upon written request of the instructor with the approval of the Administrative Committee. The committee will approve such a change only on certification that the original report was in error.

Transfer Credit

It is the student's responsibility to provide all of the information needed by the College of Arts and Science to assess the program for which transfer of credit is requested. Work presented for transfer must be from an accredited college and is subject to evaluation in light of the degree requirements of the College of Arts and Science. Students seeking transfer credit for work at nonaccredited institutions will be considered individually. Correspondence courses will not be considered for transfer credit.

Work transferred to Vanderbilt from another institution will not carry with it a grade point average. No course in which a grade below *C*– was received will be credited toward a degree offered by the College of Arts and Science. The question of credit in the College of Arts and Science for previous work done at another institution must be settled in advance of the student's first registration. Credit for previous work will not be added to the student's record after matriculation. Credit will not be awarded for online courses or internships.

Transfer students must spend at least four full semesters, including the last two semesters, enrolled in the College of Arts and Science and earn at least 60 credit hours while so enrolled.

Residence Requirement

A minimum of four normal semesters (at least 60 semester hours), including the last two semesters (at least 30 semester hours), must be spent in residence in the College of Arts and Science unless an exception is made by the Administrative Committee. Students transferring from other schools of the university must spend the last year (at least 30 semester hours) in residence in the College of Arts and Science.

Summer Work at Another Institution

Students enrolled in the College of Arts and Science may receive transfer credit for a maximum of two courses taken during summers at another four-year, fully accredited institution. To qualify for such credit, the student

must be in good standing and must obtain authorization from the dean and the appropriate department in advance of taking the course. Such courses cannot fulfill AXLE or College Program requirements, count as part of the last 30 hours in residence, duplicate a course taken previously, or be taken on a Pass/Fail or similar basis. Credit will not be awarded for online courses or internships.

Semester Work at Another Institution

Students wanting to receive transfer credit for a semester of work at another institution must receive approval in advance from the Committee on Individual Programs. To qualify for such credit, the student must be in good standing and must present to the committee a plan that makes clear the educational rationale for such work, the ways in which it supplements the Vanderbilt curriculum, and the equivalence of standards to those at Vanderbilt. Approval of the overall plan by this committee must be followed by approval of specific courses by the student's adviser, the appropriate department in the College of Arts and Science, and the Office of Records and Institutional Research. Such courses cannot fulfill AXLE or College Program requirements, count as part of the last 30 hours in residence, duplicate a course taken previously, or be taken on a Pass/Fail or similar basis. Credit will not be awarded for online courses or internships.

Senior-in-Absentia

A student wanting to earn a baccalaureate degree in the College of Arts and Science in absentia must have (a) completed the AXLE or College Program requirements and all major requirements; (b) earned at least 105 credit hours and a grade point average of 2.000 with at least 60 credit hours earned in a minimum of four semesters of residence in the College of Arts and Science; (c) been accepted at a professional or graduate school where, during the first year, the remaining hours needed for graduation can be earned; and (d) obtained the approval of the major department and the dean of the College of Arts and Science. Students who have completed fewer than 105 credit hours may petition the Administrative Committee for special consideration.

The limitation on hours outside the College of Arts and Science applies to all Bachelor of Arts candidates.

Students in the senior-in-absentia program pay a minimum semester tuition charge to the College of Arts and Science (see Financial Information).

Student Leave of Absence

A student desiring a leave of absence should obtain application forms and instructions from the Office of the Dean of the College of Arts and Science. All students are eligible, provided they have not been dropped by the university and are not dropped at the end of the semester during which application is made. But students may take a leave no more than twice during their career in the College of Arts and Science.

Leaves are granted for one semester or for a year. Applications should be completed before the end of the fall semester for a leave of absence during the spring semester, and before August 15 for a leave of absence during the fall semester (or for the academic year). If the leave is approved, the student must keep the dean informed of any change of address while on leave.

Should a student seek to transfer to Vanderbilt credit earned elsewhere while on leave of absence, it is mandatory that permission be obtained in advance from the Committee on Individual Programs. Applications for leaves of this type must be filed with the committee at least one month before the close of the preceding semester.

Registration materials are mailed to students on leave of absence. A student failing to register at the conclusion of the stated leave will be withdrawn from the university and must apply for readmission.

Withdrawal from the University

Students proposing to withdraw from the university during a regular term must report to the Office of the Dean of the College of Arts and Science to initiate proper clearance procedures. If withdrawal from the university is officially authorized, the student will receive withdrawal grades on the same basis as a student withdrawing from a particular course or courses. (See the section on Period for Withdrawal under Registration above.)

Change of Address

Students are responsible for keeping the university informed of their correct mailing addresses, both school and home. They should notify the university, through the Office of the University Registrar, in writing, of any address changes as soon as possible. They are provided an opportunity to review address information at registration. The university will consider notices and other information delivered if mailed to the address on file in the registrar's office.

Academic Discipline

The College of Arts and Science requires each student to maintain an academic record that will permit graduation according to a specified schedule. Students are considered to fall short of the expected rate of progress when

1. They pass fewer than 12 hours in a semester or have a semester grade point average lower than 1.500; or
2. In a summer they take 12 or more hours but pass fewer than 12 hours or earn a grade point average lower than 1.500; or
3. They fail to achieve sophomore, junior, or senior standing within the time allowed; or
4. They accumulate more than two probations after the freshman year, in which case they will normally be dropped from the university; or

5. As first-semester freshmen they pass fewer than two courses or earn a semester grade point average lower than 1.000, in which case they may be required to take a probationary leave of absence; or
6. As first-semester freshmen they earn fewer than 9 hours or a semester grade point average lower than 1.500, in which case they may be offered a choice (see Semester Requirements below).

Any student who falls somewhat short of the prescribed levels of academic achievement is normally placed on probation. Any student who fails by a wide margin to reach these levels or who has been placed on probation more than once is reviewed by the Administrative Committee. The committee considers each case within the framework of the guidelines outlined below and may take any of several actions, among which are the following:

1. The student may be placed on probation;
2. The student may be advised to take a leave of absence or to withdraw from the university;
3. The student may be required to take a leave of absence;
4. The student may be dropped from the university.

Semester Requirements

Full-time students are expected to earn each semester at least 12 hours and a minimum grade point average of 1.500. Students who fall short of these levels are normally placed on probation. Students are removed from probation after earning at least 12 hours and a semester grade point average of 1.500 or better, assuming they have fulfilled the requirements for class standing stated below.

Freshmen who pass fewer than two regular courses in their first regular semester or who earn a semester grade point average lower than 1.000 have so seriously compromised their academic standing that they may be required to take a probationary leave of absence until the beginning of the following fall semester.

Freshmen who earn fewer than 9 hours or a grade point average lower than 1.500 in the fall may, at the discretion of the Administrative Committee, choose a probationary leave for the spring and return the next fall with two semesters in which to qualify for sophomore standing.

A student on probationary leave may not earn credit at another institution for transfer to Vanderbilt. In appropriate cases the Administrative Committee may prescribe conditions that must be satisfied before the student returns from a probationary leave. Students who do not choose to return at the end of a probationary leave but want to return later are required to apply for readmission.

After their first year, full-time students may not be placed on probation more than twice (continuance on probation for a second semester counts as another probation). If a student's performance is deficient a third time, the student is dropped from the university.

Students who have been authorized to carry fewer than 12 hours because of illness or outside employment may be placed on academic probation if their work is deemed unsatisfactory by the Administrative Committee;

they are removed from probation when the committee deems their work satisfactory. If they are not removed from probation after a reasonable period of time, such students are dropped.

The record of a student dropped from the university under these regulations shows the notation "Dropped for scholastic deficiency."

Class Standing

The Administrative Committee determines how many semesters will be allowed for each part-time student to attain sophomore, junior, or senior standing.

The record of a student dropped from the university under these regulations shows the notation "Failed to qualify for class standing."

Sophomore Standing

A student qualifies for sophomore standing upon completion of 24 hours of work with a grade point average of at least 1.800 and completion of the first-year writing requirement: successful completion of English 100 if required and successful completion of a First-Year Writing Seminar (numbered 115F in various disciplines). Freshmen who fail to qualify for sophomore standing in two semesters are placed on probation and must have the permission of the Administrative Committee to register for a third semester. The third semester must be the summer semester at Vanderbilt. Normally, students who do not qualify for sophomore standing during this third semester are dropped from the university.

Junior Standing

A student qualifies for junior standing upon completion of 54 hours of work with a grade point average of 1.900 and completion of the whole of the writing requirement for CPLE students or completion of a 100-level writing course for AXLE students. Sophomores who fail to qualify for junior standing within two semesters after qualifying for sophomore standing are placed on probation and must have the permission of the Administrative Committee to register for another semester. This additional semester must be the summer semester at Vanderbilt. Normally, students who do not qualify for junior standing in this additional semester are dropped from the university.

Senior Standing

A student qualifies for senior standing upon completion of 84 hours of work with a grade point average of 2.000. Juniors who fail to qualify for senior standing within two semesters after qualifying for junior standing are placed on probation and must have the permission of the Administrative Committee to register for another semester. This additional semester must be the summer semester at Vanderbilt. Normally, students who do not qualify for senior standing in this additional semester are dropped from the university.

Seniors who fail to maintain a minimum grade point average of 2.000 are placed on probation and must have the permission of the Administrative Committee to register for another semester.

Appeals

Any student subject to action by the Administrative Committee may appeal that action to the committee in writing. Further appeals from decisions of the committee follow standard university policies as described in the *Student Handbook*.

Returning to the College

Students on leave of absence return to the university at the end of the leave. If they do not return at that time and want to return later, they must apply for readmission. Students who are advised to withdraw from the university determine whether or not to return in consultation with the Office of the Dean. Students who have been dropped may apply to the Office of Undergraduate Admissions for readmission; in most cases readmission is not granted unless there has been an intervening period of at least a year. The Office of Undergraduate Admissions forwards all documents to the Administrative Committee, which considers each case on an individual basis. Readmission is competitive, and there is no assurance that it will be granted. Students readmitted after having been advised to withdraw or after having been dropped are automatically on final probation. If they fail to regain good standing and to maintain it until graduation, they are dropped again with little prospect for readmission. Application deadlines for readmission are as follows: July 15 for the fall semester, November 15 for the spring semester, and April 1 for the summer session.

Deficiency in Foreign Language

Students who, because of special ability and achievement, are admitted to the College of Arts and Science without the normally required two years of one foreign language in high school must enroll in a foreign language course during their first semester and must remain continuously enrolled until they successfully complete a full year of one foreign language. They must complete this requirement by the end of their fourth semester in the College of Arts and Science.

Courses of Study

Explanation of Course Numbers and Symbols

100-level courses are primarily for freshmen and sophomores.

200-level courses are normally taken by juniors and seniors but are open also to qualified sophomores and freshmen.

Hours are semester hours—e.g., a three-hour course carries credit of three semester hours.

Bracketed figures indicate semester hours credit—e.g., [3] for one semester and [3–3] for a two-semester course.

Length of a course (one semester or two) is indicated by whether it has a single or a double number:

210–211. Numbers are different. Either semester may be taken without the other.

220a–220b. Numbers are the same, indicating a year course. If credit hours are stated in hyphenated figures [3–3], students may take the first semester alone; but to take the second semester alone students must have the consent of the course instructor. A course is never credited as less than a full year unit if credit hours are stated in a single figure [6].

The semester in which a course is offered is indicated by the word FALL or SPRING in the course description. All two-semester courses begin in FALL and end in SPRING unless the course description specifies otherwise.

★ **Stars** mark certain introductory Arts and Science courses that are prerequisite for other courses in the department.

F symbols used in course numbers designate first-year seminar courses.

W symbols used in course numbers designate courses that will meet the College Program or AXLE writing requirement.

The university reserves the right to change the arrangement or content of courses, to change the texts and other materials used, or to cancel any course on the basis of insufficient enrollment or for any other reason.

Some courses are tentative. Current information is available during registration. A definitive *Schedule of Courses* is published for the spring semester.

It is the responsibility of each student to avoid duplication, in whole or in part, of the content of any courses offered toward the degree. Such duplication may result in withdrawal of credit.

African American and Diaspora Studies

DIRECTOR Tracy D. Sharpley-Whiting
DIRECTOR OF UNDERGRADUATE STUDIES AND SENIOR LECTURER Gilman W. Whiting
ASSISTANT PROFESSORS Anastasia Curwood, Kathryn T. Gines

❧ THE course of study in the African American and Diaspora Studies Program is divided into three areas: Area of Study I, Literature, Theory, and Visual Culture; Area of Study II, Gender and Sexuality; and Area of Study III, Social Sciences. The concentration in African American and Diaspora studies requires 36 hours of course work. Courses taken at Fisk University may be counted as electives in the program of study.

Program of Concentration in African American and Diaspora Studies

Requirements for completion of the major include:

1. AADS 101, Introduction to African American and Diaspora Studies; AADS 101 counts towards AXLE's Perspectives distribution.
2. 6 hours from Area of Study I, Literature, Theory, and Visual Culture.
3. 6 hours from Area of Study II, Gender and Sexuality.
4. 9 hours from Area of Study III, Social Sciences.
5. AADS 294a or 294b, Special Topics (not open to first- or second-year students).
6. 6 hours of electives selected from the approved list of course offerings at Vanderbilt and Fisk universities. Consult with the program's undergraduate director for an updated list of approved courses.
7. 6 hours of the concentration must focus on the Americas (outside of the United States) and Africa, and no more than nine hours of course work can be taken at the 100 level (excluding AADS 101).
8. AADS 299, Senior Thesis.
9. Students wishing to pursue honors in African American and Diaspora studies must register for AADS 298, Senior Honors Thesis. Students pursuing the Senior Honors Thesis may apply to the program for nominal funding to assist with research projects.
10. Majors are also required to take AADS 270, Research Methods, which counts as a course from Area of Study III, Social Sciences, before their fourth year of study but not before the second semester of the sophomore year.
11. The First-Year Writing Seminars offered by the program may count toward an elective.

Honors in African American and Diaspora Studies

1. Cumulative 3.0 GPA.
2. 3.3 GPA in African American and Diaspora Studies.
3. 36 hours as outlined for major.
4. AADS 298, Senior Honors Thesis.
5. Public presentation of thesis research/findings.

6. Approval of thesis by committee of two faculty members (one must be affiliated with the African American and Diaspora Studies Program).

Minor in African American and Diaspora Studies

Requirements for completion of the minor include:

1. AADS 101, Introduction to African American and Diaspora Studies; AADS 101 counts towards AXLE's Perspectives distribution.
2. One course from Area of Study I, Literature, Theory, and Visual Culture.
3. One course from Area of Study II, Gender and Sexuality.
4. One course from Area of Study III, Social Sciences.
5. AADS 294a or 294b, Special Topics (not open to first- or second-year students).
6. 3 hours of an elective selected from the approved list of course offerings at Vanderbilt and Fisk universities. Consult with the program's undergraduate director for an updated list of approved courses.
7. 6 hours of the minor must focus on the Americas (outside of the United States) and Africa, and no more than 6 credit hours of the minor can be taken at the 100 level (excluding AADS 101).
8. Minors are also required to take AADS 270, Research Methods, which counts as a course from Area of Study III, Social Sciences, before their fourth year of study but not before the second semester of the sophomore year.

Approved Electives in African American and Diaspora Studies

Please consult the director of undergraduate studies for periodic updates about electives. Approved electives highlighted with an asterisk fulfill the Africa and Americas outside of the United States portion of the major and minor. Approved courses offered at Fisk may count towards elective requirements.

ANTHROPOLOGY: 210, Peoples and Cultures of Latin America*; 237, Ethnicity, Race, and Culture; 266, Gender and Cultural Politics*.

CLASSICAL STUDIES: 217, Art and Architecture of Ancient Egypt*; 238, The Amarna Age*.

COMPARATIVE LITERATURE: 240, Literatures of Africa*; 241, The Racial Imagination*; 278, Colonial and Post-Colonial Literature*.

ECONOMICS: 226, Economic History of the United States; 267, Economics of Poverty and Discrimination.

ENGLISH: 246, Feminist Theory; 263, African American Literature; 271, Caribbean Literature*; 275, Latino American Literature; 276, Anglophone African Literature*.

FRENCH AND ITALIAN: 222, Introduction to Francophone Literature*; 239, The African Novel*.

HISTORY: 172, Slavery in the Americas 1492–1822*; 201, Twentieth-Century African American Religious History; 253, Subsaharan Africa 1400–1800*; 254, Africa since 1800*; 258, Rise of the Iberian Atlantic Empires, 1492–1700; 260, Caribbean History 1492–1983*; 264, Brazilian

Civilization*; 268, The English Atlantic World, 1500–1688*; 269, Cultural History of the First British Empire, 1707–1783*; 272, The U.S. in the Era of the Civil War; 276–277, The Old South and The New South; 279–280, African American History to and since Reconstruction; 286–287, Gender, Sexuality, and Race in Early American Culture, 1600–1865 and 1865 to the Present.

HISTORY OF ART: 239, African American Art; 294, Women in Art.

LATIN AMERICAN AND IBERIAN STUDIES: 260, Latin America, Latinos, and the United States*.

MUSIC: 148, Survey of Jazz; 149, American Popular Music; 151, The Blues; 171, African Music*; 260, World Music*; 261, Music, Identity, and Diversity.

POLITICAL SCIENCE: 219, African Politics*; 234, Women, Politics, and the Development of the Third World*.

PSYCHOLOGY: 217, Psychology of Women.

RELIGIOUS STUDIES: 107, Introduction of African American Religious Traditions; 114, Introduction to African American Philosophies of Religion; 117, Islam in the African American Experience; 145, Interfaith Dialogue and African American Culture; 205, The Black in America; 219, Martin Luther King Jr. and the Social Roles of Religion.

SOCIOLOGY: 226, Gender, Race, and Class; 239, Women, Gender, and Globalization; 242, Urban Community; 248, Popular Culture Dynamics; 250, Gender in Society; 251, Women and Public Policy in America; 255, Racial and Ethnic Minorities in the United States; 256, Race, Gender, and Sport; 257, Gender, Sexuality, and the Body; 258, The South in American Culture; 262, Interpersonal and Intergroup Relations; 268, Race, Gender, Health; 275, African Society*; 276, Contemporary Africa*; 277, Contemporary Latin America*.

SPANISH AND PORTUGUESE: 243, Latino Immigration Experience*; 244, Afro-Hispanic Literature*.

WOMEN'S AND GENDER STUDIES: 240, Women's Health.

The following courses are offered by African American and Diaspora Studies:

101. Introduction to African American and Diaspora Studies. Foundations of African American culture from ancient African history and through contemporary issues in the African American experience and the larger diaspora. The characteristics, developments, and dynamics of diaspora culture in the Americas, with a particular focus on the United States. FALL, SPRING. [3] Staff.

110. Race Matters. Race and racism in the United States and their impact on democratic practices. General intellectual and cultural manifestations of the significance of race and how it influences democratic reform: racial preferences, the prison industrial complex, national security, HIV/AIDS, and elections. [3] Sharpley-Whiting. (Not currently offered)

115F. First-Year Writing Seminar. [3]

120. Diaspora Feminisms. There are as many versions of feminism as there are women throughout the African Diaspora. In this course, we will examine the intellectual history of feminism in multiple diasporic places and communities. We will find tremendous variety, but we will also attempt to discover elements that unify black feminists across time and space. SPRING. [3] Curwood.

150. Reel to Real: Film Aesthetics and Representation. Oppositional cinematic practices of black filmmakers. Hollywood representations of blacks. The theoretical language of film criticism, styles, genres, periods. [3] Sharpley-Whiting. (Not currently offered)

155. African American Migration, 1800–Present. History of African American migration patterns when involuntarily under duress, or with a sense of possibility and optimism. Including Middle Passage, the Great Migration north, and other countries. [3] Curwood. (Not currently offered)

200. Hip Hop and Black Sexual Politics. Constructed images of black masculinity, femininity, and sexuality in relationship to contemporary imagery in hip hop culture. Social political hierarchies in society at large. [3] Gines. (Not currently offered)

201. African American Family History. Scholarly, political, and cultural interpretations. From slavery to family life in the post–Civil War South to urban, northern, and western migration, and finally to the postindustrial city at the end of the twentieth century. SPRING. [3] Curwood.

202. Mystery, Murder, and Mayhem in Black Detective Fiction. Detective fiction in America, beginning with Edgar Allan Poe, the founder of the genre in the American literary tradition, and continuing on with such black writers as Chester Himes, Walter Mosley, Paula Wood, and Pamela Thomas-Graham. FALL. [3] Sharpley-Whiting.

A&S

210. Black Masculinity: Social Imagery and Public Policy. Historical and contemporary debates, perceptions, and attitudes. Public policy debates surrounding disparate incarceration rates and sentencing, policing, racial profiling. Social imagery, "down low" homosexuality, criminality, hypersexuality, and athleticism. [3–3] Whiting. (Not currently offered)

215. Black Issues in Education. Race, ethnicity, gender, class and their relationships to both the broader roles of schooling and education in American society. Historical foundation of education for African Americans, educational and socioeconomic inequality, family structures, and social policy initiatives. SPRING. [3] Whiting.

221. History and Myth: Black Women in the United States. Complexities of being black and female in the history of the United States. Interrogation of racism, class, sexuality, and sexism. Black women's multifaceted, diverse community roles. [3] Curwood. (Not currently offered)

230. Race, Mixed Race, and "Passing." Social, legal constructions and live experiences of race. Phenomenon of "passing" and category of "mixed race" in fiction, film, and landmark court cases. [3] Sharpley-Whiting. (Offered 2007/2008)

260. Black Diaspora Women Writers. Comparative fiction by women from Francophone and Anglophone Africa, the Caribbean, and the United States. Novels of awakening (bildungsroman), themes of exile, home and alienation, identity as well as sexuality, class and color, slavery and colonialism. [3] Sharpley-Whiting. (Offered 2007/2008)

270. Research Methods. Collection, management, analysis and interpretation of data for research. Introduction to qualitative computer software programs. FALL, SPRING. [3] Whiting.

280a–280b. Internship. Under faculty supervision, students from any discipline can gain experience in a broad range of public and private institutions on issues relative to the black experience. A minimum of 3 hours of background reading and research will be completed in AADS 280a concurrently with and regardless of the numbers of hours taken in internship training in 280b. Normally a 2.90 grade point average, 6 hours of prior work in AADS, and prior approval by the director of African American and Diaspora Studies of the student's plan are required. A research paper and report must be submitted at the end of the semester during which the internship training is completed.

280a. Internship Readings and Research. Readings conducted under the supervision of a member of the African American and Diaspora Studies pr ogram and a substantial research paper are required. FALL, SPRING, SUMMER. [Variable credit: 1–6]
280b. Internship Training. Graded on a Pass/Fail basis only and must be taken concurrently with 280a. These hours may not be included in the minimum number of hours required for the African American and Diaspora studies major FALL, SPRING, SUMMER. [Variable credit: 1–9]

289. Independent Study. FALL, SPRING. [Variable credit: 1–3 each semester]

294a–294b. Special Topics in African American and Diaspora Studies. FALL, SPRING. [3]

298. Senior Honors Thesis. Supervised r eadings and independent r esearch for honors thesis under supervision of the adviser and another faculty member Open only to seniors in the Honors Program. [3] Staff.

299. Senior Thesis in African American and Diaspora Studies. Supervised readings and independent research to produce an interdisciplinary research paper; topic to be selected in conjunction with a faculty member of African American and Diaspora Studies. Open only to seniors. [3]

American Studies

DIRECTOR Teresa A. Goddu
PROFESSOR Vivien G. Fryd (History of Art)
SENIOR LECTURER Elizabeth Boyd (American Studies)

Affiliated Faculty

PROFESSORS Lewis V. Baldwin (Religious Studies), Richard Blackett (History), Dale Cockrell (Music), Daniel B. Cornfield (Sociology), Colin Dayan (English), Dennis C. Dickerson (History), Vivien G. Fryd (History of Art), Sam B. Girgus (English/Film Studies), Larry W. Isaac (Sociology), Bill Ivey (Sociology), Michael Kreyling (English), Vera Kutzinski (English), Dana D. Nelson (English), Bruce I. Oppenheimer (Political Science), Lucius Outlaw Jr. (Philosophy), Thomas A. Schwartz (History), John J. Stuhr (Philosophy), Cecelia Tichi (English), Daniel H. Usner (History), Tracy Sharpley-Whiting (African American and Diaspora Studies), Susan Ford Wiltshire (Classical Studies)
ASSOCIATE PROFESSORS Victor Anderson (Religious Studies), Karen E. Campbell (Sociology), David Lee Carlton (History), Teresa A. Goddu (English), Jon W. Hallquist (Theatre), Amy H. Kirschke (History of Art), Jane Landers (History), John M. Sloop (Communication Studies)
ASSISTANT PROFESSORS Tina Y. Chen (English), Anastasia Curwood (African American and Diaspora Studies), Anne T. Demo (Communication Studies), Sean X. Goudie (English), Christian Grouse (Political Science), Jennifer Lena (Sociology), Melanie Lowe (Music), Catherine Molineux (History), Charles E. Morris III (Communication Studies), Rowena Olegario (History), Allison Pingree (Center for Teaching), Shawn Salvant (English)

❧ THE American Studies Program endeavors to meet the intellectual demands of students who live, study, and learn in a twenty-first century United States. Vanderbilt University, its students and faculty, now inhabits a complex domestic and globalized world whose interrelationships command the analytical and interpretive attention of all. Through course offerings, colloquia, and research opportunities, program students and faculty engage the states of the nation in a post–9/11 era, examining anew the information of social, legal, cultural, and economic identities within the borders of the United States. As a trans- and interdisciplinary program, American Studies enables Vanderbilt students to address the opportunities and limits of citizenship and social contracts in an era of globalization and resurgent nationalism. Compelling matters of class, race, ethnicity, sexuality, environmentalism, technology, the arts, region, and religion take their proper and vital place in the curriculum of study. As much of the United States becomes a bilingual nation, the program identifies itself within the larger geographic and geopolitical parameters of the Americas, including Canada, Mexico, the Caribbean, Central and South America. American Studies, in addition, addresses itself to important distinctions within the concept of globalization, ranging from transnational corporate activities to those of nongovernmental organizations committed to such projects as public health, philanthropy, and nutrition. The American Studies Program particularly encourages and provides opportunities for on- and off-campus research, internships, study abroad, and individualized and group projects under the guidance of participating faculty in the humanities, arts, and social sciences.

The program is directed by Teresa Goddu, associate professor of English and chair of the College Committee on American Studies.

Program of Concentration in American Studies

The interdisciplinary major consists of 36 hours of course work, to be distributed among various disciplines and perspectives as indicated below. Emphasis is on cultural, political, economic, and related trends or events that contribute to the making of American society and character in all its diversity. Students should expect to study the problems, developments, and crises of social history, technology, visual studies, gender, race, ethnicity, class, media, and artistic, political, and literary culture.

Students must concentrate on a theme or topic of special interest. Much of the work in the concentration will lead to or inform the research and production of a Senior Project (AMST 297) or the writing of an Honors Thesis (AMST 298/299). The concentration will be developed in consultation with an adviser.

Students should note that no more than 6 hours at the 100 level can count toward the interdisciplinary major and that often prerequisites exist for courses that may be used in the major. Independent study, research courses, and selected topics courses should have topics appropriate to the student's course of study. Students seeking a second major may count a maximum of 6 hours of course work toward meeting requirements in both

majors. Students seeking a minor may count a maximum of 3 hours of course work toward meeting requirements in both their major and minor.

Requirements for the interdisciplinary major in American studies include completion of the following:

1. American Studies 100 or American Studies 101. (3 hours)

2. American Studies 294. (3 hours)

3. American Studies 295 or American Studies 250. (3 hours)

4. *American Culture*. Courses in cultural studies will be selected in consultation with the student's adviser. Such courses might be drawn from, but not limited to, offerings in American Studies, Communication Studies, English, History of Art, Music, Philosophy, Religious Studies, and Theatre; at least 3 hours must be in English. (6 hours)

5. *American History*. Courses in American history will be selected in consultation with the student's adviser. Such courses might be drawn from, but not limited to, offerings in African American and Diaspora Studies, Classical Studies, Economics, European Studies, and History; at least 3 hours must be in History. (6 hours)

6. *American Society*. Courses that adopt a broadly sociological perspective will be selected in consultation with the student's adviser. Such courses might be drawn from, but not limited to, offerings in Anthropology, Political Science, Sociology, and Women's and Gender Studies. (6 hours)

7. *Concentration*. Either American Studies 297 and two appropriate courses drawn from those suggested below, or American Studies 298/299 and one appropriate course drawn from those suggested below. (9 hours)

Minor in American Studies

The minor in American studies consists of 18 hours of course work, distributed as follows:

1. American Studies 100 or American Studies 101. (3 hours)

2. American Studies 294. (3 hours)

3. American Studies 295. (3 hours)

4. *American Culture*. Chosen from suggested courses in American Studies, Communication Studies, English, History of Art, Music, Philosophy, Religious Studies, and Theatre. (3 hours)

5. *American History*. Chosen from suggested courses in African American and Diaspora Studies, Classical Studies, Economics, European Studies, and History. (3 hours)

6. *American Society*. Chosen from suggested courses in Anthropology, Political Science, Sociology, and Women's and Gender Studies. (3 hours)

AFRICAN AMERICAN AND DIASPORA STUDIES: 101, Introduction to African American Studies.

AMERICAN STUDIES: 104, Men and Women in American Society; 226, Gender, Race, and Class; 240, Topics in American Studies; 250, Senior Tutorial; 280a–280b, Internship, Research, Reading, and Training; 289a–289b, Independent Readings and Research; 295, Undergraduate Seminar in American Studies; 297, Senior Project; 298, Senior Honors Research; 299, Senior Honors Thesis.

ANTHROPOLOGY: 214, North American Indians; 229, North American Archaeology.

CLASSICAL STUDIES: 222, Classical Tradition in America.

COMMUNICATION STUDIES: 220, Rhetoric of the American Experience, 1640–1865; 221, Rhetoric of the American Experience, 1865 to the Present; 223, Values in Modern Communication; 224, Rhetoric of Social Movements; 228, Rhetoric and Public Memory; 241, Rhetoric of Mass Media; 242, Communication, Culture, and Consciousness.

ECONOMICS: 212, Labor Economics; 226, Economic History of the United States; 245, History of American Enterprise; 246, Unions, Management, and Public Policy; 251, Wages, Employment, and Labor Markets; 266, Problems in United States Economic History; 267, Economics of Poverty and Discrimination; 286, Economics of Human Resources.

A&S

ENGLISH: 211, Representative American Writers; 212, Southern Literature; 232a–232b, Twentieth-Century American Novel; 260, Nineteenth-Century American Women Writers; 263, African American Literature; 265, Film and Modernism; 266, Nineteenth-Century American Literature; 267, Desire in America; 268a, America on Film: Art and Ideology; 268b, America on Film: Performance and Culture; 269, Special Topics in Film; 270, Reading Film; 271, Caribbean Literature; 272, Movements in Literature (when an American topic is offered); 273, Problems in Literature (when an American topic is offered); 275, Latino-American Literature; 277, Asian American Literature; 286a–286b, Twentieth-Century Drama.

EUROPEAN STUDIES: 201, European Society and Culture.

HISTORY: 170, History of the United States to 1865; 171, History of the United States since 1865; 172, Slavery in the Americas, 1492–1822; 173, The First New Nation; 176, The United States in the 1960s; 177, The U.S. and the Cold War; 201, Twentieth Century African American Religious History; 204, History of Medicine, 1750 to Present; 205, Historical Perspectives on Women, Health, and Sexuality; 258, Rise of the Iberian Atlantic Empires 1492–1700; 259, Decline of the Iberian Atlantic Empires 1700–1820; 263, Gender in Colonial America; 267, The Frontier in Early America: War and Cultural Interaction; 268, The English Atlantic World, 1500–1688; 269, Cultural History of the First British Empire, 1707–1783; 272, The U.S. in the Era of the Civil War; 273, Civil Rights Movement; 275, Recent America: The United States since 1945; 276, The Old South; 277, The New South; 278, History of Appalachia; 279, African American History to Reconstruction; 280, African American History since Reconstruction; 281, The U.S. and the Vietnam War; 282, The U.S. and the World; 283, The U.S. as a World Power; 285, American Social History since 1865; 286, Gender, Sexuality, and Race in Early American Culture, 1600–1865; 287, Gender, Sexuality, and Race in American Culture, 1865 to the Present; 288, History of American Thought from the Puritans to the Civil War; 289, History of American Thought since 1865; 290, Economic History of the United States; 291, History of American Enterprise; 292, Problems in United States Economic History; 294, Selected Topics in History (when an American topic is offered); 295, Undergraduate Seminar in History (when an American topic is offered).

HISTORY OF ART: 239, African American Art; 240, American Art to 1865; 241, American Art 1865 to 1945; 245, Art of Pre-Columbian America; 255, Native American Art.

MUSIC: 103, Musical Theatre in America: A Cultural History; 147, American Music; 148, Survey of Jazz; 149, American Popular Music; 151, The Blues; 152, Country Music; 153, History of Rock Music; 183, Music, the Arts, and Ideas; 255, Charles Ives; 261, Music, Identity, and Diversity; 262, Music of the South; 263, American Music and Society: The 1960s; 264, Exploring the Film Soundtrack.

PHILOSOPHY: 222, American Philosophy; 234, Philosophy of Education.

POLITICAL SCIENCE: 150, U.S. Elections; 204, American Political Thought; 222, American Foreign Policy; 240, Political Parties; 241, American Public Opinion and Voting Behavior; 242, Political Communication; 243, Political Campaigns and the Electoral Process; 244, The Legislative Process; 245, The American Presidency; 246, Religion and Politics in the United States; 247, American Political Culture; 248, Intentional Communities; 253, Ethics and Public Policy; 255, Public Policy Problems; 260, Introduction to American Law; 261, Constitutional Interpretation; 262, The Judicial Process; 287–288, Selected Topics (when an American topic is offered).

RELIGIOUS STUDIES: 107, Introduction to African American Religious Traditions; 110W, Introduction to Southern Religion and Culture; 114, Introduction to African American Philosophies of Religion; 117, Islam in the African American Experience; 122, Positive Thinking in American Religion and Science; 145, Interfaith Dialogue and African American Culture; 204, Protestant Conservatism and the Culture Wars; 205, The Black Church in America; 217, The History of Religion in the United States; 219, Martin Luther King and the Social Roles of Religion; 252, Islam in America.

SOCIOLOGY: 204, Self, Society, and Social Change; 224, Women and the Law; 230, The Family; 231, Criminology; 232, Delinquency and Juvenile Justice; 233, Deviant Behavior and Social Control; 234, Prison Life; 235, Contemporary American Society; 237, Society and Medicine; 240, Law and Society; 241, Art in Society; 242, The Urban Community; 244, Politics, State, and Society; 245, Music in Society; 246, Sociology of Religion; 248, Popular Culture Dynamics; 249, American Social Movements; 250, Gender in American Society; 251, Women and Public Policy in America; 254, Schools and Society; 255, Racial and Ethnic Minorities; 257, Gender, Sexuality, and the Body; 258, The South in American Culture; 261, Work and Family in American Life; 264, Social Dynamics of Mental Health; 267, Seminar on Gender and Violence; 269, Ethnic American University Journeys; 294, Seminar in Selected Topics (when an American topic is offered).

THEATRE: 204, Development of the American Theatre; 205, American Musical Theatre.

WOMEN'S AND GENDER STUDIES: 243, Images of Masculinity; 270, Lesbian Studies: Identity, Desire, and Representation; 290, Senior Seminar in Selected Topics (when an American topic is offered); 295, Selected Topics (when an American topic is offered).

Honors Program

The Honors Program in American Studies is designed to afford superior students the opportunity to pursue more intensive work in their area of thematic concentration. The program requires (a) a 3.0 cumulative grade point average in all general university courses, and a 3.3 grade point average in American studies courses, (b) 6 hours of independent research, AMST 298–299 (Honors Research and Thesis), normally taken during the senior year, (c) an honors thesis to be completed in the spring of the senior year, and (d) successful completion of an honors oral examination on the topic of the thesis.

100. Introduction to American Studies. An interdisciplinary approach to American culture, character, and life. FALL, SPRING. [3] Boyd, Cockrell.

104. Men and Women in American Society. This course focuses on ideas about masculinity and femininity and how these ideas carry with them inequalities in the distribution of power and resources available to men and women. We examine how gender permeates seemingly neutral aspects of everyday life—how we date, sexuality, family life, work relationships, political life, media images. [3] (Not currently offered)

115, 115F. First-Year Writing Seminar. [3]

226. Gender, Race, and Class. How different societies use the categories of gender, race, and class to make distinctions among their members. How these categories intersect and mediate one another and contribute to inequalities in the distribution of political power, social well-being, and material and symbolic resources. [3] (Not currently offered)

240. Topics in American Studies. Topics of special interest on American culture or society, as announced in the *Schedule of Courses*. May be taken three times for credit when topics vary. FALL, SPRING. [3] Staff.

250. Senior Tutorial. Supervised readings, joint discussions, and independent research on a topic related to the American experience, to be selected in consultation with the director of American Studies. Open only to juniors and seniors. FALL, SPRING. [3] Staff.

280a–280b. Internship, Research, Reading, and Training. Under faculty supervision, students intern in public or private organizations, conduct background research and reading, and submit a research paper at the end of the semester during which the internship training is complete. Background reading and research will be completed in 280a concurrently with the completion of internship training, 280b; a minimum of 3 hours of 280a must be completed, independent of hours taken in 280b. 280a: Internship, research, and reading. FALL, SPRING, SUMMER. [Variable credit: 1–6]. 280b: offered on a pass/fail basis only and must be taken concurrently with 280a. FALL, SPRING, SUMMER. [Variable credit: 1–6] Staff.

289a–289b. Independent Readings and Research. Independent readings and/or research on approved topics relating to American society and culture. [Variable credit: 1–3 each semester, not to exceed a total of 6 in 289a–289b combined] Staff.

294. The American Studies Workshop. Issues, methodologies, traditions, approaches, and problems in the interdisciplinary field of American studies. Limited to juniors and seniors with preference given to American Studies majors and minors. FALL, SPRING. [3] Nelson.

295. Undergraduate Seminar in American Studies. Advanced reading, research, and writing in a particular area of American Studies. May be taken no more than two times, and not twice from the same professor. Limited to juniors and seniors with preference given to American Studies majors. FALL, SPRING. [3] Staff.

297. Senior Project. A project conceived, developed, and completed under supervision of the American Studies faculty. Normally open only to senior American Studies majors. SPRING. [3] Staff.

298. Senior Honors Research. Acquisition, reading, and analysis of primary source research material. Open only to senior honors students. FALL. [3] Goddu.

299. Senior Honors Thesis. Writing an honors thesis under the supervision of the thesis adviser. SPRING. [3] Staff.

Anthropology

CHAIR Tom D. Dillehay
DIRECTOR OF UNDERGRADUATE STUDIES Beth A. Conklin
DIRECTOR OF GRADUATE STUDIES John Wayne Janusek
PROFESSOR EMERITUS Ronald Spores
PROFESSORS Arthur A. Demarest, Tom D. Dillehay, Volney Gay, Thomas A. Gregor, William L. Partridge
ASSOCIATE PROFESSORS Beth A. Conklin, Edward F. Fischer, William R. Fowler Jr., John Wayne Janusek
ASSISTANT PROFESSORS Gregory Barz, Pierre Colas, Francisco Estrada-Belli, Annabeth Headrick, Carlos A. Jáuregui, Sergio Romero, Norbert Ross, Lucia Tanassi, Tiffiny Tung, Steven A. Wernke
RESEARCH ASSISTANT PROFESSOR Patricia Foxen

❧ ANTHROPOLOGY is the study of human biology, evolution, society, and culture. The faculty in anthropology at Vanderbilt is internationally prominent in the study of pre-Columbian cultures and the ancient civilizations of the New World. Classroom teaching, symposia, social activities, and summer opportunities are enhanced by faculty and teaching fellows' involvement in ongoing archaeological and ethnographic research in Mexico, Central America, and South America.

Students majoring in anthropology take courses in several subfields of anthropology, each of which looks at humanity from a different perspective. These subfields include archaeology, the study of past cultures through their material remains; cultural anthropology, which examines the structure of the social group and the values and ideas that shape human conduct; and physical anthropology, which examines topics such as human evolution and human biology. Anthropology students develop a broad understanding of cultural development and diversity and are encouraged to reach a personal synthesis of scientific findings on the nature of human ways of life. This preparation is useful in all professional careers.

Program of Concentration in Anthropology

The major in anthropology requires completion of at least 30 hours of course work, as follows:

1. Three 100-level surveys (Anthropology 101, 103, and 104) covering three major subfields of anthropology: cultural anthropology, physical anthropology, and archaeology.
2. A minimum of three hours from each of the groups below:

Group I—Comparative Anthropology and Anthropological Theory: 206, 218, 223, 224, 226, 228, 234, 237, 240, 250, 260, 262, 263, 264, 265, 266, 267, 284; Art and Art History 130

Group II—Archaeology and Physical Anthropology: 106, 173, 207, 211, 212, 213, 216, 217, 218, 225, 227, 229, 231, 239, 246, 248, 251, 254, 270, 271, 272, 273, 280; Art and Art History 245

Group III—Ethnography, Ethnohistory, and Linguistics: 201, 203, 210, 214, 220, 231, 241, 247, 249, 259, 275;Art and Art History 255, 256, 257

3. A seminar on anthropological theory (206 or 284). The seminar may not also be used to count toward Group I credit above.
4. At least 18 hours of credit must be at the 200 level.
5. With the approval of the student's major adviser, a maximum of 3 hours of credit for a course taken in another department or program may be counted toward the major requirement. A variety of courses are possible, including but not limited to those listed below. In each case, the course must be relevant to the student's program and the student must receive the approval of his or her major adviser.

- Biological Sciences 205, 239; Classics 217; Earth and Environmental Sciences 150; History 253, 264; Human and Organizational Development 264; Mathematics 127a, 127b, 180; Music 150, 160, 278; Psychology 242; Religious Studies 130, 131, 235, 237, 254; Sociology 201, 217, 220, 230, 261, 275, 277, 279; Spanish 221, 223, 276.

Honors Program

The Honors Program in Anthropology is designed to afford superior students the opportunity to pursue more intensive work within their major field. Students who want to do honors work in anthropology should contact the director of the Honors Program in the fall of their junior year.

101. Introduction to Anthropology. An introduction to general anthropology, the study of diverse cultures in both the contemporary world and the past. The ways in which cultures have adapted and developed, bringing to bear the understanding derived from the four subdisciplines of anthropology: cultural, physical, linguistics, and archaeology. Intended for students with a general interest in the field of anthropology. FALL, SPRING. [3] Conklin, Fischer.

103. Origins and Evolution of Human Culture. Introduction to biological and cultural evolution from primate origins to the end of the Stone Age. Origins and diversification of the world's first major cultural traditions. Archaeological evidence and controversies in interpretation. Not open to students who have taken 271. SPRING. [3] Staff.

104. The Rise and Fall of Civilization. A comparative survey of the archaeological evidence on the origins, development, and collapse of the great early civilizations of the world. The transformation of human societies from the first settled villages to urban states in Mesopotamia, Egypt, India, China, Mexico, and Peru. Discussion and debate of the archaeological discoveries, alternative interpretations, and general theories of cultural evolution. FALL. [3] Estrada-Belli.

115F. First-Year Writing Seminar. FALL, SPRING. [3]

173. Social Behavior of Nonhuman Primates. Behavior and appearance of nonhuman primates as responses to environmental and social factors. Diet, reproduction, and social interaction among lower primates, monkeys, and apes as a foundation for interpreting the origins of humans and their behavior. [3] (Not currently offered)

201. Introduction to Linguistics. Systematic study and analysis of human language. Formation of language sounds, sound systems, the structure of words, the structure of sentences, meaning, language change. Data from diverse languages of the world. SPRING. [3] Romero.

203. Anthropological Linguistics. An introduction to the study of language in its anthropological context. Language and culture, the structure of symbolic systems, vocabulary as a guide to the ways societies classify their universe. Linguistic analysis as a tool for ethnographic investigation. FALL. [3] Romero.

206. Theories of Culture and Human Nature. Survey of the views of anthropological thinkers, from the late nineteenth century to the present, about the basic attributes of humankind and human culture. Comparison of different ideas of how people create culture and in turn are molded by culture. SPRING. [3] Colas.

207. Energy, Environment, and Culture. The relationship between human beings and the environments that sustain them. The global diversity of human ecological adaptations. Hunter-gatherers, pastoral nomads, slash-and-burn agriculturalists, and irrigation agriculturalists. Human impact on the environment. Theories of human ecological interaction. [3] (Not currently offered)

210. Peoples and Cultures of Latin America. Survey of Latin America, including both its native cultures and its Spanish and Portuguese heritage. Fundamental traditions of Latin America, including marriage and the family, the relationship between men and women, racial and ethnic identity, social class, and religion. Special attention to the organization of peasant communities, contemporary urban life, poverty, and economic development. SPRING. [3] Fischer.

211. Archaeology. An introduction to the methods used by archaeologists to study the nature and development of prehistoric societies. Approaches to survey, excavation, analysis, and interpretation are explored through lectures, case studies, and problem assignments. SPRING. [3] Fowler.

212. Ancient Mesoamerican Civilizations. Development of pre-Hispanic civilization in Mesoamerica from the beginnings of village life to the rise of the great states and empires: Olmec, Maya, Toltec, and Aztec civilizations. [3] (Not currently offered)

213. The Archaeology of the Ancient Maya Civilization. Case study in cultural evolution. Archaeological evidence and social theory on the enigmatic origins, complex nature, and sudden collapse of the ancient Maya civilization. FALL. [3] Demarest.

214. North American Indians. A comparative survey of the Indian societies of North America, their archaeological origins, development, and changing adaptation to white society over the past four hundred years. [3] (Not currently offered)

215. The Collapse of Civilizations. Causes of the decline or collapse of complex societies. Old World and New World examples. Historical, anthropological, and paleoecological theories and controversies. FALL. [3] Demarest.

216. Ancient Cities. Comparative examination of early cities in the Old World and pre-Columbian America. Analysis of social and economic processes supporting pre-industrial urbanism. Role of geography, ideology, trade, and settlement systems in the rise of early urban societies. SPRING. [3] Janusek.

217. Old World Archaeology. Ancient Cultures of the Old World. Archaeology of the Near East, Africa, Asia, and Oceania. The origins of the great civilizations of Egypt and Mesopotamia. The beginnings of cities, agriculture, trade, and empires in light of recent archaeological discoveries. SPRING. [3] Estrada-Belli.

219. Comparative Writing Systems. The origins, development, and social uses of writing in the ancient Middle East, Mediterranean, and Mesoamerica. Decipherments of hieroglyphic systems. Literacy, historiography, and cross-cultural translation. [3] (Not currently offered)

220. Peoples and Cultures of Mexico. Indian, peasant, and urban cultures in Mexico from late pre-Hispanic times to the present. Ethnic and regional diversity, urban-rural relationships, class structure, and national integration. [3] (Not currently offered)

221. Maya Language and Literature. Introduction to a contemporary Maya language. Linguistic analysis and cultural concepts. By permission of instructor. May be repeated once for different language for a maximum of six credit hours. SPRING. [Variable credit: 1–6] Romero.

222. Anthropologies and Archaeologies of Community. Creation, maintenance, and transformation of communities through time. Discussion of "community" as a village or settlement. FALL. [3] Wernke.

224. Political Anthropology: Crosscultural Studies in Conflict and Power. Comparative and ethnographic analysis of political and legal systems. Formal and informal means of control in egalitarian and hierarchical societies. Anthropological theories of power, authority, influence, and leadership. Social and cultural dimensions of conflict, consensus, competition, and dispute resolution. [3] (Not currently offered)

226. Myth, Ritual, Belief: The Anthropology of Religion. Cross-cultural survey of religious and ritual beliefs in light of theories of religion. Topics include sacrifice, myth, witchcraft, divination, religious change, and millenarian movements. [3] (Not currently offered)

A&S

228. Family, Marriage, and Kin. The family, household, division of labor, and obligations of kinship in non-Western societies. Marriage, age and gender, and kinship networks in relation to economics and political life. Comparisons with kinship in Western cultures. [3] (Not currently offered)

229. North American Archaeology. The origins of native North American culture. Migration from Asia, early hunters and gatherers, and the extinction of ancient fauna. Evolution of social complexity, ecological adaptations, and prehistoric interaction as seen in the archaeological record of the continent. [3] (Not currently offered)

231. Colonial Encounters in the Americas. Theoretical discussion of colonialism as a sociocultural process. Comparative colonialism in pre- and post-Hispanic contexts. Methodological consideration of archaeological and archival analyses and their complementary epistemological statuses. Pan-American case studies. SPRING. [3] Wernke.

232. The Anthropology of Globalization. Perspectives on globalization based on ethnographic case studies. The impact of new technologies on native cultures; different cultural meanings of global commodities; creation of new diaspora cultures; effects of neoliberal reforms on local economies; ethnic movements and terror networks. [3] (Not currently offered)

234. Economic Anthropology. Modern and postmodern cultural organization of Western and non-Western economies. Crosscultural comparison of concepts of self-interest and rationality; relation of the growth of post-industrial (service and information) economies to economic strategies of ethnic groups; survey of indigenous alternatives to development. Theoretical issues grounded in case studies from our own and other cultures. [3] (Not currently offered)

240. Medical Anthropology. Biocultural aspects of human adaptations to health, disease, and nutrition. Non-Western medical and psychiatric systems. Effects of cultures on the interpretation, diagnosis, and treatment of illness. Case studies from Africa, Oceania, Latin America, and the contemporary United States. SPRING. [3] Conklin.

243. European Ethnography. Modern cultures and societies of Europe. Comparative survey based on ethnographic case studies; national differences and ethnic minorities; challenges of nationalism and globalization; rural and urban economic adaptations; transition of former socialist states. FALL. [3] Fischer.

246. Peoples and Cultures of the Andes. Historical and archaeological background, languages, economy, environment, and cultural adaptation of Andean peoples. Spanish and native American heritage. Religion, family structure, political organization, contemporary social issues, and economic background. Urban and rural traditions, social movements, and change. [3] (Not currently offered)

247. The Aztecs. Origins of the Aztec peoples of central Mexico and their culture; history and structure of the Aztec empire; pre-Columbian social, political, and economic organization; warfare and religion; the Spanish conquest; colonial society in central Mexico; ethnographic study of modern descendants of the Aztecs. [3] (Not currently offered)

248. Ancient Empires and Civilizations of South America. Introduction to the archaeology and peoples of ancient South America. Early hunters and gatherers, origins of agriculture and urbanism, and the rise and fall of the Huari and Inca empires. [3] (Not currently offered)

249. Indians of South America. Hunters and gatherers, tropical forest peoples, chiefdoms, and great civilizations of native South America. Portuguese and Spanish influences. Emphasis on major anthropological studies and comparisons with other cultural areas. [3] (Not currently offered)

250. Shamanism and Spiritual Curing. A crosscultural inquiry into shamanism and sorcery. Examines altered states of consciousness, hallucinogens, spirit possession, and nontraditional techniques of curing. Contrasts shamanism with Western approaches to curing. Implications for religion, theories of the mind, and dream analysis. [3] (Not currently offered)

251. Chiefdoms. The origins, evolution, and organization of the world's chiefdoms and other pre-state societies. The rise of social stratification and political hierarchies. The organization of production and exchange. A comparative perspective with ethnographic, historical, and archaeological evidence. [3] (Not currently offered)

254. The Inca Empire. The rise and fall of the Inca state in the Southern American Andes. Inca society, agriculture, economy, warfare, ancestor worship, mummies, and royal wealth. Imperial expansion, the role of the feasting in Inca politics, and place of ecology in Inca religion. Destruction of the empire during the Spanish conquest; persistence of pre-Columbian culture among Inca descendants in Peru and Bolivia. [3] (Not currently offered)

258. Mayan Languages and Linguistics. Introduction to the study of Mayan languages of Central America. Linguistic terminology and methodology derived from Mayan languages and literature. Hieroglyphic writing, colonial documents, glottochronology, and the linguistic characteristics of modern Mayan languages. [3] (Not currently offered)

259. Maya Culture and Ethnography. Survey of the different cultural groups of the Maya peoples of Mexico and Guatemala. Comparison of cultural features and social and political history. Relationship of culture and language. Introduction to the Maya language family with a focus on Tzotzil. [3] (Not currently offered)

260. Medicine, Culture, and the Body. Concepts of the human body from historical and cross-cultural perspectives. Exploration of experiences, representations, and medical theories of the body in birth, death, health, and illness in Western and non-Western societies. Comparison of methodologies of anthropology and history. [3] (Not currently offered)

262. Cognitive Anthropology. A survey of methods and approaches in linguistics and the cognitive sciences. Exploration of culture and thought; how culture affects our ways of reasoning. [3] (Not currently offered)

263. Myth and Legend: The Anthology of Oral Tradition. Narrative traditions and folklore of Western and non-Western cultures. Myths of world creation, human origins, and transformation.

Relationship of myth to dr eam, historical narrative, and social or ganization. Myth telling and performance. The structure and theory of myth. [3] (Not currently offered)

264. Human Nature and Natural Law: Perspectives from Science and Religion. Conflicting views on the origins of morality and values. Ethical beliefs as deriving from culture or as reflecting a global human natur e. Consideration of human universals such as the incest taboo, marriage and family , and r eligion. Efforts to interpr et values and ethical principles as r eflecting human biology and evolution, self-interest, altruism and cooperation. SPRING. [3] Gr egor.

265. Psychological Anthropology. How personality and culture affect each other. Socialization and the life cycle, the definition of sex roles, individual psychology and group aggression, religion and group personality, and the nature of mental illness and nor malcy in non-Western societies. FALL. [3] Gregor.

266. Gender and Cultural Politics. Cross-cultural comparison of women's roles and status in western and non-Western societies. Role of myths, symbols, and rituals in the for mation of gender identities and the politics of sexual cooperation, conflict, and inequality . Case studies from Africa, the Middle East, Eur ope, North and South America, Asia, and Melanesia. [3] (Not currently offered)

267. Life, Death, and the Human Body. Biological and social perspectives on the human body through the life cycle. Concepts of gender, health, sickness, and the nature of beauty and bodily ador nment. The linguistics of body language and language that describes the body. The relationship of body, soul, afterlife, and spiritual beliefs. FALL. [3] Tung.

270. Human Osteology. Anatomy of the human skeleton. Deter mination of age, sex, stature, and biological affinity from bones and dentition. Analysis of ar chaeological skeletal r emains for diagnosis of disease and identification of cultural practices. Use of human remains in criminal investigation. FALL. [3] Tung.

271. Human Evolution. Structural and behavioral changes in hominids leading to moder n *Homo sapiens*. Evolutionary theory, paleontological evidence, and nonhuman primates as the bases for interpr eting sequential development of pr e-modern humans. Pr erequisite: 103. [3] (Not currently offered)

272. Human Variation. Biological differences among contemporary human groups. Adaptational features of humans as biological organisms. Use of biological variation for under standing human history and geographic distribution. [3] (Not currently offered)

274. Health and Disease in Ancient Populations. Paleopathology of mummies and skeletons. Skeletal evidence for violence and war fare. Gender and social status dif ferences in diet, disease, and activity patterns to reconstruct ancient social organization. Biological relationships among ancient and moder n populations. Ethics and federal law in the study of human remains. Laboratory analysis of skeletons. [3] (Not currently offered)

275. Sociocultural Field Methods. Research design and proposal writing, access to data, ethical issues, sampling techniques, interviewing questionnaire design and question writing, data analysis. [3] (Not currently offered)

280. Introduction to Geographic Information Systems and Remote Sensing. Computerized graphics and statistical procedures to recognize and analyze spatial patterning. Spatial data-collection, storage and r etrieval; spatial analysis and graphic output of map featur es. Integration of satellite imager y with data fr om other sour ces through hands-on experience. Assumes basic knowledge of computer hardware and software. SPRING. [3] Estrada-Belli.

282. Settlement Patter ns and the Human Landscape. Sociocultural processes and human-environment interactions in the for mation of landscapes and settlement systems.

A&S

Relationship of archaeology and cultural anthropology in the understanding of social space, sacred landscapes, urban plans, and historical ecology. Cross-cultural comparisons. Methods of interpretation and quantification. [3] (Not currently offered)

283. Ethics in Anthropology, Archaeology, and Development. Ethical challenges in the study, interpretations, interactions, and development in research on present and past non-Western societies. [3] (Not currently offered)

284. Problems in Anthropological Theory. An advanced seminar in anthropological theory: cultural evolution, cultural history, ethnic relations, cultural ecology, archaeological method and theory, social structure, political organizations, religious institutions. FALL. [3] Estrada-Belli.

288a–288b. Independent Research. Readings on selected topics (of the student's choice) and the preparation of reports. FALL, SPRING, SUMMER. [Variable credit: 1–3 each semester] Staff.

289. Field Research. Directed field research (on topics of the student's choice). FALL, SPRING, SUMMER. [Variable credit: 1–6 each semester] Staff.

294. Special Topics. Topics offered vary and are cited each semester in the *Schedule of Courses*. FALL, SPRING. [3] Romero, Colas.

298. Honors Research. Research to be done in consultation with a member of the faculty in anthropology. Open only to those beginning honors work in anthropology. FALL, SPRING. [Variable credit: 1–6 each semester; may be repeated to a maximum of 6] Staff.

299. Honors Thesis. Open only to seniors in the departmental honors program. Students completing this course with distinction, including a thesis and final examination, will earn honors in anthropology. Prerequisite: 298. FALL, SPRING. [Variable credit: 1–6 each semester; may be repeated to a total of 6] Staff.

302. Quantitative Methods in Anthropology. [3] (Not currently offered)

303. Seminar in Maya Ethnography. SPRING. [3] Fischer.

307. Human Variation and Osteology. [3] (Not currently offered)

309. Seminar in Culture Ecology. [3] (Not currently offered)

310. Archaeological Method and Theory. [3] (Not currently offered)

311. Formal and Qualitative Approaches in Anthropology. [3] (Not currently offered)

314. History of Anthropological Theory I. FALL. [3] Conklin.

315. History of Anthropological Theory II. SPRING. [3] Janusek.

316. Anthropology of Adaptation. [3] (Not currently offered)

320. Seminar in Ethnography. [3] (Not currently offered)

321. Seminar in Social Organization. [3] (Not currently offered)

322. Culture, Structure, Personality. [3] (Not currently offered)

325. The Collapse of Civilizations: General Theories and the Maya Collapse. [3] (Not currently offered)

328. Violence and Its Embodiments in the Past and Present. [3] (Not currently offered)

329. The Anthropology of Death: Body, Place, and Memory. [3] (Not currently offered)

330. Research Design in Anthropology. [3] (Not currently offered)

331. Seminar in Preindustrial Political Systems. FALL. [3] Dillehay.

335. Space, Place, and Landscape. [3] Janusek. (Not currently offered)

340. Historical Archaeology. SPRING. [3] Fowler.

350. Seminar in Mesoamerican Archaeology. [3] (Not currently offered)

355. Seminar in Mesoamerican Art. [3] (Not currently offered)

360. Seminar in South American Archaeology and Ethnography. [3] (Not currently offered)

367. Special Topics. SPRING. [3] Wernke.

Arabic

210a–210b. Elementary Arabic. Arabic script, elements of grammar, pronunciation, reading, writing, and elementary conversation. Arabic culture and life through traditional and contemporary texts and audio-visual materials. Three hours of class work per week with an additional two hours a week of individual work in the language laboratory. FALL, SPRING. [4–4] Staff.

220a–220b. Intermediate Arabic. Practice and development of all language skills at the intermediate-advanced level. Intensive work in spoken Arabic with emphasis on vocabulary acquisition, reading comprehension, and writing skills. Advanced grammar, modern Arabic word formation, verb aspect usage, and structure of complex sentences. Three hours of class work per week with an additional two hours a week of individual work in the language laboratory. Prerequisite: 210b or equivalent credit by examination. FALL, SPRING. [4–4] Staff.

Art

CHAIR Marilyn L. Murphy
DIRECTOR OF UNDERGRADUATE STUDIES Michael L. Aurbach
PROFESSOR EMERITUS Donald Evans
PROFESSORS Michael L. Aurbach, Marilyn L. Murphy
ASSISTANT PROFESSOR Mark Hosford
SENIOR LECTURERS Susan DeMay, Ronald Porter, Libby Rowe, Carlton Wilkinson
LECTURER Robert Durham

COURSES in art are offered in a variety of media, which provide wide-ranging methods and perspectives. Our courses emphasize creative and critical approaches to learning.

Many students will use the program in art as a foundation for careers in which creativity and the visual are especially valued, as the basis for advanced training in professional schools (such as art, architecture, museum studies), and for employment in galleries, museums, commercial art, or design-related fields. An important goal of the department is to help

students become readers of the rich visual environment in our culture throughout their lives, as well as to encourage creative approaches to learning.

There are several campus organizations in the arts. The Printmakers Club is a lively organization of studio majors who gather to attend art openings, discuss contemporary issues, and develop art-related projects. The Sarratt Visual Arts Committee allows students to have a hand in curating and hanging exhibitions, as well as hosting art openings at the Sarratt Gallery. VISION sponsors lectures and discussions about the history of art as well as a roundtable of alumni majors, who discuss their current careers and how they arrived at them. BLUEprint is an organization for students interested in entering the field of architecture.

Since 1984 the department has supervised the awarding of the Margaret Stonewall Wooldridge Hamblet Award to an eligible senior student. The Hamblet Award provides the means for travel and independent art activity for one year, culminating in a one-person exhibition at the Fine Arts Gallery. Students wanting to participate in the spring competition must be graduating seniors who are studio art majors or minors.

The Allan P. Deloach Memorial Prize in Photography was established in 2000 in memory of Allan Deloach (B.A. '63) by two of his colleagues at IBM. This cash award is open to any student who has taken a studio class in any discipline at Vanderbilt. Contestants should submit one to three photographs to be reviewed. An outside juror is brought in every year to choose the recipient and to give a slide lecture to art students about his or her work.

The Cooley Award was established in May 1920. It is a prize given each spring to the graduating senior art major with the highest grade point average.

Program of Concentration in Art

The art major requires 33 hours and presents our students with the opportunity to explore their ideas in a visual language, as well as to learn the technical skills involved in the creation of art. The program offers a wide range of classes and media. Our students are offered a strong grounding in traditional processes such as drawing, painting, and sculpture, as well as the opportunity to explore contemporary processes involving video, digital, and photographic media. Our diverse faculty of artist/educators represents a wide range of teaching styles and aesthetic philosophies. We consider how ideas have been developed through the centuries as well as how specific techniques have been used to enrich the expression of the idea. In addition to modern art history offerings, art majors are encouraged to take courses in pre-Renaissance and/or non-Western art history.

Requirements for the Program of Concentration in Art

Drawing (6 hours)

- Options: ARTS 102, 202, 203 (Drawing and Composition), or ARTS 105, 205 (Life Drawing)

Studio electives (15 hours), which must include at least:

- One 2-D course (Printmaking, Painting, Photography, or Digital) and
- One 3-D course (Sculpture, Assemblage, or Ceramics)
- Within the 15 hours, students must take at least two 200-level ARTS courses

AHST 111 History of Western Art: Renaissance to Modern Art (prerequisite for entry into 200-level ARTS courses), plus one course from AHST 231, 239, 242, PHIL 240 or 241, and one additional upper-level art history course—AHST 200 to 290 (9 hours)

Directed Study: Senior Show and Contemporary Practices (3 hours)

Minor in Art

The minor in art requires 18 hours of course work, including the following:

AHST 111 (History of Western Art: Renaissance to Modern), ARTS 102 (Drawing and Composition), and four other ARTS courses, with at least two at the 200 level. (One independent research course may be substituted with permission of a studio art professor toward additional advanced work in a medium.)

Art Studio (ARTS)

101. Introduction to Studio. Experimentation with color, mixed-media, graphic media, and other processes. Stress on development of ideas. F ALL, SPRING. [3] Aurbach, Hosford, Murphy, Porter, Rowe, DeMay.

102. Drawing and Composition I. Introduction to drawing: visual problems related to observation, idea formation, composition, media, and various forms of expression. Figure and landscape may be included. FALL, SPRING. [3] Aurbach, Durham, Hosford, Murphy, Porter.

105. Life Drawing. The expressive potential of the human figure as a subject through experience with models in a variety of figure-environment situations. Prerequisite: 102. F ALL. [3] Hosford, Porter.

110. Relief Printing. Introduction to printmaking media including monotype and relief. Traditional and experimental approaches. Prerequisite: 102. FALL, SPRING. [3] Hosford, Murphy.

111. Screen Printing. Medium of screen printing as an art-making process. Traditional and experimental approaches. Prerequisite: 102. SPRING. [3] Hosford.

120. Photography. A studio course in black-and-white photography. Composition, quality of image, and photographic manipulation. FALL, SPRING. [3] Rowe, Wilkinson.

121. Alternative Photography. Lensless imaging; creation of pinhole cameras and images. Issues that affect contemporary art. FALL, SPRING. [3] Rowe.

122. Digital Imaging. Creation of still, photo-based images using digital cameras, scanners, and Photoshop software for digital output. Issues that affect contemporary art. FALL. [3] Rowe.

130. Painting. Technical and conceptual aspects of painting. Individual instruction based on ability and experience. Prerequisite: 102. FALL, SPRING. [3] Durham, Murphy, Porter.

140. Ceramics. Introduction to ceramic design and preparation of clay objects. Hand-building, wheel-throwing, ceramic sculpture, surface enrichment, glazing, and kiln-firing. FALL, SPRING. [3] DeMay.

141. Sculptural Ceramics. Expressive art forms in clay. Figurative, abstract, box construction, and trompe l'oeil. Assembled components, surface enrichment, and firing technique. SPRING. [3] DeMay.

150. Sculpture. Changing concepts, materials, and processes in sculpture. Individual instruction based on ability and experience. FALL. [3] Aurbach.

151. Assemblage. Additive processes in sculpture. Problems involving found objects, kinetic/time-based ideas, and site-specific installations. SPRING. [3] Aurbach.

160. Digital Art. Art made with the aid of computers. Programs and processes vary. Digital imaging, manipulation, motion, and interactivity. SPRING. [3] Hosford.

170. Multimedia. Relationships of video, computer graphics, new materials, electronic music, and performance. Technical processes and creative expression. FALL. [3] Hosford.

171. Video Art. Video as an art form. Group and individual productions. Viewing and discussion. Project analysis and critique. Relationship to such traditional media as photography and film. [3] Hosford.

202. Drawing and Composition II. Prerequisite: 102. FALL, SPRING. [3] Murphy, Porter.

203. Drawing and Composition III. Prerequisite: 102/202. FALL, SPRING. [3] Murphy, Porter.

205. Life Drawing II. Prerequisite: 105 or 135. SPRING. [3] Porter.

206. Life Drawing III. Prerequisite: 205 or 135. SPRING. [3] Porter.

207a–207b. Advanced Art Studio: Printmaking. Prerequisite: 107. FALL, SPRING. [3–3] Murphy, Hosford.

210. Printmaking II. Prerequisite: ARTS 110 or 111. FALL, SPRING. [3] Murphy, Hosford.

211. Printmaking III. Prerequisite: 210. FALL, SPRING. [3] Murphy, Hosford.

220. Photography II. The Zone System of pre-visualization, studio lighting, and advanced darkroom techniques. Prerequisite: 120. SPRING. [3] Rowe.

221. Alternative Photography. Use of non-silver emulsions on paper, fabric, and other substrates that encourage personal expression and allow for the incorporation of photographic imagery into other media. Presentations and discussions of issues that affect contemporary art. Prerequisite: 120, 121. [3] Rowe.

230. Painting II. Prerequisite: 130. FALL, SPRING. [3] Murphy, Porter.

231. Painting III. Prerequisite: 230. FALL, SPRING. [3] Murphy, Porter.

240. Ceramics II. Development of ceramic design, both traditional and contemporary, functional and sculptural. Projects develop technical and aesthetic goals. Instruction includes demonstrations, slide presentations, field trips, guest artists, reports. Demonstrations include advanced throwing, complex constructions, glaze development with applications, and kiln-firing. Prerequisite: 140. SPRING. [3] DeMay.

241. Ceramics III. See description of 240. Prerequisite: 140. SPRING. [3] DeMay.

250. Sculpture II. Prerequisite: 150. FALL, SPRING. [3] Aurbach.

260. Digital Art II. Prerequisite: 160. SPRING. [3] Hosford.

270. Multimedia II. Prerequisite: 170. FALL. [3] Hosford.

288. Selected Topics. May be repeated with change of content up to a total of 9 hours. FALL, SPRING. [3] Staff.

289. Independent Research. Supervised work in extension of regular offerings in the curriculum. Registration only with agreement of instructor involved and with written approval of the director of undergraduate studies. FALL, SPRING. [Variable credit: 1–3 per semester, not to exceed a total of 6] Staff.

290. Directed Study: Senior Show and Contemporary Practices. Theoretical and practical concerns including professional practices for artists. Students visit exhibitions and discuss contemporary art with directed readings and lectures, participate in critiques, and exhibit their work. Seniors with a concentration in art only. FALL. [3] Rowe.

Biological Sciences

A&S

CHAIR Charles K. Singleton
DIRECTOR OF UNDERGRADUATE STUDIES (BioSci and EEOB majors) David E. McCauley
DIRECTOR OF UNDERGRADUATE STUDIES (MCB major) Wallace M. LeStourgeon
DIRECTOR OF GRADUATE STUDIES Douglas G. McMahon
PROFESSORS EMERITI Burton J. Bogitsh, Sidney Fleischer, Robert Kral, Oscar Touster, John H. Venable, Dean P. Whittier, Robley C. Williams Jr.
PROFESSORS Kendal S. Broadie, Clint E. Carter, Ellen Fanning, Todd R. Graham, Carl H. Johnson, Owen D. Jones, Wallace M. LeStourgeon, David E. McCauley, Douglas G. McMahon, Terry L. Page, James G. Patton, Charles K. Singleton, Lilianna Solnica-Krezel, Gerald J. Stubbs, Laurence J. Zwiebel
ASSOCIATE PROFESSORS Bruce H. Appel, Kenneth C. Catania
ASSISTANT PROFESSORS D. Kilpatrick Abbot, Kefyn M. Catley, Brandt F. Eichman, Katherine L. Friedman, Daniel J. Funk, Joshua T. Gamse, Chris Janetopoulos, Daniel J. Kaplan, Andrzej M. Krezel, Manuel Leal, Donna J. Webb
RESEARCH ASSISTANT PROFESSORS Irina Bruck, Jeff Rohrbough, Diane Sepich, Shin Yamazaki, Yao Xu, Daoqi Zhang
SENIOR LECTURERS Steve J. Baskauf, Amanda R. Benson, A. Denise Due-Goodwin, Mark A. Woelfle

THE biological sciences encompass the study of living organisms and life processes at all levels: ecosystems, populations, individual organisms, tissues, cells, subcellular structures, and molecules. The Department of Biological Sciences offers courses that address all of these levels and programs of study for undergraduates and for graduate students seeking the Ph.D.

For undergraduates, the department offers three majors and a minor. All three majors have honors tracks. The Biological Sciences (BioSci) major is designed for the student seeking a broad base in the biological sciences, though it is a highly flexible program that allows a certain amount of specialization in upper-level courses. The Molecular and Cellular Biology (MCB) major is designed for students with an interest in

developing an in-depth understanding of how living systems function at the molecular and cellular levels, with upper-level course options ranging in content from biophysics and biochemistry to developmental biology, and to molecular aspects of evolution and of toxicology. The Ecology, Evolution, and Organismal Biology (EEOB) major is designed for students with an interest in ecology, evolutionary biology, environmental biology, and conservation biology. The department also offers a minor in Biological Sciences for students majoring in other disciplines. Interested students should consult the appropriate director of undergraduate studies.

The department offers undergraduates opportunities for engaging in faculty-led research projects for course credit. Students may receive an introduction to the workings of a scientific laboratory through an internship, or a more intensive, hands-on experience in directed or independent laboratory research. Students on the honors track of any of the three majors carry out a major honors research project and write an honors thesis. More information about the majors and minor offered by the department, the honors track of each major, and research opportunities open to undergraduates is available at our Web site: *http://sitemason.vanderbilt.edu/biosci*.

General Requirements

All students in programs of concentration offered by the Department of Biological Sciences must take two semesters of general chemistry and lab (Chemistry 102a,b and 104a,b) and two semesters of organic chemistry and lab (Chemistry 219a,b and 220a,b). It is strongly recommended that students in all three majors take one year of calculus or calculus/statistics and one year of physics. A total of 30 hours of Biological Sciences courses, including the 8 hours of 110a,b and 111a,b, are required in all majors. All Biological Sciences courses count toward the major *except* 100, 105, and 115. Below is a listing of the required courses for the Biological Sciences (BioSci) major, for the Molecular and Cellular Biology (MCB) major, and for the Ecology, Evolution, & Organismal Biology (EEOB) major. Students with specialized interests within either of the specialized majors may substitute one of the intermediate courses with an upper level course with the permission of the director of undergraduate studies and the Biological Sciences Curriculum Committee. *(Intermediate Biological Sciences courses: 201, 202, 205, 210, 211, 218, 219, 220, 221, 237, 238).*

Students may declare only one of the majors offered by the Department of Biological Sciences; double or triple majors within the department are not permitted.

For honors in all three majors, additional requirements must be met: (a) normally a minimum GPA of 3.25 in courses that count toward the major; (b) at least 10 of the 30 hours of Biological Sciences course work must be directed/independent research with a minimum of 8 hours being honors research (BSCI 296); (c) an honors thesis and oral defense. For students in the MCB major, 265 must be taken; an alternate advanced course may be substituted with the permission of the director of undergraduate studies. For students in the EEOB major, one of the following courses must

be taken: 230, 238, 239, 246, 247, 257, 270. For the BioSci major, at least two lecture courses must be at a course number level of greater than 221.

Program of Concentration in Biological Sciences (BioSci)

At least 30 hours satisfying the general requirements above, and including the following:

1. Introductory Courses: 110a/111a and 110b/111b

2. Intermediate Courses:
   a. 205, 210
   b. one additional intermediate course: 201, 218, 219, 220, or 238
   c. with at least one intermediate lab: 202 (with 201), 211 (with 210), 221 (with 220), 237 (with 238), or either 218 or 219 taken above

3. Laboratory: One additional intermediate or upper-level laboratory course, or two semesters of directed and/or independent research (BSCI 283, 286, 296).

4. Seminar/Independent Studies: A minimum of 2 credit hours of 275, 282, 283, 286, or 296 is required. Only one seminar (275) may count toward the major. A total of no more than 6 credit hours of 282, 283, and 286 may be counted toward the major.

For students intending to perform honors research, at least two Biological Sciences lecture courses must have a course number of greater than 221.

Program of Concentration in Molecular and Cellular Biology (MCB)

At least 30 hours satisfying the general requirements above, and including the following:

1. Introductory Courses: 110a/111a, 110b/111b

2. Intermediate Courses: 201, 210, 220, and either 202 (with 201) or 211 (with 210)

3. Laboratory: One additional intermediate or upper-level laboratory course, or two semesters of directed and/or independent research (BSCI 283, 286, 296).

4. Seminar/Independent Studies: A minimum of 2 credit hours of 275, 282, 283, 286, or 296 is required. Only one seminar (275) may count toward the major. A total of no more than 6 credit hours of 282, 283, and 286 may be counted toward the major.

Of the remaining courses, at least two must be from the following: 205, 226, 230, 240, 246, 247, 252, 256, 258, 262, 265, 266, 273, 274, 279, Honors Research (296).

For students intending to perform honors research in the MCB major, 265 must be taken; an alternate advanced lecture course may be substituted with the permission of the director of undergraduate studies.

Program of Concentration in Ecology, Evolution, and Organismal Biology (EEOB)

At least 30 hours satisfying the general requirements above, and including the following:

1. Introductory Courses: 110a/111a and 110b/111b

2. Intermediate Courses: 205, 210, and 218 or 219 or 238; one intermediate lab course if 218 or 219 are not taken: 211 (with 210), 237 (with 238).

3. Laboratory: One additional intermediate or upper-level laboratory course, or two semesters of directed and/or independent research (BSCI 283, 286, 296).

4. Seminar/Independent Studies: A minimum of 2 credit hours of 275, 282, 283, 286, or 296 is required. Only one seminar (275) may count toward the major. A total of no more than 6 credit hours of 282, 283, and 286 may be counted toward the major.

Of the remaining courses, at least two must be from the following: 224, 230, 239, 246, 247, 257, 266, 270, 273, Honors Research (296); or 218, 219, or 238 if not used for the intermediate course requirement.

For students intending to perform honors research in the EEOB major, one of the following courses must be taken: 230, 239, 246, 247, 257, 270.

Minor in Biological Sciences

A minor in Biological Sciences requires a minimum of 18 hours made up as follows: (a) 8 hours of BSCI 110a,b and 111a,b; (b) 210 and one other intermediate lecture course; (c) two other Biological Sciences courses, at least one of which must be a 3 hour lecture course, excluding 282, 283, 286, and 296.

Starred courses Biological Sciences 110a–110b and 111a–111b serve as prerequisites for all higher numbered courses (except 115).

100. Biology Today. Broad coverage of the biological sciences presenting evolution as a unifying concept. Particular emphasis on basic biological processes in cells and the relationships/interactions between organisms and their environment. Topics include cell structure and function, genetics and inheritance, evolution and diversity, populations, communities and ecosystems, and topics related to biology and society. Students who take 110a–110b may not receive credit for 100. Three lectures and one laboratory per week. FALL, SPRING. [4] Woelfle, Due-Goodwin.

105. Human Biology. An overview of the biology of humans with special emphasis on recent advances in genetics, reproduction, and biotechnology. The social, legal, and ethical implications of these advances will be explored. Not intended for students majoring in Biological Sciences. Students who take 110a–110b may not receive credit for 105. SPRING. [3] Johnson.

★110a–110b. Introduction to Biological Sciences. An integrative approach to the science of life from molecules to ecosystems. 110a: structure/function of macromolecules; cell structure; cell division; energy production and basic metabolism; molecular genetics; gene structure and regulation. 110b: cell signaling and hormones; physiology, development, immunology; Mendelian and population genetics; evolution and speciation; populations and

ecosystems. Ordinarily accompanied by 111a–111b. Corequisite or prerequisite: Chemistry 102a, FALL; 102b, SPRING. [3–3] Staff.

★111a–111b. Biological Sciences Laboratory. Laboratory to accompany 110a–110b. Corequisite: 110a–110b. One three-hour laboratory per week. 111a, FALL; 111b, SPRING. [1–1] Baskauf.

115F. First-Year Writing Seminar.

201. Introduction to Cell Biology. Structure and function of cells, subcellular organelles, and macromolecules. Fundamentals of organelle function, membrane transport, energy production and utilization, cell motility, cell division, intracellular transport and mechanisms of signal transduction. Prerequisite: Biological Sciences 110a–110b. SPRING. [3] Graham, Webb.

202. Cell Biology Laboratory. One three-hour laboratory and discussion period per week. May only be taken concurrently with or following 201. SPRING. [1] Janetopoulos.

205. Evolution. Evolutionary theory, with emphasis on evolutionary mechanisms. Microevolutionary processes of adaptation and speciation and macro-evolutionary patterns. Evidence from genetics, ecology, molecular biology, and paleontology in the historical context of the neo-Darwinian synthesis. Three lectures per week. No credit for graduate students in Biological Sciences. Prerequisite: 110a–110b. FALL. [3] Funk, McCauley.

210. Principles of Genetics. Basic principles and mechanisms of inheritance discussed and related to other biological phenomena and problems. Prerequisite: 110a–110b. FALL, SPRING. [3] Staff.

211. Genetics Laboratory. One three-hour laboratory and discussion period per week. May only be taken concurrently with or following 210. FALL. [1] Woelfle.

218. Introduction to Botany. Structure and function of plants, employing a survey of anatomical and morphological systems. Three lectures and one laboratory period per week. SPRING. [4] Benson.

219. Introduction to Zoology. A structural and functional study of the major animal groups. The problems presented to animals by their environments, and the anatomical and physiological mechanisms by which they adapt. Three lectures and one laboratory period per week. Prerequisite: 110a–110b. SPRING. [4] Leal, Catley.

220. Biochemistry I. Structure and mechanism of action of biological molecules, proteins, nucleic acids, lipids, polysaccharides. Enzymology. Carbohydrate metabolism. Prerequisite: 110a–110b and Chemistry 220a–220b. FALL. [3] Krezel, Kaplan.

221. Biochemistry Laboratory. Biochemical techniques; illustrations and applications of biochemical principles. Prerequisite: Chemistry 219a–219b and 220a–220b and pre- or corequisite 220. [1] (Not currently offered)

224. Biology of Insects. An introductory survey of insects, with emphasis on diversity, taxonomy, and ecology. Two lectures and two laboratory periods per week before spring break; seven days intensive field work at Archbold Biological Station, Florida, during spring break; then individual study and final report preparation.[4] (Not currently offered)

226. Immunology. The molecular and cellular basis of immunity. Emphasis on molecular structure, the genetic origin of diversity in B-cell and T-cell receptors, antigen presentation, and the cellular interactions leading to the immune response. Tolerance, tumor and transplantation immunity, autoimmune and immunodeficiency diseases, and allergy. Prerequisite: 201 or 210. FALL. [3] Carter.

A&S

230. Biological Clocks. Study of innate mechanisms for measurement of time in living organisms. Emphasis on the functional significance and physiological basis of biological clocks in animals and humans. Topics include circadian rhythms, time-compensated celestial navigation, photoperiodism, and the role of biological clocks in human behavior. Not open to students who have taken 115, Biological Clocks and Human Behavior Prerequisite: 110a–110b. FALL. [3] McMahon.

237. Ecology Lab. One three-hour laboratory and discussion period or field trip per week. Prerequisite or Corequisite: 238. SPRING. [1] Due-Goodwin.

238. Ecology. Population biology, evolutionary ecology, community structure, with emphasis on species interactions, including competition, predation, and symbiosis. Prerequisite: 110a–110b. SPRING. [3] Abbot.

239. Behavioral Ecology. Theoretical and empirical research on shaping the evolution of behavior. The role of behavior in population regulation, habitat selection and spacing, foraging behavior, predatory-prey interactions, sexual selection, evolution of mating systems, new approaches to animal communication, game theory. Prerequisite: 110a–110b, 205. FALL. [3] Leal.

240. Developmental Biology. Genetic, molecular, and cellular mechanisms underlying development of eukaryotic organisms with emphasis on insects and vertebrate animals. Topics include regulation of gene expression during developmental processes, specification of embryonic polarity, generation and patterning of germ layers, organogenesis, axonal specificity, evolution of chordate body plan. Prerequisite: 201 and 210. FALL. [3] Solnica-Krezel, Zwiebel.

242. Advanced Developmental Biology: Vertebrate Organogenesis. Cellular and molecular regulation of the morphogenetic processes that shape vertebrate tissues and organs. Emphasis on development of digestive, respiratory, hematopoietic, cardiovascular, urogenital, sensory and nervous systems. Where appropriate, correlation to invertebrate development and reference to evolutionary changes in organ structure and function. Prerequisite: 240. [3] (Not currently offered)

243. Genetics of Disease. Application of genetics, cell biology, and molecular biology to the study of human diseases. Genomics, gene mapping, and molecular techniques. Animal models of disease. Chromosomal abnormalities, single-gene and multifactorial diseases, and epigenetics. Prerequisite: 210. FALL. [3] Gamse.

246. Evolutionary Genetics. Fundamentals of population and quantitative genetics. Natural selection, gene flow, genetic drift, population structure, linkage disequilibrium and the analysis of polygenic traits, including genetic map-based approaches. Special emphasis will be given to the genetics of adaptation and speciation. Prerequisite: 205 and pre- or corequisite 210. [3] (Not currently offered)

247. Molecular Evolution. The theory of evolution at the molecular level. The evolution of DNA and RNA sequences, proteins, and genome structures will be studied using models from population genetics and comparative approaches. Molecular clocks, the evolution of gene regulation and globin genes, molecular phylogeny, and human evolution. Prerequisite: 210 and 205. [3] (Not currently offered)

252. Cellular Neurobiology. Structure and function of nerve cells. Emphasis on electrical excitability, synaptic transmission, and sensory transduction. Cellular mechanisms underlying simple behaviors, sensory information processing, and learning and memory. Prerequisite: 110a–110b. FALL. [3] Page.

253. Laboratory in Neurobiology. Laboratory studies focusing on experimental methods in neurophysiology. Introduction to techniques for recording membrane potentials, studying

synaptic transmission, and analyzing neural mechanisms involved in sensor y infor mation processing and r egulation behavior. May only be taken concurr ently with or following 252. Prerequisite: 111a–111b. SPRING. [1] Catania.

254. Neurobiology of Behavior. Nerve cell interactions in neuronal networks of the central nervous system of animals and their impact for r egulating behavior. Sensor y systems, sen sorymotor integration, central pr ocessing of infor mation, neur onal-hormonal interactions; and brain anatomy and organization in inver tebrates and ver tebrates. Pr erequisite: 110a–110b. FALL. [3] Catania.

256. Molecular Neurobiology. Comparative, evolutionary perspectives of molecular mechanisms underlying the development of neural cir cuits, the foundations of nerve cell communi - cation, nervous system plasticity, and sensory processing, especially vision. Relation of these mechanisms to causes of human neur ological diseases. Pr erequisite: 110a and 110b. SPRING. [3] Broadie.

257. Plant-Animal Interactions. Ecology and evolution of species interactions at individual, population, and community levels; coevolution; pollination biology; fruit and seed dispersal; mammal and insect herbivor e and plant defense mechanisms; ant-plant and animal-fungus interactions. Prerequisite: 205. [3] (Not currently offered)

A&S

258. Vertebrate Physiology. Fundamental mechanisms of the major vertebrate physiological systems with an emphasis on humans. Special physiological adaptations of vertebrates to their environment (respiration of aquatic animals, bir ds, and deep diving mammals; salt balance in fresh and saltwater environments; altitude adaptation). Prerequisite: 201 or 220. SPRING. [3] Oeltmann, Carter.

259. Physiology Laboratory . Laboratory to accompany 258. Experiments investigating major physiological pr ocesses (glucose-glycogen-pr otein metabolism, enzyme r egulation during starvation; exer tion, digestion, blood cir culation, respiration, cold adaptation). May only be taken concur rently with, or following, 258. One thr ee-hour laboratory per week. [1] (Not currently offered)

262. Bimolecular Interactions. Energetics and kinetics of interactions between pr oteins and nucleic acids and their ligands. Topics include cooperativity, allostery, rates of binding reactions. Students will gain dir ect experience in computer use, but no pr ogramming is required. Prerequisite: 220 and Physics 117a–117b. One lectur e and two calculation ses - sions per week. [3] (Not currently offered)

265. Biochemistry II. Mechanistic biochemistry of the expression, transmission, and maintenance of genetic infor mation. Replication, transcription, translation, r ecombination, and DNA repair. Prerequisite: 220. SPRING. [3] Eichman, Krezel.

266. Advanced Molecular Genetics. Principles of classical and molecular genetic analysis: mutation and r ecombination, mapping, and the application of genetic methodology to the study of complex systems. Special emphasis on moder n genomic approaches. Prerequisite: 210. SPRING. [3] Friedman.

268. Molecular Membrane Biology . Biological membrane synthesis and its r elationship to human disease. Regulation of cholester ol and phospholipid metabolism; integration of pr o- teins into membranes; and traf ficking of pr oteins and lipids. Pr erequisite: 201 F ALL. [2] Graham.

270. Statistical Methods in Biology . An intr oduction to statistical methods used in the analysis of biological experiments, including the application of computer softwar e packages. Emphasis on testing of hypotheses and experimental design. Topics include descriptive statistics, analysis of variance, r egression, correlation, contingency analysis, and the testing of methods for sampling natural populations. Prerequisite: 110a–110b. FALL. [3] McCauley.

273. Molecular Mechanisms of Environmental Toxins. Molecular interactions of environmental toxins with specific subcellular components and biochemical basis of their toxicity. Environmental mutagens, heavy metals, synthetic estrogens and other analogs of natural substrates, oxidants, and the question of synergy. Prerequisite: 210. FALL. [3] LeStourgeon.

274. Proteins. Molecular structures and biological functions of proteins. Underlying chemical and physical properties. Structural motifs and topology; folding and dynamics; enzyme catalysis; protein-DNA interactions. Structure-based drug design; protein symmetry; supramolecular protein machines. Chemical and spectroscopic methods to probe protein structure and behavior in solution. Prerequisite: 220. FALL. [3] Eichman.

275a–275b. Undergraduate Seminar. Discussions and papers based on readings in original research journals. Specific topics listed in the *Schedule of Courses*; further information from the listed instructor. May be taken for credit more than once, but only two hours count toward the major. Prerequisite: fulfillment of the intermediate course requirements for the major. FALL, SPRING. [2–2]

279. Chemistry of the Brain. Special biochemical reactions in brain, with emphasis on human brain. Synthesis and breakdown of brain molecules and their functions in membranes, synaptic transmission, and sensory transduction. Normal brain metabolism and the changes in neurological disease. Prerequisite: 220. [3] (Not currently offered)

280a–280b. Introduction to Research. Work in the laboratory of a member of the Biological Sciences faculty. A term paper on the research of the laboratory will be required. Prerequisite: 110a. Prerequisite or corequisite: 110b. Consent of course coordinator and enrollment by arrangement before the end of the previous semester is required. FALL, SPRING. [1 credit only per semester; course may be repeated to a total of two credits] Carter, coordinator.

282. Independent Reading. Reading and discussion of research papers with a member of the faculty. Permission to enroll by arrangement before the end of the previous semester. May be taken for credit twice. Prerequisite: consent of Biological Sciences 282 coordinator. FALL, SPRING. [1] Staff; Carter, coordinator.

283. Directed Laboratory Research. Directed student research on a project conceived by a member of the Biological Sciences faculty. Enrollment by arrangement before the end of the previous semester. May be taken only once, and participants ordinarily expected to have overall grade point average of *B* or better. Prerequisite: 110a–110b, one intermediate BSCI course appropriate to the major, and consent of Biological Sciences 283 coordinator. FALL, SPRING. [Variable credit: 2–4] Staff; Singleton, coordinator.

286. Independent Laboratory Research. Original student research on a defined problem in Biological Sciences and under the supervision of Biological Sciences faculty. Some independence in the design and execution of the problem. Enrollment by arrangement before the end of the previous semester. May be taken for credit more than once. Prerequisite: 283, consent of Biological Sciences 286 coordinator, overall grade point average of *B*. FALL, SPRING. [Variable credit: 2–6] Staff; Singleton, coordinator.

290. Special Topics in Biological Sciences. Topics offered vary and are cited in the *Schedule of Courses*. May be taken for credit more than once by permission of the director of undergraduate studies. Prerequisite: 110a–110b. SPRING. [3] Staff.

296. Honors Research. Open only to majors in the Honors Program. May be taken for credit more than once. FALL, SPRING. [Variable credit: 4–6] Staff; Patton, coordinator.

Chemistry

CHAIR Ned A. Porter
DIRECTOR OF UNDERGRADUATE STUDIES Adam K. List
DIRECTOR OF GRADUATE STUDIES Charles M. Lukehart
PROFESSORS EMERITI Robert V. Dilts, Larry C. Hall, Thomas M. Harris, Melvin D. Joesten, Mark M. Jones, Lawrence J. Schaad, David L. Tuleen, David J. Wilson
PROFESSORS Richard N. Armstrong, Darryl J. Bornhop, Richard M. Caprioli, David L. Hachey, David M. Hercules, B. Andes Hess Jr., Jeffrey N. Johnston, Charles M. Lukehart, Terry P. Lybrand, Lawrence J. Marnett, Prasad L. Polavarapu, Ned A. Porter, Carmelo J. Rizzo, Michael P. Stone, Gary A. Sulikowski, Joel Tellinghuisen
RESEARCH PROFESSOR Thomas M. Harris
ADJOINT PROFESSORS James N. Lowe, Lidia Smentek
ASSOCIATE PROFESSORS H. Alex Brown, Timothy P. Hanusa, Piotr Kaszynski, Sandra J. Rosenthal, David W. Wright
RESEARCH ASSOCIATE PROFESSOR Constance M. Harris
ASSISTANT PROFESSORS Brian O. Bachmann, David E. Cliffel, Eva M. Harth, John A. McLean, Jens Meiler
RESEARCH ASSISTANT PROFESSORS Hye-Young Kim, Ivan Kozekov, Keri A. Tallman, Ian D. Tomlinson, Huiyong Yin
ADJOINT ASSISTANT PROFESSOR Andrienne C. Friedli
SENIOR LECTURERS Adam K. List, Shawn T. Phillips, Michelle M. Sulikowski, Grace Zoorob
LECTURER Tara D. Todd

A&S

THE Department of Chemistry seeks to provide a sound education in the fundamentals of modern chemistry as well as exposure to cutting-edge research and contemporary instrumentation in the field. This is accomplished by providing students with a sold background in the classical disciplines of organic, analytical, inorganic, and physical chemistry. This core course set, which is supported by a variety of practical experimental experiences in the laboratory, provides students with the skills needed to think critically about chemistry. Once the foundation has been set, students will delve deeper into an area of their choice by taking upper-level undergraduate or graduate courses. Recognizing the importance of research as a capstone experience, which integrates and makes sense of our collective body of knowledge, we strongly encourage all students to participate in undergraduate research. The department offers three different program options to meet the diverse needs and interests of our students.

Programs of Concentration in Chemistry

Three programs of concentration are available. Program A permits graduates to take positions of technical responsibility as chemists and serves as a background for the teaching of chemistry in secondary schools or for the study of medicine, law, business, etc. Program B, for superior students, resembles Program C but requires independent study and research. Program C is intended for those who plan to do graduate work in chemistry or to make chemistry their profession. It meets the minimum standards of

the American Chemical Society. Chemistry courses taken under the three programs are as follows:

A: BASIC		B: HONORS*		C: PROFESSIONAL	
102a–b and 104a–b *or* AP Credit	4	102a–b and 104a–b 0		102a–b and 104a–b 0	
220a–b or 218a–b, and 219a–b	8	220a–b or 218a–b, and 219a–b	8	220a–b or 218a–b, and 219a–b	8
210, 212A	4	210, 212A	4	210, 212A	4
230 or 231	3	230, 236	4	204 and 282a–b (or 221)	3
236	1	231, 237	5	230, 236	4
Additional 200-level courses	7	203	3	231, 237	5
		292a–b–c	6	203	3
		Graduate courses or 291a–b	2	211, 212B	4
				Advanced chemistry	6
Total hours	**27**	**Total hours**	**32**	**Total hours**	**37**

* In order to be certified by the American Chemical Society, an honors candidate must also complete Chemistry 211, 212b, and fulfill requirements in mathematics and physics. Graduate courses are those that may be taken for credit by a graduate student in chemistry.

Program A. Basic. In the first year, students in Program A should complete Chemistry 102a–102b and 104a–104b, or 218a–218b and 219a–219b, foreign language (recommended but not required), and Math 150a-150b or a higher-level calculus sequence; in the second year 220a–220b and 219a–219b; in the third year 210 and 212a, 230, 236; and in the third and fourth years 7 additional hours of chemistry at the 200 or 300 level. Up to three hours of 282a–282b may be counted toward the 27 hours. Biological Sciences 220 (Biochemistry I) is acceptable as additional chemistry in Program A. Credit is given for Chemistry 102b/104b but not for 102a/104a.

Mathematics 150a–150b is the minimum mathematics requirement for Chemistry A majors.

Program B. Honors. Near the end of their sophomore year, students with a minimum grade point average of 3.000 in all courses and of 3.000 in chemistry may apply for election to the Honors Program. Before the junior year the student should have completed 210 and 212a, 220a–220b and 219a–219b, and the physics and mathematics prerequisite to 230. In the junior year the student takes 230, 231, 236, 237, and 292a (spring). In the senior year, the student takes 203 and 292b–292c. The student must complete 11 hours in the Honors Program. Chemistry 292a–292b–292c counts as 6 of these hours; the 5 remaining hours are satisfied by readings under the student's research adviser during the junior year (291a–291b) or by 203 plus one graduate course (normally in the senior year). Honors candidates will be expected to take the Graduate Record Examination in Chemistry during the fall semester of their senior year. The student must present a thesis on the research done under 292a–292b–292c and pass an oral examination on it. Additional information may be found in the chapter on Special Programs in the College.

Program C. Professional. A suggested pattern for students in Program C, preparing for a profession in chemistry, is as follows: First year: Chemistry 102a–102b and 104a–104b *or* 218a–218b and 219a–219b and Mathematics 155a–155b (Mathematics 150a–150b and 170a–170b is a less highly recommended but satisfactory option). Second year: 210 and 212a, 220a–220b and 219a–219b, Mathematics 175, and Physics 117a–117b or 121a–121b (one of these physics sequences is required for the Program C major). Third year: 230, 231, 236, 237. Fourth year: 203, 211 and 212b, 204 and 282a–282b (or 221), and advanced chemistry. Students are encouraged to include Mathematics 218 or 247–248 in their programs. Mathematics 155a–155b and 175 or 150a–150b and 170a–170b are the minimum requirements for Program C majors.

"Advanced chemistry" may consist of: (a) 202, 207, 220c, 223, 224, 226, 232, 233, 234, 282a–282b, or 300-level courses, or (b) appropriate courses in mathematics above 194, computer science above 200, or statistics above 218, or (c) 200-level physics courses that require calculus, or (d) Biological Sciences 220, or (e) Chemical Engineering 223 and 225, or (f) Earth and Environmental Sciences 260. At least 3 hours should be in a course with a Biochemistry component (e.g., Chemistry 202, 220c, 224, 226, 336, Biological Sciences 220).

Minor in Chemistry

The minor in chemistry requires 18 hours of course work, including 102b and 104b *or* AP credit, General Chemistry (4 hours), and 14 hours selected from any of the 3- or 4-hour courses acceptable for the major in chemistry.

Biochemistry

In addition to Biochemistry I (Biological Sciences 220), the following course in biochemistry is available to selected undergraduates majoring in chemistry who obtain permission from (a) the director of the undergraduate program, (b) the chair of the Department of Biochemistry, and (c) the Graduate School:

331. The Role of Carbohydrate Structures in Normal and Diseased States [2].

A complete course description can be found in the Graduate School catalog.

Licensure for Teaching

Candidates for teacher licensure in chemistry at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

Introductory Courses

Introductory chemistry is offered in three different year-long courses, each with its own laboratory. Only one of these year-long courses may be taken for credit. Successful completion of the first semester of any sequence is a prerequisite for the second semester of that sequence.

1. *Chemistry 101a–101b.* Intended for liberal arts students who are not planning to take any additional chemistry courses. It treats chemistry in a non-mathematical fashion, with some historical and philosophical features. Not for science and engineering students.

2. *Chemistry 102a–102b.* Designed for engineering, science, and premedical students. This course, which must be taken simultaneously with 104a–104b and 106a–106b, serves as preparation for students intending to major in chemistry, biology, physics, or earth and environmental sciences. It is a more rigorous, mathematical approach to chemistry and a prerequisite for organic and other chemistry courses. It is not intended for liberal arts students taking a science course only to fulfill CPLE or AXLE requirements.

3. *Chemistry 218a–218b.* Designed for students who have a strong background in chemistry with a 4 or 5 advanced placement test score or approval of the director of undergraduate studies. Students taking the 218a–218b sequence should also register for the organic laboratory courses 219a–219b. This course covers the same material as Chemistry 220a–220b but is limited to freshmen. Chemistry 218a–218b satisfies all Chemistry 220a–220b prerequisites needed for advanced chemistry courses. Students who complete 218a–218b are ready to take courses in chemistry traditionally taken during the third year of the major.

100a–100b. Introductory Chemistry Laboratory. Laboratory to accompany 101a–101b. Corequisite: 101a–101b. One three-hour laboratory per week. [1–1] Todd.

101a–101b. Introductory Chemistry. General principles for non-science majors or those not planning to take additional chemistry courses. Does not serve as a prerequisite for advanced courses in chemistry without approval of the director of undergraduate studies. 101a is prerequisite to 101b. [3–3] Todd.

102a–102b. General Chemistry. General principles of chemistry for science and engineering students. Composition and structure of matter, chemical reactions, bonding, solution chemistry, kinetics, thermodynamics, equilibrium, acids and bases, electrochemistry, coordination compounds. Ordinarily accompanied by 104a–104b. Corequisite: 106a–106b, Mathematics 150a–150b or equivalent. Three lectures per week and a recitation period (106a–106b). [3–3] Staff.

104a–104b. General Chemistry Laboratory. Laboratory to accompany 102a–102b. Corequisite: 102a–102b. One three-hour laboratory per week. [1–1] Staff.

106a–106b. General Chemistry Recitation. The recitation portion of the Chemistry 102a–102b course. One one-hour period per week. All students registering for Chemistry 102a–102b must concurrently register for Chemistry 106a–106b. [0–0]

115F. First-Year Writing Seminar.

202. Introduction to Bioinorganic Chemistry. Functions of inorganic elements in living cells. The manner in which coordination can modify the properties of metallic ions in living systems. Non-metallic elements including selenium, iodine, chlorine, and phosphorus. Prerequisite: 220a–220b. SPRING. [3] Wright.

203. Inorganic Chemistry. A survey of modern inorganic chemistry including coordination compounds and the compounds of the main-group elements. Representative reactions and current theories are treated. Prerequisite: organic and physical chemistry. FALL. [3] Lukehart.

204. Inorganic Preparations. Synthesis and characterization of inorganic compounds or materials; one laboratory per week. Pre- or corequisite: 203. SPRING. [1] Lukehart.

207. Introduction to Organometallic Chemistry. A general description of the preparation, reaction chemistry, molecular structure, bonding, and spectroscopic identification of organometallic compounds of the transition metals. Prerequisite: 203, 220a–220b. [3] Lukehart. (Not currently offered)

210. Introduction to Analytical Chemistry. Fundamental quantitative analytical chemistry with emphasis on principles of analysis, separations, equilibria, stoichiometry and spectrophotometry. No credit for graduate students in chemistry. Must be accompanied by 212a. SPRING. [3] Bornhop.

211. Instrumental Analytical Chemistry. Chemical and physical principles of modern analytical chemistry instrumentation. Credit allowed for chemistry graduate students having deficiency. Prerequisite: 210, 220a–220b, and 230. Must be accompanied by 212b for undergraduates. FALL. [3] Cliffel.

212a–212b. Analytical Chemistry Laboratory. Laboratory to accompany Chemistry 210 (212a) and 211 (212b). No credit for graduate students in chemistry. Corequisite: 210–211. One four-hour laboratory per week. [1–1] Zoorob.

A&S

218a–218b. Organic Chemistry for Advanced Placement Students. Fundamental types of organic compounds, their nomenclature, classification, preparations, reactions, and general application. Prerequisite: enrollment limited to first-year students with advanced placement chemistry scores of 4 or 5, or the approval of the director of undergraduate studies. Ordinarily accompanied by 219a–219b. Equivalent to 220. [3–3] Harth, M. Sulikowski.

219a–219b. Organic Chemistry Laboratory. Laboratory to accompany 220a–220b. Corequisite: 220a–220b. One four-hour laboratory per week. [1–1] List.

220a–220b. Organic Chemistry. Fundamental types of organic compounds, their nomenclature, classification, preparations, reactions, and general application. Prerequisite: 102a–102b, 103a–103b, 104a–104b. No credit for graduate students in chemistry. Ordinarily accompanied by 219a–219b. [3–3] Hess, M. Sulikowski.

220c. Organic Chemistry Structure and Mechanism. Introduction to advanced topics in organic chemistry. Stereochemistry and conformational analysis, mechanisms of organic reactions, linear free-energy relationships, reactive intermediates. Three lectures and one recitation hour per week. FALL. [4] G. Sulikowski, Johnston.

221. Laboratory Techniques in Organic Chemistry. Advanced work in organic preparations, new synthetic techniques, and modern organic analytical methods, including infrared and nuclear magnetic resonance. Prerequisite: 220b. One lecture and two laboratory periods per week. [3] (Not currently offered)

222. Physical Organic Chemistry. Structure and bonding in organic molecules. Reactive intermediates and organic reaction mechanisms. Prerequisite: 220b, 231. SPRING. [3] Kaszynski.

223. Advanced Organic Reactions. A comprehensive study of the synthesis and behavior of organic compounds based on electronic theory. Prerequisite: 220a–220b and 221, 230, 231, 236, and 237, or special consent of instructor. Three lectures per week. SPRING. [3] Rizzo.

224. Bioorganic Chemistry. Essential metabolites including vitamins, steroids, peptides, and nucleotides. Consideration of phosphate esters and the synthesis of oligodeoxynucleotides. Prerequisite: 220a–220b. Three lectures per week. FALL, SPRING. [3] Rizzo, Lowe.

225. Spectroscopic Identification of Organic Compounds. Theoretical and practical aspects of spectroscopic methods, with an emphasis on NMR spectroscopy, for structural characterization of organic compounds. Prerequisite: 220b. [3] (Not currently offered)

226. Medicinal Chemistry. Drug design and development; drug interactions with receptors, enzymes, and DNA; selected therapeutic areas. Some organic synthesis. Prerequisite: 220a–220b and 219a–219b. FALL. [3] Lybrand.

230. Physical Chemistry I. Chemical kinetics and principles of quantum chemistry applied to molecular structure, bonding, and spectroscopy. Prerequisite: Math 150a–150b or Math 155a–155b and Physics 116a–116b or Physics 117a–117b. No credit for graduate students in chemistry. FALL. [3] Rosenthal.

231. Physical Chemistry II. Chemical thermodynamics and equilibrium, their statistical foundation, and applications to chemical phenomena. Prerequisite: Math 150a–150b or Math 155a–155b and Physics 116a–116b or Physics 117a–117b. No credit for graduate students in chemistry. SPRING. [3] Meiler.

232. Quantum Chemistry. Limits of classical mechanics at the atomic and molecular level; the postulates of quantum mechanics applied to problems in one, two, and three dimensions; perturbation and other methods. Prerequisite: 231 or equivalent. FALL. [3] Stone.

233. Molecular Modeling Methods. Introduction to theory and practice of computer simulation studies of molecules with emphasis on applications to biological molecules and complexes. Background theory, implementation details, capabilities and practical limitations. Prerequisite: 231. Three lectures and one three-hour laboratory per week. SPRING. [4] Lybrand.

234. Spectroscopy. Experimental and theoretical aspects of spectroscopy. Energy levels, selection rules, and spectral transitions as related to atomic and molecular structure. Design of contemporary magnetic resonance and optical spectroscopy measurements. Prerequisite: 231. SPRING. [3] Stone.

235. Surface and Polymer Chemistry. An introduction to the physics and chemistry of surface phenomena and of colloidal and macromolecular systems. Applications of thermodynamic, kinetic, and spectroscopic principles to the study of phase boundary problems in chemistry. Prerequisite: 230 or consent of instructor. [3] (Offered Fall 2007)

236. Physical Chemistry Laboratory. Experiments in chemical thermodynamics and kinetics. Data analysis and presentation. No credit for graduate students in chemistry. One three-hour laboratory or one lecture per week. Prerequisite: Calculus through Math 175 recommended. FALL. [1] Tellinghuisen.

237. Experimental Spectroscopy. Experiments in ultraviolet, visible, infrared, and Raman spectroscopy of atoms and molecules, with application to lasers, photochemistry, and kinetics. Data analysis and presentation. No credit for graduate students in chemistry. One three-hour laboratory and one lecture per week. Prerequisites: 230 and 236; Math 175. SPRING. [2] Tellinghuisen.

238. Computational Structural Biochemistry. Theoretical and practical aspects of modeling protein structure and interactions computationally. Sequence-sequence alignments, secondary structure prediction, fold recognition, de novo structure prediction. Protein design, protein-protein docking, protein-ligand docking. Prerequisite: 231. FALL. [4] Meiler.

250. Chemical Literature. Assigned readings and problems in the nature and use of the chemical literature. Prerequisite: one year of organic chemistry. SPRING. [1] K. Porter.

282a–282b. Undergraduate Research. Open to students who have completed at least 8 hours of chemistry, upon request to the director of undergraduate studies, with consent of a

faculty member who will sponsor the r esearch. Prerequisite: a minimum grade point aver - age in chemistr y of 2.7. May be r epeated any number of times depending on variation of topic. FALL, SPRING. [Variable credit: 1–3 each semester] Staff.

291a–291b. Readings for Honors. Open only to students in the Honors Pr ogram. 291a: general r eading supervised by r esearch adviser. 291b: continuation, with emphasis on research planned. FALL, SPRING. [2–2] Staff.

292a–292b–292c. Honors Research. Open only to students in the Honors Program. Original research supervised by research adviser, to be reported in thesis form with oral examination thereon. FALL, SPRING. [2–2–2] Staff.

311. Advanced Analytical Chemistry. [3]

313. Advanced Analytical Chemistry II. [3]

314a. Special Topics in Analytical Chemistry. [3]

316. Problem Solving in Analytical Chemistry. [3]

324. Special Topics in Organic Chemistry. SPRING. [3] Johnston.

331. Statistical Thermodynamics. [3]

332. Special Topics in Chemical Physics. [0]

340. Applications of Group Theory. [3]

350. Materials Chemistry. [3]

Chinese

SENIOR LECTURER Xianmin Liu
LECTURERS Yong Chen, Qing Wei

☙COURSES in Chinese may be taken on an elective basis. Students interested in an interdisciplinary major in East Asian studies may consult the director of the program about the role of Chinese in such a major.

Minor in Chinese Language and Culture

The minor in Chinese language and culture requires a minimum of 19 hours of course work, anchored by a firm foundation in language study that is complemented by electives in art, history, literature, film, politics, and religion. Chinese 201 and 202 do not count toward the minor. Students electing two or more minors in East Asian studies must present at least 12 credit hours in each minor not being counted toward any other minor or major.

1. Required Courses (13 hours):
   Chinese 214, 216, and 241.
2. Elective Courses from the following list (at least 6 hours):
   East Asian Studies 289a–289b (Independent Study, as appropriate); 294a–294b (Special Topics, upon approval by the director of the East Asian Studies program).
   History 154, 155, 156, 246, 247, 248, 295 (as appropriate).

History of Art 251, 252.
Political Science 216.
Religious Studies 244.

Other China-related courses not listed here—such as those in study abroad programs, First-Year Writing Seminars, and Independent Studies—may be applied toward the minor upon approval by the director of the East Asian Studies Program.

201–202. Elementary Chinese. Introduction to Modern Chinese pronunciation, grammar, conversation, reading, and writing. [5–5] Liu, Wei, Chen.

214–216. Intermediate Chinese. Language training in oral and written Chinese. Prerequisite: 201–202. [5–5] Liu, Wei, Chen.

231. Calligraphy. Basic skills of writing standard script *kaishu.* Basic aesthetic of Chinese calligraphy. No Chinese language background necessary. [1] Liu.

241–242. Advanced Chinese. Readings in Chinese culture to enhance proficiency in oral and written Chinese. Prerequisite: 214–216. [3–3] Chen.

251–252. Intensive Readings in Chinese. Readings and discussion of selected Chinese newspapers, journals, magazines, and books related to social, economic, legal, and political issues in contemporary China. Prerequisite: 241–242. [3–3] Liu.

289a–289b. Independent Study. A reading course, the content of which varies according to the needs of the individual student. Primarily designed to cover pertinent material not otherwise available to the student in the regular curriculum. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 12 over a four-semester period] Liu.

Classical Studies

CHAIR Barbara Tsakirgis
DIRECTOR OF UNDERGRADUATE STUDIES Daniel P. Solomon
DIRECTOR OF GRADUATE STUDIES Kathy L. Gaca
PROFESSOR EMERITUS Robert Drews
PROFESSORS Thomas A. J. McGinn, Jack M. Sasson, Susan Ford Wiltshire
ASSOCIATE PROFESSORS Kathy L. Gaca, F. Carter Philips, Barbara Tsakirgis
ASSISTANT PROFESSORS Amanda Krauss, David Petrain
SENIOR LECTURERS Kieran Hendrick, Daniel P. Solomon

CLASSICAL studies have always been the heart of a liberal education and offer the student unmatched perspectives within which to understand our own time. They show how our oldest beliefs and institutions came into being, and bring to life systems of values both different from and similar to our own. Courses are offered in the history, religion, art, philosophy, social problems, literature, and mythology of the ancient world. The curriculum covers 3,500 years of human experience in the ancient Near East, Greece, and Roman Europe, from the beginnings of civilization to the Christianization of Europe and the dawn of the Middle Ages.

Three major programs are offered. Students majoring in classics or ancient Mediterranean studies may take much of their work in courses on antiquity that require no knowledge of Greek or Latin. Students majoring in classical languages take their course work in Greek or Latin. Majors are encouraged to spend a semester at the Intercollegiate Center for Classical Studies in Rome. A summer program at the American School of Classical Studies in Athens is also available.

The Classics Society functions as the department's extracurricular organization. Eta Sigma Phi is the national honorary society for classics.

Philosophy 210 and Philosophy 218 may be counted toward concentration in classics and ancient Mediterranean studies as appropriate as well as toward a minor in classics.

Program of Concentration in Classical Languages

Students complete 32 hours in Greek and Latin. Those who want to concentrate in one language must also complete at least two semesters' work in the other, although credit toward the 32-hour requirement will be given for only one of the elementary sequences (*either* Greek 201–202 *or* Latin 100 *or* 101–102).

Program of Concentration in Classics

Students complete at least 30 hours in classics, Greek, or Latin courses, at least 6 hours of which must be in Greek courses numbered above 204 or in Latin courses numbered above 104. Only one of the elementary language sequences (*either* Greek 201–202 *or* Latin 100 *or* 101–102) may be applied toward the 30-hour requirement.

Program of Concentration in Ancient Mediterranean Studies

Students complete at least 30 hours in Classics, Greek, Latin, or eligible courses in ancient philosophy or religion (PHIL 210, 218, RLST 207, 208, 209, 211, 213, 215, 226). No more than 11 hours may be taken at the 100 level, and no more than 12 hours may be taken in the Department of Religious Studies. Students must complete the elementary sequence in one of the ancient languages offered in the department: Greek 201–202; Latin 100; Latin 101–102; or Akkadian (Classics 231–232). By special arrangement, Biblical Hebrew can also satisfy the ancient language requirement.

Honors Program in Classics and in Classical Languages

Admission requirements are: completion of junior year and completion of at least 6 hours of work in advanced Greek or Latin courses (above Greek 204 or Latin 104), and an overall GPA of 3.2, with 3.4 in courses within the department (including hours earned at the ICCS in Rome).

In order to graduate with departmental honors, a student must (in addition to maintaining the stated GPA through the senior year) satisfy the following requirements:

1. Complete 12 hours of work beyond the intermediate level in Latin and/or Greek for honors in classics, and 18 hours for honors in classical languages.

2. Write a senior thesis, and defend it before the department, for either 3 or 6 hours credit. Candidates choosing the three-hour option for the thesis must complete one of the department's graduate seminars.

3. For honors in classical languages, demonstrate competence in the history of either Greek or Latin literature, by satisfactory performance on a written and oral examination. For honors in classics, demonstrate competence in either Greek history and archaeology or Roman history and archaeology. This competence can be demonstrated in several ways: *B+* work at the ICCS in Rome, *B+* work in two of the department's pertinent classics courses (204 or 205 and 208 or 209; 206 and 212 or 213), or satisfactory performance on a written and oral examination.

Minor in Classics

Students who want a minor in classics may tailor their program according to their needs; but they are required to study Greek or Latin through the intermediate level and to complete an additional 15 hours.

Requirements for the minor are as follows:

1. Either Latin 104 or Greek 204 or equivalent*
2. Five courses from among the following, of which at least three must be at the 200 level:
   a. *Language and literature:*
      Latin 201, 202, 203, 205, 206, 212, 215, 220, 260, 268
      Greek 212
   b. *Civilization:* Classics 130, 146, 171, 222
   c. *History:* Classics 208, 209, 212, 213, 224
   d. *Art and Archaeology:* Classics 203, 204, 205, 206, 211
   e. *Mythology, Law, and Philosophy:* Classics 150, 160
      Philosophy 210

*Equivalence is demonstrated by taking a higher-level language course.

Licensure for Teaching

Candidates for teacher licensure in Latin at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

Greek

201. Beginning Greek I. The elements of classical Greek. Reading of simplified texts from authors of the fifth and fourth centuries B.C. FALL. [4] Philips.

202. Beginning Greek II. Continuation of 201. Completion of the elements of classical Greek through readings from classical authors. Introduction to Homeric and Hellenistic Greek. Prerequisite: 201 or departmental placement. SPRING. [4] Hendrick.

203. Intermediate Greek I: Classical and Koiné Greek. Review of Greek grammar, and reading from classical and biblical texts. Prerequisite: 202. FALL. [3] Gaca.

204. Intermediate Greek II: Homer's *Iliad.* Selected reading and interpretation; history and literary characteristics of the Homeric epic; practice in reading of meter. Prerequisite: 203. SPRING. [3] Philips.

212. The Greek Historians. Selections from the major Greek historians, especially Herodotus and Thucydides, and study of their philosophy of history; investigation of the development of historical prose writing. Prerequisite: 204. [3] Hendrick.

215. The Greek Tragedians. Selections from the plays of Aeschylus, Sophocles, and Euripides. Survey of the development of tragedy. May be repeated for credit with change of subject matter. Prerequisite: 204. SPRING. [3] Philips.

216. Readings in Plato and Aristotle. Selected readings from the dialogues of Plato and from the ethical writings of Aristotle. Corollary readings and discussions of the pre-Socratic philosophers and the post-Aristotelian schools. Prerequisite: 204. [3] (Offered 2007/2008)

218. Greek Lyric Poetry. The Greek melic, elegiac, and iambic traditions, with an introduction to the Greek dialects and special emphasis on Archilochus, Tyrtaeus, Alcaeus, and Sappho. Prerequisite: 204. [3] (Offered 2007/2008)

240. The Gospels in Greek. Matthew and selections from the other Gospels. Prerequisite: 203 or departmental placement. [3] (Not currently offered)

A&S

289. Independent Study. Designed for majors wanting to familiarize themselves with works and authors not covered in the regular curriculum. Prerequisite: 6 hours above 204. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 6]

313. Seminar in Classical Greek Prose. [3] (Offered 2007/2008)

314. Seminar in Classical Greek Poetry. SPRING. [3] Gaca.

320. Seminar in Early Greek Poetry. [3] Philips. (Offered 2007/2008)

Latin

100. Intensive Elementary Latin. The equivalent of Latin 101 and 102. This course presents the elements of the Latin language at an accelerated pace. Designed for students who have completed one or two years of Latin in high school but are not prepared to enter Latin 102. FALL. [5] Solomon.

101. Beginning Latin I. Designed to enable the student to understand elementary Latin, whether written or oral. Some practice in speaking and writing in Latin. FALL. [4] Staff.

102. Beginning Latin II. Continuation of I, and transition to literary Latin. Emphasis on the comprehension of texts. Prerequisite: 101 or departmental placement. SPRING. [4] Staff.

103. Intermediate Latin I. Review of Latin grammar and selected reading from major Latin authors. Prerequisite: 100 or 102 or departmental placement. FALL. [3] Solomon.

104. Intermediate Latin II. Selected reading from the major Latin poets. Prerequisite: 103 or departmental placement. SPRING. [3] Solomon, Krauss.

201. Catullus. Reading and interpretation of Catullus' poems; aesthetic, political, and rhetorical contexts; fundamentals of Latin meter. Prerequisite: 104 or departmental placement. [3] (Offered 2007/2008)

202. Ovid. Reading and interpretation of selections from the *Metamorphoses* or other works of Ovid. Prerequisite: 104 or departmental placement. FALL. [3] Krauss.

203. The Lyric Poetry of Horace. Reading and interpretation of Horace's *Epodes* and *Odes*; relation to the Greco-Roman lyric tradition and to Augustan politics. Prerequisite: 104 or departmental placement. SPRING. [3] Solomon.

205. Latin Letters. The literary letters of Seneca and Pliny, with a brief introduction to the personal correspondence of Cicero and the letters discovered at Vindolanda. Prerequisite: 104 or departmental placement. [3] (Offered 2007/2008)

206. Cicero and the Humanistic Tradition. Study of Cicero's career and thought, and of his contribution to the development of the concept of *humanitas*. Readings from his letters, speeches, and philosophical works. Prerequisite: 104 or departmental placement. SPRING. [3] Gaca.

212. Roman Comedy. Reading of selected comedies of Plautus and Terence: study of the form of Roman comedy and its relation to the Greek New Comedy. Prerequisite: 104 or departmental placement. [3] (Offered 2007/2008)

215. The Roman Historians. Selections from Sallust, Livy, and Tacitus, with attention to their objectives and methods; analysis of Roman historiography and its relation to Greek and early Christian historiography. Prerequisite: 104 or departmental placement. [3] (Offered 2007/2008)

220. Vergil: *The Aeneid.* An intensive study of the entire poem, in the context of the epic tradition. Prerequisite: 104 or departmental placement. FALL. [3] Wiltshire.

260. Early Christian Writers. Selections from the writings of Latin Christians, from the account of Perpetua's martyrdom to the *Confessions* of Augustine. Prerequisite: 3 hours above 104. [3] (Not currently offered)

264. Roman Satire. The satires of Horace and Juvenal; the origins of Roman satie; history and conventions of the genre; background reading in other Roman satirists. Prerequisite: 3 hours above 104. [3] (Offered 2007/2008)

268. Lucretius: *De Rerum Natura.* Lucretius' poem studied both in the tradition of Epicurean philosophy and as a landmark in the development of the Latin didactic epic; background material in the fragments of Epicurus and some treatment of the Epicurean movement in Italy and especially in Rome. Prerequisite: 3 hours above 104. SPRING. [3] Petrain.

289. Independent Study. Designed for majors wanting to familiarize themselves with works or authors not covered in the regular curriculum. Prerequisite: 6 hours above 104. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 6]

313. Seminar in Classical Latin Prose. FALL. [3] Petrain.

314. Seminar in Classical Latin Poetry. SPRING. [3] Wiltshire.

Classics

Courses below the 300 level require no knowledge of either Greek or Latin.

115F. First-Year Writing Seminar. [3]

130. Greek Civilization. A survey of the history and achievements of Greece from its Mycenaean origins to the Roman domination. Topics include literature, art, athletics, Periclean Athens, the conquest of Alexander, and the Hellenistic age. FALL. [3] Hendrick.

146. Roman Civilization. Ancient Roman civilization from mythical foundations to the fall of the empire. A historical survey of topics including art and architecture, city life, agriculture, religion, law, slavery, public entertainment, and literature. FALL, SPRING. [3] Solomon, Petrain.

150. The Greek Myths. A study of the nature of the Greek myths, with consideration of the related Near Eastern myths and the early history of myths in Greece. Both the divine and the heroic myths, with some attention to the development of these myths in Italy and to their influence upon art and literature. SPRING. [3] Hendrick.

160. Roman Law. Emphasis on the interaction of a system of law with social needs and expectations, on thinking and arguing about law, and on evaluation of law's social inadequacy. [3] (Not currently offered)

171. Ancient Greek Medicine and its Legacy. Ancient Greek medical knowledge, practice, and cultural values; the Hippocratic tradition and its influence. Linguistic techniques used in the study of scientific terms. The Classical heritage of modern medicine; the language and values associated with healing. [3] (Offered 2007/2008)

203. Aegean Art and Archaeology of the Bronze Age. The art and archaeology of the major cultures around the Aegean Sea between 3000 and 1000 B.C.: Minoan, Helladic or Mycenaean of the Greek mainland, Cycladic and those of Anatolia. No credit for students who have completed 223. [3] Tsakirgis. (Not currently offered)

204. Archaic and Classical Greek Art and Architecture, 1000 to 400 B.C. Sculpture, vase painting, architecture, and the minor arts from about 1000 B.C. to the late fifth century B.C. Formal and stylistic developments in relation to changing cultural background. No credit for students who have completed 227. [3] Tsakirgis. (Offered 2007/2008)

205. Late Classical Greek and Hellenistic Art and Architecture. Sculpture, vase painting, architecture, and the minor arts from after the Parthenon to the Roman Empire. A focus on those media (wall painting and mosaic) that develop significantly in this period. [3] Tsakirgis. (Not currently offered)

206. Roman Art and Architecture. Sculpture, architecture, and painting from the tenth century B.C. to the early fourth century A.D. Daily life of the Romans as seen in the towns of Pompeii and Herculaneum. No credit for students who have completed 228. SPRING. [3] Tsakirgis.

207. History of the Ancient Near East. From the neolithic period to the conquests of Alexander the Great, in the geographical area from Persia to Troy and Egypt. Special attention to the history of Israel. [3] (Offered 2007/2008)

208. History of Greece to Alexander the Great. The Greek world from the beginning of the Mycenaean Age (1650 B.C.) to the end of the Classical period. Special attention to the relationship between political history and the development of Hellenism. FALL. [3] Hendrick.

209. Greece and the Near East from Alexander to Theodosius. From Alexander's conquest of the Persian Empire to the ascendancy of Christianity in the late fourth century. Emphasis on social, cultural and religious transformations, within the framework of political history. SPRING. [3] Hendrick.

211. The Greek City. The example of ancient Athens. The stoa, the theater, the house, and fortifications. Institutions such as the courts, the public assembly, and the family. Literary, historical, archaeological, and philosophical sources. [3] Tsakirgis. (Offered 2007/2008)

212. History of the Roman Republic. The growth and evolution of the Roman world, from the foundation of the city in the seventh century B.C. to the reign of Caesar Augustus. The Romans' unification of Italy, conquest of the Mediterranean and western Europe, adoption of Hellenism, and overthrow of the Republic. No credit for students who have had the former 209 [History of Rome]. [3] (Offered 2007/2008)

A&S

213. History of the Roman Empire. The Roman world from Augustus to the collapse of the western empire in the fifth century. Political, military, social, and religious history. Special attention given to problems arising from use of the primary sources as well as to controversies in modern scholarship. No credit for students who have had the former 209 [History of Rome]. [3] (Offered 2007/2008)

216. Greek Sculpture. Style, materials, and techniques ca. 900–31 B.C. The sculptor's craft and reasons for the creation of both free-standing and architectural sculpture. SPRING. [3] Tsakirgis.

217. Art and Architecture of Ancient Egypt. Art, architecture, and culture of Egypt from the fourth millennium through the Old, Middle, and New Kingdoms. Sculpture, wall painting, architecture, and material culture. [3] Tsakirgis. (Offered 2007/2008)

220. Women, Sexuality, and the Family in Ancient Greece and Rome. The status and role of women, law and the regulation of the private sphere, sexuality and gender roles, demography and family structure, marriage, children, religion, domestic architecture and the household economy, ancient critiques of the family, and the impact of Christianity. FALL. [3] Krauss.

222. Classical Tradition in America. Influences of classical Greece and Rome on the literature, politics, architecture, and values of the United States from the colonial period to the present. SPRING. [3] Wiltshire.

224. The Ancient Origins of Religious Conflict in the Middle East. Religious oppositions in the eastern Mediterranean world from the Maccabean revolt to the Muslim conquests of the seventh century; beginnings of religious militancy; challenges of monotheism to Greco-Roman civilization; conversion, persecution, and concepts of heresy and holy war in Christianity, Judaism, and Islam. FALL. [3] Drews.

231–232. Akkadian. Introduction to the cuneiform script and to the grammar of Akkadian, the language of ancient Mesopotamia. Selected readings in Old Babylonian (CODEX Hammurabi, Mari letters) and Neo-Assyrian texts (Creation Poem, Gilgamesh Epic). FALL, SPRING. [3–3] Sasson.

236. Culture of the Ancient Near East. A survey of highly sophisticated Near East cultures of the last three millennia before the common era (B.C.). Discussion of political histories, and the social, religious, and intellectual heritage of Mesopotamia, Egypt, and Anatolia through excavated artifacts and written documents. [3] Sasson. (Not currently offered)

238. The Amarna Age. The Amarna period from the sixteenth through the twelfth centuries B.C.E., as illumined by excavations of palaces and temples in Egypt, Anatolia, Canaan, and Mesopotamia as well as the vast historical, legal, and literary documents of the period. Focus on the internationalism and theological speculation of the period as seen through the powerful personalities and accomplishments of leaders such as Thutmoses III, Suppiluliumas, Ramses II, and the spiritually influential Akehnaten. [3] Sasson. (Not currently offered)

289. Independent Study. Completion of a substantial research paper in either classics or the classical tradition under the direction of a faculty sponsor. Consent of both the faculty sponsor and the director of undergraduate studies is required. Open only to students who have completed either Greek 204 or Latin 104. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 6]

299a–299b. Senior Honors Thesis. Open only to seniors in the departmental honors program. FALL, SPRING. [3–3]

305. Seminar in Classical Art and Architecture. [3] Tsakirgis. (Not currently offered)

398. Independent Study. [Variable credit: 1–3]

Communication of Science and Technology

DIRECTOR David A. Weintraub

Affiliated Faculty

PROFESSORS Jay Clayton (English), David J. Ernst (Physics and Astronomy); Richard F. Haglund Jr. (Physics and Astronomy), David M. Hercules (Chemistry), Kassian Kovalcheck (Communication Studies), Gerald J. Stubbs (Biological Sciences), Jeffrey D. Schall (Psychology), Robert E. Stammer (Engineering Science), David A. Weintraub (Physics and Astronomy)
RESEARCH PROFESSOR C. Richard Chappell (Physics and Astronomy)
SENIOR LECTURER Jonathan M. Gilligan (Earth and Environmental Sciences)

A&S

THE study of the communication of science and technology is an interdisciplinary enterprise that draws upon the scientific, engineering, and communication, both oral and written, resources of Vanderbilt University. The program is designed for students who have an interest in science and technology and also are interested in how science and technology are communicated to the larger world outside science, engineering, and medicine.

Interested students should contact the director of the program, David J. Ernst, Department of Physics and Astronomy

Program of Concentration in Communication of Science and Technology

Students majoring in the communication of science and technology will be expected to complete a core of courses that are essential to understanding communication, as well as a coherent program of courses that provide scientific and engineering background. The major consists of 48 hours. In addition, all students are strongly encouraged, but not required, to participate in an internship program that will not provide major hours but will contribute to graduation credit.

Students seeking a second major within the College of Arts and Science may count a maximum of 6 hours of 200-level course work to meet the requirements of both majors.

Required Courses (15 hours)

Communication Studies 237 (Communication of Science, Engineering, and Technology)

English 118W (Introduction to Literary and Cultural Analysis) or English 120W (Intermediate Composition) or 200 (Intermediate Nonfiction Writing) or 201 (Advanced Nonfiction Writing)

Either Communication Studies 201 (Persuasion) or 204 (Organizational and Managerial Communication)

Engineering Science 120 (Introduction to Engineering Problem Solving) or Engineering Science 140 (Introduction to Engineering)

Either Mathematics 180 (Fundamentals of Probability and Statistics) or Mathematics 218 (Introduction to Mathematical Statistics) or Economics 150 (Economic Statistics)

Natural Science (9 hours)

Two courses from one discipline and one from a different discipline: Biological Sciences 201 (Intro to Cell Biology), 205 (Evolution), 210 (Principles of Genetics), 218 (Intro to Botany), 219 (Intro to Zoology), 220 (Biochemistry I), 238 (Ecology); Chemistry 210 (Intro to Analytical Chemistry), 211 (Instrumental Analytical Chemistry), 220a,b (Organic Chemistry), 226 (Medicinal Chemistry); Earth and Environmental Sciences 220 (Life through Time), 225 (Earth Materials), 250 (Soil and Environment); Physics 221 (Classical and Modern Optics), 224 (Physical Analysis of Biological Systems), 225a,b (Intro to Quantum Physics and Applications), 228 (Physics of Medical Imaging); Astronomy 201 (Intro to Astronomy: Solar System), 253 (Galactic Astrophysics) — any combination of physics and/or astronomy courses counts toward a single discipline; Psychology 201 (Neuroscience), 214 (Perception), 216 (Movement), 226 (Thinking and Reasoning), 232 (Mind and Brain), 235 (Biological Basis of Mental Disorders), 236 (Visual System), 269 (Developmental Neuroscience), 272 (Structure and Function of Cerebral Cortex), 277 (Brain Damage and Cognition), 279 (Chemistry of Brain)

Engineering (9 hours)

Engineering Science 159 (Engineering Failure: Dark Side of Technology) or 190 (Evolution of Modern Technology); Biomedical Engineering 101 (Biomechanics and Biomaterials), 251 (Systems Physiology); Chemical Engineering 161 (Chemical Process Principles); Civil and Environmental Engineering 225 (Transportation Systems Engineering), 226 (Introduction to Environmental Engineering), 227 (Introduction to Water Resources Engineering), 230 (Introduction to Structural Analysis and Design); Electrical Engineering and Computer Engineering 112 (Electrical Engineering Science); Management of Technology 150 (Dynamics of Change: Impacts of Technology); 216 (Engineering Economy), 265 (Environmental Risk Management), 275 (Technology Assessment and Forecasting)

Selected Courses (15 hours)

Five courses from those listed below or additional courses taken from the above Science or Engineering lists with a minimum of one from Area I, a minimum of two from Area II, and a minimum of one from Area III.

Area I: Communication Studies 210 (Rhetoric and Civic Life), 220, 221 (Rhetoric of American Experience 1640–1865, 1865–present), 222 (Rhetorical Criticism), 241 (Rhetoric of Mass Media), 294 (Special Topics: Communication of Science through the Media).

Area II: Any English course listed above under *Required Courses* if the course has not been used to satisfy the above requirement; English 243

(Literature, Science, and Technology). English 243 may be repeated once (for a total of up to 6 credits), as long as the specific topics for the course are different each time it is taken. The topic for each offering of the course will be indicated in the official course schedule. Other courses in English that, due to their specific topics, are appropriate for the CST program during a particular semester will be so designated in the course schedule and on the CST Web site. Students should consult the CST adviser or the English department for planned offerings.

Area III: Astronomy 203 (Theories of the Universe); Communication Studies 223 (Values in Modern Communication), 241 (Rhetoric of Mass Media); History 204 (History of Medicine); Economics 226 (Economic History of the U.S.); Earth and Environmental Sciences 205 (Science, Risk, and Government Policy); Political Science 242 (Political Communication), 253 (Ethics and Public Policy), 255 (Public Policy Problems); Psychology 250 (Control of Human Behavior)

Internships

Although not included in the required hours for the major, an internship sequence is very strongly recommended.

Internship: Interdisciplinary Studies 280a,b,c (1 hour each). The internship program will involve work both on campus and in the national arena in such places as NASA, the Discovery Channel, National Institutes of Health, CNN, and the American Chemical Society. Credit will be given for these internships through Interdisciplinary Studies; they must be taken as P/F hours, and do not count toward the major.

Minor in Communication of Science and Technology

The minor in communication of science and technology consists of a minimum of 24 hours distributed as follows:

Required Courses (9 hours)

Communication Studies 237 (Communication of Science, Engineering, and Technology)

Either English 120W (Intermediate Composition) or 200 (Intermediate Nonfiction Writing) or 201 (Advanced Nonfiction Writing)

Either Communication Studies 201 (Persuasion) or 204 (Organizational and Managerial Communication)

Selected Courses (15 hours)

The student must take

1. two courses from the Natural Science list for the major (see above);
2. a total of two courses from the Engineering list for the major (see above); or Materials Science and Engineering 150 (Materials Science I) and one course from the Engineering list for the major (see above);
3. one course from any of the courses listed above for the major.

No more than two of the selected courses can be taken in any one department.

Communication Studies

CHAIR John M. Sloop
DIRECTOR OF UNDERGRADUATE STUDIES Kassian A. Kovalcheck Jr.
PROFESSOR EMERITUS Randall M. Fisher
PROFESSOR John M. Sloop
ASSOCIATE PROFESSORS Bonnie J. Dow, Kassian A. Kovalcheck Jr.
ASSISTANT PROFESSORS Lynn E. Clarke, Anne T. Demo, Bradford Vivian
SENIOR LECTURERS John H. English, Carole Freeman Kenner, M. L. Sandoz

❧ THE Department of Communication Studies offers a major in communication studies. The communication studies major includes courses in such areas as rhetoric, argumentation and debate, communication theory, and the history and criticism of public address.

The Vanderbilt University Varsity Debate Team competes at national and regional levels. A full program of intercollegiate debate is available for students who choose to participate in forensics.

Program of Concentration in Communication

Communication studies explores purposive human communication. The Department of Communication Studies is particularly devoted to an understanding of public discourse in the broadest sense, with an emphasis on the role of persuasion in civil society. To that end the subjects of study range from political discourse to commercial advertisement, from the history of rhetoric to the impact of mass media, from criticism of American public oratory to issues of freedom of speech. The department offers courses involving practice, criticism, and theoretical analysis. Education in these areas has traditionally produced citizen advocates who enter public life in business, law, journalism, and communication.

A major in communication studies requires 36 hours of course work. No more than 9 hours of 100-level courses may count toward the major. While students are permitted to use communication-related courses in other departments as part of the major, at least 24 of the 36 hours must be in Communication Studies. Communication Studies 280a,b,c cannot be included as part of the 24 hour minimum. The requirements and options for the major are as follows.

1. Communication Studies 100, Fundamentals of Public Speaking (required)
2. At least one of the following courses in performance:
   Communication Studies 200 Argumentation and Debate
   Communication Studies 201 Persuasion
   Communication Studies 202 Small Group Communication
   Communication Studies 204 Organizational and Managerial Communication
3. At least three of the following courses in criticism and theory:
   Communication Studies 210 Rhetoric and Civic Life
   Communication Studies 220 Rhetoric of the American Experience: 1640–1865
   Communication Studies 221 Rhetoric of the American Experience: 1865 to the Present

Communication Studies 222 Rhetorical Criticism
Communication Studies 241 Rhetoric of Mass Media
Communication Studies 257 Contemporary Rhetorical Theory

4. At least three of the following courses in applications and analysis:
Communication Studies 101 Interpersonal Communication
Communication Studies 115F First-Year Writing Seminar
Communication Studies 223 Values in Modern Communication
Communication Studies 224 Rhetoric of Social Movements
Communication Studies 228 Rhetoric and Public Memory
Communication Studies 235 Communicating Gender
Communication Studies 237 Communication of Science, Engineering, and Technology
Communication Studies 240 Freedom of Speech
Communication Studies 242 Communication, Culture, and Consciousness
Communication Studies 254 Methods of Rhetorical Analysis

These courses may also be available if you have met the r equirements and have the consent of the instructor:
Communication Studies 289 Independent Study in Communication
Communication Studies 294 Special Topics in Communication
Communication Studies 290 Directed Readings
Communication Studies 295–296 Seminars in Selected Topics

A&S

The remainder of the 36 hours may be selected from the courses listed above or from the following:

Communication Studies 280b,c Internship
English 120 Intermediate Composition
English 200 Intermediate Non-Fiction Writing
English 201 Advanced Non-Fiction Writing
MGRL 190 Principles of Marketing
Philosophy 102 General Logic
Philosophy 202 Formal Logic
Philosophy 246 Philosophy of Language
Political Science 241 American Public Opinion and Behavior
Political Science 242 Political Communication
Psychology 222 Learning and Memory
Psychology 225 Cognitive Psychology
Psychology 231 Social Psychology
Psychology 250 Control of Human Behavior
Psychology 266 Interpersonal and Intergroup Relations
Sociology 248 Popular Culture Dynamics
Sociology 249 American Social Movements

Minor in Communication Studies

A minor in communication studies requires completion of 18 hours from the following requirements and options in communication studies courses:

Required: 100 and either 210 or 222.
Any three of the following: 220, 221, 223, 224, 225, 228, 235, 240, 241, 242.
One of the following: 200, 201, 204.

100. Fundamentals of Public Speaking. Theory and practice in speaking before an audience. Problems of preparation, content, organization, language, and delivery are treated. FALL, SPRING. [3] Staff.

101. Interpersonal Communication. A study of both the theory and application of verbal and nonverbal communication as they occur in relatively unstructured person-to-person and small group settings. FALL, SPRING. [3] Kenner.

115F. First-Year Writing Seminar. [3]

200. Argumentation and Debate. A course in the practice of debate examining argumentation theory. Emphasis on forms of reasoning and use of evidence in debate. Prerequisite: 100. FALL. [3] Sandoz.

201. Persuasion. The theory and practice of persuasion with particular emphasis on speech composition, the use of language and its relationship to oral style, structure, and the relationship of structure to the process of speech preparation. Prerequisite: 100. FALL, SPRING. [3] English, Kovalcheck.

202. Small Group Communication. An introduction to the theory and practice of purposeful leadership and participation in group, committee, conference, and public discussion. Not available on a P/F basis. SPRING. [3] Kenner.

204. Organizational and Managerial Communication. Theory and practice of communication in relation to organizations and management with application to leadership, values and ethics, organizational communication theory, and organizational conflict. Prerequisite: 100. FALL, SPRING. [3] English.

210. Rhetoric and Civic Life. Public discourse and the duties and prerogatives of citizenship. Theory, models, and criticism of rhetoric and oratory in their deliberative, forensic, and epideictic settings. FALL, SPRING. [3] Staff.

220. Rhetoric of the American Experience, 1640–1865. A critical and historical examination of the methods and effects of public debate and other attempts to influence the attitudes, affective response, and behavior of the American people. Attention to the rhetorical features of selected issues and speakers from colonial times through the Civil War. FALL. [3] Vivian.

221. Rhetoric of the American Experience, 1865 to the Present. A critical and historical examination of the methods and effects of public debate and other attempts to influence the attitudes, affective response, and behavior of the American people. Attention to the rhetorical features of selected issues and speakers from 1865 to the present. SPRING. [3] Demo, Vivian.

222. Rhetorical Criticism. An investigation of standards for criticizing persuasive communication. Theories of classical and modern rhetoricians will be examined with special attention to Aristotle, Quintilian, Whately, and Burke. Uses specific movements, speakers, and speeches to illustrate methods of criticism. SPRING. [3] Kovalcheck, Vivian.

223. Values in Modern Communication. An examination of values, explicit and implicit, in communication situations in modern American society. The course begins with the discovery and analysis of values and applies this process to technological innovation and rhetorical choice, interpersonal communication, advertising and consumerism, and mass-media persuasion. FALL. [3] Kovalcheck.

224. Rhetoric of Social Movements. The role of communication in the creation, development, and function of social movements. The analysis of specific rhetorical acts. The study of

the arguments, patter ns of persuasion, and communication strategies of selected social movements. FALL. [3] Clarke, Demo.

225. History and Criticism of British Public Addr ess. History and criticism of selected speeches, pamphlets, and rhetorical campaigns in British political, legal, and social contr o-versies. Rhetorical features of selected issues and speakers from Ethelbert to the present. [3] Staff. (Not currently offered)

228. Rhetoric and Public Memory. Rhetorical artifacts that constitute public collective past. Productions of memor y, constructions of the past, community and pr otest, rhetorical, politi-cal, and cultural implications. SPRING. [3] V ivian.

230. Theory of Communication. A study of the basis for communicative effectiveness and failure. Emphasis on findings of contemporary multidisciplinary research within a framework of historical contributions to the theor y of communication. [3] Staff. (Not currently offered)

235. Communicating Gender. Dominant modes of communicating gender ideology . Effects on policy, politics, and popular cultur e. Includes theories of rhetoric, gender , sexuality, race, and social class. SPRING. [3] Demo.

237. The Communication of Science, Engineering, and T echnology. Communicating technical research to the nontechnical public. The ef fects of public influence on r esearch funding in America. Study of written and oral communication and the impor tance of creat-ing an informed audience for technical innovation. FALL. [3] Chappell.

240. The Fr eedom of Speech. Rights and r esponsibilities of fr ee expr ession. Theories of free speech; histor y of censorship; pr oblems of defamation, obscenity , free press versus fair trial, nonverbal communication, advocacy of illegal acts and religious speech. [3] Staff. (Not currently offered)

241. Rhetoric of Mass Media. A study of the nature, effects, reasons for the effects, ethics, regulation, and criticism of contemporar y mass media communication. Political causes, news reporting, commercial advertising, and similar sources of rhetoric are included. FALL. [3] Sloop, Demo.

242. Communication, Cultur e, and Consciousness. The relationship between the primar y means of communication in a culture and its influence on knowledge and subjectivity. Orality, literacy, print and electronic communication, with a focus on postmodern aesthetics. SPRING. [3] Sloop.

250. The Visionary Rhetoric of Winston Churchill. Critical exploration of Winston Churchill's public discourse. Emphasis on speeches resisting European appeasement of Nazi Germany, and the speeches of the second World War. Course is held in London to experience the lived sites of Churchill's invention and performance. MAY. [3] English.

254. Methods of Rhetorical Analysis. Application of methods of rhetorical analysis to the practice of criticism. Critical perspectives to be explor ed include those of Burke, Lef f, Lucaites, Fisher, Osborn, Griffin, Campbell, and Jamieson. FALL. [3] Staff.

257. Contemporary Rhetorical Theory. Exploration of contemporary themes in the inves-tigation of rhetoric. Examination of the number of ways in which "rhetoric" can be r epre-sented in contemporar y theor y and the implications of theor y. Theor etical models will include both modern and post-structural perspectives. [3] Staff.

280a–b–c. Internship. Under faculty supervision, interdisciplinary majors in communication gain experience with communication-r elated organizations, agencies, or corporations. A thorough report and research paper are submitted at the end of the semester. A 2.75 grade

A&S

point average, at least 6 hours of Communication Studies from 210, 220, 221, 222, 230, and prior departmental approval of the student's plan are required.

280a. Internship Training. May be taken on a Pass/Fail basis only and must be taken concurrently with 280b. These hours may not be included in the minimum hours necessary for an interdisciplinary major in communication. FALL, SPRING. [Variable credit: 1–6]

280b. Internship Research. FALL, SPRING. [Variable credit: 1–3]

280c. Internship Readings. FALL, SPRING. [Variable credit: 1–3]

289. Independent Study. A research project in rhetorical criticism to be arranged with the individual instructor. Designed for students who have taken either 220 or 221. FALL, SPRING. [Variable credit: 1–3; may be repeated to a maximum of 6] Staff.

290. Directed Readings. Supervised reading and writing in a selected field of the discipline under the guidance of a faculty supervisor. Consent of both the faculty supervisor and the director of undergraduate studies required. Normally open only to majors in communication studies. FALL, SPRING. [3, not to exceed total of 6 in 289, 290 combined.] Staff.

294. Selected Topics in Communication Studies. May be repeated for credit if there is no duplication of topics. SPRING. [3] Staff.

295–296. Seminars in Selected Topics. Topics of special interest as announced in the *Schedule of Courses*. Either or both 295, 296 may be repeated for credit once if there is no duplication of topic. Prerequisite: 15 hours of Communication Studies. [3–3] Staff.

Comparative Literature

☙ THIS program familiarizes students with the global context of the Western tradition, as well as with the Western tradition in literature and culture. Students study European, American, and World literature, with an emphasis on theory and interpretation. The program is directed by Earl Fitz, Professor of Spanish, Portuguese, and Comparative Literature. Students should fulfill 36 credit hours, according to the following requirements.

Program of Concentration in Comparative Literature

I. Humanities, Tradition, and the World

Three courses (9 credit hours) in literature in translation including Humanities 140 and 141 and one other course. The additional course of literature in translation can be a course in Humanities beyond 141, or can come from any department or program within the College of Arts and Science as approved by the program director. (Examples include German 245–246, German Masterpieces in English Translation; Philosophy 210, Ancient Philosophy; Religious Studies 108, Themes in the Hebrew Bible; Russian 221–222, Survey of Russian Literature; Spanish/Portuguese 293, Contemporary Latin American Prose Fiction in English Translation.) Selected Freshman Seminars (115s) may qualify if approved by the director of the program.

II. Primary Literature Field

Three courses (9 credit hours). A student who is also pursuing a major in the language chosen to satisfy the Primary Literature Field may count 6 appropriate hours of the language major towards the Primary Literature Field, and need not take the remaining 3 hours in the Primary Literature Field, but may take instead an additional 3 hours in the Secondary Literature Field.

Literature in the candidate's language of choice, other than the student's native language. Standard literary languages include (but are not limited to) French, Italian, German, Russian , Spanish, Portuguese, Latin, and Greek. Courses may be selected from the attached list or in consultation with the director of the program, or with the program's director of undergraduate studies.

Courses based on texts studied in translation do not satisfy this requirement.

Courses satisfying this requirement include the following:

English: 208a–b, Representative British Writers; 210, Shakespeare; 211, Representative American Writers; 212, Southern Literature; 220, Chaucer; 221, Medieval Literature; 230, The Eighteenth-Century English Novel; 231, The Nineteenth-Century English Novel; 232a–232b, Twentieth-Century American Novel; 248, Sixteenth Century; 249, Seventeenth-Century Literature; 250, English Renaissance: The Drama; 252a–252b, Restoration and the Eighteenth Century; 253, The Age of Pope and Johnson; 254a–254b, The Romantic Period; 255, The Victorian Period; 256, Modern British and American Poetry, Yeats to Auden; 257, Seventeenth-Century Prose; 258, Contemporary British and American Poetry; 259, Nineteenth Century American Poetry; 260, Nineteenth-Century American Women Writers; 262, Literature and Law; 263, African American Literature; 264, Modern Irish Literature; 266, Nineteenth-Century American Literature; 271, Caribbean Literature; 279, Modern Drama; 280, Twentieth-Century British Drama; 281, The English Lyric; 283, Satire; 284, The Comic Novel; 285, Restoration and Eighteenth-Century Drama; 286a–286b, Twentieth-Century Drama; 287, Love and the Novel.

French: 220, Introduction to French Literature; 222, Introduction to Francophone Literature; 232, French Poetry from Villon to Malherbe; 235, Farce and Comedy; 236, Tragedy and *drame*; 237, The Early Modern Novel; 238, The Twentieth-Century Novel; 239, The African Novel; 240, Rabelais, Montaigne, and Their Times; 253, Literature of the Fantastic; 255, French Feminist Thought; 257, The Nineteenth-Century Novel and Society; 260, Enlightenment and Revolution; 261, Age of Louis XIV; 265, From Romanticism to Symbolism; 267, Twentieth-Century French Literature; 270, The French Literary Tradition.

German: 221–222, Background and Main Currents of German Literature; 235, German Romanticism; 241, The Racial Imagination; 248, The German Lyric; 262, German Literature of the Middle Ages; 263, The Age of Goethe; 264, Nineteenth-Century Drama; 265, Twentieth-Century Drama; 266, Twentieth-Century Prose; 267, The German Novel of the Twentieth Century; 268, Modern German Short Story; 269, East German Literature; 280, *Sturm und Drang*.

Spanish: 203, Spanish and South American Literature; 230, Development of Lyric Poetry; 231, The Origins of Spanish Literature ; 232, Literature of the Spanish Golden Age; 233, Modern Spanish Literature; 234, Contemporary Spanish Literature; 236, Contemporary Literature of Spanish America; 237, Contemporary Lyric Poetry; 239, Development of the Novel; 240, The Contemporary Novel; 244, Afro-Hispanic Literature; 246, *Don Quixote*; 251, Development of Drama; 252, Contemporary Drama; 260, Development of the Short Story; 281, Theory and Practice of Drama.

Classical Languages and Literatures: Greek 204, Intermediate Greek: Homer's *Iliad*; Greek 215, The Greek Tragedians; Greek 216, Readings in Plato and Aristotle; Latin 201, Catullus and Horace; Latin 202, Ovid; Latin 206, Cicero and the Humanistic Tradition; 212, Roman Comedy; 215, The Roman Historians.

III. Secondary Literature Field

Two courses (6 credit hours). Literature in another language from that chosen for Primary Field, courses customarily chosen from attached list or in consultation with the director, or the program's director of undergraduate studies. The language of study may be the student's native language, including English. If the language is English, course material should consist primarily of works originally written in English and not translated. American, British, or post-colonial literature in English are all eligible.

Courses based on texts studied in translation do not satisfy this requirement.

IV. World Literature

One course (3 credit hours) in literature in translation in Classics or Middle Eastern, Far Eastern, African or other non-modern or non-European Literatures, including Arabic, Chinese, Japanese, and Hebrew. Eligible courses may be taken in Comparative Literature or in other departments and programs.

V. Analysis and Theory

One course (3 credit hours) at sophomore level or higher, in methods and paradigms in interpretive disciplines including among subject areas Anthropology, Cognitive Psychology (Peabody College), History, History of Art, Political Science, Philosophy, Religious Studies, Women's and Gender Studies.

Courses fulfilling this requirement would, for example, include the following:

Anthropology: 203, Anthropological Linguistics; 206, Theories of Culture and Human Nature; 209, Human Diversity; *Classical Studies*: 227, Ancient Greek Art and Architecture; *English*: 246, Feminist Theory; *History of Art*: 215, Formation and Power of Christian Images; 227, Ancient Greek Art and Architecture; *Philosophy*: 212, Modern Philosophy; 226, Phenomenology; 231, Philosophy of History; 241, Contemporary Issues in Aesthetics; *Political Science:* 206, Foundations of Marxism; 207, Liberalism and Its Critics; *Psychology and Human Development:* 1700, Social and Emotional Context of Cognition (Peabody); *Religious Studies:* 120, Religion, Sexuality, Power; 223, Ethics and Feminism; 234, Post-Freudian Theories and Religion; 235, Freudian Theories and Religion; *Sociology:* 239, Men, Women and Society.

VI. Elective

One elective course (3 credit hours) from one of the categories in sections I–V. Particular "Selected Topics" courses may be approved upon occasion. Final selection of all courses satisfying requirements in sections I–VI must be approved by the program's director of undergraduate studies.

VII. Senior Seminar

One course (3 credits): Senior Seminar in Methods in Comparative Literature and Theories of Reading and Interpretation.

Honors Program

Students wanting to qualify for consideration for the Honors Program in Comparative Literature must have a grade point average of 3.000. To graduate with honors in comparative literature, a student must (a) complete all the requirements of the standard comparative literature major course work including 6 hours in honors sections (299a–299b); (b) maintain a 3.000 average overall and 3.300 in the major; (c) be admitted into the honors seminar (299a) of the fall of the senior year ; (d) complete a thesis in the senior year (299b); (e) pass an oral examination, based principally on the thesis, in the spring of the senior year.

Honors students are encouraged to take one graduate course in their primary literature field, or in Comparative Literature. Students taking the Honors Seminar (299a) are not required to take the Senior Seminar in Methods in Comparative Literature and Theories of Reading and Interpretation, though they may choose to take this course as one of their electives.

Minor in Comparative Literature

The minor in comparative literature consists of a minimum of 18 credit hours. Students are required to take 3 courses (9 credit hours) in literature in translation, including Comparative Literature 140 and Comparative Literature 141 and one other course, as described in section I of requirements for the major. Students must also take two courses (6 credit hours) in the primary literature field, as in Section II of requirements for the major, and the Senior Seminar in Methods in Comparative Literature and Theories of Reading and Interpretation (3 credit hours).

Humanities

105W. World Drama. Representative plays of world literature with an examination of different styles and forms, including diverse formal concepts, and the relation of drama to cultural contexts. FALL, SPRING. [3] Staff.

107W. Literature and the Interpretation of Culture. Modes of analyzing contemporary cultural phenomena, including advertisements, films,and novels. One novel (both canonical and popular) and one film are included. FALL, SPRING. [3] Staff.

108W. World Fiction: Short Stories. Short fiction from ancient to modern times, and from African, Asian, and European literary traditions. Concepts of transhistorical value encounter

particular historical and social contexts. Aesop, "Anansi" stories, the *Bible*, *Thousand and One Nights*, Cervantes, Diderot, Mansfield. FALL, SPRING. [3] Staff.

115F. First-Year Writing Seminar. FALL, SPRING. [3]

140–141. Great Books of the Western Tradition. Discussion of a selected number of great books from the points of view of literary expression and changing ideologies. 140: classical Greece through the Renaissance. 141: the seventeenth century to the contemporary period. FALL, SPRING. Fesmire. [3]

150–151. Humanities. Analysis and discussion of a selected number of the great works of literature, philosophy, and the arts, representative of the main periods and intellectual movements in Western civilization. The works are studied primarily in relation to the permanent humanistic values of our culture. 150: the Greek, medieval, and Renaissance periods. 151: the modern period from the seventeenth century to the present. 150 FALL [3] Fesmire; 151 SPRING [3] McCarthy (Germanic and Slavic Languages).

160–161. Selected Topics. 161, SPRING. [3–3]

Comparative Literature

289. Independent Study. Intended primarily for majors and minors. Projects are to be organized by individual professors but must be approved by the director of undergraduate studies before the close of registration. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed 12 over a four-semester period] Staff.

293. Seminar: Literary Methodologies. Selected methodological approaches to the study of literature in comparison with related fields such as philosophy, psychology, and history. Limited to juniors and seniors. SPRING. [3] Staff. (Offered alternate years or as needed)

294. Special Topics. Topics of special interest, as announced in the *Schedule of Courses*. Individual courses are at a more advanced level than 160–161 and may have prerequisites. FALL. [3] Somekh.

299a. Honors Seminar. Background for writing the honors thesis. Comparatist methodologies, critical approaches, problems of interdisciplinary study. Methods of research, choosing a topic. Advanced writing exercise in preparation for honors thesis. Limited to seniors admitted to the Honors Program in Comparative Literature. [3]

299b. Honors Thesis. Prerequisite: 299a. SPRING. [3]

Earth and Environmental Sciences

CHAIR David J. Furbish
DIRECTOR OF UNDERGRADUATE STUDIES Molly Fritz Miller
DIRECTOR OF GRADUATE STUDIES John C. Ayers
PROFESSORS EMERITI Leonard P. Alberstadt, Arthur L. Reesman, William G. Siesser, Richard G. Stearns
PROFESSORS David J. Furbish, Calvin F. Miller, Molly Fritz Miller
ASSOCIATE PROFESSOR John C. Ayers
ASSISTANT PROFESSORS Steven Goodbred, Kaye S. Savage
SENIOR LECTURERS Brendan Bream, Jonathan M. Gilligan
LECTURER N. Kinzly Moore

THE earth and environmental sciences are aimed at interpreting Earth's dynamic history—its age and origin as recorded in rocks and the landscape—and at understanding how geological processes affect modern environmental and ecological systems. Among the natural sciences, ours is the quintessential interdisciplinary science, providing vital perspective on how Earth's physical and geochemical template simultaneously sustains and threatens life, and influences human interactions with Earth.

A&S

The Department of Earth and Environmental Sciences (EES) offers an undergraduate major leading to the B.A. or B.S. degree. Students majoring in EES participate in field and laboratory work. The comparatively small size of the faculty and student body allows many opportunities for faculty-student interaction. Students use the major as preparation for graduate study, for careers in environmental studies and resource exploration (petroleum, minerals), or for related careers in such fields as land use planning, teaching, law, or engineering.

Research programs in the department, which in many cases involve students, employ field, analytical, and experimental methods. A wide variety of earth processes are investigated, ranging from the migration of fluids and generation of magmas in Earth's crust, to the evolution of rivers and landscapes, to the evolution of sedimentary and biological environments, to geological processes in the human environment. Study areas, in addition to Middle Tennessee, include the southwestern United States, Antarctica, the Pacific northwest, and the southern Appalachians.

For students with primary interests in environmental issues, there are three degree options. A student may major in EES with an Environmental Geoscience Concentration, or may construct an individualized interdisciplinary major. Alternatively, a student may major in another conventional discipline and augment that with an environmental science or environmental studies minor.

Programs of Concentration in Earth and Environmental Sciences

Three programs of concentration are available. Program I (Concentration in Geoscience) provides a background for careers or post-graduate work in related fields such as teaching, law, or business, or, with appropriate

supporting sciences and mathematics, for graduate school and some professional positions in the geological sciences. Program II (Concentration in Environmental Geoscience) prepares students for careers or graduate work in environmental geosciences. Program III (Honors) is designed for excellent, highly motivated students who want to pursue research as undergraduates. Course requirements for each concentration are listed below.

I: Geoscience Concentration		II: Environmental Geoscience		III: Honors	
101, 111	4	101, 111	4	Course work as for Program I or II	31–33
102	4	102 or 220	4	292a–292b	4–6
220	4	225	4		
225	4	230	4		
226	4	240	4		
230	4	257	3		
240	4	260	4		
One additional 200- or 300-level course other than 289 or 291	3	264 *or* a summer course in field methods (with prior departmental approval)	3		
		One additional 200- or 300-level course other than 289 or 291	3		
Total hours	**31**	**Total hours**	**33**	**Total hours**	**35–39**

Program I. Geoscience Concentration. Provides students with a comprehensive background in geoscience. In addition to the courses listed above, students who intend to pursue graduate study or a career in the geological sciences are strongly encouraged to take one year of chemistry, one year of calculus, and one year of physics. (Ecology or evolution may be more appropriate for some students than the second semester of physics.)

Program II. Environmental Geoscience Concentration. Provides students with course work needed for a career or graduate studies in environmental science. In addition to the courses listed above, students must complete supporting work in mathematics and the natural sciences. This includes Biological Sciences 218 or 238 or Physics 116a, 117a, or 121a; Chemistry 102a–b and 104a–b, one year of calculus, and an additional course approved by the EES faculty in mathematics, engineering, or any of the natural sciences other than EES. A student may petition the EES faculty to substitute an alternative list of courses in mathematics and the natural sciences.

Program III. Honors. Provides research experience as well as thorough course work preparation for a career or graduate studies in earth or environmental sciences. Interested students should apply to the undergraduate adviser for entry into the Honors Program before the end of fall semester, junior year. A minimum of a 3.000 grade point average both overall and in the major is required for entry into the Honors Program.

Working closely with a faculty adviser, students in the Honors Program undertake a research project of interest to both the student and faculty member during the senior year. The project is submitted as a senior thesis which is reviewed by two faculty members; it is also presented orally to EES faculty and students during the spring semester. In order to graduate with honors in EES, a student must: (1) maintain a 3.000 average; (2) complete 4 to 6 hours of GEOL 292a–292b, including a written senior thesis; (3) adequately present the results of his/her research in written form to two members of the faculty and orally to students and faculty of the department; and (4) complete supporting work in mathematics and relevant natural science. This includes Physics 116a, 117a, or 121a; Chemistry 102a–b and 104a–b, one year of calculus, and an additional course approved by the EES faculty in mathematics, engineering, or any of the natural sciences other than EES. A student may petition the EES faculty to substitute an alternative list of courses in mathematics and the natural sciences.

Minor in Earth and Environmental Sciences

The minor in EES provides students with a broad background in earth processes, systems, and history, and an introduction to environmental issues. This background is highly relevant to many different fields of endeavor. The minor does not, however, prepare students for graduate studies or employment as Earth scientists.

The minor consists of at least 5 courses (16 hours). Although GEOL 101 (with 111) and 102 are highly recommended, students are encouraged to choose courses based on their interests and career plans and to discuss course selection with the director of undergraduate studies. No more than 2 of the following count towards the minor: 100, 101 (with 111), 103 (with 113). No credit toward the minor is given for GEOL 106, 150, 289, or 291.

Minor in Environmental Science

Students may choose an interdisciplinary minor in environmental science. Environmental science is the study of how the Earth's natural environmental processes work, how they have been or can be modified by humans and society, and how such modifications impact on the biosphere, at the levels of individuals through ecosystems. An environmental science minor provides students the opportunity to expand their education to include a coherent program in the scientific aspects of how we interact with and modify the Earth's environment.

Students who want to minor in Environmental Science must take a minimum of five courses chosen from the courses listed below and approved by an adviser. Two must be from the core environmental science list (A), and at least two others must be from either the environmental science list (C) or the core environmental science list (A). No more than one 100-level course may be counted toward the minor. Not more than two courses can come from the student's major department, recognizing that such courses cannot be counted simultaneously for both a major and a minor.

Minor in Environmental Studies

Students may choose an interdisciplinary minor in environmental studies. Humans and their society necessarily interact with and alter the Earth's natural environment. The environmental studies minor allows the student to examine human interaction with the environment from a variety of points of view.

Students who want to minor in environmental studies must take a minimum of five courses chosen from the courses listed below and approved by an adviser. Two courses must come from the core lists (A and B); at least one of these courses must be from the environmental studies core list (B). Two or more additional courses must come from either the environmental studies list (D) or the core environmental studies list (B). No more than one 100-level course may be counted toward the minor. Not more than two courses can come from the student's major department, recognizing that such courses cannot be counted simultaneously for both a major and a minor.

A) CORE ENVIRONMENTAL SCIENCE: Anthropology: 207, Energy, Environment, and Culture; 230, Environment and Archaeology. Biological Sciences: 218, Introduction to Botany; 219, Introduction to Zoology; 238, Ecology; 273, Molecular Mechanisms of Envir onmental Toxins. Environmental Engineering: 271, Environmental Chemistry. Earth and Environmental Sciences: 100, Envir onmental Geology; 257, Hydr ogeology; 260, Geochemistr y; 264, Methods in Environmental Geology.

B) CORE ENVIRONMENTAL STUDIES: Anthropology: 207, Energy, Environment, and Culture; 230, Environment and Archaeology. Economics: 278 or 283, The Technical Basis for Environmental Policy/Economics of the Envir onment. Engineering Science: 157, Technology and the Environment. Honors: 181, Philosophy of Nature. Philosophy: 206, Technology and Human Values. Sociology: 220, Population and Society; 270, Human Ecology and Society; 281, Development for a Small Planet.

C) ENVIRONMENTAL SCIENCE: Anthropology: 272, Human V ariation. Biological Sciences: 205, Evolution; 270, Statistical Methods in Biology; 262, Bimolecular Interactions. Chemistry: 210, Analytical Chemistry I; 211, Analytical Chemistry II; 220a–b, Organic Chemistry. Civil Engineering: 203, Fluid Mechanics; 212, Hydrology; Environmental Engineering: 260, Solid and Hazar dous Waste Management; 272, Biological Unit Pr ocesses; 275, Environmental Risk Management; 280, Atmospheric Pollution. Earth and Envir onmental Sciences: 101, The Dynamic Ear th: Introduction to Geological Sciences; 103, Oceanography; 106, Marine and Coastal Envir onments; 150, Geology and Its Influence on Civilization; 220, Life through Time; 320, Aqueous Geochemistry (with special approval). Mathematics: 219, Introduction to Applied Statistics. Biological Sciences: 210, Principles of Genetics; 211, Genetics Laboratory; 220, Biochemistry I; 265, Biochemistry II.

D) ENVIRONMENTAL STUDIES: Anthropology: 173, Social Behavior of Nonhuman Primates; 233, Culture, Ecology, and International Development; 271, Human Evolution; 272, Human Variation; 273, Primate Evolution. Economics: 277, Economic Development and the Environment; 284, Economics of Regulation. Philosophy: 244, Philosophy and the Natural Sciences; 294, Selected Topics: Environmental Ethics.

Licensure for Teaching

Candidates for teacher licensure in earth and space science at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

100. Environmental Geology. Geologic phenomena affecting humans, including various geologic hazards such as earthquakes, landslides, flooding, and costal erosion. Mineral and energy resources, waste disposal and land-use planning. Does not count towards the major in EES. FALL, SPRING. [3] Staff.

101. The Dynamic Earth: Introduction to Geological Sciences. Processes that have changed the earth. Relation between these processes and their products (e.g., earthquakes, minerals and rocks, mountains, oceanic features); interactions between processes affecting the solid, liquid, and gaseous components of earth; impact on humans. Corequisite: 111 except with permission of instructor. FALL, SPRING, SUMMER. [3] M. Miller or Staff.

111. Dynamic Earth Laboratory. Laboratory to accompany 101. Corequisite: 101. One three-hour laboratory per week. FALL, SPRING, SUMMER. [1] Staff.

102. Geological History of the Earth. The methods used to interpret earth history and their development. The organization of matter into minerals, rocks, animals, and plants, and how such organizational frameworks have interacted and changed through time. Geological history of North America as a general example of all continents. Three lectures and one laboratory per week. Prerequisite: 101 and 111 or 100 and 111 with permission of instructor. FALL. [4] Moore.

103. Oceanography. An introduction to the geology, biology, chemistry, and physics of the marine environment. FALL. [3]

113. Oceanography Laboratory. Laboratory to accompany 103. Corequisite: 103. One three-hour laboratory per week. FALL. [1] Staff.

106. Marine and Coastal Environments. Human interaction with the marine environment. Emphasis on weather and climate, marine ecology and productivity, chemical cycling and pollution, and the processes forming the earth's crust and the coastal zone. A field trip is planned. MAY. [3] Moore.

108. Earth and the Atmosphere. An introduction of the science of the atmosphere and its interaction with society. The atmosphere as part of the earth system; weather and climate; local and global environmental issues, such as urban smog, acid rain, stratospheric ozone depletion, and global warming; interaction of science, politics, economics, and ethics in setting environmental policy. SPRING. [3] Gilligan.

109. Introduction to Geologic Field Methods. Field methods used to investigate geologic problems. Lectures will prepare students for two weekend field experiences in central Tennessee, Kentucky, and the Appalachian Mountains. Topics include igneous, sedimentary and metamorphic processes, deformation of rocks, the fossil record, and modern environmental systems. Prerequisite: 100, 101, or 103. SPRING. [1] Savage.

110. Geology of National Parks. Geologic and human history of U.S. national parks. Overview of North American geology; interpretation of geologic features and process controlling their development; controversies related to use, recreation, development, and economics. Field trip is required. Prerequisite: 101 and 111 or 103 and 113. MAY. [3] Bream.

115F. First-Year Writing Seminar.

205. Science, Risk, and Policy. Formal and practical principles of risk analysis; science in government regulations and civil litigation; cultural and scientific constructions of risk; comparison of markets, regulatory agencies, and courts for managing technological risk; case studies such as space shuttle crashes, cancer clusters, and global warming. Prerequisite: any one course in statistics. Political Science 100 and Economics 101 recommended but not required. SPRING. [3] Gilligan.

220. Life Through Time. Ecology, classification, evolutionary history of important groups of fossils, emphasizing invertebrates. Change in marine ecosystems through geologic time. Causes and effects of rapid evolution events and mass extinctions. Three hours of lecture and one laboratory period per week. Prerequisite: 101 or junior standing as a biological science major. FALL. [3] M. Miller.

225. Earth Materials. Solid materials that make up the earth; rock, soil, and sediment — with emphasis on the minerals that are their major constituents. Hand specimen, optical, and X-ray methods of description and identification. Physical and chemical processes that form and modify earth materials and the use of these materials in interpreting earth processes of the past and present. Field trips. Three lectures and one laboratory per week. Prerequisite: 101 or 104. FALL. [4] C. Miller.

226. Petrology. Nature, distribution, and theories of origin of igneous, metamorphic, and sedimentary rocks. Mineralogy as a function of rock-forming conditions. Laboratory emphasis on description and interpretation of rocks, using hand sample and microscope techniques. Field trips. Three lectures and one laboratory period per week. Prerequisite: 225. No credit for graduate students in EES. SPRING. [4] Ayers.

230. Sedimentology. The origin and composition of sedimentary particles, their transportation to the site of deposition, actual deposition, and the processes involved in lithifying sediments into solid rock. Emphasis on interpretation of ancient source areas and depositional environments. Terrigenous, carbonate, and other rock types will be studied. Field trips. Three lectures and one laboratory period. Prerequisite: 225 or 226. No credit for graduate students in EES. SPRING. [4] Goodbred.

240. Structural Geology and Rock Mechanics. Principles of rock deformation; mechanics, fractures, folds, foliation, primary structures. Field trips. Three lectures and one laboratory period per week. Pre- or corequisite: 226. No credit for graduate students in EES. SPRING. [4] Staff.

257. Hydrogeology. An introduction to hydrogeology with emphasis on distribution, movement, and chemistry of groundwater. Principles of groundwater flow, water chemistry, and geology related to exploration, evaluation, development, and protection of groundwater resources. Prerequisite: 225 and one semester each of chemistry, physics, and calculus. FALL. [3] Savage.

258. Environmental Geochemistry. Concepts, principles, and models of chemical processes operating at or near the earth's surface. Thermodynamics, kinetics, organic and isotope geochemistry, environmental mineralogy. Application of concepts to environmental problems. Prerequisite: 225 and Chemistry 102a–102b. FALL. [3] Ayers.

260. Geochemistry. Application of chemistry to study the distribution and cycling of elements in the crust of the earth. Includes chemical bonding and crystallization, phase rules and phase diagrams, chemical equilibria, theories on the origin of elements, earth, ocean, atmosphere, and crust. Prerequisite: 225 and Chemistry 102a–102b, or consent of instructor. FALL. [3] Ayers.

261. Geomorphology. Analysis of the Earth's landforms, their morphology, history, and the processes that form them. The building of relief and its subsequent transformation by geologic processes on hillslopes, rivers, coasts, wetlands, and glaciers. The natural history and human impacts on land forms. Field trips. Prerequisite: 101 and junior standing in natural science, anthropology, or engineering. SPRING. [3] Furbish.

262. Geochemistry Laboratory. Laboratory to accompany 258 or 260. Corequisite: 258 or 260. One three-hour laboratory per week. FALL. [1] Staff.

264. Methods in Environmental Geology. Field, laboratory, and analytical methods in geological and environmental investigations. Chemical and physical principles of analytical instrumentation; analysis and reliability of instrumental measurements. Laboratory and field projects; sample collection; field measurements; chemical/spectroscopic analysis. Prerequisite: junior standing, 225 and previous or concurrent in 257 or 260. SPRING. [3] Savage.

279. Problems in Sedimentology and Paleobiology. Relation between past life and its environment as recorded in sedimentary rocks. Emphasis on reconstructing the depositional environment and the ancient communities recorded in Paleozoic sedimentary sequences in Tennessee, and investigating recent research on the interplay between ecosystems and physical environment during critical periods of earth history. Prerequisite: 220 and 226. FALL. [3] M. Miller.

289a–289b. Directed Study. Readings with related field and/or laboratory research in pursuit of a scholarly project conceived and executed under the supervision of a faculty member. Open to senior majors and graduate students. Other students must have consent of department chair. Does not count toward minimum requirements for the major. FALL, SPRING, SUMMER. [Variable credit: 1–2 each semester] Staff.

291a–291b. Independent Study. Readings with related field and/or laboratory research in pursuit of a scholarly project conceived and executed under the supervision of a faculty member. Open to senior majors and graduate students. Other students must have consent of department chair. Does not count toward minimum requirements for the major. FALL, SPRING. [Variable credit: 2–3 each semester] Staff.

292a–292b. Senior Honors Research. Independent research under faculty supervision culminating in an oral presentation and written thesis submitted to the faculty. Open only to honors candidates. Does not count toward minimum requirements for the major. FALL, SPRING. [Variable credit: 2–3 each semester] Staff.

315. Igneous Petrochemistry and Petrogenesis. SPRING. [3] C. Miller.

320. Aqueous Geochemistry. FALL. [3] Ayers.

325. Environmental Applications of Geochemical Modeling. SPRING. [3] Ayers.

A&S

East Asian Studies

DIRECTOR Gerald Figal

Affiliated Faculty

RESEARCH PROFESSOR James Auer (Center for U.S.–Japan Studies, VIPPS)
ASSOCIATE PROFESSORS Gerald Figal (History), Yoshikuni Igarashi (History), James J. Lang (Sociology), Ruth Rogaski (History)
ASSISTANT PROFESSOR Tracy Miller (History of Art)
SENIOR LECTURERS Xianmin Liu, Peter Lorge (History), Keiko Nakajima
LECTURERS Yong Chen (Chinese), Ayaka Sogabe (Japanese), Qing Wei (Chinese)

☙ THE East Asian Studies Program is an important part of Vanderbilt University's effort to diversify its curriculum. The program currently offers various courses that cover topics related to East Asia (mainly China and Japan) in art, history, and languages. The affiliated faculty promote better understanding of East Asian societies and the international relations surrounding the region through their teaching as well as their research.

Majors are encouraged to study in one or more of the programs in China and Japan described in the chapter on Special Programs for Undergraduates. The East Asian Studies Program requires 42 hours for the major.

Program of Concentration in East Asian Studies

East Asian studies is acceptable as an interdisciplinary program of concentration. For details, see Interdisciplinary Program of Concentration, Arts and Science. Most students begin their studies with History 154, 155, or 157, a survey of the civilization of China, Korea, and Japan from ancient times to the present. This course is normally prerequisite for further study in the field. Many students also include courses in Chinese or Japanese—or both—in their program of study, since language is an essential element in the serious study of both the traditional cultures and the contemporary problems of East Asia. Related courses available in other disciplines are listed below.

Recommended courses by subject area are as follows:

CHINESE: 201–202, Elementary Chinese; 214–216, Intermediate Chinese; 231, Chinese Calligraphy; 241–242, Advanced Chinese; 251–252, Intensive Readings in Chinese; 289a–289b, Independent Study.

EAST ASIAN STUDIES: 211, Popular Culture in Modern Japan; 212, Explorations of Japanese Animation; 240, Current Japan-U.S. Relations; 289a–289b, Independent Study; 294a–294b, Special Topics.

ENGLISH: 277, Asian American Literature.

HISTORY: 154, History of Asian Civilization: Premodern China; 155, History of Asian Civilization: Modern China; 157, History of Asian Civilization: Japan; 247, Themes in Modern Chinese History; 248, China in Revolution; 249, History of Modern Japan; 250, Cultural and Social History of Japan's Recent Past; 251, Popular Culture in Early Modern Japan; 294, Selected Topics in History; 295, Undergraduate Seminar in History; 296, Independent Study in History; 297, Junior Honors Seminar in History; 298, Senior Honors Research Seminar; 299, Senior Honors Thesis.

HISTORY OF ART: 200, Asian Art; 252, Chinese Art; 253, Japanese Art; 254, Japanese Painting and Prints; 289, Independent Research.

JAPANESE: 201–202, Beginning Modern Japanese; 211–212, Intermediate Modern Japanese; 241–242, Third-Year Japanese; 251–252, Fourth-Year Japanese; 289a–289b, Independent Study.

POLITICAL SCIENCE: 214, The Japanese Political System; 216, The Chinese Political System; 287–288, Seminars in Selected Topics.

RELIGIOUS STUDIES: 130, Asian Religious Values in Contemporary Life; 132, Religion and Culture in Japan; 133, Asia on Film; 231, Women in Buddhist Traditions; 244, Buddhist Traditions; 249, Zen Buddhism.

SOCIOLOGY: 278, Comparative Asian Development.

Certain courses offered in the CIEE program and the Rikkyo program in Japan can also be counted toward the major:

BUSINESS/ECONOMICS: The Japanese Business Firm in Its Domestic Economic Context; The Japanese Business Firm in Its Global Economic Context; Managing Globalization: Japan in Asia-Pacific Region.

HISTORY: Twentieth-Century Japan and Korea Relations.

HUMANITIES: Traditional Japanese Arts and Culture; Japanese Popular Culture.

POLITICAL SCIENCE: Politics and Policy in Contemporary Japan; Japan's International Relations; Japan in Asia.

SOCIOLOGY/ANTHROPOLOGY: Contemporary Japanese Society: History, Culture, Institutions.

Honors Program

The Honors Program in East Asian Studies is a three-semester, 12-hour program of study open to majors. The Honors Program combines intensive reading in interdisciplinary fields with research into a particular topic. To be admitted to the program, a student must have obtained a minimum grade point average of 3.0 overall and 3.0 in courses counting toward the major, meet all other College of Arts and Science requirements, and submit a short description of his/her program of study to the East Asian Studies Committee. Normally students will apply in the first semester of the junior year and begin honors work in the second semester, taking the following courses: East Asian Studies 297, Junior Honors Readings (3 hours); East Asian Studies 298, Senior Honors Readings (3 hours); and East Asian Studies 299a–299b, Senior Honors Thesis (6 hours). Students spending the junior year abroad—and students applying late to the program under extraordinary conditions—may delay taking East Asian Studies 297 until the first semester of the senior year.

Each candidate for honors must submit a thesis, approved by the student's major professor and two other appropriate members of the faculty. The student will also take written and oral examinations at the end of the senior year.

Minor in East Asian Studies

The minor in East Asian studies requires a minimum of 19 hours of course work and provides a broad knowledge of the languages and literature, politics, history, arts, and religions of China and Japan. Chinese 201–202 and Japanese 201–202 do not count toward the minor.

Students electing two or more minors in East Asian Studies must present at least 12 credit hours in each minor not being counted toward any other minor or major.

1. Required courses (6 hours):
   History 152 or 154 or 155.
   History 157.

2. Elective Courses (at least 13 hours):
   Students must fulfill the remaining hours with courses from the following list, selecting at least one from each of A, B, and C:

   Group A: East Asian Studies 240; 289a–289b (Independent Study, as appropriate); History 152, 154, 155, 157, 246, 247, 248, 249, 250, 251, 295 (Senior Seminar, as appropriate); Political Science 214, 216.

   Group B: English 277; History 156; History of Art 120, 251, 252, 253, 254; Religious Studies 130, 132, 133, 231, 244, 249; East Asian Studies 211, 212, 289a–289b (Independent Study, as appropriate); 294a–b (Special Topics, as appropriate).

   Group C: Chinese 214 (5 hours), 216 (5 hours), 231 (1 hour) 241, 242; Japanese 211 (5 hours), 212 (5 hours), 241, 242, 251, 252; 289a–289b (Independent Study, as appropriate).

Other East Asia–related courses not listed here—such as those in study abroad programs, First-Year Writing Seminars, and Independent Studies—may be applied toward the minor upon approval by the director of the East Asian Studies Program.

211. Popular Culture in Modern Japan. Popular culture in Japan from 1900 to the present. The rise of mass cultur e and media, song, spor ts, food, fashion, and popular film genr es. FALL. [3] Figal.

212. Explorations of Japanese Animation. Introduction to the for m and content of Japan - ese animation as globalized popular entertainment and as a speculative artistic medium that explores history and memory, nature and technology, human identity, carnivalesque comedy, and gender relations. SPRING. [3] Figal.

240. Current Japan–U.S. Relations. Similarities and differences in theor y and practice in the United States and Japan on public policy issues such as trade, defense, envir onment, education, medical care, and racial prejudice. SPRING. [3] J. Auer (Peabody College).

289a–289b. Independent Study . Designed primarily for majors who want to study East Asian subjects not regularly offered in the curriculum. Must have consent of instructor [Variable credit: 1–3 each semester]

294a–294b. Special Topics. Seminars or lecture courses devoted to topics in areas of competence of individual instructors and of interest to students, as announced in the *Schedule of Courses.* [Variable credit: 1–3 each semester]

297. Junior Honors Readings. General readings supervised by research adviser. [3] Staff.

298. Senior Honors Reading. General readings supervised by research adviser. [3] Staff.

299a–299b. Senior Honors Thesis. [3–3] Staff.

Economics

CHAIR Eric W. Bond
VICE CHAIR Peter L. Rousseau
DIRECTOR OF UNDERGRADUATE STUDIES Malcolm Getz
DIRECTOR OF GRADUATE STUDIES Gregory Huffman
PROFESSORS EMERITI Rendigs T. Fels, T. Aldrich Finegan, C. Elton Hinshaw, Cliff J. Huang, Clifford S. Russell, Gian S. Sahota, Anthony M. Tang, William O. Thweatt, Fred M. Westfield
PROFESSORS Kathryn H. Anderson, Jeremy Atack, Eric W. Bond, John Conley, William W. Damon, Andrew F. Daughety, Robert A. Driskill, Benjamin Eden, Yanqin Fan, James E. Foster, Gregory Huffman, Tong Li, Andrea Maneschi, Robert A. Margo, Jennifer F. Reinganum, John J. Siegfried, Quan Wen, John A. Weymark, Myrna Wooders
VISITING PROFESSORS Cliff J. Huang, William K. Hutchinson
ASSOCIATE PROFESSORS William J. Collins, Mario Crucini, Malcolm Getz, Kevin X. D. Huang, Peter L. Rousseau, George H. Sweeney
ASSISTANT PROFESSORS Christian Ahlin, Mototsugu Shintani, Diana N. Weymark, Benjamin Zissimos
VISITING ASSISTANT PROFESSOR Jesse A. Schwartz
SENIOR LECTURERS Stephen G. Buckles, Suhas L. Ketkar, Jong Hun Kim, Stephanie So, John Vrooman

A&S

☙ THE Department of Economics offers an undergraduate major and minor in economics. Qualified economics majors may also elect to take graduate courses or participate in honors work.

The department participates with the Department of History in a concentration in economics and history. Other economics-related minors are discussed under "Managerial Studies."

Program of Concentration in Economics

The requirements for the major include completion of at least 33 hours in economics courses, including 100, 101, 150 (or both Math 218 and Math 219), 231, 232. Students who complete Economics 253 with Math 218 and 218L as a prerequisite need not take Economics 150. At least 9 hours must be in courses numbered 250 or above. Courses in Financial Economics do not carry credit in the economics major. Economics 115 may be counted as an

elective. No more than 3 hours of independent study may be included in the minimum 33 hours required for the major.

Mathematics Prerequisite

Two semesters of calculus are strongly recommended for majors and minors in the department. Calculus is a prerequisite for Economics 150, 231, and 232, courses that are required in the economics major and minor. At least one semester of calculus is required for all our programs.

Minor in Economics

The minor in economics requires 21 credit hours as follows: Economics 100 and 101, Principles of Economics; Economics 150, Economic Statistics (or Math 218 and Math 218L); and Economics 231, Intermediate Microeconomic Theory; and 9 credit hours of electives. At least one elective must be numbered 250 or above. One semester of calculus is prerequisite to Economics 150 and Economics 231. Financial Economics courses may not be taken for credit in the minor in economics.

Honors Program

An honors program is available in economics. This program is designed for highly motivated students interested in doing independent research. Honors candidates must take two semesters of calculus and 36 hours of work in economics, including all 15 hours of required courses, plus Economics 253, Introduction to Econometrics. They also take 6 hours of regular electives along with 12 hours of work in policy seminars, Independent Study (Economics 291a–b), Senior Thesis (Economics 292a–b), and Honors Seminar (Economics 295a–b). Students who are not sure whether they want to complete the Honors Program are urged to take an additional 3-hour elective. Honors candidates are also required to write a senior thesis and to defend it in an oral examination. On satisfactory completion of this program, a student will graduate with honors or with high honors in economics. Interested students who meet the College of Arts and Science's requirements for honors candidacy as set forth elsewhere in this catalog should consult the director of undergraduate studies no later than the fall term of their junior year.

Program of Concentration in Economics and History

This is an interdisciplinary program split between Economics and History that provides a more focused program of study while requiring fewer credit hours than a double major in the two fields. The program consists of 45 hours of course work of which 9 hours are from a common economic history core and the remaining 36 credit hours are evenly divided between Economics and History. Students are expected to observe course-specific requirements in each department. The details are spelled out below under "Economics and History."

Licensure for Teaching

Candidates for teacher licensure in economics at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

Economics

Starred courses 100 and 101 are prerequisite for all 200-level courses in the department, with the following exceptions: Economics 150 (prerequisite is one semester of calculus; some background in economics is desirable); and Economics 222 (prerequisite is Economics 100).

★100. Principles of Macroeconomics. The role of scarcity and prices in allocating resources. National income, fluctuations in unemployment and price level, monetary and fiscal policy. FALL, SPRING. [3] Vrooman, Buckles.

★101. Principles of Microeconomics. The behavior of households and business in markets. Competition, monopoly, and rivalry in product and factor markets. Equilibrium. Income distribution. International trade. Prerequisite: 100. FALL, SPRING. [3] Buckles.

A&S

115F. First-Year Writing Seminar. [3]

150. Economic Statistics. The use of quantitative data in understanding economic phenomena. Probability, sampling, inference, and regression analysis. Prerequisite: one semester of calculus. (Math 140, 150a, or 155a or equivalent); some background in economics is desirable. FALL, SPRING. [3] Staff.

209. Money and Banking. A study of commercial banks and other intermediaries between savers and investors in the United States, including the government's role as money creator, lender, and regulator of private credit, and the effects of financial institutions on aggregate economic activity. FALL, SPRING. [3] Hutchinson, Atack.

212. Labor Economics. Introduction to labor markets in the United States. Foundations and applications of labor supply and demand, immigration and immigration policies, investment in human capital, wage policies of employers, minimum wage legislation, labor market discrimination and remedial programs, effects of labor unions, and unemployment. Not intended for students who have completed 231. FALL. [3] Schwartz.

222. Latin American Economic Development. Recent economic growth and structural change of Latin American economies. The general issues of development economics, such as the mobilization of savings and capital formation, import-substituting industrialization, inflation, agricultural reform, regional and national economic integration, population growth and migration, and balance-of-payments problems. No credit for graduate students in economics. SPRING. [3] Andrade.

224. Russia in Transition. Economic, social, and political implications. Transition from a centrally planned economy to markets. Trade, investments, labor markets, income, and growth. Taxation, fiscal, and monetary policy. MAY. [3] Supyan.

226. Economic History of the United States. Economic development of the United States from the Colonial period to the present. Interrelated changes in economic performance, technology, institutions, and governmental policy. FALL, SPRING. [3] Hutchinson, Atack.

231. Intermediate Microeconomic Theory. Development of the techniques of analysis for problems of resource allocation. Theories of choice and production for individual economic agents in competitive and monopolistic environments. Behavior of markets. Determination of prices, wages, interest, rent, and profit. Income distribution. No credit for graduate students in economics. Prerequisite: one semester of calculus. FALL, SPRING. [3] Conley, Schwartz; Conley, Foster.

232. Intermediate Macroeconomic Theory. National income accounting and analysis. Classical, Keynesian, and contemporary models determining national income, employment, liquidity, price level, and economic growth. No credit for graduate students in economics. Prerequisite: one semester of calculus. FALL, SPRING. [3] Crucini, D. Weymark; Ahlin, Huffman.

235. Strategic Analysis. Introduction to sequential and simultaneous games. Backward induction, equilibrium, pure and mixed strategies. Cooperation and conflict, the prisoner's dilemma, threats, promises, and credibility. Brinkmanship, uncertainty, the role of information, auction design, bidding strategies, and bargaining. Voting and agenda control. No credit available for students who have completed ECON 115, Section 2, Strategic Thinking and Interactions. FALL. [3] Wooders.

245. History of American Enterprise. (Also listed as History 291) Evolution of the form, organization, and structure of the American business firm from colonial times to the present. Entrepreneurs, labor management, financial capital, distribution, invention, and government regulation. SPRING. [3] Olegario.

249a–249b. Selected Topics in Economics. Topics to be announced. May be repeated more than once if there is no duplication of topic. [Variable credit: 1–3 each semester]

251. Wages, Employment, and Labor Markets. Theories of wages and employment, dual labor markets, internal labor markets, and labor's share of national income. Empirical studies of labor mobility, the effects of unions on relative wages and resource allocation, occupational and industrial wage differentials, and selected labor markets. Prerequisite: 150 and 231, or consent of instructor. [3] (Not currently offered)

252. Antitrust Economics. The purposes and effects of antitrust laws in the United States. Economic theory applied to the problems of preserving and enhancing competition. Evaluation of incentives created by judicial precedents in terms of efficiency and performance. Prerequisite: 231. [3] (Offered 2007/2008)

253. Introduction to Econometrics. Quantitative methods of economic analysis. Measurement, specification, estimation, and interpretation of economic models, introduction to econometric computation using microcomputers. No credit for graduate students in economics. Prerequisite: 231 and either 150 or Math 218 and 218L. FALL. [3] Fan.

254. Public Finance. Theories of the state and collective decisions, fiscal federalism, public goods and externalities. Tax theory: equity, efficiency, and growth. Taxation of goods, factors, and corporations. Cost-benefit analysis. Prerequisite: 231 or equivalent. SPRING. [3] Foster.

256. Seminar in Macroeconomic Policy. Intensive study of three or four current problems in economic policy. Studies in topics such as macroeconomic policy for the year ahead, financial market issues, international economic policy issues. Prerequisite: 231 and 232. Limited to majors in economics and public policy. SPRING. [3] Buckles.

257. Seminar in Microeconomic Policy. Intensive study of three or four current problems in microeconomic policy Prerequisite: 231. Limited to majors in economics and public policy. SPRING. [3] Siegfried.

259. Financial Instruments and Markets. Theoretical and empirical approaches to the analysis of monetary and other financial instruments. Portfolio analysis, interest rate risk, and financial futures and options markets. Prerequisite: 231 and 232. FALL. [3] Kim.

262. History of Economic Thought. Evolution of economic ideas from the ancient Greeks to the contemporary world with attention to the seminal thoughts of Adam Smith, David Ricardo, J. S. Mill, Alfred Marshall, and J. M. Keynes. Prerequisite: 231 and 232. SPRING. [3] Maneschi.

263. International Trade. International trade in goods and services. Patterns of trade; gains and losses from trade, tariffs,.and other commercial policies; economic integration; and international factor movements. Prerequisite: 231. FALL, SPRING. [3] Driskill; Hutchinson, Ketkar.

264. Open Economy Macroeconomics. Economics of international monetary, financial, and macroeconomic relationships. Effects of monetary and fiscal politics in open economics, balance of payments, exchange rate determination, and international monetary institutions. Prerequisite: 232. FALL, SPRING. [3] D. Weymark.

265. Macroeconomic Models for Policy Analysis. Mathematical models of overlapping generations, rational expectations, and open economies with price rigidities applied to social security, government debt, exchange rates, monetary policy, and time inconsistent optimal policy. Prerequisite: 232. [3] (Offered 2007/2008)

A&S

266. Problems in United States Economic History. Analysis of major issues and debates in American economic history. Prerequisite: 231. SPRING. [3] Hutchinson.

267. Economics of Poverty and Discrimination. Develops methodologies used to measure the effectiveness of governmental programs aimed at reducing poverty and discrimination, and uses these methodologies to examine the equity and efficiency of current programs. Topics include social security, food stamps, and equal employment opportunity legislation. Prerequisite: 231. [3] (Not currently offered)

268. Economics of Health. An examination of some of the economic aspects of the production, distribution, and organization of health care services, such as measuring output, structure of markets, demand for services, supply of services, pricing of services, cost of care, financing mechanisms, and their impact on the relevant markets. Prerequisite: 231. FALL, SPRING. [3] So.

269a–269b. Selected Topics in Economics. Topics of special interest, as announced in the *Schedule of Courses*. FALL. [Variable credit: 1–3 each semester] C. Huang, Eden.

270. Economics of Sports. Application of economic principles to professional and collegiate team sports. Theory of sports leagues, demand for sports, the market for athletes, racial discrimination, broadcasting rights, antitrust issues. No credit for both 270 and 280. Prerequisite: 150 and 231. [3] (Not currently offered)

271. Economic History of Europe. The stages of development of capitalism and modern industry in Europe since the decline of feudalism. The interrelations of government policy, financing institutions, scientific discovery, and the spirit of individualism. Prerequisite: 231. [3] (Not currently offered)

273. Game Theory with Economic Applications. Rational decision-making in non-cooperative, multi-person games. Single play and repeated games with complete and incomplete information. Economic applications of games, such as auctions, labor-management bargaining, pricing and output decisions in oligopoly, and common property resources. Prerequisite: 231. FALL. [3] Wooders.

274. Industrial Organization. The structure of contemporary industry and the forces that have shaped it, including manufacturing, trade, and transportation. The role of the large corporation in modern industrial organization. The relation of industrial structure to economic behavior and performance. Prerequisite: 231. FALL. [3] Reinganum.

279. Urban Economics. Urban growth, development of suburbs, location of firms, housing markets, transportation, property taxes, and local government services. Prerequisite: 231. SPRING. [3] Getz.

280. Seminar in Sports Economics. Economic theory of sports leagues: competitive balance, player labor markets and owner capital markets. Theories of league expansion, rival leagues, franchise relocation and sports venues. Research paper. No credit given for both 280 and 270. Preference given to senior majors. Prerequisite: 231. FALL, SPRING. [3] Vrooman.

282. Education and Economic Development. The influence of education on economic growth and development in developing countries. Theory and measurement of economic growth and human capital. Distributional and efficiency effects of human capital policies. Influence of international organizations on human capital development. Education and social cohesion. Prerequisite: 231 and 150 or consent of instructor. SPRING. [3] Anderson.

285. Law and Economics. Analysis of the influence of legal rules and institutions on the behavior of individuals and economic efficiency and equity. Applications from civil procedure, contract, tort, and criminal law. Prerequisite: 231. SPRING. [3] Daughety.

286. Economics of Human Resources. Human capital theory; economic effect of population trends, fertility, and migration. Additional topics chosen from education, household economics, health, nutrition, demand for children and child care, sex and race discrimination, crime, investment in research and development, the economic value of life and time. Prerequisite: 231 and 150 or consent of instructor. [3] (Not currently offered)

287. European Economic Integration. Policy issues concerning economic integration in Europe, including trade, migration, income distribution, environmental quality, macroeconomic policy, and monetary union. Analysis of European Community institutions. Prerequisite: 231; corequisite: 232. [3] (Not currently offered)

288. Development Economics. Determinants of national economic growth for pre-industrial and newly industrial countries. Inequality and poverty. Imperfect credit markets and microfinance. Political constraints and corruption. Policy issues relevant to developing economics. Prerequisite: 150 and 231. FALL. [3] Ahlin.

291a–291b. Independent Study in Economics. A program of independent reading in economics, arranged in consultation with an adviser. Limited to students having written permission from an instructor and the director of undergraduate studies. FALL, SPRING. [Variable credit: 1–3 each semester, or 1–6 for honors candidates; not to exceed 12 overall for honors candidates or 6 overall for other students] Staff.

292a–292b. Senior Thesis. Limited to and required of all candidates for honors. FALL, SPRING. [Variable credit: 1–3 each semester] Staff.

295a–295b. Honors Seminar. Discussion of selected topics and senior thesis research. Open only to seniors in the Honors Program. [1–1] Siegfried.

300. Selected Topics in Mathematics for Economists. FALL. [3] Wen.

301. Microeconomic Theory. FALL. [3] Wen.

302. Macroeconomic Theory. SPRING. [3] Driskill.

304a–304b. Microeconomic Theory. FALL, SPRING. [3–3] Daughety, Wooders.

305a–305b. Macroeconomic Theory. FALL, SPRING. [3–3] Huffman, Eden.

306. Statistical Analysis. (M.A. Level) FALL. [3] C. Huang.

307. Statistical Analysis. FALL. [3] Shintani.

308. Econometrics. (M.A. Level) SPRING. [3] C. Huang.

309. Econometrics. SPRING. [3] Fan.

316. International Trade Theory. SPRING. [3] Bond.

317. International Monetary Economics. FALL. [3] Crucini.

320a–320b. Seminar in Organization and Contr ol of Industry . FALL, SPRING. [3–3] Daughety, Reinganum.

329a–329b. Labor Economics. [3–3] (Not currently offered)

332a–332b. Theory of Money and Finance. [3] (Offered 2007/2008)

333. Special Topics in Microeconomics. SPRING. [3] Wen.

349a–349b. Reading Course. [Variable credit: 1–3 each semester]

350a–350b. Independent Study in Research. [3]

353. Project Evaluation. SPRING. [3] Ketkar.

354a. Public Finance Theory. [3] (Not currently offered)

354b. Public Finance Seminar. [3] (Not currently offered)

355a–355b. Seminar in Resear ch on Economic Development. FALL, SPRING. [3] Anderson, Andrade; Huang, Andrade.

358a–358b. Policy Issues in Developing Economies. FALL. [3–3] Ketkar.

360. Agricultural and Economic Development. [3] (Not currently offered)

364. Economic Fluctuations and Stabilization Policy. [3] (Not currently offered)

366a. Topics in Economic History: Microeconomic. [3] (Not currently offered)

366b. Topics in Economic History: Macroeconomic. [3] (Not currently offered)

370. Econometric Theory. FALL. [3] Shintani.

371. An Introduction to Economic History. SPRING. [3] Rousseau.

373. Time Series Econometrics. SPRING. [3] Shintani.

374. Nonparametric and Semiparametric Econometrics. SPRING. [3] Fan.

375. Topics in Econometrics. [Variable credit: 1–3] Li.

376. Topics in Advanced Mathematical Economics. [3]

377. Topics in Macroeconomics. FALL. [Variable credit: 1–3] K. Huang.

379. Seminar in Urban Economics. [3] (Not currently offered)

383. Advanced Economics of Natural Resour ces and the Envir onment. [3] (Not currently offered)

388a–388b. Development and Growth. [3] (Not currently offered)

398. Workshop on Economics. FALL, SPRING. [0–3] Li, Rousseau.

A&S

Economics and History

The joint major in economics and history makes an important contribution to liberal education at Vanderbilt by helping students understand the origins and organization of modern society. It also provides a unique preparation for careers in business, the professions, and other fields by combining all the analytical tools of the regular economics major with history's emphasis on clear and effective writing and on developing skills in gathering, assessing, and synthesizing information. The program consists of 45 hours of course work: 9 hours in an economic history core, and an additional 18 hours in economics and 18 in history.

Note: All students must have at least one semester of calculus; two are strongly recommended for the economics component. Calculus is a prerequisite for ECON 150, 231, and 232, which are required for the major. It is also a prerequisite for all Economics courses numbered above 250.

Course work for the major is distributed as follows:

Economic History Core (9 hours)

Three of the following courses, one of which must be an economics course numbered above 250:

HIST 181 Economic History of Medieval and Early Modern Europe, HIST 252, HIST 291, ECON 226, ECON 262, ECON 266, ECON 271. Note: ECON 231 is a prerequisite for ECON 262, 266 and 271.

Economics (18 hours)

ECON 100, 101, 150 (or both MATH 218 and 219), 231, 232; one economics course numbered above 250 not included in the economic history core.

History (18 hours)

Two of the following: 100, 101, 154, 155, 157, 160, 161, 170, 171; HIST 295 Undergraduate Seminar in History; three electives numbered above 171 not included in the economic history core.

Honors Program (9 more hours)

54 hours: students will take the 4-course honors sequence, HIST 297, 298a–b, 299; they will not be required to take HIST 295, though they may enroll for 295 as an elective. They will write an interdisciplinary thesis under the direction of an adviser from each department.

English

ACTING CHAIR Leah S. Marcus
DIRECTOR OF UNDERGRADUATE STUDIES Vereen M. Bell
DIRECTOR OF GRADUATE STUDIES Lynn E. Enterline
DIRECTOR OF CREATIVE WRITING PROGRAM Mark Jarman
PROFESSORS EMERITI Paul Elledge, R. Chris Hassel Jr., Walter L. Sullivan, Harold Lerow Weatherby Jr.
PROFESSORS Houston Baker, Vereen M. Bell, Jay Clayton, Colin (Joan) Dayan, Carolyn Dever, Lynn E. Enterline, Sam B. Girgus, Roy K. Gottfried, John Halperin, Mark Jarman, Michael Kreyling, Vera Kutzinski, Jonathan Lamb, Leah S. Marcus, Dana Nelson, John F. Plummer III, Hortense Spillers, Cecelia Tichi
ASSOCIATE PROFESSORS Tina Chen, Kate Daniels, Tony Earley, Teresa A. Goddu, Dennis D. Kezar Jr., Ifeoma Nwankwo, Bridget Orr, Mark Schoenfield, Kathryn Schwarz, Mark A. Wollaeger
ASSISTANT PROFESSORS Sean X. Goudie, Amy Hodges Hamilton, Jaya Kasibhatla, Ellen Levy, Lorraine Lopez, Nancy Reisman, Shawn Salvant, Paul Young
SENIOR LECTURERS Rory Dicker, Richard Hilles, Roger Moore
WRITER IN RESIDENCE Alice Randall
VISITING WRITER IN RESIDENCE Peter Guralnick

❧ WITH three distinctive programs, the Department of English allows individual students, in consultation with faculty advisers, to personalize their studies while acquiring the breadth of knowledge and skills of the traditional English major. The curriculum provides extensive courses in the history of British and American literature, in Anglophone literatures from other countries, in literary theory, and in expository as well as creative writing. These diverse courses reflect the interests of students and faculty and the ever-widening area of English literary study.

Students use the concentration in English as a foundation for a variety of careers where the analytic, reading, and writing skills gained in the major are especially valued; as background for advanced training in professional schools (law, medicine, journalism, and business, for example); and for postgraduate work in literature. But the department also regards its goals as helping students become readers of literature and culture throughout their lives.

The Vanderbilt in England program, the Humanities in London program, and other overseas programs offer opportunities for study and travel that enrich a student's education. The Gertrude Vanderbilt and Harold S. Vanderbilt Visiting Writers series annually sponsors public lectures, readings, and other occasions where English majors hear and meet celebrated poets, novelists, and critics. Many majors write for and serve on the editorial boards of various campus publications including the *Hustler*, a biweekly newspaper; *Versus*, a monthly magazine; and the *Vanderbilt Review*, a distinguished collection of creative writing.

Program of Concentration in English and American Literature

Program I: Literary Studies (30 hours)

Students pursue a broad range of interests through a flexible approach to the study of literature. 30 total hours including:

1. 112W or 118W is required and is prerequisite to upper-division courses.
2. 9 hours in literature before 1800 and 3 hours in ethnic or non-Western literature.
3. 15 additional hours of electives in English, chosen from the courses that count toward the major, as described under General Requirements and Advice.

Program II: Creative Writing (30 hours)

Students concentrate on developing their creative writing abilities while acquiring an overview of English literature. 30 total hours including:

1. 112W or 118W is required and is prerequisite to upper-division courses.
2. 12 hours of creative writing courses from at least two different genres: 200, 201, 204, 205, 206, 207. Admission to these courses is by the consent of the instructor.
3. 9 hours in literature before 1800 and 3 hours in ethnic or non-Western literature.
4. 3 additional hours of electives in English, chosen from the courses that count toward the major, as described under General Requirements and Advice.

Program III: Specialized Critical Studies (36 hours)

Students design their own specialized course of study with a descriptive name and develop a contract of courses for it. 36 total hours including:

1. 112W or 118W is required and is prerequisite to upper-division courses.
2. 18 hours of course work concentrated in a particular period (e.g., nineteenth-century American or the Enlightenment), genre or movement (e.g., the novel, romanticism), an aspect of intellectual history (e.g., law and literature, literary theory) or other area of special interest. Up to 9 hours may be taken in courses from other departments relevant to the selected concentration. Specific courses are selected and contracted for, in writing, at the time of the declaration of the major in consultation with the student's adviser, who can make available samples of previous contracts as well as discuss appropriate courses in other departments.
3. 9 hours in literature before 1800 and 3 hours in ethnic or non-Western literature. All of these courses may count towards the requirement of #2, above.
4. 3 additional hours of electives in English, chosen from the courses that count toward the major, as described under General Requirements and Advice.

General Requirements and Advice for majors in all programs:

Students should take English 112W, "Introduction to Poetry" or English 118W, "Literary and Cultural Analysis" during the freshman or sophomore year. The survey courses, 208a–208b and 211, are recommended for sophomores to provide a background for advanced courses. Students considering Program II (Creative Writing) may wish to take 122 or 123 as preparation during their freshman or sophomore year.

Courses that fulfill the early period requirement (literature before 1800) include 208a, 209a, 209b, 210, 220, 221, 230, 240, 248, 249, 250, 251, 252a, 252b, 272e, 273e, 274e, 280e, 288e, 289 (as appropriate), 295e, 296a, and Comparative Literature 224, 285.

Courses that meet the ethnic or non-Western requirement include 263, 271, 272g, 273g, 274g, 275, 276, 277, 278, 279, 280g, 288g, 289 (as appropriate), and 295g. In addition, other courses may occasionally fulfill the early period requirement or the ethnic or non-Western requirement. These courses will be announced on the department Web site and/or in the *Schedule of Courses* and designated by the letter *e* or the letter *g*.

With the exception of 112W and 118W, 100-level courses do not count toward the major. All 200-level courses (except 290b) count towards the major. English 272, 273, 274, 288, and 295 may be repeated for credit when the topics are different. One course from another department, appropriate to the student's course of study, may be counted towards the requirements of any program with permission of the director of undergraduate studies; for Program III, this course may be in addition to the 9 hours already allowed from other departments.

Please consult the *Schedule of Courses* or departmental Web site for sections of 272, 273, 274, 280, 288, and 295 that fulfill specific area requirements. Such courses will be designated with an *e* for literature before 1800 or with a *g* for ethnic or non-Western literature.

Detailed descriptions of courses may be accessed from the Department of English Web site and are also available in the department.

Majors are required to consult with their advisers during registration.

Honors Program

To graduate with honors in English, students must (a) complete all the requirements of the English major, with at least 6 hours in honors sections (if appropriate for a particular honors thesis, a graduate seminar or a seminar in a study-abroad program may be substituted for one honors seminar); (b) 3 hours of 290a; (c) maintain at least a 3.25 grade point average overall and 3.5 in the major; (d) be admitted to the Honors Program in the spring of the junior year; (e) write a thesis (290b) and pass an oral examination about its subject in the spring of the senior year. Full completion of all requirements for honors will entail 33 (thirty-three) hours. Exceptional achievement on the thesis will earn high honors. Majors who wish to apply to the Honors Program must be within 6 hours of completing all CPLE or AXLE requirements, must have made reasonable progress toward the major in English, and must have at least a 3.25 grade point average overall and 3.5 in

the major. Applications are accepted in March of the junior year. Additional information is available from the director of undergraduate studies.

Students need not be enrolled in the Honors Program to take honors sections. Honors sections are seminars limited to fifteen students and are open to any student beyond the freshman year who has completed the College writing requirement or the sophomore writing requirement of AXLE and who has earned at least a 3.25 grade point average. Students in the junior year are especially encouraged to enroll in honors sections in advance of applying to the program.

Program of Concentration in English and History

This is an interdisciplinary program split between English and history that provides a more focused program of study while requiring fewer credit hours (36 hours) than a double major in the two fields (60–66 hours). The program also includes special team-taught, cross-disciplinary workshops whose topics vary from semester to semester. See the "English and History" section of this catalog for details.

Minor in English

At least 18 hours of courses in English are required. These courses must include 3 hours from literature before 1800 and 3 hours of ethnic or non-Western literature. Students may count 112W, or 118W, and all 200-level courses toward the minor.

Licensure for Teaching

Candidates for teacher licensure in English at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

100. Composition. For students who need to improve their writing. Emphasis on writing skills, with some analysis of modern nonfiction writing. FALL, SPRING. [3] Staff.

102W. Forms and Techniques. Close analysis and written explication of fiction, drama, and poetry. FALL, SPRING. [3] Staff.

104W. Prose Fiction: Forms and Techniques. Close study of short stories and novels and written explication of these forms. [3] (Not currently offered)

105W. Drama: Forms and Techniques. Close study of representative plays of the major periods and of the main formal categories (tragedy, comedy) and written explication of these forms. [3] (Not currently offered)

106W. Introduction to Literary Criticism. Discussion and application of modes of critical inquiry to a variety of literary works. Not a history of criticism but a study of selected critical approaches. FALL, SPRING. [3] Staff.

112W. Introduction to Poetry. Close study and criticism of representative poems. The nature of poetry and the process of literary explication. FALL, SPRING. [3] Staff.

115F. First-Year Writing Seminar. [3]

118W. Introduction to Literary and Cultural Analysis. Analysis of a range of texts in social, political, and aesthetic contexts. Interdisciplinary study of cultural forms as diverse as poetry, advertisement, and film. FALL, SPRING. [3] Staff.

120W. Intermediate Composition. A writing course including the analysis of essays from a variety of disciplines. FALL, SPRING. [3] Staff.

122. Beginning Fiction Workshop. Introduction to the art of writing prose fiction. FALL, SPRING. [3] Earley, Randall.

123. Beginning Poetry Workshop. Introduction to the art of writing poetry. FALL, SPRING. [3] Bachmann, Hilles.

200. Intermediate Nonfiction Writing. Instruction in the forms and techniques of nonfiction writing. Admission by consent of instructor. May be repeated once for credit. [3] (Not currently offered)

201. Advanced Nonfiction Writing. Further instruction in the form and techniques of nonfiction writing. Admission by consent of instructor. May be repeated once for credit. SPRING. [3] Guralnick.

204. Intermediate Fiction Workshop. Instruction in fiction writing. Supplementary readings that illustrate traditional aspects of prose fiction. Admission by consent of instructor. May be repeated once for credit. FALL. [3] Lopez, Reisman.

205. Advanced Fiction Workshop. Continuing instruction in fiction writing. Admission by consent of instructor. May be repeated once for credit. SPRING. [3] Earley, Reisman.

206. Intermediate Poetry Workshop. Instruction in poetry writing. Supplementary readings illustrating traditional aspects of poetry. Admission by consent of instructor. May be repeated once for credit. FALL. [3] Jarman.

207. Advanced Poetry Workshop. Continuing instruction in poetry writing. Admission by consent of instructor. May be repeated once for credit. SPRING. [3] Jarman.

208a–208b. Representative British Writers. Selections from British literature with attention to contexts and literary periods. 208a: from the beginnings to 1660. 208b: from 1660 to the present. Provides a broad background for more specialized courses and is especially useful for students considering advanced studies in literature. FALL, SPRING. [3–3] Moore, Gottfried.

209a–209b. Shakespeare. About twenty of the major plays considered in chronological order over two terms, with emphasis on Shakespeare's development as a dramatic artist. 209a: primarily comedies and histories. 209b: primarily tragedies and romances. 209b: SPRING. [3–3] Marcus.

210. Shakespeare: Representative Selections. A representative selection of plays, including histories, tragedies, comedies, and romances, designed to give the student a sense of the full range of Shakespeare's work in one semester. FALL, SPRING. [3] Enterline, Kezar.

211. Representative American Writers. Selections from the entire body of American literature with attention to contexts and literary periods. Provides a broad background for more specialized courses and is especially useful for students considering advanced studies in literature. FALL. [3] Kreyling.

212. Southern Literature. The works of Southern writers from Captain Smith to the present. Topics such as the Plantation Myth, slavery and civil war, Agrarianism, and "post-southernism." Authors may include Poe, Twain, Cable, Faulkner, Welty, Percy, Wright. SPRING. [3] Kreyling.

A&S

214a–214b. Literature and Intellectual History . 214a: Fiction, poetry, and prose writings that represent overarching themes in English and/or American literature across conventional historical periods in order to define and trace their genealogy and evolution. 214b: The emergence of modern consciousness in the nineteenth and twentieth centuries. [3] (Not currently offered)

218. Words and Music. An investigation of works of literature that have inspired musical settings and the musical settings themselves. Emphasis on literary and musical analysis and interpretation. No musical background assumed. [3] (Not currently offered)

220. Chaucer. Study of *The Canterbury Tales* and Chaucer's world. FALL. [3] Plummer.

221. Medieval Literature. The drama, lyrics, romance, allegory, and satire of the fourteenth and fifteenth centuries, studied in the context of the period's intellectual climate and social change. SPRING. [3] Plummer.

230. The Eighteenth-Century English Novel. The English novel from its beginning through Jane Austen. Development of the novel as a literary form, and study of selected works of Defoe, Richardson, Fielding, Sterne, and other novelists of the period. SPRING. [3] Lamb.

231. The Nineteenth-Century English Novel. The study of selected novels of Dickens, Thackeray, Emily Brontë, George Eliot, George Meredith, Thomas Hardy, and other major novelists of the period. FALL. [3] Halperin.

232a–232b. Twentieth-Century American Novel. Explorations of themes, forms, and social cultural issues shaping the works of American novelists. Authors may include Fitzgerald, Faulkner, Hemingway, Hurston, Ellison, McCarthy, Bellow, Kingston, Morrison, Pynchon. 232a: emphasizes writers before 1945; 232b: emphasizes writers after 1945. 232a: SPRING. [3–3] Young.

233. The Modern British Novel. The British novel from the beginning of the twentieth century to the present. Conrad, Joyce, Lawrence, Virginia Woolf, Forster, and other novelists varying at the discretion of instructor. FALL, SPRING. [3] Wollaeger.

235. Contemporary British Fiction. The novel and the short story in Great Britain since World War II. FALL. [3] Kasibhatla.

240. The History of the English Language. The development of English syntax. History of the English vocabulary: word formation, borrowing, semantic change, and meter. [3] (Not currently offered)

241. Introduction to English Linguistics. Systematic study of present-day English sounds, words, sentences, and the contexts of language poduction. Contemporary varieties of English. [3] (Not currently offered)

243. Literature, Science, and Technology. The relationship of science and technology to literature, film, and popular media. Focus on such topics as digital technology genetics, and the representation of science in particular periods, genres, movements, and critical theories. [3] (Not currently offered)

244. Critical Theory. Major theoretical approaches that have shaped critical discourse, the practices of reading, and the relation of literature and culture. [3] (Not currently offered)

246. Feminist Theory. An introduction to feminist theory. Topics include crosscultural gender identities; the development of "masculinity" and "femininity"; racial, ethnic, class, and national differences; sexual orientations; the function of ideology; strategies of resistance; visual and textual representations; the nature of power. SPRING. [3] Kasibhatla.

248. Sixteenth Century. Prose and poetry of the sixteenth century. Emphasis on Spenser and his contemporaries. FALL. [3] Enterline.

249. Seventeenth-Century Literature. Poetry and prose from 1600 to the English Civil War, such as Metaphysical and Cavalier poetry, essays, romances, and satires. Authors may include Bacon, Cavendish, Donne, Herbert, Jonson, Lanier, Marvell, and Wroth. [3] (Not currently offered)

250. English Renaissance: The Drama. English drama, exclusive of Shakespeare, from 1550–1642: Marlowe, Jonson, Webster, and others. FALL, SPRING. [3] Kezar, Schwarz.

251. Milton. The early English poems; *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*; the major prose. [3] (Not currently offered)

252a–252b. Restoration and the Eighteenth Century. Explorations of the aesthetic and social world of letters from the English Civil War to the French Revolution. Drama, poetry, and prose, including Restoration plays, political poetry, satire, travel narratives, and tales. Authors may include Behn, Dryden, Congreve, Addison, Swift, Finch, Pope, Fielding, Burney, Johnson, and Inchbald. 252a: earlier writers; 252b: later writers. 252a: SPRING. [3–3] Orr.

254a–254b. The Romantic Period. Prose and poetry of the Wordsworths, the Shelleys, Byron, Keats, and others. 254a: FALL. [3–3] Schoenfield.

255. The Victorian Period. Works of Tennyson, Browning, Arnold, Hardy, and others. [3] (Not currently offered)

256. Modern British and American Poetry: Yeats to Auden. A course in the interpretation and criticism of selected modern masters of poetry, British and American, with the emphasis on poetry as an art. Poets selected may vary at discretion of instructor. [3] (Not currently offered)

258. Contemporary British and American Poetry: Auden and After. Poetry in English from the 1930s to the present. Poets studied vary at discretion of instructor. [3] (Not currently offered)

260. Nineteenth-Century American Women Writers. Themes and forms of American women's prose and poetry, with the emphasis on alternative visions of the frontier, progress, class, race, and self-definition. Authors include Child, Kirkland, Fern, Jacobs, Harper, Dickinson, and Chopin. SPRING. [3] Dicker.

261. Forms of Autobiography. Selected texts of autobiographical discourse from St. Augustine through the modern period. [3] (Not currently offered)

262. Literature and Law. Study of the relationship between the discourses of law and literature. Focus on such topics as legal narratives, metaphor in the courts, representations of justice on the social stage. [3] (Not currently offered)

263. African American Literature. Examination of the literature produced by African Americans. May include literary movements, vernacular traditions, social discourses, material culture, and critical theories. [3] (Not currently offered)

264. Modern Irish Literature. Major works from the Irish literary revival to the present, with special attention to the works of Yeats, Synge, Joyce, O'Casey, and Beckett. [3] (Not currently offered)

265. Film and Modernism. Film in the context of the major themes of literary modernism: the divided self, language and realism, nihilism and belief, and spatialization of time. SPRING. [3] Girgus.

A&S

266. Nineteenth-Century American Literature. Explorations of themes, forms, and social and cultural issues shaping the works of American writers. Authors may include Cooper, Poe, Hawthorne, Douglass, Jacobs, Stowe, Melville, Dickinson, Alcott, Whitman, and Twain. SPRING. [3] Levy.

267. Desire in America: Literature, Cinema, and History. The influence of desire and repression in shaping American culture and character from the mid–nineteenth century to the present. [3] (Not currently offered)

268a. America on Film: Art and Ideology. American culture and character through film, film theory, and literature. FALL. [3] Girgus.

268b. America on Film: Performance and Culture. Film performance in the construction of identity and gender, social meaning and narrative, public image and influence in America. [3] (Not currently offered)

269. Special Topics in Film. Theory and practice of cinema as an aesthetic and cultural form. [May be repeated once for credit if there is no duplication of topic.] SPRING. [3] Girgus.

270. Reading Film. The rhetoric of narrative film, in light of both technical and cultural issues; its evolution through American film genres from *Birth of a Nation* to the present. [3] (Not currently offered)

271. Caribbean Literature. Caribbean literature from 1902 to the present. Emphasis on writing since 1952, which marks the beginning of West Indian nationalism and the rise of the West Indian novel. SPRING. [3] Goudie.

272. Movements in Literature. Studies in intellectual currents that create a group or school of writers within a historical period. FALL, SPRING. [3] Chen, Goudie, Kezar, Levy, Moore, Schwarz, Wollaeger.

273. Problems in Literature. Studies in common themes, issues, or motifs across several historical periods. FALL, SPRING. [3] Dayan, Goudie, Halperin, Schwarz.

274. Major Figures in Literature. Studies in the works of one or two writers with attention to the development of a writer's individual canon, the biographical dimension of this work, and critical responses to it. FALL, SPRING. [3] Dayan, Gottfried, Halperin.

275. Latino-American Literature. Texts and theory relevant to understanding constructs of Latino identity, including race, class, gender, and basis for immigration, in the context of American culture. The course focuses on the examination of literature by Chicano, Puerto Rican, Cuban, Dominican, and Latin American writers in the United States. SPRING. [3] Lopez.

276. Anglophone African Literature. From the Sundiata Epic to the present with emphasis on the novel. Attention to issues of identity, post coloniality, nationalism, race, and ethnicity in both SubSaharan and Mahgrib literatures. Such authors as Achebe, Ngugi, Gordimer, Awoonor, and El Saadaw. [3] (Not currently offered)

277. Asian American Literature. Diversity of Asian American literary production with specific attention to works after 1965. Topics such as gender and sexuality, memory and desire, and diaspora and panethnicity in the context of aesthetics and politics of Asian American experience. [3] (Not currently offered)

278. Colonial and Post-Colonial Literature. Literature from countries colonized by Europe from eighteenth to twentieth century. Examines implications of colonial encounter and formation of "post-colonial" culture and such issues as language, agency, gender roles, and relation between power and narrative. Such authors as Forster, Coetzee, Okri, Tagore, Chatterjee, Kincaid, Rushdie, Soyinka. SPRING. [3] Kasibhatla.

279. Ethnic American Literature. Texts and theory relevant to understanding race, culture, and ethnicity in the formation of American culture. Literature from at least three of the following groups: African Americans, Native Americans, Asian Americans, Chicano/Latino Americans, Caribbean Americans, and European Americans. [3] (Not currently offered)

280. Workshop in English and History. (Also listed as History 244) Team-taught by a historian and an interdisciplinary scholar. Explores intersection of disciplines through close examination of texts in historical context. Topics vary; course may be taken more than once. Preference to students majoring in the English-History program. SPRING. [3] Bell/Messier.

281. Interdisciplinary Workshop. Team-taught by a literary scholar and a member of another discipline. Explores intersection of disciplines through close examination of texts from different disciplinary perspectives. Topics vary; course may be taken more than once. [3] (Not currently offered)

282. The Bible in Literature. An examination of ways in which the Bible and biblical imagery have functioned in literature and fine arts, in both "high culture" and popular culture, from Old English poems to modern poetry, drama, fiction, cartoons, and political rhetoric. Readings include influential biblical texts and a broad selection of literary texts drawn from all genres and periods of English literature. [3] (Not currently offered)

284. The Comic Novel. Novels in the European tradition of humorous writing, including works by Rabelais, Cervantes, Fielding, Dickens, Joyce, and Amis. [3] (Not currently offered)

286a–286b. Twentieth-Century Drama. Topics in twentieth century drama drawn from the American, British, and/or world traditions. Formal structures of dramatic literature studied within contexts of performance, theatrical production, and specific dramatic careers. Authors may include O'Neill, Albee, Hansberry, Hellman, Stoppard, Wilson, and Churchill. 286a emphasizes American drama; 286b emphasizes British and world drama. [3–3] (Not currently offered)

287. Special Topics in Investigative Writing in America. Topics offered vary and are cited each semester in the *Schedule of Courses*. SPRING. [3] Halliman.

288. Special Topics in English and American Literature. Topics offered vary and are cited each semester in the *Schedule of Courses.* FALL, SPRING. [3] Lamb, Orr, Tichi.

289a–289b–289e–289g. Independent Study. Designed primarily for majors. Projects are arranged with individual professors and must be confirmed with the director of undergraduate studies within two weeks of the beginning of classes; otherwise the student will be dropped from the 289 rolls. FALL, SPRING. [Variable credit: 1–3 each semester. Limit of 6 hours total for English majors] Staff.

290a. Honors Colloquium. Background for writing the honors thesis. Emphasis on research methods, critical approaches, and the students' own projects. Limited to seniors admitted to the English Honors Program. FALL. [3] Schoenfield.

290b. Honors Thesis. Prerequisite: 290a. SPRING. [3] Schoenfield.

295. Undergraduate Seminar. Advanced reading and writing in a particular area of literature. Normally limited to juniors and seniors with preference given to English majors. [3] (Not currently offered)

296a. Anglo-Saxon Language and Literature. The study of the Old English language, selected historical and literary prose, and one or two short heroic poems. FALL. [3] Plummer.

301. Seminar in Middle English Literature. [4] (Not currently offered)

302. Seminar in Chaucer. SPRING. [4] Plummer.

A&S

303. Graduate Fiction Workshop. FALL, SPRING. [4] Lopez, Reisman.

304. Graduate Poetry Workshop. FALL, SPRING. [4] Daniels, Jarman.

305. Graduate Nonfiction Workshop. SPRING. [4] Earley, Guralnick.

306. Seminar in Sixteenth-Century Literature. [4] (Not currently offered)

307. Literature and the Craft of Writing. [4] (Not currently offered)

310. Seminar in Shakespeare. [4] (Not currently offered)

312. Seminar in Seventeenth-Century Literature. FALL. [4] Marcus.

314. Seminar, 1660–1800. SPRING. [4] Orr.

316. Seminar in Romantic Prose and Poetry. SPRING. [4] Schoenfield.

318. Seminar in Victorian Prose and Poetry. SPRING. [4] Bigelow.

320. Studies in American Literature. FALL, SPRING. [4] Goddu, Luis, Nelson.

321. Studies in Southern Literature. [4] (Not currently offered)

325. Seminar in Modern British and American Literature. FALL. [4] Gottfried.

330. Seminar in the Enlightenment and Its Literary Connections. [4] (Not currently offered)

337a. Introduction to Literary Theory. FALL. [4] Enterline.

337b. Special Topics in Literary Theory. FALL. [4] Lamb.

350. Special Problems in English and American Literature. [1–4]

355. Special Topics in English and American Literature. FALL, SPRING. [4] Dayan, Wollaeger, Young.

370. Master of Fine Arts Thesis Research. SPRING. [8] Staff.

371. Teaching Composition and Literature. [4]

372. Teaching College Composition. [1]

English and History

The interdisciplinary concentration in English and history offers students the opportunity to integrate literary and historical studies in a sustained and systematic way. Students interested in the areas of intersection and cross-fertilization between these two fields have a variety of options in the English and history concentration. Examples of such areas of intersection would include:

(a) the works of a particular writer, coupled with courses that explore the social and cultural context reflected in those works (for example: Shakespeare and Early-Modern England).

(b) an exploration of a particular literary genre, coupled with courses on one or more of the social and cultural contexts in which that genre flourished (for example: folklore and Appalachia).

(c) a study of a major thematic area of literary production, coupled with courses about the social and cultural contexts germane to that theme (for example: literary treatments of race and the shaping of Caribbean cultures).

(d) a study of a particular historical era or cultural milieu, coupled with courses about the literary production associated with that era or milieu (for example: the Great Depression and American literature of the 1930s).

Each student designs a specialized program and develops a contract of courses totaling 36 hours. The program may be chronological (for example, medieval, early modern, or modern), geographical (for example, American, British, or Caribbean), or topical (for example, gender, power, or race). The contract must be approved by the director of undergraduate studies in both English and History. For more information, contact Professor Daniel H. Usner.

Course work for the major is a total of 36 hours, distributed as follows:

Core Requirements (9 hours)

1. English 112W or 118W (3 hours).

Note: English 112W or 118W is a prerequisite to upper-division courses in English.

2. History 200 (3 hours).

Note: History 200 is the foundation course for the major in history.

3. English 280/History 244. Workshop in English and History (3 hours).

Note: Team-taught by a historian and a literary scholar, this course explores the intersection of disciplines through close examination of texts in historical context, building the analytical and expository skills required for sustained interdisciplinary studies. Topics vary from semester to semester, and may include such subjects as "Early Modern Women," "The Renaissance in England and Italy," "Faulkner and Southern History," or "Race and Colonialism in Caribbean Literature."

Since topics vary, the Workshop in English and History may be taken more than once; up to 6 hours will count for the concentration in English and History. When the program includes 6 hours of English 280/History 244, 3 of those hours will substitute for 3 hours of electives in either English or History. Preference to students majoring in the English and History program.

Electives (27 hours)

4. Either 12 hours in History and 15 in English, or 15 hours in History and 12 in English. All English electives must be at the 200 level. History electives may be at the 100 level or 200 level.

European Studies

DIRECTOR John A. McCarthy

Affiliated Faculty

PROFESSORS Vereen Bell (English), Michael D. Bess (History), James Booth (Political Science), Robert Driskill (Economics), Paul Elledge (English), Lynn E. Enterline (English), James A. Epstein (History), Leonard Folgarait (History of Art), Edward H. Friedman (Spanish and Portuguese), Marc Froment-Meurice (French and Italian), Lenn E. Goodman (Philosophy), Roy K. Gottfried (English), George J. Graham Jr. (Political Science), John Halperin (English), M. Donald Hancock (Political Science), Mark Jarman (English), Dale A. Johnson (Divinity School), John Lachs (Philosophy), Andrea Maneschi (Economics), Leah S. Marcus (English), John A. McCarthy (Germanic and Slavic), John F. Plummer III (English), Philip D. Rasico (Spanish and Portuguese), James Lee Ray (Political Science), Thomas A. Schwartz (History), Dieter H. O. Sevin (Germanic and Slavic), Helmut W. Smith (History), Henry A. Teloh (Philosophy), Patricia A. Ward (French and Italian), David C. Wood (Philosophy)

VISITING PROFESSOR J. Christian Sinn (Germanic and Slavic)

ASSOCIATE PROFESSORS M. Fräncille Bergquist (Spanish and Portuguese), Victoria Burrus (Spanish and Portuguese), William Caferro (History), Katherine B. Crawford (History), Cynthia Cyrus (Blair School), Carolyn Dever (English), Idit Dobbs-Weinstein (Philosophy), William P. Franke (French and Italian), Joel F. Harrington (History), Gregg M. Horowitz (Philosophy), Dennis D. Kezar (English), Kassian A. Kovalcheck Jr. (Communication Studies), Konstantin Kustanovich (Germanic and Slavic), David A. Lowe (Germanic and Slavic), Thomas A. J. McGinn (Classical Studies), Robert L. Mode (History of Art), Anthère Nzabatsinda (French and Italian), Ljubica D. Popovich (History of Art), Matthew Ramsey (History), Michael A. Rose (Blair School), Kathryn Schwarz (English), Virginia M. Scott (French and Italian), Jeffrey S. Tlumak (Philosophy), Barbara Tsakirgis (Classical Studies), Holly A. Tucker (French and Italian), Francis W. Wcislo (History), Meike G. J. Werner (Germanic and Slavic), Mark A. Wollaeger (English), Andrés Zamora (Spanish and Portuguese)

ASSISTANT PROFESSORS Joy Calico (Blair School), María José de la Fuente (Spanish and Portuguese), Sara P. Eigen (Germanic and Slavic), Carlos Jáuregui (Spanish and Portuguese), Angela H. Lin (Germanic and Slavic)

VISITING ASSISTANT PROFESSOR Henning Grunwald (History)

SENIOR LECTURERS Tracy Barrett (French and Italian), Jay Geller (Religious Studies), Elena Olazagasti-Segovia (Spanish and Portuguese), Margaret Setje-Eilers (Germanic and Slavic)

☙ THE Max Kade Center for European and German Studies offers an interdisciplinary major in modern European studies, designed for students who want to broaden their awareness of the European experience and to prepare for advanced study and international careers. In addition it offers several joint majors together with several departments.

European studies majors are encouraged to consider participation in one of the Vanderbilt study programs in Europe and residence in the International House on campus. Special activities of the center include lectures by European scholars and informal faculty-student luncheon seminars.

Program of Concentration in Modern European Studies

The interdisciplinary major consists of 42 hours of course work, to be distributed among various disciplines as indicated below. Emphasis is on political, cultural, economic, and related trends or events since the French Revolution. Students may elect to concentrate on a thematic or comparative topic (such as culture and society during a particular epoch), a regional or subregional topic (such as European integration or the Iberian peninsula), or the culture and society of a particular nation (such as France, Germany, Italy, England, Spain, Portugal, or Russia). Students select a particular focus and specific courses that will fulfill requirements of the major in consultation with the director of the Max Kade Center for European and German Studies.

Requirements for the interdisciplinary major in modern European studies include completion of:

1. European Studies 201, European Society and Culture.
2. European Studies 250, Senior Tutorial. Students pursuing honors in Modern European Studies are required to take European Studies 299a–299b in lieu of European Studies 250. This exception is explained in the paragraph describing the Honors Program below.
3. Nine hours in European history, to be selected from the following list.

EUROPEAN STUDIES: 260, European Cities.

HISTORY: 100, History of Western Civilization to 1700; 101, History of Western Civilization since 1700; 115F, First-Year Writing Seminar (with appropriate topic); 180, History of Christian Traditions; 184, Nazi Germany and the Holocaust; 188, History of World War II; 202, Science and Society after the Enlightenment; 204, History of Medicine, 1750 to the Present; 212, Medieval Europe, 300–1000; 213, Medieval Europe, 1000–1350; 214, Europe in the Age of the Renaissance; 215, Europe in the Age of the Reformation, 1500–1648; 218, Europe in the Age of Revolution, 1789–1815; 220, Europe in the Nineteenth Century; 225, Europe from World War I to World War II; 226, Europe Since 1945; 230, European Unification since 1945; 231, History of Germany in the Twentieth Century; 232, History of Modern Italy; 234, History of France from the Renaissance to the Enlightenment; 235, Modern France; 237, Russia: Tsardom to Empire; 238, Russia: Old Regime to Revolution; 239, Russia: The U.S.S.R. and Afterward; 240, Medieval and Early Modern England; 242, England under the Tudors; 243, Britain's Century of Revolution; 245, Victorian England; 294, Selected Topics (with appropriate topic); 295, Undergraduate Seminar in History (with appropriate topic); 296, Independent Study.

4. Nine hours in other social science fields, to be selected from the following list.

ANTHROPOLOGY: 243, European Ethnography.

EUROPEAN STUDIES: 240, Topics in European Studies; 260, European Cities.

ECONOMICS: 249a–249b, Selected Topics (with appropriate topic); 262, History of Economic Thought; 263, International Trade; 264, Open Economy Macroeconomics; 271, Economic History of Europe; 287, European Economic Integration; 291a–291b, Independent Study in Economics (with appropriate topic).

POLITICAL SCIENCE: 101, Introduction to Comparative Politics; 102, Introduction to International Politics; 103, Introduction to Political Theory; 203, Modern Political Philosophy; 205, Modern Political Ideologies; 206, Foundations of Marxism; 207, Liberalism and Its Critics;

A&S

210, West European Politics; 211, The European Union; 212, Politics in Russia and Successor States; 213, Democratization and Political Development; 218, Social Reform and Revolution; 220, Crisis Diplomacy; 221, Causes of War; 224, Theories of World Politics; 225, International Political Economy; 226, International Law and Organization; 227, Economics and Foreign Policy; 231, Contemporary Issues in Europe; 232, Evolution in French Foreign Policy under the Fifth Republic; 287–288, Seminars in Selected Topics (with appropriate topic); 289a–289b, Independent Research.

SOCIOLOGY: 291, Structure of Modern Spanish Society; 294, Seminars in Selected Topics; 299, Independent Research and Writing.

5. Nine hours in the humanities, to be selected from the following list.

COMMUNICATION STUDIES: 225, History and Criticism of British Public Address; 294, Selected Topics in Communication Studies (with appropriate topic).

EUROPEAN STUDIES: 225, European Realism; 240, Topics in European Studies; 260, European Cities.

ENGLISH: 115F, First-Year Writing Seminar (with appropriate topic); 208a–208b, Representative British Writers; 209a–209b, Shakespeare; 210, Shakespeare: Representative Selections; 221, Medieval Literature; 230, The Eighteenth-Century English Novel; 231, The Nineteenth-Century English Novel; 233, The Modern British Novel; 235, Contemporary British Fiction; 244, Critical Theory; 248, Sixteenth Century; 249, Seventeenth-Century Literature; 250, English Renaissance: The Drama; 251, Milton; 252a–252b, Restoration and the Eighteenth Century; 254a–254b, The Romantic Period; 255, The Victorian Period; 256, Modern British and American Poetry: Yeats to Auden; 264, Modern Irish Literature; 272, Movements in Literature (with appropriate topic); 273, Problems in Literature (with appropriate topic); 274, Major Figures in Literature (with appropriate topic); 282, The Bible in Literature; 286a–286b, Twentieth-Century Drama (with appropriate topic); 288, Special Topics in English and American Literature (with appropriate topic); 289a–289b, Independent Study (with appropriate topic); 295, Undergraduate Seminar (with appropriate topic).

FRENCH: 201, French Composition and Grammar; 204, French for Business; 207–208, French Civilization; 209, Contemporary France; 210, French and Francophone Cinema; 214, Advanced Conversational French; 215, La Provence; 216, Summer Study Tour; 218, The Contemporary Press and Media; 220, Introduction to French Literature; 226, Advanced French Grammar; 234, Medieval French Literature; 235, Farce and Comedy; 236, Tragedy and *drame*; 237, The Early Modern Novel; 238, The Twentieth-Century Novel; 240, Rabelais, Montaigne, and Their Times; 251, Provence and the French Novel; 253, Literature of the Fantastic; 255, French Feminist Thought: Literary and Critical; 256, Contemporary French Philosophical Thought; 260, Enlightenment and Revolution; 261, Age of Louis XIV; 262, The Avant-Garde in Modern French Theatre; 265, From Romanticism to Symbolism; 267, Twentieth-Century French Literature; 270, The French Literary Tradition; 289, Independent Study; 294a–294b, Special Topics in French Literature; 295, Special Topics in French Language and Civilization.

GERMAN: 201, Introduction to German Studies; 213–214, German Conversation and Composition; 216, Business German; 220, Advanced Grammar; 221–222, German Culture and Literature; 235, German Romanticism; 237, Women and Modernity; 248, German Lyric Poetry; 262, German Literature of the Middle Ages; 263, The Age of Goethe; 265, Twentieth-Century Drama; 266, Nineteenth-Century Prose; 267, German Novel of the Twentieth Century; 269, Writing under Censorship; 270, German Film; 271, Women at the Margins: German-Jewish Women Writers; 273, Nazi Cinema: The Manipulation of Mass Culture; 280, Murder and Mayhem: The *Sturm und Drang*; 289a–289b, Independent Readings; 294a–294b, Selected Topics.

HISTORY OF ART: 110–111, History of Western Art; 115F, First-Year Writing Seminar (with appropriate topic); 210, Early Christian and Byzantine Art; 211, Medieval Art; 212, Northern Renaissance; 218, Italian Renaissance Art to 1500; 219, Italian Renaissance Art after 1500; 220, Renaissance-Baroque Architecture; 221, Baroque-Rococo Art; 222, British Art; 224, Eighteenth-Century Art; 230–231, Nineteenth- and Twentieth-Century European Art; 232, Modern Architecture; 237, History of Spanish Art up to the Seventeenth Century; 238, History of Spanish Art from the Seventeenth Century to the Present; 272a–272b, Survey of Film History; 289, Independent Research (with appropriate topic); 294, Selected Topics (with appropriate topic).

HUMANITIES: 151, Confronting the Self/Defining the Self.

ITALIAN: 201, Grammar and Composition; 214, Spoken Italian; 220, Introduction to Italian Literature; 230, Italian Civilization; 231, Readings from Dante's *Divina Commedia*; 232, Literature of the Middle Ages and Renaissance; 240, Modern Italian Cinema; 289, Independent Study.

MUSIC LITERATURE: 115F, First-Year Writing Seminar (with appropriate topic); 140, Introduction to Music Literature; 141, Survey of Music Literature; 144, The Symphony; 145; Survey of Choral Music; 183, Music, the Arts, and Ideas; 200, Women and Music; 242, Music of the Middle Ages and Renaissance; 243, Music of the Baroque and Classic Eras; 244, Music of the Romantic and Modern Eras; 247, Opera.

PHILOSOPHY: 211, Medieval Philosophy; 212, Modern Philosophy; 213, Contemporary Philosophy; 220, Immanuel Kant; 224, Existential Philosophy; 228, Nineteenth-Century Philosophy; 231, Philosophy of History; 247, Kierkegaard and Nietzsche; 252, Political and Social Philosophy; 253, Philosophy and Economic Policies; 254, Modern Philosophies of Law; 257, Early Modern Political Philosophy; 258, Contemporary Political Philosophy; 260, Twentieth-Century Continental Philosophy; 289a–289b, Independent Readings; 294a–294b, Selected Topics.

PORTUGUESE: 200, Intermediate Portuguese; 289, Independent Study (with appropriate topic); 294, Special Topics in Portuguese Language, Literature, or Civilization (with appropriate topic).

RELIGIOUS STUDIES: 115F, First-Year Writing Seminar (with appropriate topic); 202, Natural Science and the Religious Life; 215, Formation of the Catholic Tradition; 216, Christianity in the Reformation Era; 228, Antisemitism and the Jewish Identity; 229, The Holocaust: Its Meaning and Implications.

RUSSIAN: 203–204, Second-Year Russian; 221–222, Survey of Russian Literature in English Translation; 223–224, Composition and Conversation; 231, Jews in Russian Culture: Survival and Identity; 232, The Evil Empire: Stalin's Russia; 233, *Crime and Punishment*; 234, The Russian Cinema; 257–258, Advanced Composition and Conversation; 289a–289b, Independent Readings; 294a–294b, Selected Topics.

SOCIOLOGY: 291, Structure of Modern Spanish Society: An Introduction.

SPANISH: 201, Intermediate Spanish Writing; 202, Spanish for Oral Communication through Cultural Topics; 206, Spanish for Business and Economics; 207, Advanced Conversation; 208, Advanced Conversation through Cultural Issues in Film; 209, The Spanish Language; 212, Advanced Grammar and Stylistics; 220, The Languages of Spain; 221, Spanish Civilization; 226, Film and Recent Cultural Trends in Spain; 230, Development of Lyric Poetry; 231, The Origins of Spanish Literature; 232, Literature of the Spanish Golden Age; 233, Modern Spanish Literature; 234, Contemporary Spanish Literature; 237, Contemporary Lyric Poetry; 239, Development of the Novel; 240, The Contemporary Novel; 246, *Don Quixote*; 251, Development of Drama; 260, Development of the Short Story; 289, Independent Study.

6. One of the following language options:

a. 6 hours of course work beyond the intermediate level in one European language;
b. course work through the intermediate level in two European languages;
c. demonstration of proficiency equivalent to either of the preceding options; or
d. participation in one of the Vanderbilt study programs in Europe (students participating in the Vanderbilt in England program must complete course work through the intermediate level in one European language, or demonstrate equivalent proficiency).

Independent study and research courses and selected topics courses should have topics appropriate to the student's course of study.

Students majoring in modern European studies are urged to satisfy the 9-hour major requirements in the social sciences and humanities by completing courses in the area of their special interest. The remainder of the 42 hours required for the major may be selected from the preceding course lists or from among approved courses taken abroad. Normally, no more than 9 hours of work in 100-level courses may be counted toward the major; however, students offering two languages under option (b) above may also count toward the major the intermediate-level courses in one of those languages.

Students seeking a second major may count a maximum of 6 hours of course work to meet requirements in both majors.

Programs of Concentration in French and European Studies, German Studies, Russian and European Studies, Spanish and European Studies, and Spanish, Portuguese, and European Studies

The Max Kade Center for European and German Studies also offers joint majors in French and European studies, German studies, Russian and European studies, Spanish and European studies, and Spanish, Portuguese, and European studies with the Department of French and Italian, the Department of Germanic and Slavic Languages, and the Department of Spanish and Portuguese, respectively. For requirements, see French and Italian, Germanic and Slavic Languages, and Spanish and Portuguese in this catalog.

Honors Program

The Max Kade Center for European and German Studies offers qualified majors the option of completing a portion of their major requirements in an Honors Program. Students have the opportunity to engage in interdisciplinary reading, consultations with faculty, and research on the central topic or theme of their program of concentration. To be admitted to the program, students must have obtained a minimum grade point average of 3.000 and must submit a short description of their proposed program of study to the European Studies Executive Committee.

Requirements of the Honors Program are as follows: completion of 9 hours of independent research, including European Studies 289a–289b,

normally taken in the junior year, and 299a–299b, to be taken in the senior year; completion of a senior thesis in the context of 299a–299b; and completion of an honors comprehensive written and oral examination in the second semester of the senior year.

Information concerning the Honors Program is available from the director of the Max Kade Center for European and German Studies. College regulations governing honors programs may be found in this catalog under Honors Programs, Special Programs for Arts and Science.

Minor in European Studies

The Max Kade Center for European and German Studies also offers a minor in modern European studies. Students must choose a thematic focus and take 18 hours of approved European-content courses distributed as follows:

1. European Studies 201;
2. a minimum of 3 hours of modern European history;
3. a minimum of 3 hours of relevant work in social science; and
4. a minimum of 3 hours of relevant work in humanities.

Course selection must be approved by the director of the Max Kade Center for European and German Studies. Neither independent study nor directed study courses may be used to satisfy requirements of the minor.

201. European Society and Culture. An interdisciplinary survey of European society, culture, and politics since 1900. FALL. [3] Bess, Werner, Grunwald.

225. European Realism. Analysis of representative nineteenth-century novels that gave rise to current theories of realism. Balzac, Dickens, Clarín, Galdós, and Dostoevsky. [3] (Not currently offered)

235. Filming World War II. French and German filmic representations of World War II. Relationship between history and media representation. SPRING. [3] Eigen, Ramey.

240. Topics in European Studies. Topics of special interest on modern European culture or society, as announced in the *Schedule of Courses.* May be repeated for credit when topics vary. FALL, SPRING. [3] Staff.

250. Senior Tutorial. Supervised readings, joint discussions, and independent research on a modern European topic to be selected in consultation with the director of the Center for European and German Studies. Open only to juniors and seniors. FALL, SPRING. [3] Staff.

260. European Cities. The history, politics, society, or culture of important European cities. Content varies according to location and disciplinary focus. The course is taught during the May Session in Europe with the cities themselves complementing daily lectures and site visits. Course requirements include preliminary work on campus, a research paper, and one or more examinations. May be repeated for credit in different cities. [3] Staff.

289a–289b. Independent Readings and/or Research. Independent readings and/or research on approved topics relating to modern European society and culture. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 6 in 289a and 289b combined] Staff.

299a–299b. Senior Honors Research. Open only to seniors who have been admitted to the European Studies Honors Program. FALL, SPRING. [3–3] Staff.

Film Studies

DIRECTOR Paul Young

Affiliated Faculty

PROFESSORS Vereen Bell (English), Jay Clayton (English), Carolyn Dever (Women's and Gender Studies and English), Lynn E. Enterline (English), Sam B. Girgus (English), Leah S. Marcus (English), Kelly Oliver (Philosophy and Women's and Gender Studies), Dieter H. Sevin (Germanic and Slavic Languages), T. Sharpley-Whiting (African American and Diaspora Studies and French), John Sloop (Communication Studies)

ASSOCIATE PROFESSORS Monica J. Casper (Sociology and Women's and Gender Studies), Jon Hallquist (Theatre), Terryl Hallquist (Theatre), Gregg M. Horowitz (Philosophy), Yoshikuni Igarashi (History), Dennis D. Kezar (English), Konstantin Kustanovich (Germanic and Slavic Languages), Robert L. Mode (Art History), Benigno Trigo (Spanish), Mark A. Wollaeger (English)

ASSISTANT PROFESSORS Jason R. Borge (Spanish and Portuguese), Sara L. Eigen (Germanic and Slavic Languages), Stanley Link (Music), Drayton Nabers III (English), Emanuelle Oliveira (Portuguese), Lynn T. Ramey (French), Paul Young (English)

LECTURERS William Akers (Communication Studies), Kathy Conkwright (Film Studies), Jay Geller (Religious Studies), David Hinton (Art History), Peter Lorge (History), Margaret Setje-Eilers (Germanic and Slavic Languages)

FILM studies at Vanderbilt is an interdisciplinary major and minor of courses and projects for students interested in the culture, history, aesthetics, theory, and production of cinema. The program is designed to help students learn about and use film as a modern aesthetic form and a cultural force. Film at Vanderbilt functions in an intellectual and creative environment that works to bridge the humanities and social sciences. Art and documentary instrument, film advances the humanities' engagement with timeless issues, but film also epitomizes the social science effort to record and investigate. Both the study and the production of film at Vanderbilt encourage new ways of thinking and looking. However, Vanderbilt film study and film production also develop traditional learning skills of critical thinking, systematic analysis, conceptual coherence, and organization that constitute the core of a liberal education. Students in film studies will take courses in film criticism and analysis, film theory, film history, film and culture, and film production. Students will become familiar with major critical, theoretical, and historical approaches including: Film Structure and Art, Gender Studies, Race and Ethnicity Studies, Cultural Studies, Psychoanalytic Theory, Critical Theory, Structuralism and Post-structuralism. The film studies major concludes with a senior seminar. The program provides training, background, and experience for students interested in careers in film, media, communications, the professions, and community and social relations.

Major in Film Studies

The film major consists of 36 hours. The requirements are as follows:

CORE REQUIREMENTS (12 hours)

1. Film Studies 125 (Introduction to Film Studies).
2. One course in Film Theory: Film Studies 201 (Film Theory) or Philosophy 243 (Philosophy of Film).
3. One course in Film, Culture, and Society: English 265 (Film and Modernism), English 267 (Desire in America: Literature, Cinema, and History), English 268a (America on Film: Art and Ideology), English 268b (America on Film: Performance and Culture), German 270 (German Film), German 273 (Nazi Cinema), Music 183 (Music, The Arts, and Ideas), Religious Studies 133 (Asia on Film—also listed as Film Studies 133), Spanish 226 (Film and Recent Cultural Trends in Spain).
4. One course in film practice: Music 264 (Exploring the Film Soundtrack), Theatre 170 (Introduction to Film Making), Theatre 219 (Acting I), Theatre 227 (Screenwriting), Theatre 230 (Play Direction).
5. Film Studies 290, Senior Seminar, 3 hours.

A&S

21 hours from at least three of the following disciplines:

AFRICAN AMERICAN AND DIASPORA STUDIES: 150 (Reel to Real: Film Aesthetics and Representation)

COMMUNICATION STUDIES: 242 (Communications, Culture, and Consciousness).

ENGLISH: 265 (Film and Moder nism), 267 (Desir e in America), 268a (America on Film: Ar t and Ideology), 268b (America on Film: Performance and Culture), 269 (Special Topics).

FILM STUDIES: 130 (Introduction to Documentary Studies), 201 (Film Theory).

FRENCH: 210 (French and Francophone Film).

GERMAN: 270 (German Film), 273 (Nazi Cinema).

HISTORY OF ART: 272a or 272b (Survey of Film History), 222 (British Art), 294 (Selected Topics: Contemporary World Cinema—May term ONLY, subject to instructor approval).

MUSIC: 183 (Music, The Arts, and Ideas), 264 (Exploring the Film Soundtrack).

PHILOSOPHY: 243 (Philosophy of Film).

RELIGIOUS STUDIES: 133 (Asia on Film), 229 (The Holocaust: Its Meanings and Implications)

RUSSIAN: 234 (Russian Cinema).

SPANISH: 226 (Film and Recent Cultural Trends in Spain).

THEATRE: 170 (Intr oduction to Filmmaking), 212 (Scenic Design), 213 (Lighting and Sound Design), 214 (Costume and Makeup Design), 219 (Acting I), 227 (Scr eenwriting), 230 (Play Dir ection), 271 (American Film For ms), 275 (Advanced Scr eenwriting), 277 (Advanced Filmmaking), 278 (Advanced Production Workshop).

WOMEN'S AND GENDER STUDIES: 272 (Feminism and Film).

Other courses related to film studies also may be counted as electives, subject to the approval of the director of Film Studies.

Minor in Film Studies

The film minor consists of 18 hours. The requirements are as follows:

1. Film Studies 125 (Introduction to Film Studies).
2. One course in film theory: Film Studies 201 (Film Theory) or Philosophy 243 (Philosophy of Film).
3. One course in film practice: Art Studio 170 (Multimedia), Art Studio 171 (Video Art), Music 264 (Exploring the Film Soundtrack), Theatre 170 (Introduction to Filmmaking), Theatre 219 (Acting I), Theatre 227 (Screenwriting), or Theatre 230 (Play Direction).

Electives

Students must select three courses from the following list:

AFRICAN AMERICAN AND DIASPORA STUDIES: 150 (Reel to Real: Film Aesthetics and Representation).

ENGLISH: 265 (Film and Moder nism); 267 (Desir e in America); 268a (America on Film: Ar t and Ideology); 268b (America on Film: Performance and Culture); 269 (Special Topics in Film).

FILM STUDIES: 130 (Introduction to Documentary Studies), 201 (Film Theory).

FRENCH: 210 (The French Cinema).

GERMAN: 270 (German Film), 273 (Nazi Cinema).

HISTORY OF ART: 272a or 272b (Survey of Film History).

MUSIC: 183 (Music, the Arts, and Ideas), 264 (Exploring the Film Soundtrack).

PHILOSOPHY: 243 (Philosophy of Film).

RELIGIOUS STUDIES: 133 (Asia on Film), 229 (The Holocaust: Its Meanings and Implications).

SPANISH: 226 (Film and Recent Cultural Trends in Spain).

THEATRE: 170 (Intr oduction to Filmmaking); 219 (Acting I); 227 (Scr eenwriting); 230 (Play Direction); 271 (American Film Forms).

WOMEN'S AND GENDER STUDIES: 272 (Feminism and Film).

Other courses related to film studies may also be counted as electives, subject to the approval of the director of the Film Studies Program.

Film minors are strongly encouraged to elect a course in foreign cinema.

125. Introduction to Film Studies. Introduction to the study of film, stylistic tendencies and narrative strategies, genr es, and theor etical appr oaches. The course spans silent and sound eras and of fers examples fr om both the Hollywood motion pictur e industr y and diverse national cinemas. FALL. [3] Young.

130. Intr oduction to Documentary Studies. History and analysis of film and video practices; r elationships to other genr es and media; audiovisual conventions of "r ealism," their uses and problems; implementation of theory in documentary practice. FALL. [3] Staff.

133. Asia on Film. Cinematic perspectives on Asian religion and culture, Hindu, Buddhist, Taoist, Shinto, and Confucian traditions in India, Tibet, Vietnam, China, Japan, and the U.S. Politics and significance of representation and interpretation. [3] (Not currently offered)

201. Film Theory. Historical overview of the major analytical and critical approaches to the study of film as an art and cultural form, from classic film theory to contemporary perspectives. Prerequisite: 125. SPRING. [3] Young, Staff.

280a–280b–280c. Internship and Research. Under faculty supervision, students intern on projects related to film and media in public or private organizations. Responsibilities include conducting background research and developing skills in film and media study and production. FALL, SPRING, SUMMER. [Variable credit:1–9]

288. Special Topics in Film. Topics offered vary and are cited each semester in the *Schedule of Courses*. FALL, SPRING. [3]

289a–289b. Independent Study. Projects are arranged with individual professors and must be confirmed by the director of Film Studies within two weeks of the beginning of classes; otherwise the student will be dropped from the rolls. FALL, SPRING. [Variable credit: 1–3 each semester. Limit of 6 hours total for majors.]

290. Senior Seminar. Advanced reading and research in film. [3] FALL or SPRING.

A&S

French and Italian

CHAIR Virginia M. Scott
DIRECTOR OF UNDERGRADUATE STUDIES Anthère Nzabatsinda
DIRECTOR OF GRADUATE STUDIES Robert Barsky
PROFESSORS EMERITI Barbara C. Bowen, Dan Church, Larry S. Crist, James S. Patty, Ruth G. Zibart
PROFESSORS Robert Barsky, Marc Froment-Meurice, Tracy Sharpley-Whiting, Patricia A. Ward
ASSOCIATE PROFESSORS William Franke, Anthère Nzabatsinda, Lynn Ramey, Virginia M. Scott, Holly A. Tucker
ASSISTANT PROFESSOR Nathalie Debrauwere-Miller
SENIOR LECTURERS Patricia Armstrong, Tracy Barrett, Nathalie Dieu-Porter, Susan Kevra, Martine Prieto, Mary Beth Raycraft
LECTURERS Samuele Pardini, Joy Ramirez, Lisa Weiss

☙ THE Department of French and Italian offers a program of concentration in French. Students use courses in both French and Italian to satisfy some requirements of the College Program in Liberal Education or AXLE. Senior faculty members teach courses at all levels, including certain sections of first- and second-year courses. Other sections are taught by teaching fellows—selected graduate students working under the supervision of department faculty. All literature and civilization courses and most language courses are taught in French or Italian.

Many students participate in the Vanderbilt in France or the Vanderbilt in Italy program. Activities organized by the department or by the French

or Italian Clubs include lectures by visiting professors, films, and symposia. Students are urged to apply for living space in the French section of McTyeire International House; activities organized there are open to all interested parties.

Program of Concentration in French

Students are required to complete a minimum of 30 hours in courses numbered 201 and above. Course work for the major is distributed as follows:

French

Required courses in language and literature (15 hours): 201 or 226; 207 or 208 or 209; 214; 220; 270

Three literature courses from the following list (9 hours): 222, 224, 225, 232, 234, 236, 237, 238, 239, 251, 253, 255, 258, 260, 261, 262, 265, 267, 269, 294

One course in language or civilization from the following list (3 hours): 203, 204, 207, 208, 209, 210, 215, 218, 226, 256, 295. The course used to fulfill these three hours cannot also be used to help fulfill the 15 hours of required courses.

One elective from the courses listed above, or 289 (3 hours).

Students placing out of 201 are required to take 226. Students may take only one course taught in English to count toward the major. All majors are expected to consult their advisers about their choice of major courses each semester. Students are encouraged to spend up to one year in the Vanderbilt in France program in Aix-en-Provence. They may earn up to 18 hours of direct credit each semester in French and other fields, including political science, philosophy, and art history; however, only the courses listed above can count toward the major.

Honors Program in French

In addition to requirements set by the College of Arts and Science, the following requirements must be met:

1. 36 hours in French at the 200 level or above, including the requirements for the 30-hour major.
2. One 300-level French course during the senior year; this may substitute for one 200-level course required for the major.
3. A minimum of 1 semester of study (or the summer session) at Vanderbilt in France or at an approved substitute program in a French-speaking country.
4. 3.3 grade point average in French.
5. Completion of an honors thesis, under the direction of a faculty adviser.
6. 6 hours of thesis credit under French 299a and 299b (Honors Thesis).
7. An oral examination on the thesis and its area in the last semester of the senior year.

A three-member Honors Committee will administer the program. Students must submit the name of the faculty adviser and the proposed thesis topic to this committee for approval during the second semester of the

junior year. The committee will set guidelines for the thesis topic proposal, publish deadlines each year, and administer the oral examination.

Program of Concentration in French and European Studies

Students in French may elect this interdisciplinary major, which requires a minimum of 42 hours of course work. A semester of study at Vanderbilt in France is required.

Course work for the major is distributed as follows:

French

French language and literature (12 hours): 201, 214, 220, and 270
French culture, history, and civilization (9 hours)—three of the following: 207, 208, 209, 215, and 218
Two other courses in French (6 hours)

Total in French: 27 hours

European and German Studies

European Studies 201 and 250 (6 hours)
Political Science 287 or 288 in the version offered at Aix (3 hours)
One course selected from the list of social science courses approved for European studies—economics, political science, sociology (3 hours)
One of the following history courses: 218, 220, 225, 226, 228, 234, 235 (3 hours)
History 236 will also count for 3 hours on the French side of the program; in this case, the student will take an elective from the list of history, social science, or humanities courses approved for European and German studies.

Total in European and German Studies: 15 hours

Minor in French

The minor in French requires 18 hours of course work, including 201, French Composition; 214, Advanced Conversational French; 220, Introduction to French Literature; and three electives from the 200-level courses that count toward the major except 210, 216, and 289. Up to 6 hours of French 294 or 295 may count toward the minor with prior departmental approval. Students placing out of 201 are required to take 226 in its place. All minors are expected to consult their advisers about their choice of courses. No course in translation may count toward the minor.

Minor in Italian

The minor in Italian requires 18 hours of course work, including 201, Grammar and Composition; 214, Spoken Italian; 220, Introduction to Italian Literature; and three electives from the 200-level courses, except 289. Students are encouraged to participate in the Vanderbilt in Italy program.

Minor in Italian Studies

The minor in Italian studies requires 18 hours of course work, including Italian 201, Grammar and Composition; 220, Introduction to Italian Literature; 230, Italian Civilization; either European Studies 201, Twentieth-

Century Europe, or History 232, History of Modern Europe; and two courses chosen from the following:

COMPARATIVE LITERATURE: 224, Dante's *Divine Comedy*
HISTORY: 214, Europe in the Age of the Renaissance; 232, History of Modern Italy; 233, Medieval and Renaissance Italy, 1000–1700
HISTORY OF ART: 218, Italian Renaissance Art to 1500; 219, Italian Renaissance Art after 1500
ITALIAN: 231, Readings from Dante's *Divina Commedia*; 232, Literature of the Middle Ages and Renaissance; 233, The Literature of *Barocco*, *Illuminismo*, and *Romanticismo*; 235, The Literature of the *Novecento*; 239, Topics in Contemporary Italian Civilization; 240, Modern Italian Cinema
MUSIC LITERATURE: 243, Music of the Baroque and Classic Eras; 244, Music of the Romantic and Modern Eras; 247, Opera
VANDERBILT IN ITALY: Any content course (i.e., not language) taken at Vanderbilt in Italy, with departmental approval.

Licensure for Teaching

Candidates for teacher licensure in French at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

French

Students who have not studied French in high school should begin their studies at Vanderbilt in French 101a. Students with high school French on their records must present a College Board achievement test score in French to be placed correctly. Students should consult their advisers or the Department of French and Italian for advice on placement.

101a–101b. Elementary French. A communicative approach to reading, writing, listening, and speaking for students who have studied little or no French. [5–5] Staff.

102. Accelerated Elementary French. A communicative approach to reading, writing, listening, and speaking for students who have studied one to three years of French. No credit for students who have completed French 101a–101b. FALL, SPRING. [5] Staff.

103. Intermediate French. Review of French grammar with emphasis on composition, reading, and conversation. Multicultural materials of the French-speaking world. FALL, SPRING. [5] Staff.

115F. First-Year Writing Seminar.

201. French Composition and Grammar. Prerequisite: 104b or the equivalent. No graduate credit. FALL, SPRING. [3] Staff.

203. Phonetics. Methodical comparison of French and English sounds. Correct formation of French sounds; oral exercises and aural training. FALL, SPRING. [3] Prieto.

204. French for Business. Specialized vocabulary of business terms, business letters, and exercises in comprehension and translation. Prerequisite: 201. SPRING. [3] Porter.

207–208. French Civilization. Cultural achievements of France within a historical and geographic context. 207: from the origins to the revolution. 208: nineteenth and twentieth centuries, Napoleon to DeGaulle. 207: FALL; 208: SPRING. [3–3] Raycraft, Ward.

209. Contemporary France. The culture of France today; social, economic, and political issues; literature and the arts. Offered at Vanderbilt in France. [3]

210. The French and Francophone Cinema. The themes and art of film in France and the French-speaking world. Offered in French at Vanderbilt in France and in English at Nashville. When offered in English, this course does not count toward the minor, and writing must be done in French to count toward the major. [3] (Offered 2007/2008)

214. Advanced Conversational French. Emphasis on idiomatic usage and strategies for oral communication. Prerequisite: 201. FALL, SPRING. [3] Porter, Prieto.

215. La Provence. Geography, history, politics, architecture, and other cultural elements of Provence. Offered at Vanderbilt in France. [3]

216. Summer Study Tour. Concentrates on one of several French provinces other than Provence; preparation, by readings and discussion during the session; field trips of three to four days in each province during the session; papers on one aspect of the province required. Offered each summer in the Vanderbilt in France program. SUMMER. [1]

A&S

218. The Contemporary Press and Media. Analysis of newspapers and magazines through the comparative study of national and international issues in the press of the French-speaking world. Includes television broadcasts. Prerequisite: 201. Offered at Vanderbilt in France. SPRING. [3]

220. Introduction to French Literature. Fundamental techniques for critical reading of French literature. Prerequisite: 201. FALL, SPRING. [3] Debrauwere-Miller, Nzabatsinda.

222. Introduction to Francophone Literature. The geopolitical, linguistic, and literary dimensions of the notion "La Francophonie." Readings will be chosen from fictional and nonfictional works from Africa, Canada, the Caribbean, Indian Ocean, and Vietnam. Prerequisite: 220. FALL. [3] Nzabatsinda.

224. Art and Literature of the Nineteenth Century. Romanticism, realism, and symbolism in French art and literature. Prerequisite: 220. Offered at Vanderbilt in France. FALL. [3] Gailliégue.

225. Art and Literature of the Twentieth Century. Literary and artistic movements of the twentieth century in France. Prerequisite: 220. Offered at Vanderbilt in France. SPRING. [3] Gailliégue.

226. Advanced French Grammar. A systematic review with particular attention to morphology and syntax. Prerequisite: 201 or its equivalent. FALL, SPRING. [3] Prieto.

232. The *Querelles des femmes*. Debates around the status of medieval and Renaissance women, including the *Roman de la rose*. Alain Chartier, Christine de Pisan, the Des Roches, Montaigne, and Marie de Gourney. [3] Ramey. (Offered 2007/2008)

234. Medieval French Literature. Thematic exploration of chronicles, romance, poetry, and theater of medieval France and the history and culture that surrounded these literary productions. [3] (Not currently offered)

237. The Early Modern Novel. Development of the novel as a genre in the seventeenth and eighteenth centuries; its changing social, intellectual, and political context. [3] (Not currently offered)

238. The Twentieth-Century Novel. The novel as a genre in the context of modernity and postmodernity. Readings will focus on narrative techniques. [3] (Offered 2007/2008)

239. The African Novel. The postcolonial francophone novel of Subsaharan Africa illustrating topics such as tradition and modernity, the identity of Africa, the representation of women, and the ideology of language. Prerequisite: 220. Recommended: 222. [3] (Offered 2007/2008)

251. Provence and the French Novel. Images of Provence, its people, and their customs in novels of the nineteenth and twentieth centuries by Dumas, Zola, Giono, Pagnol. Offered at Vanderbilt in France. [3] Monchal.

253. Literature of the Fantastic. The theme of the fantastic in nineteenth- and twentieth-century prose fiction. Critical analysis using psychological and psychoanalytic concepts. Offered in France. [3] (Not currently offered)

255. French Feminist Thought: Literary and Critical. Feminist themes in twentieth-century French literature and criticism. Authors include Beauvoir, Duras, Sarraute, Irigaray, Cixous. Prerequisite: 220. FALL. [3] Debrauwere-Miller.

256. Contemporary French Philosophical Thought. Themes and concepts of major twentieth-century philosophers and philosophical movements. SPRING. [3] Froment-Meurice.

258. The Struggle of Encounter: The Israeli-Palestinian Conflict in Literature. The literary encounter between the Jewish and Arab worlds through representations of the Israeli-Palestinian conflict. [3] Debrauwere-Miller. (Offered 2007/2008)

260. Enlightenment and Revolution. Major writers of the eighteenth century, including Montesquieu, Voltaire, Rousseau, Diderot; literature of the Revolution. [3] (Offered 2007/2008)

261. Age of Louis XIV. Literature and society in the reign of Louis XIV. Authors include Mme de Lafayette, La Fontaine, Molière, Pascal, Racine, and Mme de Sévigné. Prerequisite: 220. [3] Armstrong. (Offered 2007/2008)

265. From Romanticism to Symbolism. Nineteenth-century literature through its major movements: Romanticism, Realism, Naturalism, and Symbolism. Prerequisite: 220. FALL. [3] Barsky.

267. Twentieth-Century French Literature. Critical readings of representative works organized thematically with emphasis on their contextual and intertextual relationships. Offered at Vanderbilt in France. Prerequisite: 220. [3] (Offered 2007/2008)

269. Francophone Literature and Film of the Maghreb. Literature, film, and their cultural context in Francophone North Africa. Offered at Vanderbilt in France. FALL, SPRING. [3]

270. The French Literary Tradition. Critical, comparative, and historical study of texts that represent the tradition and innovations responsible for an evolving national identity. Limited to senior French majors and minors. FALL, SPRING. [3] Froment-Meurice, Scott.

287a–287b. Internship, Research, Reading, and Training in France. Under faculty supervision, students intern in public or private organizations, conduct background research and reading, and submit a research paper at the end of the semester during which the internship training is complete. Background reading and research will be completed in 287a concurrently with the completion of internship training, 287b; a minimum of 3 hours of 287a must be completed, independent of hours taken in 287b. 287a: Internship, research, and reading. FALL, SPRING, SUMMER. [Variable credit: 1–6]. 287b: offered on a pass/fail basis only and must be taken concurrently with 287a. FALL, SPRING, SUMMER. [Variable credit: 3–6]

289. Independent Study. Content varies according to the needs of the individual student. Primarily designed to cover pertinent material not otherwise available in the regular curriculum.

FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed 12 over a four-semester period]

294a. Special Topics in French Literature. Prerequisite: 220. FALL. [3] Ward.

295a. Special Topics in French Language and Civilization. Prerequisite: 201. SPRING. [3] Froment-Meurice.

295b. Special Topics in French Language and Civilization. Prerequisite: 201. SPRING. [3] Nzabatsinda.

299a–299b. Senior Honors Thesis. [3–3] Staff.

300. Introduction to Research. [3] (Offered 2007/2008)

302. History of the French Language: Medieval Period. [3] (Not currently offered)

310. Foreign Language Teaching: Theory and Practice. [3] (Offered 2007/2008)

318. Applied French Linguistics. FALL. [3] Scott.

320. Linguistics and the Study of French Literature. [3] (Not currently offered)

332. Seminar in Medieval French Literature. [3] (Offered 2007/2008)

338. Seminar in Sixteenth-Century French Literature. SPRING. [3] Ramey.

342. Seminar in Seventeenth-Century French Literature. FALL. [3] Tucker.

353. Seminar in Eighteenth-Century French Literature. SPRING. [3] Ward.

362. Seminar in Nineteenth-Century French Literature. [3] (Offered 2007/2008)

372. Seminar in Twentieth-Century French Literature. SPRING. [3] Debrauwere-Miller.

380. French Literary Theory. [3] (Offered 2007/2008)

388. Seminar in Francophone Literature. [3] (Offered 2007/2008)

394. Special Topics. FALL. [3] Froment-Meurice.

Italian

Students who have not studied Italian in high school should begin their studies at Vanderbilt in Italian 101.

101a–101b. Elementary Italian. Elementary reading, writing, speaking, and listening, with emphasis on practical usage. Introduction to simple literary language. Classes meet five times weekly. Open to students who have studied little or no Italian before. [5–5] Staff.

102. Intensive Elementary Italian. An accelerated approach to reading, writing, speaking, and listening. Emphasis on practical usage. Open to students with knowledge of another Romance language and to students planning to study in Italy. No credit for students who have completed 101a–101b. SPRING. [5] Ramirez.

103. Intermediate Italian. Review of Italian grammar, with composition, conversation, and reading of modern Italian texts. Prerequisite: 101b or equivalent. FALL. [3] Barrett.

105. Intensive Italian in Italy. Grammatical and syntactic structures. FALL, SPRING. [3] Staff.

106. Intensive Italian in Italy. Communication skills. Prerequisite: 101b or 102. FALL, SPRING. [3] Staff.

201. Grammar and Composition. Emphasis on syntax, idiomatic expressions, and current usage to develop ability to write Italian correctly. Prerequisite: 103. SPRING. [3] Barrett.

214. Spoken Italian. Development of oral fluency through in-class drills, laboratory assignments, class discussions, and presentations. Listening to and transcribing tapes and preparing original presentations. Prerequisite: 103. FALL. [3] Ramirez.

220. Introduction to Italian Literature. Critical reading of major works of Italian literature from the beginning to the present. Prerequisite: 201. SPRING. [3] Barrett.

230. Italian Civilization. The politics, intellectual, social, artistic, and economic history of Italy from 1300 to the present, with emphasis on major political and philosophical authors. Taught in English. [3] (Not currently offered)

231. Readings from Dante's *Divina Commedia.* Examination of Dante's language and philosophical tenets through study of style, characters, and themes. [3] (Not currently offered)

232. Literature of the Middle Ages and Renaissance. The ideas and forms of the Trecento, Quattrocento, and Cinquecento, as reflected in the philosophy, history, literature, and art history of these periods. Major writers and their influence on Western European literatures. Prerequisite: 220. [3] (Not currently offered)

233. The Literature of Barocco, Illuminismo, and Romanticismo. A survey of the literature of the seventeenth through nineteenth centuries, with particular reference to the influence of European literatures in Italy. Prerequisite: 220. [3] (Not currently offered)

235. The Literature of the Novecento. An examination of poetry and prose in their social and historical contexts. Prerequisite: 220. [3] (Not currently offered)

239. Topics in Contemporary Italian Civilization. Short stories, historical documents, and articles from the press. Prerequisite: 201. [3] (Not currently offered)

240. Modern Italian Cinema. A study of the most significant works from the Neorealismo to contemporary Italian film makers. Prerequisite: 201. [3] (Not currently offered)

289. Independent Study. A reading course, the content of which varies according to the needs of the individual student. Primarily designed to cover pertinent material not otherwise available in the regular curriculum. FALL, SPRING. [Variable credit 1–3 each semester, not to exceed 12 over a four-semester period]

294a. Special Topics in Italian Literature. Prerequisite: Italian 220. [3] Pardini.

294b. Special Topics in Italian Literature. Prerequisite: Italian 220. [3] Ramirez.

Courses in English Translation

295a–295b. Special Topics in Italian Language, Literature, or Civilization in Translation. [3–3]

Germanic and Slavic Languages

CHAIR Dieter H. Sevin
DIRECTOR OF UNDERGRADUATE STUDIES IN GERMAN Christoph Zeller
DIRECTOR OF UNDERGRADUATE STUDIES IN RUSSIAN Konstantin V. Kustanovich
DIRECTOR OF MAX KADE CENTER FOR EUROPEAN AND GERMAN STUDIES John A. McCarthy
DIRECTOR OF GRADUATE STUDIES Meike G. J. Werner
PROFESSORS EMERITI Antonina Filonov Gove, Helmut F. Pfanner, Richard N. Porter, Walburga Von Raffler-Engel
PROFESSORS Barbara Hahn, John A. McCarthy, Dieter H. Sevin
ASSOCIATE PROFESSORS Konstantin V. Kustanovich, David A. Lowe, Meike G. J. Werner
MELLON ASSISTANT PROFESSOR Margaret Setje-Eilers
ASSISTANT PROFESSORS Sara Eigen, Angela Lin, Christoph Zeller

THE Department of Germanic and Slavic Languages offers programs of concentration in German Language and Literature, German Studies, and Russian.

A&S

Students in the German program take a wide variety of courses in the language, culture, and literature of German-speaking countries. Additional courses in History of Art, European Studies, History, Philosophy, Political Science, and Humanities complement the offerings in the German department. The Vanderbilt in Germany programs at the University in Regensburg and in Berlin provide students with unique opportunities to study German language and culture in a native context. On the Vanderbilt campus, students often choose to live in the German hall at McTyeire International House where they practice German in everyday situations with an international group of undergraduate and graduate students from many disciplines. Delta Phi Alpha (the National German Honorary Society) and the German Club offer opportunities for student-organized extracurricular events. Various lectures are presented by scholars of national and international renown each semester; symposia sponsored by the department are also open to our students. In a less formal setting, interested students and faculty gather weekly for *Kaffeestunde*. For further information see *http://sitemason.vanderbilt.edu/German*.

The Russian program has a special commitment to undergraduate training in all aspects of Russian culture and language. Students choose from a wide variety of courses: the program offers survey sequences on nineteenth- and twentieth-century Russian literature and culture as well as such courses as Jews in Russian Culture, Stalin's Evil Empire, Russian Cinema, *Crime and Punishment*, and Short Russian Novels. The department offers majors in Russian, Russian area studies, and Russian and European studies. Students can also minor in Russian or Russian area studies. Students considering majoring in Russian should consult with the director of undergraduate studies in Russian early in their studies to design an individual program. Many students find it beneficial to combine a Russian major with a second concentration in a related field. Students have the opportunity to spend a semester, a summer, or a May Session studying in Russia.

Program of Concentration in German

Program I: German Language and Literature

Students majoring in German are required to take at least 30 hours from courses numbered higher than 105, not including German 245–246. The following are required:

German 213–214 Intermediate German Conversation and Composition
German 221–222 German Culture and Literature
9 hours in German beyond 222
(German 223 is highly recommended)

Please note that majors are permitted a maximum of 6 hours of German courses in which the language of instruction is English. Majors are expected to consult their advisers before registration each semester.

Program II: German Studies

Students majoring in German Studies are required to complete a total of 30 hours of course work beyond GER 105, including the following:

German 201	3
3 hours in German 213, 214, or 216	3
6 hours in German 221, 222, or 223	6
6 hours of German beyond 223	6
6 hours in "German text" courses (defined below)	6
6 hours in "German content" courses (defined below)	6
Total hours:	30

A "German text" course is one in a discipline other than German literature (such as German history, women's and gender studies, political science, religious studies, philosophy), which may be taught in English and in which the student reads course texts in German to a significant degree (e.g., more than half the texts would be read in the original German). A "German content" course focuses on German literature or a neighboring discipline (such as German history, German political science, or German philosophy) in which course texts may be read in English or German. Students must consult the instructor of the course regarding "German text" courses, and they must secure the approval of the director of German Studies for both "German text" and "German content" courses.

Vanderbilt in Germany Program

Students who have completed German 103 or the equivalent are invited to spend the spring semester during their sophomore, junior, or senior year at the University of Regensburg in southern Germany. Regensburg is a beautiful medieval city on the Danube, near Munich, with a vibrant university campus. The Vanderbilt in Germany program is unique in that, following an intensive language review, students are permitted to enroll full time at the university. They select courses from a wide variety of disciplines, including literature, history, economics, the natural sciences, and the fine arts. The program is administered in cooperation with Wesleyan University in Middletown, Connecticut, and a faculty member from either Vanderbilt or

Wesleyan accompanies the students throughout the semester as resident director. Students receive full academic credit for course work completed in Regensburg.

Students with a strong interest in spending an entire year at the University of Regensburg should consult with the department.

Summer Program in Berlin

The main purpose of the summer program in Berlin is to introduce beginning students to German language and culture in an authentic, stimulating environment. The goal is both to provide students a firm foundation in language (grammar, vocabulary, and conversation) and also to introduce contemporary culture. Students will benefit greatly from direct daily linguistic and cultural contact in Berlin, the historical and cultural nexus of Germany. The course range for language instruction consists of beginner level with very little or no previous German to intermediate and major-level courses. Students earn 7 hours of Vanderbilt credit. Excursions help students integrate language learning with the unique educational experience of being in the target language country.

Honors Program

Candidates for honors in German who meet College of Arts and Science and departmental requirements must complete all requirements for the concentration in German and, in addition, must study a minimum of one semester at a German-speaking university (or gain the equivalent experience), complete 6 hours of 300-level courses; maintain at least a *B*+ average in their German courses and a *B* overall average; write an honors thesis; and pass an oral examination during the last semester.

Program of Concentration in Russian and European Studies

Students in Russian may elect this interdisciplinary major consisting of 39 hours of course work, as follows:

1. At least 18 hours in Russian language, literature and culture, including: 12 hours of Russian language beyond first year (normally Russian 203–204, 223–224) and 6 hours of courses in English offered by the Russian program.
2. At least 12 hours in European Studies, History, and Political Science, including:

European Studies 250 and 201 plus 6 hours selected from Political Science 205, 212, History 225, 226, and 238. For this requirement students can also select from the following courses if they are offered: History 228 and 237.

3. At least 9 hours of approved electives selected from the following courses: Russian 289, Political Science 213, 231, History 188, 239.

Courses taken in Russia or elsewhere will be evaluated on a case-by-case basis.

Program of Concentration in Russian

Requirements for a major are a minimum of 27 hours beginning after 102. Required courses are 203–204, 223–224, and 9 hours of courses in

English offered by the Russian program. Hours for study in Russia or in an American summer program may count toward a major, subject to approval of the director of undergraduate studies for Russian.

Program of Concentration in Russian Area Studies

Requirements for a major are 30 hours of course work above Russian 102. Required courses are Russian 203–204, 223–224, 9 hours of courses in English offered by the Russian program, and 9 hours of approved Russian content courses offered by the Department of History, Department of Political Science, or European Studies Program. Hours for study in Russia or in an American summer program may count toward a major, subject to approval of the director of undergraduate studies for Russian.

Minor in German

Program I: German Language and Literature

The minor in German consists of a minimum of 18 hours of course work beyond or above the level of German 105, excluding German 245–246, and courses taken as independent study. Specific requirements are as follows:

One course selected from German 213 and 214	3
German 221 and 222	6
Two courses selected from German 220 and above	6
One elective course	3
Total hours:	18

Program II: German Studies

The minor in German Studies consists of a minimum of 18 hours of course work as follows:

German 201	3
3 hours from German 213, 214, or 216	3
3 hours from German 221, 222, or 223	3
3 hours of German literature above German 223	3
3 hours of a "German text" course	3
3 hours of a "German content" course	3
Total hours:	18

Minor in Russian

A minor in Russian consists of 18 hours of course work taken in the Russian division in addition to Russian 101–102 (or the equivalent). Hours for study in Russia or in an American summer program may count toward a minor, subject to approval of the director of undergraduate studies for Russian.

Minor in Russian Area Studies

Requirements for a minor are 18 hours of course work in addition to Russian 101–102 (or the equivalent). Nine of the hours must be taken in

the Russian division; the other nine as approved Russian content courses taken outside the Russian division.

Licensure for Teaching

Candidates for teacher licensure in German at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

German

Students with some experience in German should consult the department for placement.

101. Elementary German I. Development of the four language skills of reading, listening, speaking, and writing. FALL, SPRING. [5] Staff.

102. Elementary German II. Continuation of 101. Prerequisite: 101. FALL, SPRING. [5] Staff.

103. Intermediate German I. Intensive review of German grammar as a basis for reading, conversation, and composition. Texts and discussions address issues in contemporary German society. Prerequisite: 102. FALL, SPRING. [3] Staff.

Starred course 104 or the combination of 105 and 106 is prerequisite for all higher numbered German courses, with the exception of conversation courses and courses taught in English.

★104. Intermediate German II. Practice in reading, listening, speaking, and writing. Short stories, one longer work (Kafka), and discussions examine aspects of modern life from a German perspective. Prerequisite: 103. FALL, SPRING. [3] Staff.

105. Intensive German in Regensburg. Grammatical and syntactic structures. Prerequisite: 103; corequisite: 106. SPRING. [3] Staff.

106. Intensive German in Regensburg. Landeskunde and communicative skills. Prerequisite: 103; corequisite: 105. SPRING. [3] Staff.

172. Borders and Crossings: German Literature and Culture from Romanticism to the Present. Textual and visual contributions to German culture from the nineteenth and twentieth centuries in English translation. Borders—physical, ideological, intellectual, and metaphorical—and crossing these borders, as passages to more creative or liberated states of being, or as acts of transgress. Taught in English. SUMMER. [3] Setje-Eilers.

201. Introduction to German Studies. Literature, history, philosophy, and science of German-speaking countries presented through contemporary and multidisciplinary critical concepts and practices. Technology, theorizing mass culture, forms of cultural production, tradition and modernity. Reading and discussions in German. FALL. [3] Zeller.

213–214. German Conversation and Composition. Graduate credit for M.A.T. candidates only. Prerequisite: 103. FALL, SPRING. [3–3] Werner, Sevin.

216. Business German. The culture of the German business community; differences that hinder communication between German-speakers and non-German-speakers in the business setting; development of aural/oral and written skills. Business practices, policies, and

laws in German-speaking countries; advertising and marketing strategies, letters, vitae, phone calls, and personal interviews. SPRING. [3] Setje-Eilers.

220. Advanced Grammar. Study of word formation and sentence structure in modern German, supplemented by contemporary readings, with discussion. Not open to students who have participated in the Regensburg exchange program. [3] Setje-Eilers. (Not currently offered)

221–222. German Culture and Literature. Introduction to major periods and genres of German cultural production from the middle ages to the present; overview of major social and political developments. Literary, philosophical, and other texts. Readings and discussions in German. FALL, SPRING. [3–3] Setje-Eilers, Werner.

223. From Language to Literature. Continuing practice in reading, listening, speaking, and writing; emphasis on literary terminology and techniques for critical reading of German. Recommended as preparation for more advanced literary study, prose, poetry, and drama. Prerequisite: 213. FALL. [3] Eigen.

235. German Romanticism. The contributions of Schlegel, Tieck, Novalis, Eichendorff, and others to literature, philosophy, and theory. Intellectual, social, and political currents. [3] Lin. (Not currently offered)

237. Women and Modernity. Women in German literature from the eighteenth century to the present, focusing on questions of sexuality, political emancipation, artistic identity. No knowledge of German required. [3] Werner. (Not currently offered)

238. Interconnections of Arts and Science: Goethe and the Natural World. (Also listed as Physics 238) Mutual influences between the arts and science, as exemplified in Goethe's *Faust* and *Elective Infinities*. Readings in English, with option of German readings for German studies majors. Focal points: empirical investigation, philosophical interrogation, and scientific explanation. Prerequisite: completion of Basic Science requirement. [3] Haglund (Physics), McCarthy. (Not currently offered)

241. The Racial Imagination. The complex and contradictory history of the idea of "race" as a scientific category. Study of medical, scientific, philosophical, anthropological, and literary texts. No German required. [3] Eigen. (Not currently offered)

243. The Aesthetics of Violence: Terror, Crime, and Dread in German Literature. The "dark" side of imagination in twentieth-century German literature including history and theory of modern art, emphasis on literary representation, mutual influences between aesthetic reflection and political action. No knowledge of German required. [3] Zeller. (Not currently offered)

244. German Fairy Tales: From Brothers Grimm to Walt Disney. The German fairy tale tradition and its role in American culture. No German required. FALL. [3] Eigen.

245. Love and Friendship. Concepts of life and friendship, Greek antiquity to Romanticism, modern and postmodern times. Philosophical and literary texts, letters, and essays. Taught in English. [3] Hahn. (Not currently offered)

246. German Masterpieces in English Translation. Emphasis on the classical period and the present. Authors such as Goethe, Grass, Hesse, Kafka, T. Mann, and Schiller. No knowledge of German required. [3] (Not currently offered)

248. German Lyric Poetry—Form and Function. Lyric forms as a reaction to personal trauma, collective desire, scientific and technological advances, and social change since the Thirty Years' War. Love, loss, liberation. Students compose poems in imitation of classic examples of the folk song, ballad, sonnet. [3] McCarthy. (Not currently offered)

262. German Literature of the Middle Ages. Examines sites of literary production (monasteries, courts, urban centers) and the evolution of literary language. [3] Werner. (Not currently offered)

263. The Age of Goethe — Weimar 1775 to 1805. Rational pragmatism, aesthetic innovation in response to Kant and French Revolution. Readings drawn from Goethe's *Iphigenia, Hermann und Dorothea*, Schiller's *Maria Stuart* and *Wallenstein*, and Wieland's *Oberon*. [3] McCarthy. (Not currently offered)

264. Pleasures and Perils in Nineteenth-Century Theater. The German drama and dramatic theory from Romanticism up to Naturalism with emphasis on selected works by Kleist, Büchner, Grillparer, and Hebbel. [3] Setje-Eilers. (Not currently offered)

265. Revolutionizing Twentieth-Century Theater. German drama and dramatic theory from Naturalism to the present. Emphasis on Brecht and post-Brechtian drama. [3] Zeller. (Not currently offered)

266. Nineteenth-Century Prose. A study of representative works of the main literary trends from Romanticism to Naturalism. [3] Lin. (Not currently offered)

267. The German Novel from Kafka to Grass. A study and interpretation of the main literary trends and major figures in twentieth-century narrative. [3] Sevin. (Not currently offered)

A&S

269. Writing under Censorship. An introduction to the main literary trends and authors of the former East Germany (1949–1989). Taught in German. FALL. [3] Sevin.

270. German Cinema: Vampires, Victims, and Vamps. An analysis of representative German film with special emphasis on its sociocultural and historical context. Discussion will include pertinent theories of cinematography and cinematic narration. Taught in English. SPRING. [3] Sevin.

271. Women at the Margins: German-Jewish Women Writers. Examination of themes, forms, and sociocultural issues shaping the work of German-Jewish women writers from the Enlightenment to the present. Readings and discussions in English. SPRING. [3] Werner.

273. Nazi Cinema: The Manipulation of Mass Culture. Nazi manipulation of mass culture through film (propaganda, musicals, westerns). Some comparison with American film of the era, additional examination of "fascist" aesthetic legacy in American culture today. No knowledge of German required. [3] Eigen. (Not currently offered)

274. Who Am I? German Autobiographies. Canonical and non-canonical texts from the nineteenth and twentieth centuries constructing cultural, religious, and gender identities. SPRING. [3] Hahn.

275. Art and Rebellion: Literary Experiment in the 1960s and 1970s. German literature under the conditions of protest and rebellion. Experiments in poetry, prose, and theater; new directions in art and media theory; historical influences. FALL. [3] Zeller.

278. Dreams in Literature. The difference between sleeping and being awake. Literary and philosophical texts. Novels, short stories, diaries, poems, and drama written within the last two hundred years. [3] (Not currently offered)

280. Murder and Mayhem: The *Sturm und Drang*. *Sturm und Drang* literary and social movement (1767–1782). Literary genres and themes (e.g., infanticide, suicide, fratricide; primitivism, educational reform, utopian visions). Drawn from French (Diderot, Rousseau, Mercier) and English (Young, MacPherson, Shakespeare) impulses. The young Goethe and Schiller, Herder, Hamann, Lenz, L. Wagner. [3] (Not currently offered)

289a–289b. Independent Readings. Designed for majors and qualified undergraduates. Consists of a project to be carried out under the supervision of a member of the department. All projects must be approved by the department. [Variable credit: 1–3 each semester, not to exceed a total of 6 over a four-semester period, in both courses combined]

293a–293b–293c. Internship. Under faculty supervision, students gain experience working in a variety of settings, such as civic, corporate, business, cultural, government, health, media, political, research, and social welfare organizations usually in the German-speaking countries. Background reading and research will be completed in German or German Studies 293a concurrently with the completion of internship training, German or German Studies 293b. A minimum of 3 hours of 280a must be completed, independent of hours taken in 293b. Students may earn up to 6 hours of 293a credit. A research paper and report must be submitted at the end of the semester during which the internship training is completed. A 2.90 grade point average, completion of 6 hours beyond German 103, and prior approval of the director of undergraduate studies of the student's plans are required.

293a. Internship Training. May be taken on a Pass/Fail basis only and must be taken concurrently with 280b. These hours may not be included in the minimum hours required in the German or German studies major. FALL, SPRING, SUMMER. [Variable credit: 1–9]

293b. Internship Research. FALL, SPRING, SUMMER. [Variable credit: 1–3]

293c. Internship Readings. FALL, SPRING, SUMMER. [Variable credit: 1–3]

294a–294b. Selected Topics. May be repeated to a total of 12 hours. [3–3]

301. Stylistics. [3]

310. Foreign Language Learning and Teaching. [3]

314. Bibliography and Methods. FALL. [3] McCarthy.

316. Literary Theory and Criticism. [3]

330. Expressionism. [3]

335. Enlightenment and Its Literary Connection. [3]

340. Beyond Good and Evil. [3]

351. Philosophical Backgrounds of German Literature. [3]

385a–385b. Problems in Germanic Languages and Literatures. [3–3]

387. Seminar: Studies in Medieval Literature. [3]

388. Seminar: Studies in Literature 1400–1680. [3]

389. Seminar: 18th-Century German Literature. FALL. [3] McCarthy.

390. Seminar: 19th-Century German Literature. [3]

391. Seminar: 20th-Century German Literature. The Aesthetics of Violence. FALL. [3] Zeller.

392. Seminar: Problems of Theory in German Studies. Author, Archive, Work. SPRING. [3] Hahn.

393. Seminar: Intellectual Constellations. SPRING. [3] Hahn.

394. Seminar: Society and Ethics. SPRING. [3] Hahn.

395. The Racial Imagination. FALL. [3] Eigen.

Russian

101. First-Year Russian. Elementary conversation and reading with an emphasis on everyday situations. An introduction to Russian culture and life through contemporary Russian materials. Five hours of class work. FALL. [5] Kustanovich.

102. First-Year Russian. Continuation of 101 with emphasis on reading and talking about texts. Prerequisite: 101. SPRING. [5] Kustanovich.

171–172. Russian Culture. The evolution of Russian civilization. The interplay between East and West in the shaping of Russian cultural achievements and national identity. No knowledge of Russian required. 171: From Kievan Russia to 1880. 172: From 1880 to the present. [3–3] (Not currently offered)

203–204. Second-Year Russian. Practice of all four skills (reading, speaking, listening, and writing), grammar review, reading of contemporary Russian texts. Prerequisite: 102 or equivalent. FALL, SPRING. [3–3] Lowe.

221–222. Survey of Russian Literature in English Translation. Main currents, writers, and works of Russian literature. 221: the nineteenth century: Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, and Tolstoy. 222: the twentieth century: Bulgakov, Pasternak, Solzhenitsyn, Aksenov, Trifonov, and Petrushevskaya. No knowledge of Russian required. [3–3] Lowe, Kustanovich. (Not currently offered)

223–224. Composition and Conversation. Development of all language skills at the intermediate-advanced level. Reading of contemporary short stories. Prerequisite: 204. FALL, SPRING. [3–3] Lowe, Kustanovich.

231. Jews in Russian Culture: Survival and Identity. A course on the history of Jewish contributions to Russian culture, including literature, the visual arts, theater, and film. Questions of assimilation, the rise of Jewish national consciousness, and interest in Jewish heritage are discussed. No knowledge of Russian required. [3] (Not currently offered)

232. The Evil Empire: Stalin's Russia. Life in Stalin's Russia as portrayed in memoirs, novels, stories, poetry, films, and music. No knowledge of Russian required. SPRING. [3] Lowe.

233. *Crime and Punishment*. Dostoevsky's psychological thriller *Crime and Punishment* and two kinds of related texts: those that influenced Dostoevsky's classic crime novel (works by Pushkin and Balzac) and those influenced, in turn, by Dostoevsky's novel (works by Nabokov and Trifonov). No knowledge of Russian required. [3] Lowe. (Not currently offered)

234. The Russian Cinema. Socialist Realism of the 1930s to 1950s; masterpieces of the post-Stalin era in the1960s and '70s; sex and violence of the Perestroika; new post-Soviet cinema. Films by such directors as Eisenstein, Pyryev, Romm, Tarkovsky, Mikhalkov, and Sokurov are studied and discussed within the political context. No knowledge of Russian required. FALL. [3] Kustanovich.

280a–280b. Internship. Under faculty supervision, students gain experience working in a variety of settings, such as civic, corporate, cultural, government, health, media, political, research, and social welfare organizations in the United States and Russia. Background reading and research will be completed in Russian 280a concurrently with the completion of internship training, Russian 280b. A minimum of 3 hours of 280a must be completed, independent of hours taken in 280b. Students may earn up to 6 hours of 280a credit. A research paper and report must be submitted at the end of the semester during which the internship training is completed. A 2.90 grade point average and prior approval of the director of undergraduate studies of the student's plans are required.

A&S

280a. Internship Training. Offered on a Pass/Fail basis only and must be taken concurrently with 280b. Hours of 280b cannot be included in the minimum hours counted toward the Russian majors or minors. FALL, SPRING, SUMMER. [Variable credit: 1–9]

280b. Internship Research and Readings. FALL, SPRING, SUMMER. [Variable credit: 1–6]

289a–289b. Independent Readings. Designed for majors and qualified undergraduates. Consists of a project to be carried out under the supervision of a member of the department. All projects must be approved by the department. [Variable credit: 1–3 each semester, not to exceed a total of 6 over a four-semester period, in both courses combined]

294a–294b. Selected Topics. May be repeated to a total of 12 hours. [3–3]

Hebrew

☙ STUDENTS seeking further information regarding Hebrew courses may consult the chair of the Department of Religious Studies.

111a. Elementary Hebrew. Introduction to alphabet, the basics of grammar, and elementary conversation. Classes meet three times per week with an additional two hours a week required in the language laboratory. FALL. [4] Halachmi.

111b. Elementary Hebrew. Continuation of 111a. Greater stress upon conversation and grammar. Classes meet three times a week with an additional two hours a week required in the language laboratory. SPRING. [4] Halachmi.

113a. Intermediate Hebrew. Introduction to modern Hebrew reading, conversation, advanced grammar, and conversation. Classes meet three times a week with an additional three hours a week spent in independent work in the language laboratory. FALL. [3] Halachmi.

113b. Intermediate Hebrew. Continuation of 113a. Greater emphasis on reading and writing. Classes meet three times a week with an additional three hours a week spent in independent work in the language laboratory. SPRING. [3] Halachmi.

201. Grammar and Composition. Prerequisite: 113b. [3] Halachmi. (Not currently offered)

289a–289b. Independent Study in Modern Hebrew. [Variable credit: 1–3 each semester, not to exceed a total of 6]

History

CHAIR Daniel H. Usner Jr.
DIRECTOR OF UNDERGRADUATE STUDIES James A. Epstein
DIRECTOR OF GRADUATE STUDIES Richard J. M. Blackett
PROFESSORS EMERITI Howard L. Boorman, Paul K. Conkin, Charles F. Delzell, Jimmie L. Franklin, Paul H. Hardacre, J. León Helguera, Robert Isherwood, Samuel T. McSeveney, Frederick D. Schneider, V. Jacque Voegeli, Donald L. Winters
PROFESSORS Jeremy Atack, Michael D. Bess, Richard J. M. Blackett, Dennis C. Dickerson, Marshall C. Eakin, James W. Ely Jr., James A. Epstein, Gary Gerstle, Elizabeth Lunbeck, Thomas Alan Schwartz, Helmut Walser Smith, Daniel H. Usner Jr., David Wasserstein
ADJUNCT PROFESSOR Ronald A. Messier
ASSOCIATE PROFESSORS William Caferro, David Lee Carlton, Katherine B. Crawford, Gerald Figal, Joel F. Harrington, Yoshikuni Igarashi, Jane Gilmer Landers, Matthew Ramsey, Ruth Rogaski, Arleen M. Tuchman, Francis W. Wcislo
ASSISTANT PROFESSORS Brandi Brimmer, Devin Fergus, Catherine Molineux, Moses Ochonu, Rowena Olegario, Frank Robinson, Edward Wright-Rios
VISITING ASSISTANT PROFESSOR Henning Grunwald
SENIOR LECTURERS Yollette T. Jones, WIlliam S. Longwell, Peter Lorge

MORE than one hundred courses in the Department of History are available to Vanderbilt undergraduates. Some focus on a particular historical period, others on a particular region of the world, and still others on topics that may cross traditional chronological and geographical boundaries. The department is committed to the principle that in a changing world, the way we learn about the past must also change. It will continue to develop new courses for the twenty-first century, with an emphasis on those that recognize the interconnections among the various civilizations and regions of the globe.

Unless indicated otherwise in the course description, history courses have no prerequisite. Except for History 295, 297, 298, and 299, courses numbered below 300 are open to all majors and non-majors. History 295 is limited to juniors and seniors, and preference is given to history majors. History 297, 298, and 299 are limited to students who have been admitted to the History Honors Program. Courses numbered 300 and higher may be taken by senior history majors with the approval of the instructor, the adviser, and the Graduate School.

Students will find that the study of history offers not only a strong foundation for a liberal education but also a means of understanding the contemporary world. The skills developed in gathering, assessing, and synthesizing information have wide application in many careers, including business and the professions.

The Department of History offers a major and minor in history and, in cooperation with the Department of Economics, a joint major in economics and history, which is described in this catalog under "Economics and History." It also offers a joint major in English and history, which is described in this catalog under "English and History."

Program of Concentration in History

The major program requires a minimum of 30 hours in history; no more than 6 hours of AP or IB credit may count toward this total. Course work is distributed as follows:

1. 200 or 297 (3 hours)

Note: 200 should be taken as soon as possible and must be taken no later than the second semester of the junior year. 297 is limited to second-semester juniors who have been admitted to the Honors Program. Students entering the Honors Program who have already taken 200 will receive elective credit for that course.

2. Five courses in one of the following concentrations (15 hours):

A. *Asia*
B. *Latin America*
C. *Europe*
D. *Early America and the United States*
E. *Comparative History/Special Topics*

See below for a list of courses that count for Concentrations A, B, C, and D.

Note: AP and IB credit will not count toward the 15 hours for the concentration; an appropriate capstone course (see below) will count. Students choosing concentration E must have the approval of their adviser and the director of undergraduate studies for a specific program of study. The director has a list of recommended thematic and comparative concentrations that reflect the teaching strengths of the Department of History.

Program A. Asia

115 or 115F (as appropriate), 140, 152, 154, 155, 156, 157, 182, 190 (as appropriate), 246, 247, 248, 249, 250, 251, 252, and as appropriate 294, 295, 296, 297, 298a–b, and 299

Program B. Latin America

115 or 115F (as appropriate), 140, 160, 161, 172, 190 (as appropriate), 258, 259, 260, 261, 262, 263, 264, 265, 266, and as appropriate, 294, 295, 296, 297, 298a–b, and 299

Program C. Europe

100, 101, 102, 103, 115 or 115F (as appropriate), 130, 140, 180, 181, 182, 187, 188, 190 (as appropriate), 202, 204, 206, 210, 211, 212, 213, 214, 215, 218, 220, 221, 222, 225, 226, 230, 231, 232, 233, 234, 235, 237, 238, 239, 240, 242, 243, 244 (as appropriate), 245, 252, 258, 259, 268, 269, and as appropriate 294, 295, 296, 297, 298a–b, and 299; Classical Studies 207, 208, 209, 213; Economics 271; Jewish Studies 156; Philosophy 210.

Program D. Early America and the United States

115 or 115F (as appropriate), 140, 168, 169, 170, 171, 172, 173, 176, 177, 187, 188, 190 (as appropriate), 201, 204, 205, 244 (as appropriate), 252, 267, 268, 269, 272, 275, 276, 277, 278, 279, 280, 281, 282, 283, 285, 286, 287, 288, 289, 291, and as appropriate, 293b, 293c, 294, 295, 296, 297, 298a–b, and 299; Economics 226, 266.

3. Capstone course (3–6 hours)

One of the following, to be taken in the junior or senior year; all of the options will require the student to write a major paper.

Option 1: 293b, Internship Research (3 hours). Must be taken in conjunction with HIST 293a (internship training). Prerequisite: HIST 200. *Note*: a student may take HIST 293b as an elective before completing HIST 200, but in this case 293b will not count as a capstone course.

Option 2: 295, Undergraduate Seminar (3 hours). Prerequisite: 200. *Note*: a student may take HIST 295 as an elective before completing HIST 200, but it will not count as a capstone course.

Option 3: An enriched version of a regular 200-level course numbered between 201 and 294 (4 hours). The student will write a major paper in addition to the regular assignments. Students interested in this option must obtain the approval of the instructor and the director of undergraduate studies before registering on OASIS. At the end of the semester, the instructor will submit a copy of the paper, with comments and grade, to the director of undergraduate studies. If it meets the standards for the option, the director will authorize the registrar to award an additional hour of credit. This option is available only to juniors and seniors majoring in history who have completed History 200. A student who has received credit for this capstone course may not subsequently enroll in a second enriched 200-level course.

Option 4: 298a–b, Senior Honors Seminar (6 hours). Limited to seniors in the History Honors Program; prerequisite: HIST 297.

4. Electives (6–12 hours, depending on the nature of the capstone course)

Honors Program

The Honors Program in History is a three-semester program of study. It offers superior undergraduate history majors a program of advanced reading, research, and writing. The Honors Program combines seminar work and independent study under the supervision of a thesis adviser. These provide participants a structured introduction to historical research and writing, as well as the opportunity to study defined areas of history and significant historical problems that accord with their own interests. The final objectives of the Honors Program are successful authorship of the honors thesis and graduation with honors or high honors in history.

Students meeting college and departmental requirements will enroll for a total of 12 credit hours: History 297, Junior Honors Seminar in History (3 hours); History 298a–298b, Senior Honors Research Seminar (6 hours); and 299, Senior Honors Thesis (3 hours). In addition, successful completion of the Honors Program also requires one written examination on the historical literature that relates to the student's honors thesis and an oral defense of the honors thesis before a faculty committee. Both written and oral examinations will occur at the end of the third semester.

Program of Concentration in Economics and History

This is an interdisciplinary program split between economics and history that provides a more focused program of study while requiring fewer credit hours than a double major in the two fields. The program consists of 45 hours of course work of which 9 hours are from a common economic history core and the remaining 36 credit hours are evenly divided between economics and history. Students are expected to observe course-specific requirements in each department. See the "Economics and History"section of this catalog for details.

Program of Concentration in English and History

This is an interdisciplinary program split between English and history that provides a more focused program of study while requiring fewer credit hours (36 hours) than a double major in the two fields (60–66 hours). The program also includes special team-taught, cross-disciplinary workshops whose topics vary from semester to semester. See the "English and History" section of this catalog for details.

Minor in History

The minor in history requires a minimum of 18 hours of course work. The following options are offered:

I. European History

1. 100 or 101 and
2. Five of these courses: 130, 180, 181, 182, 185, 186, 187, 188, 190 (as appropriate), 200, 202, 204, 210, 211, 212, 213, 214, 215, 218, 220, 221, 222, 225, 226, 231, 232, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 252, 258, 259, 268, 269, and as appropriate, 294 or 295; Classical Studies 208, 209, 212; Economics 271; Jewish Studies 156.

II. American History

1. 170 or 171 and
2. Five of these courses: 169, 172, 173, 176, 177, 187, 188, 190 (as appropriate), 200, 201, 204, 205, 252, 267, 268, 269, 272, 275, 276, 277, 278, 279, 280, 281, 282, 283, 285, 286, 287, 288, 289, and as appropriate, 294 or 295; Economics 226, 266.

III. Latin American History

1. 160 or 161 and
2. Any five of these courses: 172, 190 (as appropriate), 200, 258, 259, 260, 261, 262, 263, 264, 265, 266, and as appropriate, 294 or 295.

IV. East Asian History

Six of these courses: 152, 154, 155, 156, 157, 182, 190 (as appropriate), 246, 247, 248, 249, 250, 251, 252, and as appropriate, 294 or 295.

100. History of Western Civilization to 1700. Judeo-Christian and Greco-Roman foundations to the beginning of the eighteenth century. No credit for students who have completed 115W, section 48. FALL. [3] Caferro.

101. History of Western Civilization since 1700. European history from the age of the Enlightenment to the present day. No credit for students who have completed 115W, section 49. SPRING. [3] Wcislo.

102. Themes in Western Civilization to 1700. Introduction to history of Western civilization organized around a core theme; themes vary. No credit for students who have completed 100 or 115W, section 48. [3] Staff. (Not currently offered)

103. Themes in Western Civilization since 1700. Introduction to history of Western Civilization organized around a core theme; themes vary. No credit for students who have completed 101 or 115W, section 49. [3] Staff. (Not currently offered)

115F. First-Year Writing Seminar. [3] Staff.

130. Western Military History to 1815. War in culture, politics, society, technology, the Military Revolution and state-formation. FALL. [3] Lorge.

A&S

131. Sea Power in History. An introductory survey of the U.S. Navy's role in foreign and defense policies from the American Revolution to the present. In addition, the course will examine the broad principles, concepts, and elements of sea power throughout history. Key points will include technological advances, interservice relations, strategies, and governmental policies pertaining to sea power. This course is designed to meet the NROTC requirement. Does not count toward history major. No credit for both Naval Science 131 and History 131. SPRING. [3] Auer.

140. Global History since 1500. Interconnections among different parts of the world. Capitalism and trade; science and technology; warfare and the rise and fall of great powers; imperialism/colonialism; cultural exchanges; ecology and human populations; religion; modern ideologies. FALL. [3] Messier.

152. Modern East Asia. East Asia's encounter with modernity from 1800 to the present. Traditional orders in China, Japan, Korea, and Vietnam; European imperialism; the rise and persistence of Communism in East Asia. East Asia as new center of global development in the twenty-first century. SPRING. [3] Rogaski.

154. History of Asian Civilization: Premodern China. The development of Chinese civilization from ancient times to the seventeenth century. The birth and development of the Chinese identity; Confucianism, Taoism and Buddhism; the moral, military, and bureaucratic foundations of the imperial institution; the Silk Road; eunuchs and concubines; the commercial revolution. SPRING. [3] Lorge.

155. History of Asian Civilization: Modern China. Modern China from the seventeenth century to the present. Alien rule and dynastic decay; major artistic, literary, and intellectual traditions and innovations; peasant uprisings; Western imperialism; political, cultural and social revolutions of the twentieth century; Communist rule; post-Mao economic and social reforms. [3] Rogaski. (Not currently offered)

156. Chinese Thought. Confucianism and Philosophical Daoism. The Confucian Four Books, the Daodejing (Laozi), Zhuangzi, and Neo-Confucianism. Prerequisite: 154. SPRING. [3] Lorge.

157. History of Asian Civilization: Japan. Development of Japanese civilization from ancient times to the twentieth century, emphasizing cultural traits within Japan and its relations with neighboring regions in East Asia. FALL. [3] Figal.

160. Colonial Latin America. A survey of Latin American history from pre-Columbian times to the early nineteenth century. Iberian, Amerindian and African background; the conquest; construction of colonial society and institutions; wars for independence. No credit for students who have completed 160a. FALL. [3] Wright-Rios.

161. Modern Latin America. A survey of Latin American history from the early nineteenth century to the present. Wars for independence; rise of new nations and export-oriented economies; case studies in revolution, nationalism, and reform in the twentieth century; U.S.-Latin American relations. No credit for students who have completed 160b. SPRING. [3] Robinson.

168. American Indian History since 1850. American Indians in the United States and Canada. Their responses to government policies and other forces. Cultural, socioeconomic, and political change among Indian communities. SPRING. [3] Usner.

169. American Indian History before 1850. Indian nations' interaction with each other and with European colonies. Resistance and adaptation to colonialism. Early development of United States Indian policy. [3] Usner. (Not currently offered)

170. History of the United States to 1865. The main social, political, economic, and cultural developments of the United States from colonization through the Civil War. No credit for students who have completed 171a or 115W, section 51. FALL. [3] Usner.

171. History of the United States since 1865. The main social, political, economic and cultural developments of the United States from 1865 to the present. No credit for students who have completed 171b or 115W, section 50. SPRING. [3] Schwartz.

172. Slavery in the Americas, 1492–1822. Comparative study of slavery in the American colonies to the collapse of the great European empires. Spanish/Portuguese and English slave systems compared; development of slave trade; varieties of unfree labor; slave resistance; Afro-Creole cultures. [3] Landers. (Not currently offered)

173. The First New Nation. American history from the winning of independence to the 1820s. The Constitution, the formation of national government, political conflict, republicanism and the rights of minorities, national culture, foreign relations in an age of revolution. Primarily for freshmen and sophomores. No credit for students who have completed 272a. FALL. [3] Olegario.

176. The United States in the 1960s. Domestic history of the U.S. during 1960–1973 emphasizing changes driven by new social forces; "baby boom" demographics, economic growth, consumer culture, and insurgent social movements (civil rights, feminism, student rights, antiwar protest, counterculture, environmentalism). [3] Staff. (Not currently offered)

177. The U.S. and the Cold War. U.S. history, 1945–1991. Emphasis on foreign policy and competition with Soviet Union. Impact of Cold War on American society. FALL. [3] Schwartz.

180. History of Christian Traditions. Christian traditions from the origins to the present. Such themes as christology, church and state, and the social and cultural contents of changing Christian beliefs, and views of the Church. [3] Harrington. (Not currently offered)

181. European Economic History, 1000–1700. From the commercial revolution of High Middle Ages to Industrial Revolution. Interconnections of economic forces with politics, society, and cultures. Rise of long distance trade; development of business and accounting techniques; public finance; monetary trends; advent of capitalist ethic. [3] Caferro. (Not currently offered)

182. Communism in China and Russia. Comparative historical experiences of twentieth-century Chinese and Russian communism. Revolutions of 1917 and 1949; governing ideological visions; revolutionary social change; dominant cultural discourse; popular understandings of liberation and oppression. [3] Wcislo. (Not currently offered)

187. Pornography and Prostitution in History. Commercialization of the sex trade, Renaissance to the present. Political scandal, capitalism, and globalization; effects of technological change, from the printing press to the Internet. Readings from anthropology, psychology, and feminist theory. [3] Crawford. (Not currently offered)

188. History of World War II. Origins and causes of the global conflict, the six years of military campaigns, politics and diplomacy of war making, race as a factor shaping the war in Europe and Asia, impact of technological innovations, social and economic aspects of the struggle, as well as its moral and psychological implications. SPRING. [3] Bess.

190. Contemporary Issues in Historical Perspective. Selected topics examined in various historical contexts. Subjects vary and may include motherhood, marriage, racism, and environmentalism. [3] (Not currently offered)

200. The History Workshop. Introduction to the "historian's craft." Reconstructing the past using primary documents, diaries, letters, memoirs, and recently declassified government papers. Methods of historical research and reasoning through individual projects. FALL, SPRING. [3] Staff.

201. Twentieth Century African American Religious History. Pentecostalism, gospel blues, effect of urbanization and industrialization on black churches, religion in the civil rights movement, black power and black theology, women in religious institutions, and post-denominationalism. SPRING. [3] Dickerson.

A&S

202. Science and Society after the Enlightenment. The intellectual, philosophical, and social factors influencing the development of scientific theories since the Enlightenment. [3] Tuchman. (Not currently offered)

203. Interdisciplinary Historical Studies. Team taught by a historian and a member of another discipline, such as philosophy, law, medicine, religious studies, sociology, or political science. Explores intersections of disciplines through the analysis of historical development in light of the perspective brought by the other discipline. Topics vary; course may be taken more than once. [3] Staff. (Not currently offered)

204. History of Medicine, 1750 to the Present. The scientific, technological, cultural, and professional factors influencing the rise of medicine. Emphasis on the period since about 1750 in both Europe and America. FALL, SPRING. [3] Tuchman, Rogaski.

205. Historical Perspectives on Women, Health, and Sexuality. Women as patients and healers. Emphasis on America. 1750 to the present. Topics include women's diseases and treatments, changing definitions of "woman," sexuality, childbirth, birth control, abortion, midwives, nurses, and doctors. [3] Tuchman. (Not currently offered)

206. Medicine, Culture, and the Body. (Also listed as Anthropology 260) Concepts of the human body from historical and cross-cultural perspectives. Exploration of experiences, representations, and medical theories of the body in birth, death, health, and illness in Western and non-Western societies. Comparison of methodologies of anthropology and history. [3] Tuchman. (Not currently offered)

207. The Modern Human Sciences. Sciences of the human in the U.S. and Europe, 1870 to the present. Measurement and testing; classifications of human types by race, gender, and sexual orientation; institutional power and discipline; differentiations of the normal and abnormal in psychology, psychiatry, medicine, sociology, anthropology, and sexology. [3] (Not currently offered)

210. Marriage and the Family in the Middle Ages. Evolution from late antiquity to the later Middle Ages. Topics include: Roman, Germanic, and Christian influence; variations based on

class; gender roles; children and attitudes toward marriage as a template for other relations. [3] (Not currently offered)

211. Medieval Women: Late Antiquity to the Later Middle Ages. Topics include the female body; social hierarchy and status; marriage vs. the cloister; women and work; female spirituality; women as readers and writers. [3] (Not currently offered)

212. Medieval Europe, 300–1000. Rome, Latin Christendom, and the East; political events and the adaptation of Roman and Christian traditions to the needs of society emerging from the invasions. FALL. [3] Messier.

213. Medieval Europe, 1000–1350. Economic expansion and the formation of national states; the medieval Church and the revival of learning in the twelfth and thirteenth centuries. SPRING. [3] Caferro.

214. Europe in the Age of the Renaissance. The political, social, economic, and religious history of Europe from 1300 to 1500, with particular emphasis on the intellectual aspects of the early Italian Renaissance. [3] Harrington. (Not currently offered)

215. Europe in the Age of the Reformation, 1500–1648. The political, intellectual, and social conditions underlying the Protestant revolt. The Reformation of Luther, Calvin, Zwingli, Loyola, and other religious reformers considered within the context of the general developments of sixteenth-century history. [3] Harrington. (Not currently offered)

218. Europe in the Age of Revolution, 1789–1815. Political, cultural, and economic upheavals in the late eighteenth and early nineteenth centuries; the French Revolution and Napoleon, romanticism, and early industrialization. Emphasis on Britain, France, and Germany. [3] Ramsey. (Not currently offered)

220. Europe in the Nineteenth Century. Major political, social, economic, and cultural developments from 1815 to 1914. [3] (Not currently offered)

221. Sexuality and Gender in the Western Tradition to 1700. Politics, war, and masculinity; Christianity and sexuality; changing ideas about gender roles and sexual practices. No credit for students who have completed 185. [3] (Not currently offered)

222. Sexuality and Gender in the Western Tradition since 1700. Modern masculinity, femininity, and gender roles; origins of identity politics and changing sexual norms; contemporary feminist issues. No credit for students who have completed 186. [3] Crawford. (Not currently offered)

223. Medieval Sexuality. Topics include: original sin and ambivalence to sex; theories of gender, asceticism, the body, gay subculture. Emphasis on primary sources. [3] (Not currently offered)

225. Europe From World War I to World War II. Political, socioeconomic, cultural, and colonial history of Europe from 1914 to the fall of Hitler. [3] (Not currently offered)

226. Europe since 1945. Origins of the Cold War; political and social transformations, East and West; the breakup of colonial empires; ideological and military tensions; intellectual and cultural trends. [3] (Not currently offered)

230. European Unification since 1945. Origins, developments, and issues in the history of European unification. Special emphasis placed on the European movement, U.S. influence, national identity and interests, federalism, and the road to monetary union and enlargement. [3] (Not currently offered)

231. History of Germany in the Twentieth Century. The turbulent history of Germany, as it went from authoritarian state to volatile democracy, to National Socialist dictatorship, to divided

country, and to reunification. Special emphasis placed on the Nazi dictatorship, its origins and legacy. No credit for students who have completed 230b. FALL. [3] Grunwald.

232. History of Modern Italy. Survey of Italian political, socioeconomic, cultural, and colonial history from 1800 to the present. The Risorgimento, national unification, Liberal Monarchy, Fascism, and the Republic. [3] Bess. (Not currently offered)

233. Medieval and Renaissance Italy, 1000–1700. Transformation of Italy from "medieval" society to the "Renaissance." Cultural, economic, and social developments, especially connections among wealth, status, and patronage. Meaning and applicability of the term "Renaissance." FALL. [3] Caferro.

234. History of France from the Renaissance to the Enlightenment. Social and cultural history from 1515 to 1774. The conditions of life, ambitions, ideas, and tastes of the various social groups in France. The development of the arts, music, and literature in a social and political context. [3] Crawford. (Not currently offered)

235. Modern France. From the French Revolution of 1789 to the present. Emphasis on politics, with some attention to the major economic, social, cultural, and intellectual developments. [3] Ramsey. (Not currently offered)

A&S

237. Russia: Tsardom to Empire. Russian history from fifteenth-century Muscovite state, society, and economy; orthodox Russian culture and religion; Peter the Great and Catherine the Great; eighteenth-century absolutism, empire, serfdom, and intellectual life. [3] Wcislo. (Not currently offered)

238. Russia: Old Regime to Revolution. Russian history from the early nineteenth-century old regime through the Russian Revolution of 1917. Culture, society, and serfdom; the Great Reforms, ideology, and radicalism; industrialization; modernity in an agrarian society; twentieth-century revolutions. [3] Wcislo. (Not currently offered)

239. Russia: The U.S.S.R. and Afterward. Russian history since the 1917 Revolution. Overview of the old regime; revolution and civil war; the Soviet "Roaring '20s"; Stalinism and the totalitarianized society; World War II; postwar Soviet society and culture; de-Stalinization and the sixties generation; Gorbachev, perestroika, and disintegration; contemporary history. [3] Wcislo. (Not currently offered)

240. Medieval and Early Modern England. Cultural, political, legal and religious developments in England from its Romano-Celtic antecedents through the seventeenth century. [3] (Not currently offered)

242. England under the Tudors. Political, religious, and cultural history of England from Henry VII's accession to the death of Elizabeth I. Emphasis on the Protestant Reformation and its effects; the interaction between monarchy and parliaments; Puritans and other dissenters; Elizabethan literature, drama, art and music; popular culture; and the witch craze. [3] (Not currently offered)

243. Britain's Century of Revolution. Politics, religion, and culture of the British Isles in the seventeenth century. Analysis of the Civil War, Republic and Cromwellian Protectorate, Restoration, Glorious Revolution, and the political theory sparked by these conflicts, including works of Milton and Marvell, Hobbes and Locke; arts and literature; scientific revolution and intellectual change; witch craze; beginnings of empire. [3] (Not currently offered)

244. Workshop in English and History. (Also listed as English 280) Team-taught by a historian and an interdisciplinary scholar. Explores intersection of disciplines through close examination of texts in historical context. Topics vary; course may be taken more than once. Preference to students majoring in the English-History program. SPRING. [3] Bell, Messier.

245. Victorian England. Cultural values, liberal reform; urbanization; women and gender; imperialism. SPRING. [3] Epstein.

246. Sexuality and Gender in China. Construction of masculine and feminine identities in traditional China; martial arts, footbinding, erotica, and chastity. Twentieth-century revolutions in gender roles and marriage; questions of gay culture, women's liberation, and "free love" in contemporary China and Taiwan. [3] Rogaski. (Not currently offered)

247. Themes in Modern Chinese History. Intensive reading, discussion, and short papers on selected themes in Chinese social and cultural history. Particular topics vary from semester to semester. May be taken more than once if there is no overlap with a prior offering. [3] Lorge. (Not currently offered)

248. History of Chinese Medicine. The historical divergences between medicine in China and the West. Readings in Chinese medical classics, including the *Inner Cannon of the Yellow Emperor* and early herbal manuals. Chinese medicine's encounter with Western medicine in the twentieth century: the creation of "Traditional Chinese Medicine" in the PRC and the emergence of Chinese medicine as "alternative medicine" in the U.S. SPRING. [3] Rogaski.

249. History of Modern Japan. The political, social, economic, and cultural history of Japan in the nineteenth and twentieth centuries. Radical changes in the state, society and economy and the effects of these changes on Japan's place in the world. SPRING. [3] Igarashi.

250. Cultural and Social History of Japan's Recent Past. Japanese culture and society from the 1930s to the present. Impact of war experiences on postwar Japan, and the political nature of cultural production. [3] Igarashi. (Not currently offered)

251. Popular Culture in Early Modern Japan. Cultural history of Tokugawa Japan (1603–1868), with emphasis on daily life and popular entertainment in the capital of the warrior government, Edo (present-day Tokyo). Content includes woodblock prints, pleasure quarters, kabuki theatre, street gangs, commoner carnivals, and popular literature. [3] Figal. (Not currently offered)

252. International Business History. 1700 to the present. Business systems and cultures of Britain, Germany, the U.S., Japan, and China. Firms, entrepreneurs, technology, institutional arrangements, finance, and government regulations and policies. Prerequisite: Economics 100 or 101. [3] Olegario. (Not currently offered)

253. Subsaharan Africa: 1400–1800. Pre-colonial history of West and Central Africa: the rise of early empires, cultural history of major groups, the spread of Islam, the Atlantic exchange, development of the Atlantic plantation complex, and the slave trade. FALL. [3] Ochonu.

254. Africa since 1800: The Revolutionary Years. Political, economic, and social patterns in SubSaharan Africa from 1800 to the present. The transition from traditional states and societies, through the colonial interlude and the quest for independence to the modern national setting with its problems of development. Emphasis on the peoples of Nigeria and South Africa. SPRING. [3] Ochonu.

255. The Islamic World to 1798. History of the Islamic world, sixth century A.D. to 1798. The rise and spread of Islam as a world empire, a religious system, a cultural-economic network, and a way of life. Historical and literary sources and artifacts. SPRING. [3] Messier.

256. Nationalism and Islam in the Middle East since 1798. Secular nationalism and the changing nature of Islamic identification in the Middle East with emphasis on Egypt, Turkey, Iran, and Palestine/Israel. [3] (Not currently offered)

257. Muhammad and Early Islam. Early Arabian society, Judaism and Christianity in Arabia, Muhammad and the birth of Islam, the conquests, Islamization, Arabization, Jewish influences in early Islam, the medieval Islamic world. [3] Wasserstein. (Not currently offered)

258. Rise of the Iberian Atlantic Empires, 1492–1700. Pre-Columbian societies; the formation of the early Spanish state and imperial expansion in the Americas; the formation of multiethnic transatlantic societies. FALL. [3] Landers.

259. Decline of the Iberian Atlantic Empires, 1700–1820. Reorganization of the Spanish and Portuguese empires, maturation of transatlantic societies; revolutions for independence. SPRING. [3] Robinson.

260. Caribbean History, 1492–1983. Amerindian society; age of encounter; imperial contest; slavery and abolition; U.S. influence; independence movements; cultural movements; invasion of Grenada. FALL. [3] Blackett.

261. Colonial Mexico. The cultural history of major pre-Columbian groups; the conquest and settlement by the Spaniards; colonial society through independence in 1821. No credit for students who have completed 261a. [3] Landers. (Not currently offered)

262. Modern Mexico. From independence in 1821 to the present. Political instability of the nineteenth century; the Porfirian dictatorship and the revolution of 1910; evolution and modernization of Mexico. SPRING. [3] Wright-Rios.

263. History of Gender and Women in Colonial Latin America. Gender constructions and their historical effects on Spanish, Amerindian, African, and mixed-race women from 1400 to 1800. SPRING. [3] Landers.

A&S

264. Brazilian Civilization. From pre-Columbian times to the present. Clash and fusion of Portuguese, Amerindian, and African cultures; sugar and slavery; independence and empire; the coffee economy; race relations; the search for national identity; industrialization; dictatorship and democracy in the twentieth century. SPRING. [3] Eakin.

265. History of Central America. Iberian and Amerindian background, colonial society; independence; growth of the plantation economy; the United States' presence; political and social revolutions in the twentieth century. [3] Robinson. (Not currently offered)

266. Reform and Revolution in Latin America. Comparative analysis of revolutions and reform movements in twentieth-century Latin America focusing on land tenure, social classes, political culture, economic structures, and foreign influences. FALL. [3] Wright-Rios.

267. North American Colonial History. European colonization before 1763. Conflict, trade, and settlement in various regions. Evolution of colonial societies, Atlantic connections, and imperial rivalries. FALL. [3] Molineux.

268. The English Atlantic World, 1500–1688. English overseas expansion, including conquest of Ireland, exploration and conquest of the New World. Formation of imperial and American cultures and of racism, the slave trade, Indian relations, and migration from the British Isles. [3] Staff. (Not currently offered)

269. Cultural History of the First British Empire, 1707–1783. The creation of Great Britain; expansion of British overseas interests in America, Africa, Asia, and the Pacific; development of creole cultures; British imperial policy and transatlantic cultures; the American Revolution and growth of antislavery. [3] Staff. (Not currently offered)

270. Africa and the World. Course covers Africa's commercial, cultural, and political relations with other parts of the world, especially Western Europe and the United States in the last two hundred years. Impacts of key movements of global crises on these relations, economic depression of the 1870s, World War I, the Great Depression of the 1930s, World War II, and the Cold War and African responses to these crises. [3] Ochonu. (Not currently offered)

272. The U.S. in the Era of the Civil War. Sectional conflict, secession, the Southern War for Independence, and Reconstruction; 1850–1877. [3] Olegario. (Not currently offered)

273. The Civil Rights Movement. Following two decades of progress from Brown v. Board of Education in 1954 toward racial justice and equality in the United States. Leaders, organizations, and milestones. SPRING. [3] Dickerson.

275. Recent America: The United States since 1945. A general study of the postwar period, with particular attention to the dynamics of social and political change. FALL. [3] Fergus.

276. The Old South. The South's origins in European expansion; the rise of the plantation economy and society, and its identification with slavery; the differing experiences of whites and blacks, planters and nonplanters; the relationship of the region to the larger United States; the Confederate attempt at independence; and the collapse of the slave regime. FALL. [3] Carlton.

277. The New South. The aftermath of war and emancipation and the era of Reconstruction; social change and dislocation in the late nineteenth century; the Populist Revolt; the origins of segregation and one-party politics; twentieth-century efforts to moderize the region; the economic, political, and Civil Rights revolutions of the mid-twentieth century; the South in modern American society and politics. SPRING. [3] Carlton.

278. History of Appalachia. The region from first European intrusions to the present. Frontier-era white-indigenous contact, antebellum society and economy relations with the slave South, the Civil War and postwar politics, increasing social strainings, industrialization and labor conflict, poverty and outmigration. Examination of mountain culture, tourism, and the construction of the "hillbilly" image. [3] (Not currently offered)

279. African American History to Reconstruction. The political, socioeconomic, and intellectual history of African American people from their African backgrounds to the end of the Reconstruction. Emphasis on the institutional history of the African American community. FALL. [3] Dickerson.

280. African American History since Reconstruction. The political, socioeconomic, and intellectual history of African American people from the end of Reconstruction to the present. Special emphasis on African American cultural and institutional history and the twentieth-century protest movements. SPRING. [3] Fergus.

281. The U.S. and the Vietnam War. Origins of American involvement, the reasons for escalation, and the Vietnamese response to intervention. The impact on America's domestic politics, the growth of the anti-war movement, and the economic, social, and cultural effects of the conflict. [3] Schwartz. (Not currently offered)

282. The U.S. and the World. From the winning of independence to the Great Depression. Relationships among foreign policy, ideology, domestic politics, and social and economic change. No credit for students who have completed 280a. [3] Schwartz. (Not currently offered)

283. The U.S. as a World Power. From the origins of World War II, through the Cold War, to the present day. Relationships among foreign policy ideology, domestic politics, and social economic change. No credit for students who have completed 280b. [3] Schwartz. (Not currently offered)

285. American Social History since 1865. The social causes and consequences of such events as Progressive Reform and the Great Depression. The impact of industrialization and urbanization on the elite, labor, immigrants, blacks, women, and the family. [3] (Not currently offered)

286. Gender, Sexuality, and Race in Early American Culture, 1600–1865. Social and cultural history of gender, race, and sexuality as represented in literary, legal and artistic texts. Exploration of Native American conquest, captivity narratives, abolitionism and sentimental fiction, nationalism and gender ideas. [3] (Not currently offered)

287. Gender, Sexuality, and Race in American Culture, 1865 to the Present. Social and cultural history of the intertwined ideas and practices of gender, race, and sexuality. Exploration of experiences, representations, and activism in feminist and gay rights movements, interracial unions, marriage and the family, black women's activism, suffrage, and sexual revolutions. SPRING. [3] Brimmer.

288. History of American Thought from the Puritans to the Civil War. Basic beliefs and preferences, with special emphasis upon Christian doctrine and political and economic theory. Understanding of the origins of a largely Christian, republican, and capitalist America. [3] (Not currently offered)

289. History of American Thought since 1865. Basic beliefs and preferences, with special emphasis upon Darwinian theory, the physical sciences, classic American philosophers, and the various and confusing intellectual fashions of the twentieth century. [3] (Not currently offered)

291. History of American Enterprise. Evolution of the form, organization, and structure of the American business firm from colonial times to the present. Entrepreneurs, labor management, financial capital, distribution, invention, and government regulation. FALL, SPRING. [3] Carlton, Olegario.

A&S

293a–293b–293c. Internship. Under faculty supervision, students from any discipline can gain experience in a broad range of public and private agencies, institutions, and programs. In some cases, such as historical societies or museums, history is a central part of the organization's missions; in other cases, the student will play a role in managing the institution's records or writing its history. Two options are available. (1) full-time: 12–15 hours total, including 6–9 hours in 293a, 3 hours in 293b, and 3 hours in 293c. (2) Part-time: 6–9 hours total, including 3–6 hours in 293a and 3 hours in either 293b or 293c. To be accepted for either option, students must have a 2.90 grade point average and 6 hours of prior work in history; they must submit a specific plan for the internship to the director of undergraduate studies. After completing the internship, all students must write a thorough report.

293a. Internship Training. Must be taken Pass/Fail and concurrently with 293a and/or 293b. These hours may not be included in the minimum hours required for the history major. FALL, SPRING. [Variable credit: 3–9]

293b. Internship Research. Students will write a substantial research paper under the supervision of a member of the Vanderbilt Department of History. FALL, SPRING. [3]

293c. Internship Readings. Readings and a substantial interpretive essay on topics related to the internship training, under the supervision of a member of the Vanderbilt Department of History. FALL, SPRING. [3]

294. Selected Topics in History. SPRING. [3] Staff.

295. Undergraduate Seminar in History. An undergraduate seminar involving advanced reading, research, and writing in a particular area of history. May be taken no more than two times, and not twice from the same professor. Limited to juniors and seniors with preference to history majors. FALL, SPRING. [3] Staff.

296. Independent Study. A program of reading in one field of history to be selected in consultation with an adviser. Normally limited to qualified majors in history. May be taken no more than two times, and not twice from the same professor. Approval of faculty adviser and director of undergraduate studies required. FALL, SPRING. [Variable credit: 1-3 each semester]

297. Junior Honors Seminar in History. The first semester of a three-semester sequence of honors study leading to the writing of an honors thesis in history. Introduction to historical thinking, research, and writing. Readings from the major fields of historical scholarship, representing the United States, Europe, Latin America, and Asia. Open to juniors beginning

honors work in history, or to qualified history majors with the approval of the director of undergraduate studies. SPRING. [3] Epstein.

298a–298b. Senior Honors Research Seminar. Presentation and discussion of drafts and chapters of honors theses in progress. Open only to senior honors students. Participants must also register for History 299 in spring. Fulfills the requirement of 295 for majors. FALL, SPRING. [3–3] Wcislo.

299. Senior Honors Thesis. Readings of monographs, primary source research, and writing an honors thesis under the supervision of the thesis adviser. Open only to seniors in the departmental honors program who have completed 297. Participants in 299 must also register for 298b. SPRING. [3] Wcislo.

300a–300b. Introduction to Historical Methods and Research. FALL, SPRING. [4–4] Molineux, Caferro.

301. The Art and Craft of Teaching History. Readings on pedagogical theory and current research on college-level teaching and learning. Hands-on exercises in course design, preparing and grading tests and assignments, lecturing, leading discussion, cooperative and service learning, and use of technology to enhance teaching. Normally limited to graduate students in History. FALL. [4] Eakin.

305. Studies in Comparative History. SPRING. [4] Blackett, Eakin.

309. Studies in the Philosophy of History. [4] (Not currently offered)

315a. Studies in Early Modern European History. [4] (Not currently offered)

320a. Studies in European History, 1815–1914. FALL. [4] Epstein.

321. Topics in European History. [4] (Not currently offered)

324a. Studies in Recent European History. [4] (Not currently offered)

330a. Studies in German History. SPRING. [4] Smith.

340. Urban History. [4] (Not currently offered)

343a. Studies in Early Modern Britain. [4] (Not currently offered)

343b. Seminar in Early Modern Britain. [4] (Not currently offered)

344a. Studies in Modern England. [4] (Not currently offered)

344b. Seminar in Modern England. [4] (Not currently offered)

360. Studies in Imperialism. [4] (Not currently offered)

361. Topics in Latin American History. FALL. [4] Wright-Rios.

365. Seminar in Latin American History. [4] (Not currently offered)

371a. Studies in Early American History to 1783. [4] (Not currently offered)

372a. Studies in the Middle Period of American History, 1783–1861. [4] (Not currently offered)

373a. Studies in United States History, 1861–1900. [4] (Not currently offered)

374a–374b. Studies in Recent American History. SPRING. [4–4] Fergus.

375. Seminar in Recent American History. [4] (Not currently offered)

378a. Studies in History of the South. [4] (Not currently offered)

380a. Studies in American Diplomatic History. SPRING. [4] Schwartz.

381. Topics in American History. FALL. [4] Dickerson.

384a. Studies in American Social History. [4] (Not currently offered)

384b. Seminar in American Social History. [4] (Not currently offered)

385a–385b. Studies in the Intellectual History of the United States. [4–4] (Not currently offered)

History of Art

CHAIR Christopher M. S. Johns
DIRECTOR OF UNDERGRADUATE STUDIES Robert L. Mode
DIRECTOR OF GRADUATE STUDIES Leonard Folgarait
PROFESSORS EMERITI Robert A. Baldwin, Thomas B. Brumbaugh, F. Hamilton Hazlehurst, Milan Mihal, Ljubica D. Popovich
PROFESSORS Leonard Folgarait, Vivien Green Fryd, Christopher M. S. Johns
ASSOCIATE PROFESSORS Robert L. Mode, Barbara Tsakirgis
ADJUNCT ASSOCIATE PROFESSOR Susan Edwards
ASSISTANT PROFESSORS James J. Bloom, Annabeth Headrick, Jinah Kim, Tracy Miller, Elizabeth Moodey
INSTRUCTOR Claire S. King

A&S

THE Department of History of Art treats critically the major fields in world art, from ancient through modern, and serves to connect the arts to the other humanities. Many students will use the program in history of art as a foundation for careers in which analytic reading and writing skills gained in the major are especially valued as the basis for advanced training in professional schools (such as architecture, law, medicine, journalism, and business), for postgraduate work in history of art, and for employment in galleries, museums, or design-related fields. A major goal of the department is to help students become readers of visual images and material culture throughout their lives, as well as to encourage visual approaches to learning.

History of art majors share with art majors the activities of VISION and work closely with departmental advisers. VISION sponsors events such as panels, lectures, debates, and other programs where majors meet and engage in discussions with artists and historians of art. Every year this organization sponsors a roundtable of alumni majors, who discuss their current careers and how they arrived at them.

The department curriculum shares course work with departments and programs in complementary disciplines, including African American and Diaspora Studies, American Studies, East Asian Studies, European Studies, Film Studies, Latin American and Iberian Studies, Women's and Gender Studies, as well as Anthropology, Philosophy, and Classical Studies.

Program of Concentration

The history of art major requires 30 hours and gives students the opportunity to study art and visual culture across a wide range of historical periods, from ancient to contemporary. The program is designed to allow for

concentration in particular periods and areas of interest. By requiring courses in both the lecture and seminar format, the program aims to provide a basis of comprehensive knowledge and challenging opportunities for more specialized instruction.

Students should consider related offerings (including studio art, particularly important for students working in modern and contemporary areas), in interdisciplinary programs, and in aesthetics. Those planning graduate work in history of art should pursue advanced studies—which may include honors—and consider advanced courses in other departments offering complementary course work. Advanced language studies are strongly recommended, as graduate programs expect fluency in one language for the M.A. and two for the Ph.D., with French and German the most commonly required. Non-European languages should be considered for those primarily interested in non-Western traditions.

Requirements for the Program of Concentration

Area requirements (15 hours) — five history of art courses, one each from the following areas:

a. *Ancient:* CLAS 203, 204, 205, 206, 217
b. *Medieval:* AHST 210, 211, 214, 215
c. *Renaissance/Baroque:* AHST 212, 218, 219, 221, 222, 224
d. *Modern:* AHST 226, 230, 231, 232, 240, 241, 242
e. *Non-Western:* AHST 251, 252, 253, 254, 255, 256, 257

Electives (9 hours) — three upper-level courses in history of art (AHST 200 to 290) in addition to the area requirements, PHIL 240, 241, with one studio art course (ARTS) optional as an elective.

Advanced Seminars, AHST 295 (6 hours)

Honors Program

The Honors Program in History of Art allows exceptional undergraduates to undertake independent research on a topic in art history in consultation with faculty members. The program is open to all history of art majors with junior standing, who meet a 3.0 grade point average in all general university courses and a 3.30 grade point average in history of art courses. They also must be approved for acceptance into the honors program by the departmental faculty. Completion of the program requires 6 hours of study through any combination of hours enrolled in AHST 298, Honors Research, and AHST 299, Honors Thesis; submission of an honors thesis; and successful completion of an oral honors examination. These independent research hours are expected to be in excess of the 30 hours required for the major in history of art. Students meeting these requirements receive a Vanderbilt diploma that records honors or high honors in history of art, depending on the quality of their thesis, their grades in history of art courses, and their examination results.

Minor in Architectural History

The minor in architectural history requires 18 hours of course work, including the following:

Two 100-level courses from 110, 111, 120, and 130, plus four upper-level courses that may be chosen from CLAS 203, 204, 205, 206, 217, AHST 210, 211, 220, 223, 232, 245, 251, 255, 256, and 257.

Minor in History of Art

The minor in history of art requires 18 hours of course work, including the following:

Two 100-level courses from 110, 111, 120, and 130, plus any four upper-level art history courses (AHST 200 through 290, CLAS 203, 204, 205, 206, and 217).

History of Art (AHST)

110–111. History of Western Art. A survey of art from prehistoric times to the present. 110: ancient and medieval art. 111: Renaissance and modern art. FALL, SPRING. [3–3] Johns, Headrick.

115F. First-Year Writing Seminar. FALL, SPRING. [3] Staff.

120. Arts of Asia. (Formerly Art and Art History 200) A survey of sculpture, painting, and architecture in India, China, Japan, Korea, and Southeast Asia. The arts of each country will be studied in light of the historical, religious, philosophical, and cultural background. [3] Miller.

130. Images of Culture. (Formerly Art and Art History/Anthropology 130) The anthropology of art. Comparative study of aesthetics and the nature of beauty. Artistic creation and the role of images, myth, and ritual in various cultures. FALL. [3] Headrick.

210. Early Christian and Byzantine Art. The development of architecture, sculpture, painting, and the minor arts from the fourth through the fifteenth century. [3] (Not currently offered)

211. Medieval Art. The development of architecture, sculpture, painting, and the minor arts in Europe from the eighth through the fourteenth century. SPRING. [3] Moodey.

212. Northern Renaissance. Painting, sculpture, and graphic arts in the Low Countries, France, and Germany from the end of the fourteenth century through the Reformation. Historical, social, and religious factors are considered as well as style. FALL. [3] Bloom.

214. Jewish and Islamic Art and Architecture. Architecture and its decoration, painting, and the minor arts among the Jews from circa 1200 B.C. to the early fifteenth century, and among the Moslems from the seventh through the sixteenth centuries. Emphasis on stylistic and geographic diversity. [3] (Not currently offered)

215. Formation and Power of Christian Images. Iconographic analysis of the origins and evolution of single figures and compositions: their religious and political messages in painting and sculpture of the Middle Ages from circa 300 to 1300. [3] (Not currently offered)

218. Italian Renaissance Art to 1500. Early development of painting and sculpture through the fourteenth century and into the full Renaissance style of Italian art, as manifest in the works of Giotto, Masaccio, Donatello, and Botticelli. Emphasis is placed on the age of the Medici. FALL. [3] Mode.

219. Italian Renaissance Art after 1500. High Renaissance and Mannerist art in sixteenth-century Italy, considering Florentine masters such as Leonardo, Michelangelo, and Pontormo, the Roman school of Raphael, and the Venetians from Giorgione and Titian to Tintoretto. SPRING. [3] Mode.

220. Renaissance-Baroque Architecture. European architecture from the fifteenth century to the French Revolution with emphasis on its historical and social background. The various architectural movements—Renaissance, Baroque, and Rococo—are studied in terms of important architects and buildings, especially of Italy, France, and England. [3] (Not currently offered)

221. Baroque-Rococo Art. European painting from 1550 to the French Revolution encompassing the Mannerist, Baroque, and Rococo movements as they are manifest in the works of Caravaggio, Velasquez, Rembrandt, Watteau, Hogarth, and Tiepolo. [3] Bloom. (Not currently offered)

222. British Art. The arts of England and related cultures, from Van Dyck and Hogarth to Blake and the Pre-Raphaelites. Social and political context, literary influences, and film treatments. SPRING. [3] Mode.

223. The Highway and the City. The period 1812 to present. History of architecture, urban design, and landscape; cultural, social, and economic influences on metropolitan and regional development; sources and representations of urban and suburban life in art, literature, and film. [3] (Not currently offered)

224. Eighteenth-Century Art. The history of European painting, sculpture, and printmaking from the Late Baroque era to the rise of Neoclassicism (1675–1775). Geographical focus on Italy and France. Artists include Maratti, Rusconi, Carriera, Tiepolo, Watteau, Chardin, Fragonard, and others. [3] Johns. (Not currently offered)

226. Neoclassicism and Romanticism. A survey of major artists and monuments of visual culture considered in their political, social, economic, spiritual, and aesthetic contexts from 1760 to 1840. [3] Johns. (Not currently offered)

230–231. Nineteenth- and Twentieth-Century European Art. A survey of painting and graphic arts, with some consideration given to social and historical factors. 230: from Neo-Classicism through Post-Impressionism; 231: from the early expressionist movements to mid-century. FALL, SPRING. [3–3] Folgarait, Staff.

232. Modern Architecture. A survey of nineteenth-century styles from Federal to Victorian, and major twentieth-century architects and designers from Wright and the Bauhaus to Eames and Kahn. City planning and preservation. [3] Folgarait. (Not currently offered)

234. Twentieth-Century Mexican Literature, Film, and Art. The historical, social, and political dynamic as expressed in various art forms. The relation between social reality and aesthetic form. [3] (Not currently offered)

237. History of Spanish Art up to the Seventeenth Century Includes one class meeting per week in the Prado or the Archaeological Museum. Offered in the Vanderbilt in Spain program. FALL. [3] Momplet.

238. History of Spanish Art from the Seventeenth Century to the Present. Relations to European tendencies of the same period, includes one class meeting per week in the Prado Museum. Offered in the Vanderbilt in Spain program. SPRING. [3] Momplet.

240. American Art to 1865. Painting and sculpture of the United States from Colonial times to 1865 with an emphasis on iconography, social history, race, and gender. FALL. [3] Fryd.

241. American Art 1865 to 1945. Painting and sculpture of the United States between the Civil War and the Second World War with emphasis on iconography, social history, class, and gender. [3] Fryd. (Not currently offered)

242. Art since 1945. A survey of art produced in the United States and Europe since 1945 with an emphasis upon theory and the social and intellectual factors. FALL. [3] Fryd.

245. Art of Pre-Columbian America. The great artistic traditions of pre-Columbian America, including the Aztec, Maya, Inca, and native North American. Styles, symbolism, and the role of art in native politics, history, and religion. [3] Headrick. (Not currently offered)

251. East Asian Architecture and Gardens. East Asian religious, vernacular, and garden architecture from the second century CE to the present. Influence of Buddhism on East Asian architecture, fengshui, and site selection, garden as religious landscape, Asia in modern architecture. FALL. [3] Miller.

252. Arts of China. Artistic production from the Neolithic period through the Zing dynasty in relation to religious and cultural contexts. FALL. [3] Miller.

253. Arts of Japan. Artistic production from the Neolithic through Meiji periods in relation to religious and cultural contexts. SPRING. [3] Miller.

254. Japanese Painting and Prints. A survey of Japanese painting from the proto-historic period to the present with an emphasis on schools, styles, and development of woodblock prints as seen in their historical, religious, and cultural context. [3] Miller (Not currently offered)

A&S

255. Native North American Art. The art and great aesthetic traditions of the native peoples, emphasizing North America, including the Southwest, Northwest Coast, and Plains. The relationship of art to social life, myth, and religion. Changes since contact with European cultures. SPRING. [3] Headrick.

256. Art of the Maya. Architecture, painting, and sculpture from 100 B.C. to artistic traditions of contemporary Maya peoples. Ritual, religion, mythology and politics. SPRING. [3] Headrick.

257. Mesoamerican Art. Worldview as expressed by painting, sculpture, and architecture from 2000 B.C. through the sixteenth century. Impact of religion and politics on the cities of the Olmec, Zapotec, and Aztec as seen through their artistic traditions. FALL. [3] Headrick.

272a–272b. Survey of Film History. A survey of the development of the motion picture and analysis of its changing aesthetic through the study of acknowledged masterpieces. 272a: the beginnings in 1895 through 1941. 272b: 1941 to the present. FALL, SPRING. [3–3] King.

288. Selected Topics. May be repeated with change of content up to a total of 9 hours. FALL, SPRING. [3] Staff.

289. Independent Research. Supervised work in extension of regular offerings in the curriculum. Registration only with agreement of instructor involved and with written approval of the director of undergraduate studies. FALL, SPRING. [Variable credit: 1–3 per semester, not to exceed a total of 6] Staff.

290. Directed Study. Same requirements as 289. FALL, SPRING. [1–3] Staff.

293a–293b. Internship. Under faculty supervision, students gain experience in different settings that provide a broad range of arts-related programs, at public or private institutions, including museums, and/or federal agencies. Students may take 3–6 hours in 293a, which includes background research done prior to or concurrently with a one-semester internship program, leading to submission of a research paper at the end of that semester. Normally, 6–9 hours will be taken in 293b, with a report required at the end of the internship training. A 2.90 grade point average and approval of a specific plan by the department is required, plus at least 6 hours of prior work in art history. 293a: Internship research: readings and critiqued assignments under faculty supervision. FALL, SPRING. [1–6] 293b: Internship training: offered only as Pass/Fail credit, not part of minimum hours for the history of art major, to be taken concurrently with 293a. FALL, SPRING. [1–9]

295. Advanced Seminar in History of Art. An undergraduate seminar involving advanced reading, research, and writing in a particular area of art history. May be taken no more than two times, and not twice from the same professor. Limited to juniors and seniors with preference to history of art majors. FALL, SPRING. [3] Staff.

298. Honors Research. Research to be done in consultation with a member of the faculty in history of art. Open only to those beginning honors work in history of art. FALL, SPRING. [Variable credit: 1–6 each semester; may be repeated to a maximum of 6] Staff.

299. Honors Thesis. Open only to seniors in the departmental honors program. Students completing this course with distinction, including a thesis and final examination, will earn honors in history of art. Prerequisite: 298. FALL, SPRING. [Variable credit: 1–6 each semester; may be repeated to a total of 6] Staff.

301. The Methods of Art History. [3] Folgarait, Fryd. (Not currently offered)

310. Seminar: Problems in Asian Art. [3] Miller. (Not currently offered)

312. Seminar: Problems in Medieval Architecture. [3] (Not currently offered)

315. Seminar: Early Renaissance Art. [3] Mode. (Not currently offered)

319. Seminar: Problems in Baroque Art. [3] Johns, Bloom. (Not currently offered)

320. Seminar: British Art and Culture. [3] Mode. (Not currently offered)

321. Problems in Eighteenth-Century Art. [3] Johns, Mode.

324. Seminar: Studies in Twentieth-Century Art. [3] Folgarait. (Not currently offered)

325. Seminar: Studies in American Art. [3] Fryd. (Not currently offered)

355. Seminar: Mesoamerican Art. [3] Headrick. (Not currently offered)

Honors

COURSES designated "Honors" are parts of a special honors program in liberal education. They may be taken only by students who have been appointed College Scholars by the dean of the College of Arts and Science. Some College Scholars are appointed before they arrive for their first semester in residence; others may be appointed on the basis of their records in that first semester. Students may apply to the Committee on the Honors Program for admission to the College Scholars program; only freshmen are considered for admission. An honors seminar will satisfy the requirement for a first-year seminar.

Honors seminars offered in the College Scholars program provide an especially interesting and challenging way for College Scholars to complete certain parts of the College Program in Liberal Education (CPLE) or the program for Achieving Excellence in Liberal Education (AXLE). In addition to regular credit hours and grade points, they carry honors points toward graduation with the designation "Honors in the College of Arts

and Science." College Scholars must earn fifteen honors points to receive that designation (they are not required to earn this designation but may take as many honors seminars as they wish). They may earn up to thirteen of the required fifteen points in honors seminars: three points each for the first time they take Honors 181, 182, 183, 184, 185, or 186; one point if they take a second seminar in the same area. Single honors points may be earned (a) in departmental honors sections of regular courses, (b) in independent study approved by the Committee on the Honors Program, and (c) in a regular course in which an enriched curriculum approved by the Committee on the Honors Program is pursued. Honors points are only earned for courses in which the student earns the grade *B* or better.

Honors seminars are designed to cover topics through the intensive analysis afforded by the seminar setting and format. Honors 181, 182, 183, 184, 185, and 186 count toward the AXLE requirements identified by the seminars' titles (CPLE requirements in parentheses). Honors 181 challenges students to examine their personal understanding of life and how their individual experiences overlap with those of the rest of human kind (CPLE: Humanities). Honors 182 gives significant attention to individual and cultural diversity, multicultural interactions, sexual orientation, gender, racial, ethical, religious, and "Science and Society" issues (CPLE: Science and Society or Integrative). Honors 183 studies human behavior at the levels of individuals, their interactions with others, their societal structures, and their social institutions (CPLE: Social Science). Honors 184 provides students with a basis for understanding the American experience and the shaping of American values and viewpoints within the context of an increasingly global society. Honors 185 emphasizes quantitative reasoning and prepares students to describe, manipulate, and evaluate complex or abstract ideas or arguments with precision (CPLE: Basic Science). Honors 186 provides a basis for understanding the diversity of experiences and values in our contemporary, global society.

Honors 181. College Honors Seminar in the Humanities and Cr eative Arts. (CPLE: Humanities) FALL, SPRING. [3] Staff.

Honors 182. College Perspectives Honors Seminar . (CPLE: Science and Society or Inte - grative) FALL, SPRING. [3] Staff.

Honors 183. College Honors Seminar in Behavioral and Social Sciences. (CPLE: Social Science) FALL, SPRING. [3] Staff.

Honors 184. College Honors Seminar in History and Cultur e of the United States. FALL, SPRING. [3] Staff.

Honors 185. College Honors Seminar in Mathematics and Natural Science. (CPLE: Basic Science) FALL, SPRING. [3] Staff.

Honors 186. College Honors Seminar in International Cultures. FALL, SPRING. [3] Staff.

Interdisciplinary Studies

Any student who is classified as at least a sophomore and in good standing can earn one credit hour per semester or summer for an internship completed under the designation INDS 280. This course may be taken once or repeated twice for a maximum of three credit hours. As is the case with all internships taken in the College of Arts and Science, students are responsible for obtaining their own internship and faculty adviser. The student and faculty adviser will work together to develop the plan of work for the internship, which must be approved by the director of internships in the College of Arts and Science (Associate Dean Yollette T. Jones) and the chair of the College Curriculum Committee.

201. Liberty. Interdisciplinary study of individual, economic, political, and religious liberties, their interrelationships and their role in modern society. Limitations of liberty, nature of a "free society." [3] Lachs (Philosophy). (Not currently offered)

280a–280b–280c. Interdisciplinary Internship. Internship credit for work approved by the director of internships and chair of the College Curriculum Committee. A written scholarly project must be produced in the internship. Course must be taken P/F. [1 credit only per semester; course may be repeated up to a total of three credits]

Japanese

SENIOR LECTURER Keiko Nakajima
LECTURER Mine Yoshizawa

❧ COURSES in Japanese may be taken on an elective basis. Students interested in an interdisciplinary major in East Asian studies may consult the director of the program about the role of Japanese in such a major.

Minor in Japanese Language and Culture

The minor in Japanese language and culture requires a minimum of 19 hours of course work, anchored by a firm foundation in language study that is complemented by electives in art, history, literature, film, politics, and religion. Japanese 201 and 202 do not count toward the minor.

Students electing two or more minors in East Asian studies must present at least 12 credit hours in each minor not being counted toward any other minor or major.

1. Required courses (13 hours):
   Japanese 211, 212, and 241.

2. Elective courses from the following list (at least 6 hours):
   East Asian Studies 211, 212, 240, 289a–289b (Independent Study, as appropriate); 294a–294b (Special Topics: upon approval by the director of the East Asian Studies Program).
   History 157, 249, 250, 251, 295 (as appropriate).
   History of Art 253, 254.
   Political Science 214.
   Religious Studies 132.

Other Japan-related courses not listed here—such as those in study abroad programs, First-Year Writing Seminars, and Independent Studies—may be applied toward the minor upon approval by the director of the East Asian Studies Program.

201–202. Beginning Modern Japanese. Introduction to modern Japanese language including the acquisition of oral-aural skills, basic grammar, and introduction to reading and writing Japanese syllabaries and Chinese characters. [5–5] Nakajima, Yoshizawa.

211–212. Intermediate Modern Japanese. Emphasis on reading. Also included are syntax, writing, translation, and conversation. Prerequisite: 201–202. [5–5] Nakajima.

241–242. Third-Year Japanese. Readings in contemporary Japanese texts. Advanced conversation and discussion. Prerequisite: 211–212 or equivalent. [3–3] Nakajima.

251–252. Fourth-Year Japanese. Readings in advanced Japanese cultural, literary, and historical texts. Prerequisite: 241–242. [3–3] Yoshizawa.

289a–289b. Independent Study. A reading course which may be repeated with variable content according to the needs of the individual student. Primarily designed to cover materials not otherwise available in the regular curriculum. FALL, SPRING. [Variable credit: 1–3, not to exceed a total of 12 over a four-semester period]

Jewish Studies

DIRECTOR David J. Wasserstein
PROFESSOR David J. Wasserstein
ASSISTANT PROFESSORS Shaul Kelner, Allison Schachter, Martina Urban

JEWISH Studies at Vanderbilt offers an interdisciplinary academic program that facilitates the critical study of Jewish history, religion, language, philosophy, politics, culture, society, music, art, and literature across continents. Integral to understanding crucial moments in the formation of Christianity and Islam as well as distinct episodes in the cultures of the modern Middle East, Europe, and America, the program accesses the resources of the entire university to explore Judaism, its evolution and expression from biblical times to the present. This interdisciplinary program reflects Vanderbilt's commitment to advancing the understanding of other cultures and traditions. Students of all backgrounds will find in

Jewish Studies at Vanderbilt a wide array of material and methodologies, presented by scholars from history, anthropology, sociology, religious studies, philosophy, literature, and art. Students may focus on several areas of concentration and tailor the major to their academic and career interests. They will also have access to courses offered by the schools of business, divinity, education, law, medicine, and music; they will have access to the Zimmerman Judaica collection as well as the opportunity to study abroad, pursue internships locally or nationally, and do research in archives overseas. The interdisciplinary nature of Jewish studies offers excellent preparation for graduate studies and provides a fine academic foundation for a variety of rewarding career paths.

Visit *www.vanderbilt.edu/jewishstudies* for more details.

Program of Concentration in Jewish Studies

The major in Jewish studies requires a minimum of 36 hours. Elementary knowledge of Hebrew (Hebrew 111a–b) is prerequisite to the major.

Core Requirements (up to 24 hours)

1. *Foundational course*, 3 hours. JS 245, Major Themes in Jewish Studies.
2. *Hebrew*, 6 hours. Intermediate Hebrew (Hebrew 113a–b). Proficiency can be demonstrated through testing.
3. *Focus courses*, 12 hours. Select from the following sub-fields of study:
    - Biblical Studies
    - Antiquity and the Medieval World
    - Modern and Contemporary Experience
    - Culture, Philosophy, and Literature
4. *Senior seminar*, 3 hours. JS 295, Senior Seminar, or JS 296, Senior Project in Jewish Studies.

Electives (up to 18 hours)

In addition to courses drawn from departments and the professional schools, non-traditional course work may also be selected, including archaeology at Tel Megiddo (Israel), service learning, and internships. Study abroad is encouraged.

Honors Program

The Honors Program in Jewish Studies affords superior students a more intensive concentration within their major field. The program requires:

1. 3.0 cumulative grade point average
2. 3.25 grade point average in Jewish studies
3. Completion of the junior year
4. 6 hours in Honors sections (JS 298a–298b), including completion of thesis—these hours may count toward the major
5. Honors thesis to be completed by mid-spring of the senior year
6. Successful completion of an honors oral examination on the topic of the thesis

Minor in Jewish Studies

The minor in Jewish studies provides a basic understanding of Jewish history and culture across continents and the past three millennia. Elementary Hebrew (Hebrew 111a–b) is prerequisite. The minor requires a minimum of 18 hours.

Core Requirements (12 hours)

1. *Foundational course,* 3 hours. JS 245, Major Themes in Jewish Studies.
2. *Focus courses,* 9 hours. (See major for categories.)

Electives (6 hours)

Special Topics courses or First-Year Writing Seminar courses dealing with topics related to Jewish studies may be counted with the approval of the major or minor adviser.

LANGUAGE: Hebrew: 111a–111b, Elementary Hebrew (prerequisite); 113a–113b, Intermediate Hebrew; 201, Grammar and Composition.

JEWISH STUDIES: 135, Introduction to Hebrew Literature; 156, The Holocaust; 194, Selected Themes in Jewish Studies; 120, Islam and the Jews; 121, Introduction to Jewish History; 155, American Jewish Life; 244, Freud and Jewish Identity; 245, Major Themes in Jewish Studies; 250, The Problem of Evil in Judaism; 251, Mysticism and Myth in Modern Jewish Thought; 252, Social Movements in Modern Jewish Life; 254, Jewish Literary Centers; 255, Zionism and Its Critics; 280, Contemporary Jewish Issues; 288a–288b, Internship (288a, Internship Training; 288b, Internship Research); 289, Independent Study; 290, Directed Readings; 294, Special Topics; 295, Senior Seminar; 296, Senior Project; 298a–298b, Senior Honors Research Seminar.

BIBLICAL STUDIES: English: 282, The Bible in Literature. Religious Studies: 106, The Hebrew Bible and Its Interpretations; 108, Themes in the Hebrew Bible; 115F, First-Year Seminar; 201, The Problem of Biblical Authority; 207, Jesus the Jew; 208, The Hebrew Bible; 221, Law in the Hebrew Bible; 225, Major Prophets of the Hebrew Bible; 227, Feminist Interpretations of Scripture; 259, The Book of Joshua.

ANTIQUITY AND THE MEDIEVAL WORLD: History: 207, History of the Ancient Near East; 209, Greece and the Near East from Alexander to Theodosius; 257, The Birth of Islam: Muhammad and the Evolution of Muslim Society. Philosophy: 211, Medieval Philosophy. Religious Studies: 112, Introduction to Judaism; 113, Introduction to Islam; 224, The Ancient Origins of Religious Conflict in the Middle East; 226, Jewish and Christian Self-Definition in Antiquity; 251, Mysticism in Islam; 254, The Qur'an and Its Interpretations; 260, Rabbinic Thought and Theology.

MODERN AND CONTEMPORARY EXPERIENCE: Germanic and Slavic Languages: 271, Women at the Margins: German-Jewish Women Writers; 273, Nazi Cinema: The Manipulation of Mass Culture; 274, Who Am I? German Autobiographies. History: 184, Nazi Germany and the Holocaust; 188, History of World War II; 225, Europe from World War I to World War II; 231, History of Germany in the Twentieth Century; 256, Nationalism and Islam in the Middle East since 1798. Political Science: 246, Religion and Politics in the United States. Religious Studies: 220, Constructions of Jewish Identity in the Modern Period; 228, Antisemitism and Jewish Identity; 229, The Holocaust: Its Meaning and Implications; 233, History and Memory in Modern Judaism.

CULTURE, PHILOSOPHY, AND LITERATURE: Anthropology: 237, Ethnicity, Race, and Culture. Art and Art History: 214, Jewish and Islamic Art and Architecture. Comparative Literature: 225, European Realism; 230, Contemporary Literature of Central Europe; 278, Colonial and Post-Colonial Literature. English: 248, Themes in World Literature. European Studies: 201, European Society and Culture. German: 222, German Culture and Literature; 270, German Film; 271, Women at the Margins: German-Jewish Women Writers. History: 256, Nationalism and Islam in the Middle East since 1881. Music Literature: 183, Music, the Arts, and Ideas; 261, Music, Identity, and Diversity; 278, Music and Religion. Philosophy: 211, Medieval Philosophy; 218, Hellenistic and Late Ancient Philosophy; 242, Philosophy of Religion; 245, Humanity, Evolution, and God; 261, Jewish Philosophy; 262, Islamic Philosophy Religious Studies: 102, Science and Religion in the Modern and Post-Modern World; 104, Religion, Science, and Evolution; 131, Themes in Western Religions; 140, Introduction to Western Religious Ethics; 202, Natural Science and the Religious Life; 222, Jewish Ethics; 223, Ethics and Feminism; 227, American Jews on Religion and Republic; 230, Women and Religion; 237, Psychology of Religious Myth and Ritual; 239, Religious Autobiography; 241, Religion, Science, and Evolution; 256, Comparative Studies in Religion. Russian: 231, Jews in Russian Culture: Survival and Identity; 234, The Russian Cinema. Sociology: 246, Sociology of Religion; 255, Racial and Ethnic Minorities in the United States.

For additional curricular options, please consult the Jewish Studies Program Web site, *www.vanderbilt.edu/jewishstudies*.

120. Islam and the Jews. Jewish experience under medieval Muslim rule. Analysis of primary sources, legal status of Jews, economic activities, religious developments, cultural contributions, reaction to the Crusades. FALL. [3] Wasserstein.

121. Introduction to Jewish History. Major moments in Jewish history from the Hellenistic period to the foundation of Israel. Themes of exclusion and participation, identity and emancipation. FALL. [3] Wasserstein.

135. Introduction to Hebrew Literature. Origins and development of Hebrew literature from Eastern Europe in the nineteenth century to post-modern Israeli literature written at the end of the twentieth century. Relationship between historical transformations and literary form. SPRING. [3] Schachter.

155. American Jewish Life. Diversity, individualism, and change in Jewish life. Food and culture, memory and identity, gender and assimilation, Reform-Conservative-Orthodox culture wars. [3] Kelner. (Not currently offered)

156. The Holocaust. The history of the Holocaust: its origins, development, and its legacy in the context of Germany and European history. FALL. [3] Smith.

194. Selected Themes in Jewish Studies. Topics to be announced. May be repeated more than once if there is no duplication. FALL, SPRING. [3] Staff.

244. Freud and Jewish Identity. Analysis of rhetoric and themes in selected writings of Sigmund Freud and his times, development of assimilation and of anti-Semitic repudiation. SPRING. [3] Geller.

245. Major Themes in Jewish Studies. The study of Jews, Judaism, and Jewish culture. History of Jewish studies, core perspectives, key methodologies, driving debates. Classical literature, current trends. FALL. [3] Kelner.

250. The Problem of Evil in Judaism. Reviews the explanations of the origin, nature, and representations of evil from Scripture through the Hasidic masters as well as reflections of the modern thinkers. [3] Urban. (Not currently offered)

251. Mysticism and Myth in Moder n Jewish Thought. Mystical ideas, the ecstatic experience, and the crafting of myth to r enew Jewish spirituality. [3] Urban. (Not curr ently offered)

252. Social Movements and the Jewish Polity . How social movements shape contemporary American Jewish culture and politics. Explores movements internal to Judaism and those bringing religion into the public sphere. SPRING. [3] Kelner.

254. Jewish Literary Centers. Jewish mobility and cultural pr oduction; the shifting literar y centers of Ashkenazi Jewish culture, including Poland, Berlin, Vienna, New York, and Tel Aviv. Literary centers and influence, language r elations, and Jewish moder nism. SPRING. [3] Schachter.

255. Zionism and Its Critics. History of the Zionist idea from the nineteenth century. Ideological, cultural, religious issues, and criticism from within and without the movement. [3] Urban. (Not currently offered)

280. Contemporary Jewish Issues. Projects will var y according to the instructor. Service to community will be integral par t of course. [3] Staff. (Not currently offered)

288a–288b. Inter nship. Under faculty supervision, students gain experience in any of a variety of settings, such as community , municipal, or gover nment agencies. A thor ough report and research paper are required.

288a. Internship Training. May be taken on a Pass/Fail basis only and must be taken concurrently with 288b. FALL. [Variable credit: 1–3]

288b. Internship Research. Students will write a research paper drawing on their experiences in 288a. SPRING. [3]

289. Independent Study. A research project carried out under the supervision of a faculty mentor. [Variable credit: 1–3; may be r epeated to a maximum of 3]

290. Directed Readings. Advanced readings and research on a selected topic done under the supervision of a faculty mentor. [3] Staff.

294. Special Topics. Topics as announced in the *Schedule of Courses*. May be repeated if there is no duplication of material. FALL, SPRING. [3]

295. Senior Seminar. Advanced reading and research in a particular area of Jewish studies. SPRING. [3]

296. Senior Pr oject in Jewish Studies. Readings and independent r esearch. Open to seniors. [3] Staff.

298a–298b. Senior Honors Resear ch Seminar. Presentation and discussion of pr ogress being made on honors theses. Open only to senior honors students. F ALL, SPRING. [3–3]

A&S

Latin American and Iberian Studies

DIRECTOR Edward F. Fischer
ASSOCIATE DIRECTOR Frank Robinson

Affiliated Faculty

PROFESSORS Arthur A. Demarest (Anthropology), Tom D. Dillehay (Anthropology), Katherine Donato (Sociology), Marshall Eakin (History), Earl E. Fitz (Spanish and Portuguese), Leonard Folgarait (History of Art), James E. Foster (Economics), Edward H. Friedman (Spanish and Portuguese), Thomas A. Gregor (Anthropology), Cathy L. Jrade (Spanish and Portuguese), William Luis (Spanish and Portuguese), Andrea Maneschi (Economics), William L. Partridge (HOD and Anthropology), René Prieto (Spanish and Portuguese), Philip D. Rasico (Spanish and Portuguese), Mitchell A. Seligson (Political Science), David Wasserstein (History)

ASSOCIATE PROFESSORS M. Fráncille Bergquist (Spanish and Portuguese), Susan Berk-Seligson (Latin American Studies), Victoria Burrus (Spanish and Portuguese), Beth A. Conklin (Anthropology), Edward F. Fischer (Anthropology), William R. Fowler Jr. (Anthropology), Jonathan Hiskey (Political Science), John Janusek (Anthropology), Jane G. Landers (History), James J. Lang (Sociology), Benigno Trigo (Spanish and Portuguese), Andrés Zamora (Spanish and Portuguese)

ASSISTANT PROFESSORS Jason Borge (Spanish and Portuguese), Francisco Estrada-Belli (Anthropology), Maria José de la Fuente (Spanish and Portuguese), Annabeth Headrick (History of Art), Carlos Jáuregui (Spanish and Portuguese), Christina Karageorgou (Spanish and Portuguese), Emanuelle Oliveira (Spanish and Portuguese), Frank Robinson (History), Norbert O. Ross (Anthropology), Helena Simonett (Blair School of Music), Tiffiny A. Tung (Anthropology), Edward Wright-Rios (History)

SENIOR LECTURERS Frances Alpren (Spanish and Portuguese), Ana Regina Andrade (Economics), Tatiana Botero (Spanish and Portuguese), Cristina Capella (Spanish and Portuguese), Sarah Delassus (Spanish and Portuguese), Paul Miller (Spanish and Portuguese), Elena Olazagasti-Segovia (Spanish and Portuguese), Raquel Rincón (Spanish and Portuguese), Francisco Saez (Spanish and Portuguese), Lorraine Sciadini (Spanish and Portuguese), Waldir Sepúlveda (Spanish and Portuguese), Cynthia Wasick (Spanish and Portuguese)

FOR more than fifty years Vanderbilt has shown a concern for and commitment to Latin American and Iberian studies, becoming one of the first U.S. universities to establish a program of research and teaching in Latin American area studies. Dedicated to excellence in teaching, research, and community outreach, Vanderbilt's Center for Latin American and Iberian Studies promotes greater understanding of the region's history, culture, political economy, and social organization. The center draws upon renowned Vanderbilt faculty from the departments of Anthropology, Economics, History, History of Art, Political Science, Sociology, and Spanish and Portuguese as well as faculty from our education, management, music, and medical schools. It fosters a lively research community on campus by sponsoring colloquia, conferences, films, and a speakers series that brings distinguished scholars, government and business leaders, and social activists to campus.

The center's special strengths lie in Mesoamerican anthropology and archaeology; the history, politics, languages, and literatures of Brazil; Iberian and Spanish-American literature and languages; comparative political systems; and Caribbean studies. Members of our faculty conduct research and publish on most countries in Latin America.

For undergraduates, the center offers a broad-based, interdisciplinary education through its major and minor programs in Latin American studies. The program encourages students to study abroad in Latin American countries and Spain. An honors program is available.

Program of Concentration in Latin American and Iberian Studies

The major in Latin American studies consists of 36 hours plus a language requirement.

I.	Language requirement	demonstrated proficiency
II.	Core courses	6 hours
III.	Distribution requirements	12 hours
IV.	Area of concentration	12 hours
V.	Electives	6 hours

Note: No course may be counted twice in calculating the 36 hours. Upon approval of the Committee on Individual Programs and the student's adviser, (a) as many as 6 hours may be counted as part of both the interdisciplinary major and a second major, or (b) normally, no more than three introductory-level courses will be counted toward the interdisciplinary major.

I. *Language Requirement*. A student must demonstrate ability in both Spanish and Portuguese by establishing advanced knowledge in one language and intermediate knowledge in the other. In Spanish, advanced knowledge may be demonstrated by completing Spanish 203 or any course with a higher number taught in Spanish. In Portuguese, advanced knowledge may be demonstrated by taking Portuguese 205 or any course with a higher number taught in Portuguese. To acquire intermediate knowledge in Spanish requires completion of Spanish 104 (Intermediate Spanish); in Portuguese, it requires completion of Portuguese 200 (Intermediate Portuguese). Individual testing may also be used to demonstrate ability.

II. *Core Courses* (6 hours)

LAS 201, Introduction to Latin America
LAS 290, Interdisciplinary Research Methods

III. *Distribution Requirements* (12 hours). Two relevant classes in two of the following three areas not chosen as the major area of concentration.

A) History
B) Language, Literature, and Art History (Departments of Spanish & Portuguese and History of Art)
C) Social Sciences (Departments of Anthropology, Economics, Political Science, Sociology).

IV. *Area of Concentration* (12 hours from one of the following areas; special topics and independent study courses must be approved for sufficient LAS content by major adviser):

A. History.

HISTORY: 160, Colonial Latin America; 161, Modern Latin America; 258, Rise of the Iberian Atlantic Empires, 1492–1700; 259, Decline of the Iberian Atlantic Empires, 1700–1820; 260, Caribbean History, 1492–1983; 261, Colonial Mexico; 262, Modern Mexico; 264, Brazilian Civilization; 265, History of Central America; 266, Reform and Revolution in Latin America; 294, Selected Topics of History; 296, Independent Study.

B. Language, Literature, and Art History.

HISTORY OF ART: 234, Twentieth-Century Mexican Literature, Film, and Art; 237, History of Spanish Art up to the Seventeenth Century (Madrid); 238, History of Spanish Art from the Seventeenth Century to the Present (Madrid); 245, Art of Pre-Columbian America; 256, Art of the Maya; 257, Mesoamerican Art; 289, Independent Research; 294, Selected Topics; 295, Advanced Seminar in Art History.

PORTUGUESE: 102, Intensive Elementary Portuguese; 200, Intermediate Portuguese; 205, Introduction to Luso Brazilian Literature; 225, Brazilian Culture (Taught in English); 232, Brazilian Literature through the Nineteenth Century; 285, Modern Brazilian Literature; 289, Independent Study; 293, Contemporary Latin American Prose Fiction in English Translation (same as Spanish 293); 294, Special Topics in Portuguese and Brazilian Literature or Civilization in English Translation; 297, Comparative Approaches to Latin American Literature: The Pre-Columbian Period through the Nineteenth Century; 298, Comparative Approaches to Latin American Literature: From the Twentieth Century to the Present.

SPANISH: 203, Introduction to Spanish and Spanish American Literature; 204, Introduction to Hispanic Cultural Studies; 219, History of Spanish Language; 220, The Languages of Spain; 221, Spanish Civilization; 223, Spanish American Civilization; 230, Development of Lyric Poetry; 231, The Origins of Spanish Literature; 232, Literature of the Spanish Golden Age; 233, Modern Spanish Literature; 234, Contemporary Spanish Literature; 235, Spanish American Literature; 236, Contemporary Literature of Spanish America; 237, Contemporary Lyric Poetry; 239, Development of the Novel; 240, The Contemporary Novel; 243, Latino Immigration Experience; 244, Afro-Hispanic Literature; 246, Don Quixote; 251, Development of Drama; 256, Love and Honor in Medieval and Golden Age Literatue; 260, Development of the Short Story; 281, The Theory and Practice of Drama; 289, Independent Study; 293, Contemporary Latin American Prose Fiction in English Translation; 294, Special Topics in Hispanic Literature; 295, Topics in Hispanic Linguistics; 296, Special Topics in Hispanic Culture.

C. Social Sciences.

ANTHROPOLOGY: 210, Peoples and Cultures of Latin America; 212, Ancient Mesoamerican Civilization; 213, The Archaeology of the Ancient Maya Civilization; 220, Peoples and Cultures of Mexico; 224, Political Anthropology: Cross-cultural Studies in Conflict and Power; 226, Myth, Ritual, Belief: The Anthropology of Religion; 245, Art of Pre-Columbian America; 247, The Aztecs; 248, Ancient Empires and the Civilizations of South America; 249, Indians of South America; 250, Shamanism and Spiritual Curing; 253, Ancient Civilizations of Mexico; 254, The Inca Empire; 256, Art of the Maya (cross listed with AHST); 257, Mesoamerican (cross listed with AHST); 288ab, Independent Research; 294, Special Topics.

ECONOMICS: 222, Latin American Economic Development; 288, Development Economics; 291ab, Independent Study in Economics; 249a, Spain in the European Union (Madrid).

Note: Students who successfully complete an Economics course on this list numbered 260 or higher may also receive Area of Concentration credit for successfully completing either Economics 231 or 232.

POLITICAL SCIENCE: 215, Change in Developing Countries; 217, Latin American Politics; 218, Social Reform and Revolution; 228, International Politics of Latin America; 229, Politics of Mexico; 234, Women, Politics, and the Development of the Third World; 287–288, Seminars in Selected Topics; 289, Independent Research.

SOCIOLOGY: 277, Contemporary Latin America; 279, Contemporary Mexican Society; 299, Independent Research and Writing.

V. *Electives* (6 hours). Any two classes listed above (or others approved by the major adviser).

Honors Program

An honors program is available, acceptance into which must be approved by the faculty of the Center for Latin American and Iberian Studies. Students must have a minimum 3.0 general GPA and a 3.3 GPA in Latin American studies courses to be accepted into the program. The Honors Program requires the writing of an honors thesis and passing an oral honors examination. Interested students should consult their academic adviser during their junior year.

Minor in Latin American Studies

The Center for Latin American and Iberian Studies also offers a minor in Latin American studies. Students must choose a thematic focus and take 15 hours of approved courses with Latin American content distributed as follows:

1. Latin American Studies 201;
2. a minimum of 3 hours of Latin American history;
3. a minimum of 3 hours of relevant work in the social sciences; and
4. a minimum of 3 hours of relevant work in language, literature, and fine arts.

In addition, students must demonstrate language competency in one of the following three ways. Courses taken to satisfy the language requirement may not be counted toward the 15 hours of core courses.

a. Advanced knowledge in either Spanish or Portuguese. In Spanish, this requires taking Spanish 203 or any course with a higher number. In Portuguese, this requires taking Portuguese 205 or any course with a higher number.

b. Intermediate knowledge in both Spanish and Portuguese. In Spanish, this requires completing Spanish 104; in Portuguese, it requires completing Portuguese 200. Upon petition, a student may offer a Native American language through the intermediate level as a substitute for either Spanish or Portuguese.

c. Full-time study in the fall or spring semester at Vanderbilt in Spain or Vanderbilt in Latin America.

Course selection must be approved by the undergraduate adviser of the Center for Latin American and Iberian Studies.

115F. First-Year Writing Seminar. [3]

201. Introduction to Latin America. A multidisciplinary survey of Latin America from pre-Columbian times to the present emphasizing culture, economic and political patterns, social issues, literature, and the arts in a historical perspective. SPRING. [3] Robinson.

235. Gender, Ethnicity, and Language in the Americas. The interconnections between gender, ethnicity, and language, particularly in those regions of the Americas where Spanish is spoken. The ethnography of speaking, highlighting verbal art among indigenous peoples of Latin America and among U.S. Latinos. Phenomena resulting from bilingualism and language contact. Language rights (e.g., access to justice, right to use a language other than an official language in institutional settings). SPRING. [3] Berk-Seligson.

260. Latin America, Latinos, and the United States. Immigration of Latin American and Caribbean peoples to the United States and their experiences in this country. Required service work and a research project in the Nashville Latino community. [3] Eakin, Partridge.

280a–280b. Internship. Under faculty supervision, students gain experience working in a variety of settings, such as civic, corporate, cultural, government, health, media, political, research, and social welfare organizations in the United States and Latin America. Background reading and research will be completed in Latin American Studies 280a concurrently with the completion of internship training, Latin American Studies 280b. A minimum of 3 hours of 280a must be completed, independent of hours taken in 280b. Students may earn up to 6 hours of 280a credit. A research paper and report must be submitted at the end of the semester during which the internship training is completed. A 2.90 grade point average, completion of 6 hours of Latin American Studies, and prior approval of the director of undergraduate studies of the student's plans are required.

280a. Internship Research and Readings. FALL, SPRING, SUMMER. [Variable credit: 1–6]

280b. Internship Training. Offered on a Pass/Fail basis only and must be taken concurrently with 280a. Hours of 280b can not be included in the minimum number of hours counted toward the Latin American Studies major or minor. FALL, SPRING, SUMMER. [Variable credit: 1–9]

289a–289b. Independent Study. A program of independent readings or research to be selected in consultation with the center's undergraduate adviser. Open only to juniors and seniors. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed 12 over a four-semester period]

290. Interdisciplinary Research Methods. Principal research methods and sources necessary for the study of Latin America in the social sciences and humanities. FALL. [3] Covington, Robinson (History).

294a. Special Topics in Latin American Studies. Selected special topics suitable for interdisciplinary examination from the perspective of the social sciences and humanities, as announced in the *Schedule of Courses*. [3]

Managerial Studies

PROFESSOR William W. Damon
ADJUNCT PROFESSORS Michael R. Burcham, David Franklin, David H. Furse, Art Johnsen, Janet M. McDonald
SENIOR LECTURERS Cherrie C. Clark, Kevin Clark

THE College of Arts and Science offers a series of minors in the liberal arts tradition to help students understand management functions, corporate strategy, financial economics, and organizational leadership. These minors are administered by the Managerial Studies Program. Each minor appeals to students with specific interests and aspirations. Each has a basis in economics and accounting.

Students interested in professional careers in management or finance typically complete a master of business administration or other professional degree. Such programs expect students to have had several years of significant work experience before admission. A minor in managerial studies may direct students in their search for appropriate work experience. The program is directed by Professor William Damon, 258 Buttrick Hall, (615) 322-4021.

Minor in Managerial Studies: Corporate Strategy

The minor in corporate strategy draws upon a course in Communication Studies (CMST) and courses offered by the Managerial Studies Program (MGRL and FNEC). The minor requires 18 credit hours.

The following courses are required:
FNEC 140 Accounting
MGRL 194 Survey of Entrepreneurship
MGRL 198 Corporate Strategy

Three elective courses to be chosen from:
MGRL 190 Principles of Marketing
MGRL 191 Marketing Communication
MGRL 195 The Entrepreneurial Challenge
MGRL 196 Entrepreneurship: The Business Planning Process
FNEC 220 Managerial Accounting
FNEC 240 Corporate Finance
FNEC 275 Financial Management
CMST 204 Organizational and Managerial Communications

Minor in Managerial Studies: Financial Economics

The minor in financial economics requires 18 credit hours.

The following courses are required:
ECON 150 Economic Statistics
FNEC 140 Accounting
FNEC 240 Corporate Finance

Three elective courses to be chosen from:
FNEC 220 Managerial Accounting
FNEC 261 Investment Analysis
FNEC 275 Financial Management
ECON 209 Money and Banking
ECON 259 Financial Instruments and Markets

Economics majors must complete 15 hours of credit in FNEC courses to complete the financial economics minor.

Minor in Managerial Studies: Leadership and Organization

The minor in leadership and organization is a joint program of the College of Arts and Science and Peabody College. The minor requires 18 credit hours.

The following courses are required:
FNEC 140 Accounting
MGRL 194 Survey of Entrepreneurship
HOD 1200 Understanding Organizations

Three elective courses to be chosen from:
MGRL 185 Leadership
MGRL 198 Corporate Strategy
HOD 1700 Systematic Inquiry
HOD 2700 Leadership in Theory and Practice
HOD 2710 Challenges of Leadership
HOD 2720 Advanced Organization Theory
HOD 2730 Introduction to Human Resources Development
HOD 2740 Human Resource Management

Minors may be combined with any departmental or interdisciplinary major; however, the minor in managerial studies must include 15 credit hours that are being counted solely toward the minor.

Students electing a second minor in managerial studies must complete at least 12 credit hours counted solely toward the second minor.

Managerial Studies

185. Leadership. Contemporary challenges in leading change in organizations and building effective management teams. The executive's role in developing leadership skills among managers. SPRING. [3] Burcham.

190. Principles of Marketing. Analysis of marketing functions, activities, and institutions. Characteristics of markets, buying habits and motives, brand policies, channels of distribution, price determination, sales programs, and government regulations. Case studies and readings. FALL, SPRING. [3] C. Clark, Johnsen.

191. Marketing Communication. Study of process, techniques, and theory of persuasive communication, including modern advertising, publicity, sales promotion, and branding in the development of an integrated communications plan. Team project, case studies, and readings. Prerequisite: 190. [3] Furse. (Not currently offered)

192. Product Development and Management. Study of how new products and services are developed and marketed. Examination of marketing theory and practice in the creation and diffusion of commercial innovations. Major live case project and readings. Prerequisite: 190. [3] (Not currently offered)

194. Survey of Entrepreneurship. Entrepreneurship is the essence of free enterprise: new businesses give a market economy its vitality. This course prepares students for subsequent entrepreneurship courses, developing a common understanding of the phases of entrepreneurship and the business planning process. FALL, SPRING. [3] Burcham, Franklin.

195. The Entrepreneurial Challenge. Entrepreneurship and entrepreneurial skills, behavior, and thinking. Building a business plan. Resources and start-up financing, bootstrapping, angel financing, and venture capital. Managing and growing an enterprise. Entrepreneuring in large companies. Entrepreneurship in not-for-profit ventures and foundations. Prerequisite: 194. Not available on a P/F basis. FALL, SPRING. [3] Furse.

196. Entrepreneurship: The Business Planning Process. Components and sequence of a successful business plan: business concept, marketing, and organizational plan. Prerequisite: 194 and FnEc 140. FALL, SPRING. [3] Burcham.

198. Corporate Strategy. Examination of the issues and challenges facing corporate management. Responsibilities and interrelationships of functional areas including marketing, finance, operations, and R&D. Industry, competitor, and customer analysis. Design and implementation of corporate strategy. Informational and control systems. Interpersonal skills for effective teamwork. Prerequisite: FnEc 140. FALL, SPRING. [3] K. Clark, McDonald.

235. Selected Topics in Managerial Studies. Topics of special interest, as announced in the *Schedule of Courses*. May be repeated for credit with variation of topic. FALL, SPRING. [3] Staff.

245. Independent Study in Managerial Studies. A program of independent reading in consultation with an adviser. Written permission of an instructor and the program director required. FALL, SPRING. [Variable credit: 1–3; may not be repeated] Staff.

Financial Economics

140. Accounting. A survey of financial accounting. FALL, SPRING. [3] K. Clark.

220. Managerial Accounting. A survey of topics in managerial accounting. Designed for the student of general business administration rather than the student interested in professional accounting. Prerequisite: 140. No credit for graduate students. FALL, SPRING. [3] K. Clark.

240. Corporate Finance. Investment and financial decisions faced by firms. Theoretical basis of corporate decision-making. Review of various accounting documents and the alternative objectives of the firm, its management, and its owners. Study of the attributes of the firm that affect market value. How the firm's decisions about investing in assets and methods used to finance these investments affect firm value. Prerequisite: 140 and Econ 150. FALL, SPRING. [3] Damon, Kim.

259a–259b. Special Topics in Financial Economics. Topics as announced in the *Schedule of Courses*. FALL, SPRING. [3] Staff.

261. Investment Analysis. Investment principles and practices. Security analysis for developing techniques and standards of an investment appraisal. Principles of portfolio analysis. The forecasting problem in meeting portfolio needs of individuals and institutions. Develop ability to investigate and report. Prerequisite: 240. FALL, SPRING. [3] C. Clark.

275. Financial Management. Analysis of cases representing capital budgeting, forecasting cash flow, risk assessment, capital structure, mergers and acquisitions. Seminar. Prerequisite: 240. FALL, SPRING. [3] Damon.

291a–b. Independent Study in Financial Economics. A program of independent readings in financial economics arranged in consultation with an adviser. Prerequisite: written permission of an instructor and the program director. No credit for graduate students. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed 6 overall] Staff.

Mathematics

CHAIR Dietmar Bisch
VICE CHAIR Philip S. Crooke III
DIRECTOR OF UNDERGRADUATE STUDIES Mark N. Ellingham
DIRECTOR OF GRADUATE STUDIES Douglas P. Hardin
DIRECTOR OF TEACHING Jo Ann W. Staples
PROFESSORS EMERITI Richard F. Arenstorf, Billy F. Bryant, Richard R. Goldberg, Robert L. Hemminger, Ettore F. Infante, Bjarni Jónsson, Charles S. Kahane, Richard J. Larsen, Charles K. Megibben, James R. Wesson, Horace E. Williams
PROFESSORS John F. Ahner, Akram Aldroubi, Dietmar Bisch, Alain Connes, Philip S. Crooke III, Emmanuele DiBenedetto, Paul H. Edelman, Mark N. Ellingham, Yanqin Fan, Matthew Gould, Douglas P. Hardin, C. Bruce Hughes, Gennadi Kasparov, Ralph N. McKenzie, Michael L. Mihalik, Alexander Ol'Shanskiy, Michael D. Plummer, John G. Ratcliffe, Edward B. Saff, Mark V. Sapir, Larry L. Schumaker, Constantine Tsinakis, Glenn F. Webb, Daoxing Xia, Guoliang Yu
VISITING PROFESSORS Jaroslav Jezek, Rico Zacher
ASSOCIATE PROFESSORS Mary Ann Horn, Marian Neamtu, Eric Schechter, Gieri Simonett, Steven T. Tschantz, Dechao Zheng
ASSISTANT PROFESSORS Simon Foucart, S. Kumar Ghosh, Pinhas Grossman, Dan Guralnik, Qayum Khan, Daphne Manoussaki, George Metcalfe, Remus Nicoara, Mikhail Perepelitsa, Alexander Powell, Romain Tessera, Christoph Walker, Brett D. Wick, Ju-Yi Yen, Gexin Yu
RESEARCH ASSISTANT PROFESSORS Johan Brauchart, Maria K. Byrne
VISITING SCHOLARS Wieslaw Dziobiak, Don Hong
SENIOR LECTURERS Derek Bruff, Linda Hutchison, Pamela Pigg, John Rafter, Lori Rafter, Jo Ann W. Staples

☙ THE Department of Mathematics offers an undergraduate major with several types of emphasis. Students planning to continue in graduate study may choose an emphasis in pure mathematics. Students with other interests emphasize applied mathematics, statistics, or preparation for teaching. A solid background in mathematics provides an excellent foundation for several professions—many students go on to professional studies in law, medicine, or business.

Program of Concentration in Mathematics

Two programs of concentration are available. Program I is intended for most mathematics majors in the College of Arts and Science and requires a minimum of 32 hours in the department. Program II is intended for students in the School of Engineering who elect a second major in mathematics, but is also available for other students. Program II requires a minimum of 29 hours in the department in addition to 6 hours outside the department. Requirements for the two programs are summarized below.

Program I.

1. A calculus sequence (150a–150b–170a–170b or 155a–155b–175 or 205a–205b).
2. Linear algebra (204 or 205a–205b).
3. Differential equations (208).
4. At least four courses from among 200, 210, 215, 216, 218, 219, 221, 223, 226, 229, 234, 240, 242, 246, 247, 248, 250, 253, 259, 260, 261, or any course above 261.
5. The remainder of the hours must be chosen from courses at the 200 level or above.

Program II.

1. A calculus sequence (150a–150b–170a–170b or 155a–155b–175 or 205a–205b).
2. Linear algebra (194 or 204 or 205a–205b).
3. Differential equations (198 or 208).
4. At least four courses from the list in item 4 under Program I.
5. The remainder (if any) of the hours required in the department must be chosen from courses at the 200 level or above.
6. At least 6 hours of advanced, mathematically based science or engineering courses approved by the director of undergraduate studies. This requirement is automatically fulfilled by students who obtain a physics major or a major in the School of Engineering.

Adjustments in these requirements are made for students who begin their college mathematics at an advanced level. If 150a–150b–170a–170b is used as the calculus sequence, the minimum hour requirement is increased to 33 in Program I and to 30 in Program II.

To help students plan their programs, the department offers the following suggestions for those who plan to teach, work in the computer field, or go to graduate school. Students planning to teach in secondary school should contact the director of secondary education programs in the Department of Teaching and Learning at Peabody College for course recommendations. The programs of students planning to work in the computer field should include 226 with 198, 218, (or 247–248), 274, and 286 strongly recommended; computer courses should be selected in consultation with the student's adviser (the student is reminded that credit in these courses does not count toward a mathematics major). Preparation for graduate work in mathematics should include at least 12 hours from 260, 272a–272b, 280, 283a–283b, 330a.

Honors Program

The Department of Mathematics offers honors work for qualified majors. To enroll in the Honors Program, a student should normally apply at the time of declaration of the major. Honors students include independent study in their schedules, and they are required to submit a senior thesis. The department may be consulted for further details.

Minor in Mathematics

The minor in mathematics requires completion of 175 or 170b and an additional 12 hours in the department as follows:

1. Linear algebra (194 or 204).
2. Differential equations (198 or 208).
3. Six hours chosen from courses at the 200 level or higher.

Students may also substitute 205a–205b for the calculus course (175 or 170b) and the linear algebra course (194 or 204) and then in addition complete the 9 hours in items 2 and 3.

Licensure for Teaching

Candidates for teacher licensure at the secondary level in mathematics should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

Students who have credit for any course numbered 140 or above may not receive credit for any of the courses 127a, 127b, 133 without departmental approval.

Precalculus courses (100–139)

115F. First-Year Writing Seminar. [3]

127a–b. Probability and Statistical Inference. A survey of probability models and statistical inference for students not planning to major in science or mathematics. Emphasis is on applications of statistical techniques. Discr ete probability models, sampling theor y, confidence intervals, hypothesis testing, corr elation and regression, chi-square tests. 127a is a prerequisite for 127b. [3–3] Staff.

133. Pre-calculus Mathematics. Designed for students who plan to take either 150a–150b or 155a–155b but need a stronger background in algebra and trigonometry. Topics include inequalities, functions, graphs, trigonometric identities, and theor y of equations. F ALL, SPRING. [3] Pigg.

Several calculus sequences are available: 140; 150a–150b–170a–170b; 155a–155b–175, 205a–205b. They differ in content and credit hours, and students should not switch from one to another without approval of the department. Such switching may result in withdrawal of credit.

Calculus courses (140–179)

140. Survey of Calculus. A basic course in the rudiments of analytic geometr y and differential and integral calculus with emphasis on applications. Designed for students who do not plan further study in calculus. FALL, SPRING. [4] Hutchison.

150a–150b. First-Year Calculus. 150a: functions, limits, dif ferentiation of algebraic functions, applications of differentiation, integration. 150b: differentiation and integration of transcendental functions, applications, methods of integration. 150a is a pr erequisite for 150b. FALL, SPRING. [3] Staff.

155a–155b. First-Year Accelerated Calculus. 155a: functions, limits, dif ferentiation of algebraic functions, integration, applications including extr ema problems, areas, volumes, centroids, and work. 155b: differentiation and integration of transcendental functions, applications, methods of integration, coor dinate geometr y, polar coor dinates, infinite series. FALL, SPRING. [4–4] Staff.

170a–170b. Second-Year Calculus. Analytic geometr y, polar coor dinates, infinite series, vectors, parametric equations, vector analysis, partial differentiation, and multiple integrals. Prerequisite for 170a: 150b. 170a FALL, SPRING; 170b SPRING. Credit is not given for both 170b and 175 or 205a–205b. [3–3] Staff.

175. Second-Year Accelerated Calculus. Solid analytic geometry, vectors in three space, partial derivatives, multiple integrals. Prerequisite: 155b or equivalent. Credit is not given for both 175 and 170b or 205a–205b. FALL, SPRING. [3] Staff.

A&S

Post-calculus courses (180–209)

180. Fundamentals of Pr obability and Statistics. Combinatorics, laws of pr obability, regression analysis, normal curves, the Z transformation, probability as an integral, discrete and continuous pr obability models, principles of hypothesis testing, statistical methods (goodness-of-fit tests, t tests, introduction to the analysis of variance, χ^2 tests). Does not count toward a major in mathematics. Prerequisite: 140, 150a, or 155a. SPRING. [3] Staff.

194. Methods of Linear Algebra. Vectors and matrix operations. Linear transfor mations and fundamental properties of finite dimensional vector spaces. Numerical solutions of systems of linear equations. Eigenvalues and eigenvectors. Some basic elements of linear programming. No cr edit for students who have completed 204 or 205a. Cor equisite: 170b or 175. Credit is not given for both 194 and 196 or 204 or 205a–205b. FALL, SPRING. [3] Staff.

196. Dif ferential Equations with Linear Algebra. Scalar dif ferential equations, Laplace transforms, systems of dif ferential equations. Gauss-elimination, algebra of matrices, determinants, vector spaces, linear operators, eigenvalues and eigenvectors. Intended for students in Biomedical Engineering, Electrical Engineering and Computer Engineering. Prerequisite: 170b or 175. Credit is not given for both 194 and 196, nor for both 198 and 196. FALL, SPRING. [4] Staff.

198. Methods of Ordinary Differential Equations. Linear first-order differential equations, applications, higher order linear differential equations, complementary and particular solutions, applications, Laplace transfor m methods, series solutions, numerical techniques. Prerequisite: 170b or 175 or consent of depar tment. Credit is not given for both 198 and 208. FALL, SPRING. [3] Staff.

One year of calculus is prerequisite to all courses numbered above 200.

200. Intensive Pr oblem Solving and Exposition. Intended to develop widely applicable mathematical skills. Focus on use of basic principles such as induction, the pigeonhole principle, symmetry, parity, and generating functions. Prerequisite: one year of calculus and consent of instructor. FALL. [3] Nicoara.

201. Introduction to *Mathematica*™. Techniques of the computer language *Mathematica*™ with applications to topics from calculus, differential equations, and linear algebra. Emphasis

on individual research, including a final project of the student's choosing. Prerequisite: linear algebra and differential equations. SUMMER. [3]

204. Linear Algebra. Algebra of matrices, real and complex vector spaces, linear transformations, systems of linear equations. Eigenvalues, eigenvectors, Cayley-Hamilton theorem, inner product spaces, orthogonal bases. Hermitrian matrices. Designed primarily for mathematics majors. No credit for students who have completed 194 or 205a. Corequisite: 170b or 175. Credit will not be given for both 204 and 294 or 205a–205b. FALL, SPRING. [3] Staff.

205a–205b. Multivariable Calculus and Linear Algebra. Vector algebra and geometry; linear transformations and matrix algebra. Real and complex vector spaces, systems of linear equations, inner product spaces. Functions of several variables and vector-valued functions: limits, continuity, the derivative. Extremum and nonlinear problems, manifolds. Multiple integrals, line and surface integrals, differential forms, integration on manifolds, theorems of Green, Gauss, and Stokes. Eigenvectors and eigenvalues. Emphasis on rigorous proofs. Enrollment limited to first-year students with test scores of 5 on the Calculus BC advanced placement examination or the approval of the director of undergraduate studies. 205a is a prerequisite for 205b. Credit is not given for both 205a–205b and 170b, 175, 194, or 204. [4–4] Hughes.

208. Introduction to Ordinary Differential Equations. First- and second-order differential equations, applications, linear differential equations, series solutions, boundary-value problems, existence and uniqueness theorems. This course is intended for mathematics and advanced science majors. Prerequisite: linear algebra, and 170b or 175 or equivalent. Credit is not given for both 198 and 208. FALL, SPRING. [3] Staff.

Intermediate undergraduate courses (210–239)

210. Axiomatic Geometry. Hilbert's axioms, neutral geometry, Euclidean geometry, independence of the Parallel Postulate, non-Euclidean geometry. The theory developed axiomatically. Emphasis on rigorous mathematics proofs. Prerequisite: 170b or 175. SPRING. [3] (Not currently offered)

215. Discrete Mathematics. Elementary combinatorics including permutations and combinations, the principle of inclusion and exclusion, and recurrence relations. Graph theory including Eulerian and Hamiltonian graphs, trees, planarity, coloring, connectivity, network flows, some algorithms and their complexity. Selected topics from computer science and operations research. Prerequisite: linear algebra. FALL. [3] Staff.

216. Probability and Statistics for Engineering. Discrete and continuous probability functions, cumulative distributions. Normal distribution. Poisson distribution and Poisson process. Conditional probability and Bayes' formula. Point estimation and interval estimation. Hypothesis testing. Covariance and correlation. Linear regression theory and the principle of least squares. Monte Carlo methods. Intended for students in Electrical Engineering and Computer Engineering. Credit is not given for both 216 and 218. FALL, SPRING. [3] Staff.

218. Introduction to Mathematical Statistics. A survey of probability and applied and mathematical statistics. Discrete and continuous probability models, mathematical expectation, laws of large numbers, point estimation, confidence intervals, hypothesis testing, nonparametric techniques, applications. Students taking 218 are strongly urged to take 218L concurrently. Prerequisite: 155b or 170a or consent of instructor. FALL, SPRING. [3] Staff.

218L. Statistics Laboratory. Applications of the theory developed in 218. Emphasis on data analysis and interpretation. Topics covered include the one- and two-sample problems, paired data, correlation and regression, chi-square, model building. Examples are drawn from many disciplines. Corequisite: 218 or equivalent. FALL, SPRING. [1] Staff.

219. Introduction to Applied Statistics. A brief review of basic applied statistics followed by a development of the analysis of variance as a technique for interpreting experimental data. The generalized likelihood ratio principle, completely randomized designs, nested designs, orthogonal contrasts, multiple comparisons, randomized block designs, Latin squares, factorial designs, 2^n designs, fractional factorials, confounding, introduction to response surface methodology. Applications will be emphasized. Prerequisite: 218 or equivalent. SPRING. [3] Staff.

221. Theory of Numbers. The Euclidean algorithm, Euler's phi function, simple continued fractions, congruences, Fermat's theorem, Wilson's theorem, and elementary Diophantine equations. FALL, SPRING. [3] Ratcliffe, Tschantz.

223. Abstract Algebra. Fundamental properties of integers and polynomials. Elementary properties of groups, rings, integral domains, fields, and lattices. Prerequisite: linear algebra; except for students with strong backgrounds, 221 should be taken prior to 223. FALL, SPRING. [3] Staff.

226. Introduction to Numerical Mathematics. Numerical solution of linear and nonlinear equations, interpolation and polynomial approximation, non-numerical differentiation and integration, least-squares curve fitting and approximation theory, numerical solution of differential equations, errors and floating point arithmetic. Application of the theory to problems in science, engineering, and economics. Student use of the computer is emphasized. Prerequisite: computer programming and linear algebra, differential equations. FALL, SPRING. [3] Staff.

229. Advanced Engineering Mathematics. Vector analysis including directional derivatives, transformation of coordinates, divergence and curl. Line integrals, surface integrals, divergence theorem. Stokes' theorem. Functions of a complex variable, including limits, derivatives, Cauchy-Riemann equations, exponential, trigonometric, hyperbolic, and logarithmic functions. Complex integrals, Cauchy's integral theorem and formula. Taylor and Laurent series. Calculus of residues. Prerequisite: ordinary differential equations. SPRING. [3] Ahner.

234. Methods for Initial and Boundary-Value Problems. Construction of the solutions to initial- and boundary-value problems for partial differential equations using separation of variables in conjunction with Fourier series and integrals. Emphasis on obtaining explicit formulas for the solutions of various problems involving the heat equation, the wave equation, and Laplace's equation. Prerequisite: elementary differential equations. Recommended: linear algebra. FALL. [3] Schumaker.

Advanced undergraduate courses (240–269)

240. Transformation Geometry. Transformations of the plane, groups of transformations, reflections, glide reflections, classification of the isometries of the plane, frieze groups, analysis of frieze patterns, wall paper groups, and analysis of wall paper patterns. Especially recommended for prospective teachers of mathematics. Prerequisite: linear algebra. FALL. [3] Ratcliffe.

242. Topology of Surfaces. Fundamental concepts of topology, including properties of continuity, compactness, and connectivity. Topology of surfaces, triangulations, and the fundamental group. Introduction to basic ideas of graph theory, vector fields, and Euclidean and hyperbolic geometry. SPRING. [3] Hughes.

246. Introduction to Actuarial Mathematics. Applications of calculus and probability to actuarial science. The mathematical foundations of financial mathematics including the theory of interest and multivariate probability distributions. Prerequisite: 170b or 175, and 216 or 218. FALL. [3] Neamtu.

A&S

247. Probability. Combinatorics, probability models (binomial, Poisson, normal, gamma, etc.) Stochastic independence, generating functions, limit theorems and types of convergence, bivariate distributions, transformations of variables. Markov processes, applications. Prerequisite: multivariable calculus and linear algebra. Except for students with extremely strong backgrounds, 218 should be taken prior to 247. FALL. [3] J. Rafter.

248. Mathematical Statistics. Distribution theory, order statistics, theory of point estimation and hypothesis testing, normal univariate inference, Bayesian methods, sequential procedures, regression, nonparametric methods. Students interested in applications may take 218L. Prerequisite: 247. SPRING. [3] J. Rafter.

250. Introduction to Mathematical Logic. Development of the first order predicate calculus and fundamental metamathematical notions. FALL, SPRING. [3] Staff.

252. History of Mathematics. The major developments of mathematics from ancient times to the early part of this century. Emphasis both on historical perspective and on the mathematics; assignments include many exercises and theorems. Prerequisite: completion of 170b or 175 or their equivalent and some algebra (preferably both linear algebra and abstract algebra) or consent of instructor. Especially recommended for teacher candidates. FALL. [3] L. Rafter.

253. Error-Correcting Codes. The algebraic theory of error-correcting codes for information transmission. Block codes, the binary symmetric channel, length, rate and distance. Linear codes, bounds, syndrome decoding, perfect codes, Reed-Muller codes. Cyclic, BCH, and Reed-Solomon codes. Prerequisite: linear algebra. [3] (Offered 2007/2008)

259. Advanced Calculus. Properties of real numbers, limits, sequences and series, uniform convergence, and power series. Basic properties of functions on the real line, and the elementary theory of differentiation and integration. Emphasis on methods of proof used in upper-division mathematics courses. Prerequisite: 170b or 175. FALL. [3] Staff.

260. Introduction to Analysis. Elementary topological concepts including compactness and completeness. Functions of several variables, continuity, differentiability, the Riemannian integral, inverse function theorem, implicit function theorem, and function spaces. Intended for students who desire a deeper understanding of the fundamental mathematical principles first encountered in calculus. Prerequisite: 170b or 175. SPRING. [3] Staff.

261. Complex Variables. Study of complex numbers, analytic and elementary functions, transformations of regions, properties of power series, including Taylor's and Laurent's. The calculus of residues with applications, conformal mapping with emphasis upon boundary value applications. Prerequisite: 196 or 198 or 208. SPRING. [3] Nicoara.

262. Mathematical Modeling in Biology. Mathematical modeling with applications in biology and medicine. Basic mathematical modeling tools such as linear regression, differential equations, matrix and statistical analysis, probability theory, and computer simulation. Mathematical models in population dynamics, epidemiology, immunology, diffusion phenomena, pharmacokinetics, neurophysiology, and biochemistry of cells. Prerequisite: linear algebra and differential equations. SPRING. [3] Webb.

267. Selected Topics for Undergraduates. Topics of special interest at a level suitable for undergraduates, as announced in the *Schedule of Courses*. SPRING. [Variable credit: 1–3, total of all 267 and 297 courses not to exceed a total of 12] Staff.

269. Senior Thesis. A written presentation of research results, original for the student but not usually original in the larger sense. The regulations governing the writing of a master of arts thesis in mathematics will apply to the writing of the senior thesis. FALL, SPRING. [3] Staff.

Introductory graduate or advanced undergraduate courses (270–299)

270. Differential Geometry. Curvature, torsion, vector fields, and the Frenet formulas for curves in R^3. Review of continuity and differentiation in R^n, Stokes' theorem and applications, fundamental forms and the shape operator, geodesics, and Gaussian curvatures for surfaces in R^3. The Euler characteristic and the Gauss-Bonnet Theorem. Prerequisite: 260. SPRING. [3] Kasparov.

272a–272b. Topology. 272a: Connectedness, compactness, countability, and separation axioms. Complete metric spaces. Function spaces. 272b: The fundamental group and covering spaces. Topology of surfaces. Simplicial complexes and homology theory. Homotopy theory. Prerequisite: 242. [3–3] Mihalik.

274. Combinatorics. Elements of enumerative analysis including permutations, combinations, generating functions, recurrence relations, the principle of inclusion and exclusion, and Polya's theorem. Some special topics will be treated as class interest and background indicate (e.g., Galois fields, theory of codes, and block designs). SPRING. [3] Gould.

275. Graph Theory. The mathematical theory of networks. Traversing graphs using paths, cycles, and trails. Matchings and other graph factors. Coloring of vertices and edges. Connectivity and its relation to paths and flows. Embeddings of graphs of surfaces, especially the plane. Prerequisite: linear algebra. FALL. [3] Staff.

A&S

280. Set Theory. The basic operations on sets. Cardinal and ordinal numbers. The axiom of choice. Zorn's lemma, and the well-ordering principle. Introduction to the topology of metric spaces, including the concepts of continuity, compactness, connectivity, completeness, and separability. Product spaces. Applications to Euclidean spaces. Strongly recommended for beginning graduate students and for undergraduates who plan to do graduate work in mathematics. Prerequisite: intermediate calculus and linear algebra. FALL. [3] Staff.

283a–283b. Modern Algebra. 283a: Group theory through Sylow theorems and fundamental theorem of finitely generated abelian groups. 283b: Introductory theory of commutative rings and fields, and additional topics such as Galois theory, modules over a principal ideal domain and finite dimensional algebras. Prerequisite: linear algebra. An elementary course in modern algebra (e.g., 223) is strongly recommended. [3–3] Ol'Shanskiy.

284. Lattice Theory and the Theory of Ordered Sets. An introduction to basic concepts and theorems in lattice theory and the theory of ordered sets with connections to universal algebra and computer science. Boolean algebras, modular and distributive lattices, ordered topological spaces, algebraic lattices and domains, fixed point theorems, cosets, free lattices. Prerequisite: 223 or equivalent. FALL. [3] Staff.

286. Numerical Analysis. Finite difference and variational methods for elliptic boundary value problems, finite difference methods for parabolic and hyperbolic partial differential equations, and the matrix eigenvalue problem. Student use of the computer is emphasized. Prerequisite: 226 or consent of instructor. FALL. [3] Staff.

287. Nonlinear Optimization. An introduction to modeling, theory and methods for nonlinear optimization problems. Modeling of application problems in science and engineering. Methods of unconstrained optimization with one and several variables. Theory of constrained optimization, including Karush-Kuhn-Tucker conditions. Penalty functions and other methods of constrained optimization. Computer tools such as a subroutine library or symbolic algebra system. Prerequisite: multivariable calculus, linear algebra, and computer programming. SPRING. [3] Ellingham.

288. Linear Optimization. An introduction to linear programming and its applications. Formulation of linear programs. The simplex method, duality, complementary slackness, dual

simplex method and sensitivity analysis. The ellipsoid method. Interior point methods. Possible additional topics include the primal-dual algorithm, cutting planes, or branch-and-bound. Applications to networks, management, engineering, and physical sciences. Prerequisite: linear algebra and computer programming. FALL. [3] Ellingham.

292a–292b. Methods of Mathematical Physics. Hermitian forms, unitary transformations, group representations. Vector analysis, elements of differential geometry. Functions of a complex variable, calculus of residues, asymptotic expansions. Ordinary and partial differential equations of mathematical physics, boundary value problems, eigenfunction expansions. Integral equations, Hilbert space methods. Special functions, asymptotic properties. Integral transforms, generalized functions. Prerequisite: ordinary differential equations and linear algebra. [4–4] (Not currently offered)

294. Partial Differential Equations. Classification of equations: equations of elliptic, parabolic, and hyperbolic type. Separation of variables, orthonormal series, solutions of homogeneous and nonhomogeneous boundary value problems in one-, two-, and three-dimensional space. Possible additional topics include subharmonic functions and the Perron existence theorem for the Laplace equation of Sturm-Liouville theory. Prerequisite: 198 or 208. FALL. [3] Horn.

297. Selected Topics. Topics of special interest, as announced in the *Schedule of Courses*. FALL. [Variable credit: 1–3 each semester, not to exceed a total of 12] Staff.

298. Independent Study. Reading and independent study in mathematics under the supervision of an adviser. Designed primarily for honors candidates, but open to others with approval by department chair. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed 6 without departmental permission]

Graduate courses (300–399)

312. Algebraic Topology. [3]

323. Universal Algebra. [3]

330a–330b. Theory of Functions of a Real Variable. [3–3]

331a–331b. Theory of Functions of a Complex Variable. [3–3]

333. Theory of Ordinary Differential Equations. [3]

334. Theory of Partial Differential Equations. [3]

362a–362b. Functional Analysis. [3–3]

364a–364b. Nonlinear Differential Equations and Analytical Dynamics. [3–3]

367. Selected Advanced Topics. [3]

368. Advanced Independent Study. [3]

372a–372b. Seminar in Topology. [Variable credit: 1–3 each semester]

375a–375b. Seminar in Graph Theory. [Variable credit: 1–3 each semester]

381a–381b. Seminar in Number Theory. [Variable credit: 1–3 each semester]

383a–383b. Seminar in Algebra. [Variable credit: 1–3 each semester]

386a–386b. Seminar in Computational Mathematics. [Variable credit: 1–3 each semester]

390a–390b. Seminar in Analysis. [Variable credit: 1–3 each semester]

394a–394b. Seminar in Applied Analysis. [Variable credit: 1–3 each semester]

395a–395b. Seminar in Mathematical Biology. [Variable credit: 1–3 each semester]

398. Directed Study. [Variable credit: 1–3 each semester]

Medicine, Health, and Society

DIRECTOR Arleen Tuchman
ASSOCIATE DIRECTOR Holly Tucker

Affiliated Faculty

PROFESSORS James Blumstein (Health Law and Policy), Frank Boehm (Obstetrics and Gynecology), Vera Chatman (Human and Organizational Development), Larry Churchill (Medicine), Ellen Clayton (Pediatrics and Law), Jay Clayton (English), Bruce Compas (Psychology and Human Development), Carolyn Dever (English), Dennis Dickerson (History), Katharine Donato (Sociology), James Foster (Economics), Volney Gay (Religious Studies), Thomas Gregor (Anthropology), Sydney Halpern (Sociology), Carl Johnson (Biological Sciences), Leah Marcus (English), John McCarthy (German), Isaac Prilleltensky (Human and Organizational Development), Randolph Rasch (Nursing), Sharon Shields (Human and Organizational Development), John Tarpley (Surgery), Patricia Temple (Pediatrics), Sten Vermund (Pediatrics and Global Health), Lynn Walker (Pediatrics and Psychology and Human Development), Kenneth Wallston (Nursing and Psychology)

ASSOCIATE PROFESSORS Kathryn Anderson (Economics), Victor Anderson (Religious Studies), Karen Campbell (Sociology), Monica J. Casper (Sociology), Beth Conklin (Anthropology), Kate Daniels (English), Kathy Gaca (Classics), Elizabeth Heitman (Medicine), Craig Anne Heflinger (Human and Organizational Development), Melanie Lutenbacher (Nursing), F. Carter Philips (Classical Studies), Matthew Ramsey (History), Ruth Rogaski (History), David Schlundt (Psychology), Benigno Trigo (Spanish), Arleen Tuchman (History), Holly Tucker (French)

ASSISTANT PROFESSORS Gregory Barz (Ethnomusicology), Mark Bliton (Medicine), Tony Brown (Sociology), Laura Carpenter (Sociology), Sara Eigen (German), Stuart Finder (Medicine), Chase Lesane-Brown (Psychology and Human Development), Scott Pearson (Surgery), Josh Perry (Medicine), Michele Salisbury (Nursing), Shawn Salvant (English), Lucia Tanassi (Medicine), Timothy J. Vogus (Management and Organization Studies)

SENIOR LECTURERS Russell M. McIntire Jr. (Philosophy), Lorraine Sciadini (Spanish), Stephanie So (Economics)

INSTRUCTOR Lida Anestidou (Medicine)

A&S

THE Center for Medicine, Health, and Society offers an interdisciplinary major (36 hours) and minor (18 hours) for students interested in studying health-related beliefs and practices in their social and cultural contexts. An honors program is available. MHS draws on a variety of fields in the social sciences and humanities—anthropology, economics, history, psychology, sociology, philosophy/ethics, and religious studies. It will be of particular interest to students preparing for careers in a health-related profession but will have much to offer any student open to examining an important part of human experience from multiple perspectives and developing a critical understanding of contemporary society.

Students are encouraged to take advantage of the opportunities offered by the Center for Medicine, Health, and Society. Visit *www.vanderbilt.edu/mhs* for more details.

The program is directed by Arleen Tuchman, associate professor of history.

Program of Concentration in Medicine, Health, and Society

The major requires a minimum of 36 hours of course work, distributed as follows:

1. Medicine, Health, and Society 201, Fundamental Issues in Medicine, Health, and Society (3 hours).

Note: Of the 33 remaining hours, no more than 12 may be in the same department; no more than 18 may be in courses designated MHS.

2. Three of the following core courses (9 hours): Anthropology 240, Medical Anthropology; Economics 268, Economics of Health; History 204, History of Medicine; Philosophy 108, Introduction to Medical Ethics, OR Philosophy 270, Ethics and Medicine; Psychology 268 OR Peabody Psychology 2560, Health Psychology; Religious Studies 150, Medicine, Healing, and Spirituality; Sociology 237, Society and Medicine.

3. Eight additional courses, chosen from the following list of other approved courses:

ANTHROPOLOGY: 106, Evolution and Cr eationism; 240, Medical Anthr opology; 250, Shamanism and Spiritual Curing; 260, Medicine, Cultur e, and the Body; 267, Life, Death, and the Human Body. *Note that only ONE of the following courses may be counted:* 270, Human Osteology; OR 271, Human Evolution; OR 272, Human Variation.

BIOLOGICAL SCIENCES: *Note that only ONE course in each of the three groups will count.* (1) 105, Human Biology, OR 210, Principles of Genetics. (2) 226, Introduction to Immunology, OR 273, Molecular Mechanisms of Envir onmental Toxins. (3) 239, Behavioral Ecology , OR 254, Neurobiology of Behavior.

BASIC BIOMEDICAL SCIENCES OPTION: *Up to SIX HOURS from the following list may be counted for the major*. Biological Sciences 110a–b, Intr oduction to Biological Sciences; Biological Sciences 220, Biochemistry I; Chemistry 220a–b, Organic Chemistry; Nursing 210a–b, Anatomy and Physiology; Nursing 231a, Intr oduction to Nutrition, and 231b, Nutrition and Health.

CLASSICS: 171, Ancient Gr eek Medicine and Its Legacy; 220, W omen, Sexuality, and the Family in Ancient Greece and Rome.

ECONOMICS: 268, Economics of Health.

ENGLISH: 243, Literature, Science, and Technology (as appropriate). *Note: Topics vary; the director of the MHS program will approve versions with sufficient MHS content for credit toward the major or minor.*

HISTORY: 204, History of Medicine; 205, Historical Perspectives on W omen, Health, and Sexuality; 206, Medicine, Culture, and the Body (same as Anthr opology 260); 221, Sexuality and Gender in the W estern Tradition to 1700; 222, Sexuality and Gender in the W estern Tradition since 1700; 248, History of Chinese Medicine.

HUMAN AND ORGANIZATIONAL DEVELOPMENT (PEABODY): 2510, Health Service Delivery to Diverse Populations; 2525, Introduction to Health Services; 2530, Introduction to Health Promotion; 2535, Introduction to Health Policy.

MEDICINE, HEALTH, AND SOCIETY: 201, Fundamental Issues in Medicine, Health, and Society; 290, Special T opics; 293a–b–c, Inter nship *(Note: 293a, Inter nship Training, must*

be taken Pass/Fail and concurrently with 293b, Internship Research, and/or 293c, Internship Readings; these hours may not be included in the minimum hours required for the MHS minor); 294a–b–c, Service Learning *(Note: 294a, Service Learning, must be taken Pass/Fail and concurrently with 294b, Service Learning Research, and/or 294c, Service Learning Readings; these hours may not be included in the minimum hours required for the MHS minor)*; 296, Independent Study.

PHILOSOPHY: 105, Introduction to Ethics; 108, Introduction to Medical Ethics; 206, Technology and Human Values; 239, Moral Problems; 245, Humanity, Evolution, and God; 256, Philosophy of Mind; 270, Ethics and Medicine.

PSYCHOLOGY: *Note: (P) before a course number indicates that the course is offered at Peabody.* 215, Abnormal Psychology; 231, Social Psychology; 232, Mind and Brain; 235, Biological Basis of Mental Disorders; 240, Cognition, Consciousness, and Self; 243, Feminist Approaches to Clinical Practice; 244, Introduction to Clinical Psychology OR (P)2700, Introduction to Clinical Psychology; 245, Emotion; 246, Schizophrenia; 247, Depression; 252, Human Sexuality; 266, Interpersonal and Intergroup Relations; 268, Health Psychology OR (P)2560, Health Psychology; 277, Brain Damage and Cognition; (P)1200, Minds, Brains, Cultures, and Contexts; (P)1500, Cognitive Aspects of Human Development; (P)1630, Developmental Psychology; (P)1700, Social and Emotional Context of Cognition; (P)1750, Social and Personality Development; (P)2250, Infancy; (P)2320, Adolescent Development.

RELIGIOUS STUDIES: 150, Medicine, Healing, and Spirituality; 202, Natural Science and the Religious Life; 234, Post-Freudian Theories and Religion; 236, The Religious Self According to Jung.

SOCIOLOGY: 220, Population and Society; 237, Society and Medicine; 257, Gender, Sexuality, and the Body; 264, Social Dynamics of Mental Health; 268, Race, Gender, and Health.

SPANISH: 211, Spanish for the Medical Profession.

WOMEN'S AND GENDER STUDIES: 212, Lesbian, Gay, Bisexual, and Transgender (LGBT) Studies; 240, Women's Health; 244, Psychology of Women; 264, Sex, Power, and Politics; 265, Cultural Politics of Reproduction; 268, Gender, Race, Justice, and the Environment; 267, Seminar on Gender and Violence; 269, Feminist Studies of Science and Technology.

Other appropriate classes, including first-year writing seminars, seminars for the College Scholars program, and special topics courses, may be approved at the discretion of the program director.

Honors Program

The Honors Program in Medicine, Health, and Society offers superior students a more intensive concentration within their major field. The program requires:

1. A total of 42 hours of course work, of which no more than 24 may be in courses designated Medicine, Health, and Society.

2. A 3.0 cumulative grade point average at the end of the junior year.

3. A 3.25 grade point average in Medicine, Health, and Society at the end of the junior year.

4. 6 hours in the fall and spring semesters of the senior year in MHS 296 devoted to a major research project leading to an honors thesis.

5. Honors thesis to be completed by mid-spring of the senior year.

6. An honors oral examination focusing on the topic of the thesis.

Minor in Medicine, Health, and Society

The interdisciplinary minor consists of a minimum of 18 hours of course work, distributed as follows:

1. Medicine, Health, and Society 201, Fundamental Issues in Medicine, Health, and Society (3 hours).

Note: Of the 15 remaining hours, no more than 9 may be in the same department; no more than 9 may be in courses designated MHS.

2. Two of the following core courses (6 hours): Anthropology 240, Medical Anthropology; Economics 268, Economics of Health; History 204, History of Medicine; Philosophy 108, Introduction to Medical Ethics, OR 270, Ethics and Medicine; Psychology 268 OR Peabody Psychology 2560, Health Psychology; Religious Studies 150, Medicine, Healing, and Spirituality; Sociology 237, Society and Medicine.

3. Three additional courses, chosen from the above list of other approved courses except for those listed under "Basic Biomedical Sciences Option."

201. Fundamental Issues in Medicine, Health, and Society . A multidisciplinary introduction to the study of medicine, health, and society, drawing on the perspectives of anthropology, economics, history, political science and policy studies, philosophy , religious studies, and sociology. Guest lectures by representatives of the various disciplines. FALL. [3] Staff.

290. Special Topics. May be repeated for credit once if there is no duplication of topics. FALL, SPRING. [3]

293a–b–c. Internship. Under faculty supervision, students from any discipline can gain experience in a broad range of public and private agencies, institutions, and programs devoted to health care, public health, health-related policy and research. Two options are available. (1) Full-time: 12–15 hours total, including 6–9 hours in 293a, 3 hours in 293b, and 3 hours in 293c. (2) Part-time: 6–9 hours total, including 3–6 hours in 293a and 3 hours in either 293b or 293c. To be accepted for either option, students must have a 2.90 grade point average and 6 hours of prior work in approved MHS courses; they must submit a specific plan for the internship to the MHS program director. After completing the internship, all students must write a thorough report. *Note*: All work for an internship must be completed during a single semester or summer.

293a. Internship Training. Must be taken Pass/Fail and concurrently with 293b and/or 293c. These hours may not be included in the minimum hours required for the MHS major or minor. FALL, SPRING. [Variable credit: 1–9]

293b. Internship Research. Students will write a substantial research paper under the supervision of a Vanderbilt faculty member. FALL, SPRING. [3]

293c. Internship Readings. Readings and a substantial interpretive essay on topics related to the internship training, under the supervision of a Vanderbilt faculty member. FALL, SPRING. [3]

294a–b–c. Service Learning. Under faculty supervision, the student will design a program of community service associated with a set of learning objectives. The service component (294a) should benefit both the recipient and the provider of the service, offering the latter

opportunities for self-reflection, self-discovery, and the development of values, skills, and knowledge. A central objective must be firsthand experience of a central issue or issues studied in sociology, psychology, political science, economics, or another academic discipline. The MHS program will work to find placements for interested students. The other component(s)—293b and/or 293c—will consist of an independent study in the relevant discipline and must be closely linked to the issue(s) addressed in 293a. For example, a student may provide services to the elderly in nursing homes and use 293b and/or 293c to study how state and federal policies affect the delivery of health care and other services to nursing-home populations. To be accepted, students must have a 2.90 overall grade point average and 6 hours of prior work in approved MHS courses; they must submit a specific plan for the service-learning experience to the MHS program director.

294a. Service Learning. Must be taken Pass/Fail and concurrently with 294b and/or 294c. These hours may not be included in the minimum hours required for the MHS major or minor. After completing the experience, all students must write a thorough report. FALL, SPRING. [Variable credit: 1–3.]

294b. Service Learning Research. Students will write a substantial research paper under the supervision of a Vanderbilt faculty member, on a topic related to their service learning experience. FALL, SPRING. [3]

294c. Service Learning Readings. Readings and a substantial interpretive essay on topics related to the service learning experience, under the supervision of a Vanderbilt faculty member. FALL, SPRING. [3]

296. Independent Study. A program of reading and/or research in one area of MHS studies to be selected in consultation with an adviser. Normally limited to qualified MHS minors or majors. May be taken no more than two times, and not twice from the same professor. (However, students in the MHS honors program may count a total of 12 hours in MHS 296, including the 6 hours in the senior year devoted to preparation of the honors thesis. The same instructor will ordinarily supervise work on the honors thesis in both fall and spring semesters; a student may work with a thesis adviser who has previously supervised an independent study with that student.) Approval of faculty adviser and MHS program director required. FALL, SPRING. [Variable credit: 1–3]

Neuroscience

DIRECTOR Terry L. Page
DIRECTOR OF HONORS AND INDEPENDENT STUDIES Ford F. Ebner

Steering Committee

PROFESSORS A. B. Bonds (Engineering), Ford F. Ebner (Psychology), Douglas G. McMahon (Biological Sciences), Jeanette Norden (Medicine), Terry L. Page (Biological Sciences), Elaine Sanders-Bush (Medicine)
SENIOR LECTURER Leslie M. Smith (Psychology)

THE study of the nervous system is an interdisciplinary enterprise that draws upon a variety of scientific disciplines ranging from molecular biology and biophysics to computational science and engineering to the study of behavior and cognition. To meet the challenge of providing training for

entry into this exciting and growing field, Vanderbilt offers an interdisciplinary program of concentration in neuroscience that utilizes expertise from several departments within the university. The program consists of three components. The first provides for a broad foundation in the basic sciences and mathematics. Second, the program provides for exposure to each of the general areas of neuroscience including courses in cellular/molecular, systems, and integrative/cognitive neuroscience. This course work is supplemented with exposure to the laboratory techniques utilized in neuroscience research. Finally, the program allows students to pursue more work in the specific sub-disciplines of neuroscience and in areas of inquiry related to neuroscience through elective courses. Students are especially encouraged to participate in research in the laboratories of neuroscience faculty under the auspices of the undergraduate research course, Neuroscience 292. More extensive research experience is available through the Honors Program in Neuroscience.

The program is directed by Professor of Biological Sciences Terry L. Page. For additional information, see *http://sitemason.vanderbilt.edu/neuroscience*.

Program of Concentration

Students majoring in neuroscience are required to complete a core of introductory courses in mathematics, chemistry, physics, and biology that provide the broad scientific background necessary to the study of neuroscience. The neuroscience major consists of 39 hours of course work that includes 8 hours of organic chemistry and 31 hours of neuroscience and related courses distributed among specific disciplines associated with the study of neuroscience. The areas and associated course options are listed below. Excluding research credit (292 or 296), these courses must be drawn from at least two departments.

Students seeking a second major within the College of Arts and Science may count a maximum of 6 hours of 200-level course work to meet the requirements of both majors.

Required Math & Science Courses:

*Biological Sciences 110a–110b, 111a–111b; *Chemistry 102a–102b, Chemistry 219a–219b, Chemistry 220a–220b; *Mathematics 150a–150b or 155a–155b, Physics 116a–116b or 117a–117b or 121a–121b. (Starred courses are prerequisites for certain required courses in the program.)

Neuroscience and Related Courses:

Introduction to Neuroscience (required)
Psychology 201.

Cellular and Molecular Neuroscience (6 hours required)
Biological Sciences 252, 256, 279; Psychology 235, 269.

Systems Neuroscience (3 hours required)
Psychology 216, 236, 241, 272, 274.

Integrative/Cognitive Neuroscience (3 hours required)
Biological Sciences 254; Neuroscience 255; Psychology 214, 232, 277.

Neuroscience Laboratory (4 hours required)
Biological Sciences 253; Neuroscience 292; Psychology 234.

Neuroscience Electives (6 hours required)
Two additional courses from the Neuroscience courses listed above. One semester each of Neuroscience 292 and 291 may be used to count for one elective course.

Related Course Electives (6 hours required)
Biological Sciences 201, 202, 210, 211, 220, 230, 240, 258, 265, 270; Biomedical Engineering 102, 251, 252; Chemistry 210, 221, 224, 226, 230; Computer Science 101; Electrical Engineering and Computer Science 112; Mathematics 175, 198; Physics 229a, 229b; Philosophy 244, 256; Psychology 209, 222, 225, 246, 247, 252, 258, 261.

Honors Program

Superior students with a strong interest in research are encouraged to consider the Honors Program in Neuroscience. Normally a student will apply to enter the Honors Program in the fall semester of the junior year and assemble an Honors Committee that will consist of the research mentor and at least two other appropriate members of the faculty. The student should begin within the program the following semester. Entrance into and satisfactory completion of the honors program requires that students maintain an overall grade point average of 3.0 and a grade point average of 3.25 in courses counting toward the neuroscience major. Honors candidates must meet all the normal requirements for the neuroscience major, but students are expected to complete at least 8 hours of research course work (Neuroscience 292 or 296). Three of these research hours may count toward neuroscience elective course work. The candidate must present an honors thesis during the final semester in residence and satisfactorily pass an oral examination by the student's Honors Committee. Students interested in becoming honors candidates should consult with the director of honors and independent study. For more information on the Honors Program, please see *http://sitemason.vanderbilt.edu/neuroscience/honorsprogram*.

Minor in Neuroscience

This program provides a foundation of knowledge in neuroscience that is appropriate for students majoring in a related discipline or who have a general interest in the nervous system. The minor program consists of 15 hours of course work distributed as follows:

Psychology 201.
Biological Sciences 252 or 256.
At least 9 additional hours (3 courses) chosen from the courses listed as "Neuroscience Courses" in the Program of Concentration in Neuroscience, except that research courses (Neuroscience 292 and 296) do not count toward the minor.

As prerequisites, students are also required to complete two semesters of chemistry with a laboratory and Biological Sciences 110a,b and 111a,b.

Psychology 201. Neuroscience. A comprehensive introduction to the field of neuroscience from important molecules to cell function to neural systems to cognition. Topics include the physiology of nerve cells, the sensory systems of vision, audition and touch, the motor system, sleep, consciousness, speech and sexual behavior. Coverage of clinical topics includes the chemical basis of the psychoses, diseases of the brain, and repair mechanisms after brain injury. FALL, SPRING. [3] L. Smith, R. Marois.

255. Integrative Neuroscience. Structure and function of nervous systems. Emphasis on vertebrate brain and the relationship of anatomy, physiology, and biochemistry to sensory perception, cognition, motor activity, and learning and memory. Prerequisite: 201. SPRING. [3] Norden.

291. Independent Reading in Neuroscience. Reading and discussion of research papers on a selected topic under direction of a faculty sponsor. Consent of both faculty sponsor and the director of honors and independent study is required. May be taken twice. FALL, SPRING. [1] Staff; Ebner, coordinator.

292. Undergraduate Research. Original student research on a defined problem in neuroscience under direction of a faculty sponsor. Consent of both faculty sponsor and the director of honors and independent study is required. May be taken for credit more than once. FALL, SPRING. [2] Staff; Ebner, coordinator.

296. Honors Research. Participation in a research project under the direction of a faculty sponsor. Consent of both the faculty sponsor and the director of honors and independent study is required. May be taken for credit more than once. FALL, SPRING. [2–4] Staff; Ebner, Coordinator.

Philosophy

CHAIR Michael P. Hodges
DIRECTOR OF UNDERGRADUATE STUDIES Idit Dobbs-Weinstein
DIRECTOR OF GRADUATE STUDIES Gregg M. Horowitz
PROFESSORS EMERITI John J. Compton, Clement Dore, Robert R. Ehman, John F. Post, Donald W. Sherburne
PROFESSORS Lenn E. Goodman, Michael P. Hodges, John Lachs, Kelly Oliver, Lucius T. Outlaw Jr., Charles E. Scott, John J. Stuhr, Henry A. Teloh, David Wood
ASSOCIATE PROFESSORS Idit Dobbs-Weinstein, Gregg M. Horowitz, José Medina, Robert Talisse, Jeffrey S. Tlumak
ASSISTANT PROFESSORS Mark J. Bliton, Stuart G. Finder, Jonathan Neufeld
SENIOR LECTURERS Kevin Davis, Russell McIntire, Susan Schoenbohm

☙ THE Department of Philosophy at Vanderbilt offers a wide range of courses relating philosophy to various dimensions of human concern. The department also emphasizes those philosophers and movements that have had significant, forming effect in Western culture.

Program of Concentration in Philosophy

The program of concentration should be tailored to the needs and interests of the student. The following distribution of courses is required as part of the major. Logic: 102 or 202 (at least 3 hours); Ethics: 105, 238, or 239 (at least 3 hours); History of Philosophy: 210, 211, 212 (at least six hours). Any alterations must be approved by the director of undergraduate studies. We encourage all majors to work closely with their advisers to select courses that form a coherent whole. The student must take at least 30 hours in the major field of which at least 21 hours must be in courses beyond the 100 level.

Honors Program

The Honors Program offers opportunities for advanced study in philosophy, including independent research projects and/or enrollment in certain graduate seminars (with permission of the instructor). To be admitted to the program, the student must: (a) be a major in philosophy; (b) have a grade point average of 3.0 in all courses; (c) have a 3.5 grade point average in philosophy courses; and (d) develop a written proposal for advanced study in consultation with a philosophy faculty sponsor. Students who satisfy these requirements should meet with the director of undergraduate studies to review their programs, whereupon the director may nominate the students for honors work. Honors work typically begins in the junior year or in the first semester of the senior year. Students who successfully complete the program while maintaining the grade point averages of 3.0 generally, and 3.5 in the major, will receive honors in philosophy; students who do especially distinguished work will receive high honors.

Minor in Philosophy

The minor in philosophy consists of 18 hours, including at least 12 hours in courses beyond the 100 level. The minor program will be constructed so as to provide a broad grounding in philosophy and to complement the student's other studies. Each program must be approved by the director of undergraduate studies.

Starred course 100 or 100W or 105 or 115 or 115W is ordinarily taken prior to all other philosophy courses, except 102 and 202 (logic courses), 244 (philosophy of science), and 240 (aesthetics).

★100, 100W. Introduction to Philosophy. An introduction to the basic problems of philosophy based upon readings in the works of selected leading philosophers. FALL, SPRING. [3] Staff.

102. General Logic. A study of the uses of language, definition, informal fallacies, the theory of the syllogism, the basic operations of modern symbolic logic, and selected issues in inductive logic and scientific method. Emphasis is placed on the ambiguities and pitfalls of ordinary usage and on techniques for translating ordinary arguments into formal logic. FALL, SPRING. [3] Staff.

103. Introduction to Asian Philosophy. Philosophical thought of Asian origin, especially India and China, from ancient times to the present, theoretical and practical concerns. SPRING. [3] Faber.

★105. Introduction to Ethics. A study of theories of the good life and of the nature of virtue. Readings in major texts and discussion of selected problems. FALL, SPRING. [3] Lachs.

108. Introduction to Medical Ethics. Moral issues in the practice of medicine, biomedical research, policies and regulations related to health care. FALL. [3] McIntire.

★115F. First-Year Writing Seminar. SPRING, FALL. [3]

120. The Meaning of Life. Accounts of life's meaning. The relations between ways of living, happiness, and the fact of death. The individual's role in giving meaning to life. Readings from Mill, Tolstoy, Kierkegaard, and several contemporary thinkers. SPRING. [3] (Not currently offered)

202. Formal Logic and Its Applications. A self-contained course designed to convey an understanding of the concepts of modern formal logic, to develop convenient techniques of formal reasoning, and to make some applications of them in one or more of the following: psychology, linguistics, structuralist studies, information and computer sciences, and the foundations of mathematics. Philosophy 102 is not required. FALL. [3] Talisse.

210. Ancient Philosophy. An examination of the major Greek and Roman philosophers with emphasis on the works of Plato and Aristotle. FALL. [3] Staff.

211. Medieval Philosophy. Comparative study of key figures in Islamic, Jewish, and Christian philosophy as they struggle with the philosophy of logic, metaphysics, language, culture, politics, ethics, and nature. SPRING. [3] Dobbs-Weinstein, Goodman.

212. Modern Philosophy. An examination of the major philosophers of modern Europe from Descartes and Spinoza through Locke, Berkeley, Hume, and Kant. SPRING. [3] Staff.

213. Contemporary Philosophy. An examination of selected problems treated in recent philosophical literature such as meaning, perception, knowledge, truth, and freedom. Readings from the Anglo American analytical and the phenomenological traditions. [3] (Not currently offered)

217. Metaphysics. Selected problems in metaphysics such as ultimate explanation, meaning of existence, time and eternity, freedom and determinism, and science and religion. FALL. [3] Staff.

218. Hellenistic and Late Ancient Philosophy. Philosophical ideas of Stoics, Cynics, Epicureans, skeptics, Peripatetics, Neoplatonists, and early monotheist thinkers such as Philo, Origen, and Philoponus. SPRING. [3] Goodman.

220. Immanuel Kant. Kant's revolutionary critique of the foundations of human knowledge, moral obligation, and religious faith, with readings from his three Critiques and lesser works. [3] (Not currently offered)

222. American Philosophy. A study of the works of selected American philosophers from the colonial period to the present. FALL. [3] Stuhr.

224. Existential Philosophy. A study of two or three existential philosophers and selected problems that arise in relation to their thought. [3] Medina. (Not currently offered)

226. Phenomenology. Selected readings from such thinkers as Husserl, Sartre, and Merleau-Ponty on the structures of experience, the sources and limits of knowledge, mind, and body, interpersonal relations, and the meaning of freedom. [3] (Not currently offered)

228. Nineteenth-Century Philosophy. A study of selected themes and writings fr om nineteenth-century European philosophers. [3] (Not currently offered)

231. Philosophy of History. Focus on alternative conceptions of time and history in Aristotle, Augustine, Kant, Hegel, Heidegger, and Benjamin. FALL. [3] Dobbs-Weinstein.

234. Philosophy of Education. Analysis of educational concepts. Educational implications of theories of knowledge and theories of the individual. Emphasis on higher education. FALL. [3] Hodges.

235. Gender and Sexuality. Recent theories of the relation between sex, gender, and sexuality. Construction of gender ed identities, and their r elation to embodiment, gender politics, ethics and epistemology. FALL. [3] Staff.

238. Contemporary Ethical Theory. A study of theories about the cognitive foundations of ethical discourses. Prerequisite: 105. [3] (Not currently offered)

239. Moral Pr oblems. A discussion of specific moral pr oblems such as the justification of abortion and euthanasia. Moral theories such as utilitarianism will be discussed, but the emphasis will be on their r elevance to the solution of moral pr oblems. Prerequisite: 105. [3] (Not currently offered)

240. History of Aesthetics. History of philosophy of ar t, aesthetic experience, cr eativity, criticism, and related concepts. FALL. [3] Neufeld.

241. Moder nistic Aesthetics. Abstraction, nontraditional media, mixed media, new media, changes in artistic institutions, and the death of art. SPRING. [3] Horowitz.

242. Philosophy of Religion. A study of various pr oblems concer ning r eligious experiences; ideas about religion and divinity. FALL. [3] Staff.

243. Philosophy of Film. Challenges posed by film for ms to traditional aesthetics and the novel philosophical approaches created to deal with them. Topics include the nature of the film image, film and experiential time, cinematic genres, the problem of mass art, and feminist critiques of spectatorship. Weekly screenings. FALL. [3] Horowitz.

244. Philosophy and the Natural Sciences. Philosophical issues in the methodology, conceptual str ucture, patter ns of explanation, historical development, cultural impact, and metaphysical and ethical implications of the natural sciences. Pr erequisite: satisfaction of the Basic Science requirement. SPRING. [3] Staff.

245. Humanity, Evolution, and God. The impact of the idea of evolution on our conception of personhood. Theistic and non-theistic appr oaches to philosophical anthr opology, ethics and society, the theor y of knowledge, the mind-body pr oblem, and r elations with the environment and other species. FALL. [3] Goodman.

246. Philosophy of Language. Philosophical problems in the methodology of linguistics, relations between thought and language, theories of meaning and symbolism, the natur e of metaphor, the philosophical implications of theories of language acquisition. F ALL. [3] Medina.

247. Kierkegaard and Nietzsche. A study of selected works. FALL. [3] Wood.

248. Philosophy and Literature. Philosophical topics in novels or poetr y. Examples include: meaning of life, linguistic meaning, good and evil, aesthetic value, and human fr eedom. [3] Staff. (Not currently offered)

249. Philosophy of Music. Music and meaning, language, emotion, expr ession, interpretation, per formance, the body , and politics. No musical backgr ound is r equired. FALL. [3] Neufeld.

A&S

251. Topics in Aesthetics. Philosophy of art and aesthetic theory. [3] Horowitz, Neufeld. (Not currently offered)

252. Political and Social Philosophy. A study of selected social and political theories. Critical analysis of the relevant works of Hegel, Marx, Lenin, Mill, Nietzsche, Gentile, and others. FALL. [3] Talisse.

253. Philosophy and Economic Policies. A study of individual freedom, property rights, and welfare in their implications for a free market, private ownership of means of production, taxation, and expenditure for public goods. Readings from selected philosophers and economists—e.g., Locke, Hegel, Rawls, Nozick, Marx, Hayek, Friedman, Galbraith. [3] (Not currently offered)

254. Modern Philosophies of Law. Contemporary theories of legal validity, legal liability (criminal and civil), and contractual obligation with special attention to the controversy between legal positivism and "natural law" theories and the assessment of contemporary economic analyses of legal rights. FALL. [3] Davis.

256. Philosophy of Mind. Selected problems in the philosophy of mind. Relation between mind and body, the nature of consciousness, the problem of other minds, the status of self-knowledge, and the possibility of machine and other intelligence. Connections with empirical investigations in related cognitive disciplines. SPRING. [3] Staff.

257. Early Modern Political Philosophy. A study of competing accounts of the best form of political association, which differ from Locke, through the works of Machiavelli, Hobbes, Spinoza, and Rousseau. [3] Dobbs-Weinstein. (Not currently offered)

258. Contemporary Political Philosophy. The emergence of post-liberal political thought. The politics of recognition, the specificity of political action, transformations in political theory as a consequence of gender, race, and environmental issues. These will be studied through the examination of the writings of Hannah Arendt, Cornelius Castoriadis, Heidegger, Derrida, and Habermas. SPRING. [3] Staff.

260. Twentieth-Century Continental Philosophy. A study of selected twentieth-century philosophers such as Derrida, Foucault, and Lacan. SPRING. [3] Wood.

261. Jewish Philosophy. Introduction to Jewish philosophy and the philosophical achievement of such major figures as Philo, Saadiah, Maimonides, Levinas, and selected contemporary thinkers. Goodman. (Not currently offered)

262. Islamic Philosophy. Introduction to the major figures of Islamic philosophy including Kindi, Razi, Farabi, Avicenna, and Ibn Khaldun. [3] Goodman. (Not currently offered)

263. French Feminism. Introduction to the tradition of French feminist philosophy, including relevant works by Beauvoir, Cixous, Irigaray, Kristeva, LeDoeuff, Kofmann, and others. [3] Perpich. (Not currently offered)

270. Ethics and Medicine. Selected ethical issues raised by clinical practice, medical theories, and biomedical research and technology. No credit for students who have completed 115F, section 13. Prerequisite: 105. SPRING. [3] Bliton.

271. Ethics and Business. Moral problems in the business world including irresponsible marketing, conflict between profit and social conscience, resource use, public regulation of business, and the value of competition. Prerequisite: 105. [3] Lachs. (Not currently offered)

272. Ethics and Law. Moral problems in the practice of law including conflicts of interest, confidentiality, limits of advocacy, and the obligations of lawyers to clients, courts, and the public. Prerequisite: 105. SPRING. [3] Davis.

289a–289b. Independent Readings. Designed for majors not in the Honors Program. Consists of a project to be carried out under the supervision of a member of the department. All projects must be appr oved by the depar tment. FALL, SPRING. [Variable credit: 1–6 each semester, not to exceed 12 over a four-semester period] Staff.

294a–294b. Selected Topics. Students may enroll in more than one section of this seminar each semester. [3 each seminar, not to exceed 12 over a four-semester period] Staff.

295. Independent Study . Designed for students in the Honors Pr ogram in philosophy . Consists of guided r eading, periodic r eports, and work on honors thesis. F ALL, SPRING. [Variable credit: 3–6 each semester, not to exceed 18 over a three-semester period] Staff.

301. Teaching and Research Methods. FALL. [2] Staff.

302. Philosophical Readings in French. FALL. [3] Staff.

303. Philosophical Readings in German. FALL. [3] Staff.

304. Philosophical Readings in Classical Languages (Latin or Gr eek). FALL, SPRING. [3] Staff.

310. Seminar: Theory of Knowledge. [3]

312. Seminar: Plato. [3]

314. Seminar in Medieval Philosophy. [3]

318. Seminar: Contemporary Naturalism. [3]

320. Seminar: Metaphysics. [3]

325. Seminar: Husserl. [3]

326. Seminar: Heidegger. [3]

327. Seminar: Heidegger after *Being and Time.* [3]

328. Seminar: Philosophy of Religion. [3]

329. Readings in Contemporary Continental Philosophy. [3]

330. Seminar in Philosophy. [3]

332. Seminar: History of Philosophy. [3]

335. Philosophy and Medicine: I. [3]

336. Philosophy and Medicine: II. [3]

340. Readings in Philosophy. [Variable credit: 1–3]

344. Philosophical Readings in Logic. [3]

345. Hermeneutics. [3]

350. Readings in Philosophy. Selected major philosophical works or a selected bibliography about a major philosophical problem. Appropriate reports and examination. FALL. [3] Staff.

351. History of Philosophy. FALL, SPRING. [3] Staff.

352. Topics in Philosophy. FALL, SPRING. [3] Staff.

353. Figures in Philosophy. FALL, SPRING. [3] Staff.

361. Ancient Philosophy. FALL, SPRING. [3] Staff.

362. Medieval Philosophy. FALL. [3] Staff.

363. Modern Philosophy. FALL, SPRING. [3] Staff.

364. Nineteenth-Century Philosophy. FALL, SPRING. [3] Staff.

365. Twentieth-Century Philosophy. FALL, SPRING. [3] Staff.

Physics and Astronomy

CHAIR Robert J. Scherrer
DIRECTOR OF UNDERGRADUATE STUDIES David A. Weintraub
DIRECTOR OF GRADUATE STUDIES Senta V. Greene
PROFESSORS EMERITI John Paul Barach, Douglas S. Hall, Arnold M. Heiser, E. A. Jones, P. Galen Lenhert, C. E. Roos, Medford S. Webster
PROFESSORS Royal G. Albridge, Charles A. Brau, Frank E. Carroll Jr., Walter J. Chazin, Charles W. Coffey, Louis DeFelice, David J. Ernst, Leonard C. Feldman, Daniel M. Fleetwood, John C. Gore, Senta V. Greene, Richard F. Haglund Jr., Dennis G. Hall, Joseph H. Hamilton, Charles F. Maguire, Volker E. Oberacker, Sokrates T. Pantelides, James Patton, David W. Piston, Ronald R. Price, Akunuri V. Ramayya, Robert J. Scherrer, Paul D. Sheldon, Norman H. Tolk, A. Sait Umar, Thomas J. Weiler, David A. Weintraub, Robert A. Weller, John P. Wikswo Jr.
DISTINGUISHED RESEARCH PROFESSOR C. Robert O'Dell
ADJUNCT PROFESSORS Arnold Burger, Donald A. Gunter, Pradip K. Roy
ADJOINT PROFESSORS W. Ralph Butler, Antonio Cricenti, Amand Faessler, Michael V. Glazov, Donald D. Henderson, O. Wayne Holland, Charles H. McGruder, Stephen Pennycook
ASSOCIATE PROFESSORS Steven E. Csorna, Tobias Hertel, Will E. Johns, Thomas W. Kephart, Hassane Mehaourab, Sandra J. Rosenthal
ADJOINT ASSOCIATE PROFESSOR Richard Mu
ASSISTANT PROFESSORS James Dickerson, Dennis Duggan, Daniel F. Gochberg, M. Shane Hutson, Robert Knop, Keivan G. Stassun, Kalman Varga, Julia Velkovska
SENIOR LECTURER Ken Schriver

PAS fundamental sciences, physics and astronomy continue to be driving intellectual forces in expanding our understanding of the universe, in discovering the scientific basis for new technologies, and in applying these technologies to research. In keeping with this crucial role, the Department of Physics and Astronomy offers courses dealing with both the cultural and intellectual aspects of the disciplines; a broadly based major program flexible enough to serve as preparation for graduate study in physics, applied physics, medical physics, astronomy or astrophysics, professional study in another area, or technical employment; and minor programs for students desiring to combine physics or astronomy with other majors. An honors program is available for qualified departmental majors.

A distinguishing feature of the Vanderbilt undergraduate curriculum is the close coupling between teaching and research. At Vanderbilt, active research groups are studying the physics of elementary particles; nuclear

structure and heavy-ion reactions; nonlinear interactions of lasers with materials at ultrafast time scales; the behavior of electrons, atoms, molecules, and photons near surfaces; the electric and magnetic properties of living systems; the structure and dynamics of biopolymers; unusual stars, young stars; equations of state in brown and white dwarfs; and cosmology. Most professors are engaged in research, and undergraduate students can participate in this research informally or through independent study or summer work.

The Society of Physics Students arranges informal discussions and field trips to scientific laboratories at other institutions.

Majors in the Department of Physics and Astronomy

The departmental major provides a thorough grounding in the core areas of physics. It is suitable either as a preparation for careers in science and engineering, or as a springboard for applying technical knowledge in such fields as business, medicine, law, public policy, and education. The major in the Department of Physics and Astronomy consists of (1) a two-semester, calculus-based introductory physics course (Physics 116a–116b, 117a–117b, or 121a–121b); students with advanced placement in physics may choose to substitute Physics 137 for Physics 121a; exceptionally well-qualified students should discuss their first-year program with the director of undergraduate studies; (2) a 19-hour core sequence, which consists of five courses covering the major subdisciplines of physics at an intermediate level and one semester each of the astronomy and physics seminars (Astronomy 250, Physics 250); and (3) 6 hours of electives in physics or astronomy. The core intermediate-level courses are: quantum physics and applications (Physics 225a–225b); thermal and statistical physics (Physics 223); intermediate mechanics (Physics 227a); and electricity and magnetism (Physics 229a).

The electives required by the major may be satisfied by any combination of courses offered by the department that are at the 200 level or above, with the exception of the seminar courses Physics 250ab and Astronomy 250ab (one hour of each is already required for the major). Other courses may count as an elective, such as courses offered by the engineering school (or other departments and schools) that are particularly relevant, such as a course in health physics, optics, or materials science. Such exceptions must be approved by the department's Undergraduate Program Committee. Other courses, such as 100-level courses in the physics department or additional hours of the Physics or Astronomy seminar (250) will be considered with sufficient justification. The purpose of the above policy is to allow relevant courses to count without having to specify them in advance, since it is expected that the relevant courses offered by other departments and schools will change and it is not practical to attempt to maintain a list of approved electives. Majors should seek approval of an elective from their major adviser prior to their taking the course and, if applicable, from the department's Undergraduate Program Committee.

Students with specific educational or professional objectives in the sciences or engineering may wish to augment the major by taking additional courses to prepare for graduate study or employment in physics, astronomy and astrophysics, applied physics, or medical physics.

Licensure for Teaching. Candidates for teacher licensure in physics at the secondary level may qualify by taking the basic physics major together with the requisite education courses described in the chapter on Licensure for Teaching in the Peabody College section of the catalog.

Honors Program

A student majoring in the Department of Physics and Astronomy may apply for admission to an honors program that allows the student to engage in independent study under the guidance of a faculty member, usually in an area related to an ongoing research program in the department. Admission to the Honors Program is granted only to students who have attained a departmental GPA and overall GPA of at least 3.000. The requirements for graduation with honors in physics or in astronomy are: at least a *B* average both in the department and overall; at least 10 credit hours in Physics 291, Physics 296, and up to 3 hours (counted toward the 10) in a lecture course numbered above 250; a senior thesis of high merit; and high attainment on an oral honors examination given near the end of the senior year.

Departmental Minors

The physics or astronomy minor is suitable for students who wish to supplement a related discipline or simply have a general interest in the field. Note that the Independent and Directed Study portion of the physics minor is not a requirement but may count toward the minor under certain circumstances. Seek departmental approval before enrolling in either of these classes.

Minor in Physics	
Introductory physics sequence (116a–b, 117a–b, or 121a–b)	8–10
Physics 225a	3–4
Two of Physics 221, 223, 225b, 227a, 229a, a three-hour one semester directed study course (289)	6–7
Physics 250	1
Total hours	18–22
Minor in Astronomy	
Astronomy 102 and 103, or 205 and 103	4
Four other astronomy courses, one of which may be a three-hour directed study (ASTR 289)	12
Two semesters of ASTR 250	2
Total hours	18

Physics

Introductory Courses

Introductory, calculus-based physics is offered at several different levels, each with the appropriate laboratory. Only one of 116a/117a/121a and one of 116b/117b/121b may be taken for credit. Courses in these sequences can be interchanged if scheduling conflicts occur. Physics 116a–116b is taught Spring–Fall and is intended primarily for engineering students. The 117a–117b sequence is taught Fall–Spring and is designed primarily for premedical and predental students. Physics 121a–121b is intended for students planning to major in physics or pursue research-oriented careers in science, engineering, or mathematics. Prospective majors should begin their study of physics in the fall semester of their freshman year, although with careful planning it is possible to complete the physics major with a later start.

Physics 105 and 110 are intended for students without strong backgrounds in mathematics or science who have a general interest in the subject. Neither 105 nor 110 is recommended as preparation for further study in a natural science; neither is appropriate for engineering, premedical, or predental students, and neither counts toward the physics major or minor.

105. Conceptual Physics. Introduction to fundamental concepts that provide an integrated view of the physical world at all length scales. Selected topics from classical physics and major advances in the twentieth century, including particle, nuclear, condensed-matter physics, and cosmology. No credit towards the major. Ordinarily accompanied by 106. Credit not given for both 105 and 110. FALL. [3] Pantelides.

106. Conceptual Physics Laboratory. Laboratory to accompany 105. Corequisite: 105. Credit not given for both 106 and 111. One three-hour laboratory per week. FALL. [1] Schriver.

110. Introductory Physics. Primarily intended for those who do not expect to major in science. Topics selected from motion, forces, conservation laws, light, heat, electricity, quantum theory, the atomic nucleus, elementary particles, properties of materials, special relativity, and Big Bang cosmology. Ordinarily accompanied by 111. Credit not given for both 110 and 105. SPRING. [3] Hamilton.

111. Introductory Physics Laboratory. Laboratory to accompany 110. Corequisite: 110. One three-hour physics laboratory per week. Credit not given for both 111 and 106. SPRING. [1] Schriver.

115F. First-Year Writing Seminar. [3] Gore, Ramayya.

116a–116b. General Physics. Introduction to general physics and its applications, designed primarily for engineering students, with engineering examples. 116a: mechanics, heat, sound. 116b: electricity and magnetism, optics, modern physics. All students registering for Physics 116a–116b must concurrently register for Physics 118a–118b. Corequisite: introductory calculus. SPRING, FALL. [3–3] Staff.

117a–117b. General Physics. Introduction to general physics and its applications. 117a: mechanics, heat, sound. 117b: electricity and magnetism, optics, moder n physics. Accompanied by one three-hour laboratory per week. All students registering for Physics 117a–117b must concurrently register for Physics 119a–119b. Corequisite: introductory calculus. FALL, SPRING. [3–3] Staff.

118a–118b. General Physics Laboratory . Introductory physics laboratory with topics to accompany Physics 116a–116b. All students registering for Physics 118a–118b must concurrently register for Physics 116a–116b. No credit given for both 118a and 119a or 118b and 119b. [1–1]

119a–119b. General Physics Laboratory. Introductory physics lab with topics to accompany Physics 117a–117b. All students registering for Physics 119a–119b must concurrently register for Physics 117a–117b . Credit not given for both 118a and 119a or 118b and 119b. [1–1]

121a–121b. Principles of Physics. Designed for first-year students who plan to major in physics or in related disciplines. Dynamics, thermodynamics, electromagnetism, wave motion, optics, atomic and nuclear physics. Corequisite: Mathematics 150a–150b or higher numbered calculus course. Three lectures and a one-hour discussion period on modern topics of interest. One three-hour laboratory per week. FALL, SPRING. [5–5] Dickerson, Hutson.

137. Topics in Modern Physics. Topics vary and may include biological physics, cosmology, nanophysics, nuclear physics, particle physics, relativity. Enrollment limited to first-year students with advanced placement physics test scores of 4 or 5 (or the equivalent) and the permission of the director of undergraduate studies. FALL. [3] Tolk, Scherrer, Johns.

Undergraduate Core Curriculum Courses

The intermediate-level courses cover the major subdisciplines of classical and modern physics. They have as prerequisites any of the one-year introductory calculus-based physics sequences and one year of calculus.

221. Classical and Modern Optics. Geometrical optics: reflection, refraction, ray tracing, aberrations, interference. Physical optics: wave theory, absorption, dispersion, diffraction, polarization. Properties of light from lasers and synchrotron sources; photodetectors; optical technology. SPRING. [3] Dickerson.

223. Thermal and Statistical Physics. Temperature, work, heat, and the first law of thermodynamics. Entropy and the second law of thermodynamics. Kinetic theory of gases with applications to ideal gases and electromagnetic radiation. FALL. [3] Tolk.

225a–225b. Introduction to Quantum Physics and Applications. A survey of modern physics and applications based on elementary quantum mechanics. 225a: atomic and molecular structure, interaction of light with atoms and molecules, spectroscopy. 225b: condensed-matter physics, biophysics, special theory of relativity, nuclear and particle physics. One three-hour laboratory per week. Recommended: Mathematics 198. FALL, SPRING. [4–4] Hertel, Kephart.

227a–227b. Intermediate Classical Mechanics. Vector algebra and coordinate transformations; orbital and rotational angular momentum; gravitational and Coulomb central-force problems; free, forced, damped and nonlinear harmonic oscillations; chaos in simple mechanical systems, normal modes; rigid-body motion; special relativity. Prerequisite: Mathematics 170a–b or equivalent. FALL, SPRING. [3–3] Brau, Sheldon.

229a–229b. Electricity, Magnetism, and Electrodynamics. 229a: electrostatic fields and potentials; Gauss's law; electrical properties of insulators, semiconductors and metals; the Lorenz force; magnetic fields and forces; electro-magnetic induction, Maxwell's equations and electromagnetic waves. 229b: electromagnetic waves in dielectrics and conductors; electromagnetic radiation in waveguide structures; relativistic electrodynamics; magnetism as a relativistic phenomenon. Prerequisite for 229a: three semesters of calculus; corequisite for 229b: differential equations. SPRING, FALL. [3–3] Tolk, Kephart.

231. Experimental Methods. Experimental methodology and design, probability and statistics, error analysis, reporting of results. [1] (Not currently offered)

Advanced Undergraduate Courses

With the exception of Physics 238, these courses are intended for physics or physics-astronomy majors in their senior year and provide material supporting independent study or honors projects in physics. General prerequisite or corequisite: 225a–225b, 227a, 229a–229b, and Mathematics 175. Graduate students and undergraduates not in the Honors Program may enroll with consent of the instructor.

238. Interconnections of Arts and Science: Goethe and the Natural World. (Also listed as German 238) Mutual influences between the arts and science, as exemplified in Goethe's *Faust* and *Elective Infinities*. Readings in English, with option of German readings for German studies majors. Focal points: empirical investigation, philosophical interrogation, and scientific explanation. Prerequisite: completion of two lab science courses. [3] Haglund, McCarthy. (Not currently offered)

239a–239b. Advanced Physics Laboratory. Laboratory work in more advanced techniques or design and construction of new physics teaching or research experiments. Prerequisite: 225a–225b. [Variable credit: 1–3 each semester, variable total credit 3–6] (Not currently offered)

A&S

240. Selected Topics. [Variable credit: 1–3 each semester]

245. Computational Physics. Programming techniques in physics suitable for personal computers: classical scattering, one-dimensional barrier tunneling, Laplace's equation, static and time-dependent Schrödinger's equation, hydrodynamics, and diffusion. Recommended: Computer Science 120. FALL. [3] Umar. Maguire.

250. Undergraduate Seminar. Directed readings and discussions of current topics in physics. Normally limited to juniors and seniors with preference to majors. Prerequisite: one semester of calculus-based physics. May be taken for repeat credit. FALL, SPRING. [1–1] Andrews, Greene.

251a–251b. Introductory Quantum Mechanics. 251a: wave-particle duality, indeterminacy, superposition, the Schrödinger equation, angular momentum, the hydrogen atom, and time-independent perturbation theory. 251b: spin and indistinguishability, time-dependent perturbation theory, matrix theory, scattering, applications to atomic physics, condensed matter physics, and astrophysics. Prerequisite: 225a and 227a. Recommended: differential equations. FALL, SPRING. [3] Greene, Hertel.

254. Physics of Condensed Matter. Crystal structure and diffraction; phonons and lattice vibrations; free-electron theory of metals; elementary band theory of solids; semiconductors; optical properties of insulators; and applications to solid-state devices, magnetism, and superconductivity. Prerequisite: 223, 225a, and 227. SPRING. [3] Feldman.

255. Introduction to Particle Physics. Weak, strong, and electromagnetic forces as evidenced by the interactions of elementary particles. Classification of particles and experimental techniques. [3] (Not currently offered)

258. Physics of Magnetism. Magnetism in condensed matter; properties of isolated and interacting magnetic moments; exchange interactions and spin wave excitations; giant and colossal magnetoresistance; application to magnetic memory and spintronics. [3] Tolk. (Not currently offered)

274. Principles and Applications of BioMicroElectroMechanical Systems. Principles, design, fabrication, and application of micro- and nano-devices to instrument and control biological molecules, living cells, and small organisms. Development of microfabricated

systems, lab-on-a-chip, and micr o- and nano-biosensors. T opical discussions fr om the research literature. [3] Staff. (Not currently offered)

289a–289b. Directed Study. Individual research or r eadings under close faculty supervision. Duplication of regular course work is to be avoided. No more than a total of 6 hours in 289 and 291 may count towar d fulfilling the r equirements for a physics major . FALL, SPRING, SUMMER. [Variable credit: 1–5 each semester]

291a–291b. Independent Study. Introduction to independent research and scholarly investigation initiated by the student and supervised by faculty. No more than a total of 6 hours in 289 and 291 may be offered for credit toward the major. FALL, SPRING, SUMMER. [Variable credit: 1–6, not to exceed a total of 10]

296a–296b. Honors Resear ch and Senior Thesis. Independent experimental and/or theoretical investigations of basic problems in physics under faculty supervision, culminating in a written thesis submitted to the faculty . Requir ed for honors in physics. Open to selected majors judged by the depar tment to be capable of independent investigations. F ALL, SPRING, SUMMER. [Variable credit: 1–6, not to exceed a total of 10]

Medical and Health Physics Courses

224. Physical Analysis of Biological Systems. Applications of physics to human biology, including biomechanics, exponential gr owth and decay , statistical mechanics and mass transport, bioelectricity and biomagnetism. Pr erequisite: one year of calculus. Course in biology recommended. [3] Staff. (Not currently offered)

228. Physics of Medical Imaging. Applications of physics to medicine, including signal analysis, image processing, atoms and light, X-rays, nuclear medicine, and magnetic resonance imaging. Prerequisite: one year of calculus. FALL. [3] Peterson.

243. Health Physics . Theory and instrumentation in health physics and radiological physics. Radiation shielding design, methods of external and internal dosimetry, and radiation regulatory issues. Prerequisite: 153 or 225a and one year of calculus. FALL. [3] Stabin.

248. Radiation Biophysics. Response of mammalian cells and systems to ionizing radiation. Acute radiation syndr omes, car cinogenesis, genetic ef fects, and radiobiological basis of radiotherapy. Prerequisite: 224 and Biological Sciences 110a, 111a. FALL. [2] Freeman.

262. Medical Imaging, Lasers, and Energy-Tissue Interactions. Survey of medical technologies, including X-ray, ultrasound, C-T scan, MRI, radiation therapy, and laser medicine and sur gery. Each technology will be pr esented in ter ms of the fundamental physics and scientific discovery, research and development, and the application to medical car e. The historical, sociological, economic, and ethical impacts of the medical technology will be addressed. Pr erequisite: one year of calculus-based physics and Biological Sciences 110a–110b, 111a–111b. [3] (Not currently offered)

285. Radiation Detectors and Measurements. Basic physics principles and applications of radiation detecting instruments, with laborator y exercises. Techniques and instrumentation for nuclear radiation detection and measur ements as they relate to health physics (radiation safety) and nuclear physics. SPRING. [4] Stabin.

Graduate Courses

300. Seminar. [1]

301a. Medical Physics Seminar. Radiotherapy treatment techniques and current methodologies in clinical therapy physics. Prerequisite: 224. [1] Staff.

301b. Medical Physics Seminar. Topics in medical imaging, techniques, and applications. Prerequisite: 226a. [1] Staff.

303. Experimental Nuclear Physics. [3]

304. Radiation Interactions and Dosimetry. [3]

305. Particle and Continuum Mechanics. [3]

306. Biomolecular Physics. [3]

311. Clinical Therapy Physics I. [3]

312. Clinical Therapy Physics II. [2]

313. Clinical Diagnostic Physics. [3]

314. Laboratory in Clinical Therapy Physics. [2]

315. Laboratory in Clinical Diagnostics Physics. [2]

329a–329b. Advanced Electrodynamics. [3–3]

330a–330b. Quantum Mechanics. [3–3]

333a–333b–333c–333d. Theoretical Physics Seminar. [1–1–1–1]

341. Statistical Mechanics. [3]

350. Selected Topics in Theoretical Physics. [3]

352a–352b–352c–352d. Special Topics in Experimental Physics. [Variable credit: 1–3]

354. Condensed Matter Theory. [3]

356. Biophysical Electrodynamics. FALL. [3] Wikswo.

357b. Atomic and Molecular Physics. [3]

358a–358b. Interaction of Light with Matter. [3–3]

359a–359b. Surface Structure and Dynamics. [3–3]

360b. General Relativity and Cosmology. [3]

365. Many-Particle Quantum Theory. [3]

370a–370b. Quantum Field Theory. [3–3]

391a. Medical Physics Practicum: Therapy. [6]

391b. Medical Physics Practicum: Diagnostic. [6]

Astronomy

Introductory Courses

102. Introductory Astronomy: Stars and Galaxies. Observed and physical pr operties of stars; supernova, neutron stars, black holes; our Milky W ay galaxy and other galaxies; cosmology and the Big Bang; dark matter and dark ener gy. Recommended but not r equired: Mathematics 133 or equivalent. No credit for students who have completed Astronomy 205. FALL, SPRING. [3] Knop, Stassun, Weintraub.

103. Introductory Astronomy Laboratory. The constellations; the observed motion of the stars; orbits of planets; telescopic observations of planets; telescope observations of stars, double stars, star clusters, and nebulae. Laboratory to accompany 102 or 205. Corequisite: 102 or 205. FALL, SPRING. [1] Knop, Stassun, Weintraub.

115F. First-Year Writing Seminar. SPRING. [3]

130. Astronomy through the Ages. Contributions by early civilizations to astronomy, Greek astronomy, the Copernican revolution, the birth of astrophysics, space age astronomy. [3] (Not currently offered)

201. The Solar System. The sky, ancient astronomy, orbits and gravity; seasons, the calendar, phases and motions of the moon; tides, eclipses, light and telescopes, the terrestrial planets, the giant planets and their moons and rings, asteroids, comets, meteorites, extrasolar planets, formation of planetary systems, the sun. Recommended: Mathematics 133 or equivalent. SPRING. [3] James.

203. Theories of the Universe. The interdependence of cosmological theories and religious teachings from the eighth century BCE to the end of the seventeenth century. Examines scientific works and religious texts, including those of Aristotle, Thomas Aquinas, Copernicus, Luther, Galileo, and Newton. FALL. [3] Weintraub.

205. Principles of Astrophysics. Origin and evolution of matter. The tools and methods of astrophysics, including light and telescopes; cosmology and the Big Bang; galaxies and star formation; physics of stars, including nucleosynthesis and stellar death; the solar system and the search for other worlds. No credit for students who have completed 102. Prerequisite: Physics 116a or 117a, or 121a and one semester of college calculus. [3] Stassun. (Not currently offered)

Intermediate Courses

222. Observational Astronomy Laboratory. Principles and techniques including accurate measurement of astronomical distances, data handling and error analysis, computer programming. Four to six experiments such as determination of Earth's radius, distance to the Moon, refraction by the atmosphere, distance to a star cluster. Scheduled evening sessions at Dyer Observatory. Prerequisite: one year of calculus-based physics. Mathematics 194 or equivalent strongly recommended. FALL. [3] Stassun.

223. Binary Stars. Visual, eclipsing, and spectroscopic binaries; techniques for solving their orbits. Extended atmospheres, circumstellar matter, mass transfer, X-ray and radio emission, and orbital period changes in binaries. Evolution of close binaries. Prerequisite: 102. [3] (Not currently offered)

250. Undergraduate Seminar. Directed readings and discussions of current topics in astronomy. Normally limited to juniors and seniors with preference to majors. Prerequisite: 102 or one semester of calculus-based physics. May be taken for repeat credit. FALL, SPRING. [1–1] Staff.

252. Stellar Astrophysics. Absorption and emission of radiation by the sun and stars. Principles of stellar structure and stellar evolution from formation to death. Prerequisite: Physics 223 and 225a; Mathematics 198. [3] (Not currently offered)

253. Galactic Astrophysics. Interstellar matter and gaseous nebulae, the structure and evolution of normal galaxies, active galactic nuclei and quasars, and observational cosmology. Prerequisite: Physics 225a, Mathematics 198. SPRING. [3]

260. Introductory General Relativity and Cosmology . Introduction to Einstein's theory which describes gravity as a curvature of spacetime. Tensor analysis, special relativity, differential geometry, spacetime curvature, the Einstein field equations, the Schwarzschild metric for stars and black holes, and the Friedmann-Robertson-Walker metric for cosmology. Designed for undergraduates in the Department of Physics and Astronomy; graduate students should take Physics 360a–360b. Prerequisite: Physics 227a, 229a. Recommended Physics 227b. [3] Knop. (Not currently offered)

289a–289b. Directed Study. Individual research or readings in astronomy under close faculty supervision. Duplication of regular course work is to be avoided. No more than a total of 6 hours in 289 and 291 may count toward fulfilling of the requirements for a physics major. FALL, SPRING, SUMMER. [Variable credit: 1–5 each semester]

291a–291b. Independent Study. Introduction to independent research and scholarly investigation in astronomy initiated by the student and supervised by faculty. No more than a total of 6 hours in 289 and 291 may be offered for credit toward the major. FALL, SPRING, SUMMER. [Variable credit: 1–6, not to exceed a total of 10]

296a–296b. Honors Research and Senior Thesis. Independent experimental and/or theoretical investigations of basic problems in astronomy under faculty supervision, culminating in a written thesis submitted to the faculty . Required for honors in astronomy. Open to selected majors judged by the department to be capable of independent investigations. FALL, SPRING, SUMMER. [Variable credit: 1–6, not to exceed a total of 10]

A&S

Graduate Courses

300a–300b. Astronomy Seminar. [1–1] Staff.

307a–307c–307d. Topics in Astrophysics. [3–3–3]

311. Nebular Astrophysics. [3]

322. Methods in Observational and Computational Astronomy. FALL. [3] Stassun.

352. Stellar Astrophysics. SPRING. [3] Stassun.

Political Science

CHAIR C. Neal Tate
DIRECTOR OF UNDERGRADUATE STUDIES James Lee Ray
DIRECTOR OF GRADUATE STUDIES Stefanie A. Lindquist
PROFESSORS EMERITI Robert H. Birkby, Alex N. Dragnich, Erwin C. Hargrove, William C. Havard Jr., Richard A. Pride, Harry Howe Ransom, Derek J. Waller, Benjamin Walter
PROFESSORS William James Booth, Mark E. Brandon, John G. Geer, George J. Graham Jr., M. Donald Hancock, Bruce I. Oppenheimer, James Lee Ray, Mitchell A. Seligson, Carol M. Swain, C. Neal Tate
ADJUNCT PROFESSORS Klinton J. Alexander, Vaughn May, Roy Neel
ASSOCIATE PROFESSORS Florence Faucher-King, Marc J. Hetherington, Jonathan T. Hiskey, Stefanie A. Lindquist
ASSISTANT PROFESSORS Brooke A. Ackerly, Brett Benson, Katherine B. Carroll, Pamela C. Corley, Suzanne Globetti, Christian R. Grose, Michaela Mattes
SENIOR LECTURERS Eleanor B. Fleming, Katsiaryna Ivanova

☙ THE Department of Political Science is oriented toward both teaching and research and has multiple missions. First, it offers a balanced curriculum for undergraduates and graduate students to study the art and science of politics. Second, it offers training for students preparing to become professionals in political science and other fields. Third, it exists as a research faculty seeking new knowledge about government and politics.

Many members of the faculty have national reputations in their fields of scholarship. These research and teaching interests vary widely, from political leadership to the comparison of new and old democratic governments, issues of political economy, and ethical questions about politics.

Political science majors may participate in independent study, directed study, selected topics seminars, first-year seminars, the Honors Program, and internships. Average class size is close to thirty—small classes make personal contact with the faculty relatively easy. Students participate in the governance of the department through the Undergraduate Political Science Association, and may qualify for membership in Pi Sigma Alpha, the national political science honorary society.

Program of Concentration in Political Science

Students majoring in political science are required to complete a minimum of 30 hours of work, distributed as follows:

Political Science 100, 101, 102, 103, or 150	3
Political Theory (201, 202, 203, 204, 205, 206, 207, 208, 209, 253, 263, 270, 286)	3
Comparative Politics (210, 211, 213, 214, 215, 216, 217, 218, 219, 230, 231, 232, 233, 234, 236, 238, 239, 270, 284)	3
International Politics (211, 220, 221, 222, 224, 225, 226, 227, 228, 229, 235, 236, 270, 285)	3
American Government and Politics (240, 241, 242, 243, 244, 245, 247, 248, 253, 255, 260, 261a, 261b, 262, 270, 283)	3

Electives (Any 200-level course listed above; 270, 287, 288; up to 6 hours of 100-level courses, including 115F; up to 6 hours of 280b, 280c, 289a, 289b, 290a, 290b, 291a, 291b, 299a, 299b combined) 15

Minimum hours: 30

In meeting the above requirements, students desiring African American emphasis in a program of concentration should consider courses in the following group: 240, 255, 261a, 261b. They may also choose to elect the following courses at Fisk University: Political Science 406 (African Political Systems), 245 (Afro-American Political Thought), and 254 (Politics in the Black Community).

Graduate Courses. Qualified undergraduates may enroll in graduate courses with the consent of their adviser, the course instructor, and the Graduate School.

Honors Program

To enter the program, students must have completed all but 6 hours of the CPLE or AXLE requirements, and have a minimum GPA of 3.4. They must have exhibited to the department additional evidence of an ability to do independent work. Finally, they must be nominated by the director of undergraduate studies.

In addition to requirements set by the College of Arts and Science, the following requirements must be met:

1. 36 hours in Political Science, including 299a and 299b, as well as the requirements for the 30-hour major.
2. 3.5 grade point average in Political Science, and a 3.5 grade point average in courses that count toward honors in political science.
3. Any two political science seminars, either 200 or 300 level, during the junior and senior year, or PSCI 290a–290b, Directed Readings.
4. Completion of an honors thesis, under the direction of a faculty adviser. Students will enroll for Senior Honors Research (299a and 299b) during the semester(s) they work on the honors thesis. The thesis may consist of an extension of and elaboration on one paper, or an integration and extension of both papers written for the seminars. It may also build on work completed for the Directed Readings courses.
5. An oral examination on the honors thesis in the last semester of the senior year.

A three-member Honors Committee will be appointed to administer each student's program. Students should submit the name of a faculty adviser and the proposed honors program by the second semester of their junior year. The committee will decide whether to approve the honors program proposal, and administer the oral examination. *Successful candidates are awarded honors or high honors in their field, and this designation appears in the Commencement program and on their diplomas.*

Minors in Political Science

The Department of Political Science offers three minors, which are detailed below. Each consists of 18 hours (one introductory-level course and five upper-level courses). One of these options may be chosen:

Political Theory
103 3
Any five of the following:
201, 202, 203, 204, 205, 206, 207, 208, 209, 253, 263, 286 15

World Politics
A student may stress comparative politics or international politics or may mix the two in this minor.
101 or 102 3
Any five of the following:
Comparative Politics: 210, 211, 213, 214, 215, 216, 217, 218, 219, 230, 231, 232, 233, 234, 236, 238, 239, 284, Fisk Political Science 406
International Politics: 211, 220, 221, 222, 224, 225, 226, 227, 228, 229, 235, 236, 285 15

American Politics
100 or 150 3
Any five of the following: 204, 222, 240, 241, 242, 243, 244, 245, 247, 248, 253, 255, 260, 261a, 261b, 262, 283 15

Licensure for Teaching

Candidates for teacher licensure in political science at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

One of the starred courses 100, 101, 102, 103, or 150 is prerequisite for all other political science courses.

★100. Introduction to American Government and Politics. A descriptive survey of the constitutional and structural principles, processes, and functions of the American governmental system. FALL, SPRING. [3] Staff.

★101. Introduction to Comparative Politics. Democracy, communism, and authoritarian rule in developed and developing countries; political institutions and public policy in diverse national settings; principles of comparative analysis. FALL, SPRING. [3] Staff.

★102. Introduction to International Politics. Significant patterns and trends in twentieth- and twenty-first-century world politics: modes of conducting relations among nations, instruments for promoting national and supranational interests, and controls over international disputes. Emphasis upon episodes throwing light on the causes of war and the conditions of peace. FALL, SPRING. [3] Staff.

★103. Introduction to Political Theory. Moral concepts central to political life: equality, freedom, community, individualism. The ideologies that express them: democracy, liberalism, socialism. Focus on contemporary issues drawing on classical sources. FALL, SPRING. [3] Staff.

115F. First-Year Writing Seminar. [3]

★150. U.S. Elections. Examination of the presidential and congressional elections. The recruitment of candidates, nomination processes, financing campaigns, media coverage, polling, predictive models, and implications of results. FALL (during presidential election years). [3] Geer, Oppenheimer.

201. Contemporary Political Theory. Recent political philosophy. Democratic theory, multiculturalism, feminism, post-modernism. SPRING. [3] Ackerly.

202. History of Classical Political Philosophy. Intensive analysis of the principal political philosophers in the classical tradition. FALL. [3] Graham.

203. Modern Political Philosophy. Intensive analysis of the principal political philosophers in the modern tradition. SPRING. [3] Graham.

204. American Political Thought. An analytical study of American political theories and their impact upon our political institutions. [3] (Not currently offered)

205. Modern Political Ideologies. Analysis of the belief systems of selected political movements, groups, and societies; their relationship to political philosophy; and theories of political action. [3] (Offered 2007/2008)

A&S

206. Foundations of Marxism. Intensive analysis of the political, philosophical, and economic theories of Karl Marx in the context of European philosophical and political traditions. Major critical interpretations of Marx will be stressed. FALL. [3] Graham.

207. Liberalism and Its Critics. Philosophical and political analysis of the utilitarianism of Mill and Bentham and the liberalism of Locke and Kant. Critiques by contemporary Libertarians and Communitarians. SPRING. [3] Booth.

208. Law, Politics, and Justice. Contemporary and classical theories of law and society: rights theories, gender and the law; law and transitions to democracy; law between nations. SPRING. [3] Corley.

209. Issues in Political Theory. Topics vary from semester to semester. May be repeated once if there is no overlap with previous offerings. Prerequisite: 202, 203, 205, or 206. FALL, FALL. [3] Ackerly.

210. West European Politics. Analysis of political development, social forces, institutions, and public policy in Great Britain, France, Germany, Italy, and Sweden. FALL, SPRING. [3] Faucher-King, Hancock.

211. The European Union. Political and economic integration. Origins, institutions, decision processes, policies, achievements, and prospects of the European integration movement. FALL. [3] Hancock.

213. Democratization and Political Development. Comparative study of political development, with a focus on institutions. The effect of political choices about voting systems, executive and legislative powers, cabinet formation, and other institutions on political competition, parties and government stability. Cases from established democracies and countries undergoing democratization. No credit for students who have taken 317. SPRING. [3] Hiskey.

214. The Japanese Political System. Study of the government and politics of Japan, in the context of the interaction of traditional and modern elements in contemporary Japanese political style. [3] (Not currently offered)

215. Change in Developing Countries. Comparative study of political and economic change in developing countries. Political implications of ethnicity , economic dependency, and environmental degradation. [3] (Not currently offered)

216. The Chinese Political System. Governmental institutions and political pr ocesses in the People's Republic of China with emphasis upon the interaction of traditional and r evolutionary elements. Some attention to T aiwan since 1950 and to the overseas Chinese as parts of the Chinese political universe. [3] (Not curr ently offered)

217. Latin American Politics. Cross-national analysis of political institutions, cultur es, and processes of change in Latin America. F ALL. [3] Hiskey.

218. Social Reform and Revolution. Reform and revolution as responses to social inequality. Causes and outcomes of r eform and r evolution in Eur ope and Latin America fr om the mid–nineteenth century to the present. [3] (Not currently offered)

219. Politics of Mexico. A survey of contemporar y Mexican politics fr om a comparative perspective. Interaction of economic, social, and political for ces that led to the demise of one of the world's most durable one-party political regimes and the prolonged transition to democracy. [3] Hiskey. (Offered 2007/2008)

220. Crisis Diplomacy. Foreign policy decision making and strategy . Emphasis on dif ferences between crises that lead to war and those that do not. For eign relations of Britain, France, Germany, Russia, and Japan. SPRING. [3] Staff.

221. Causes of War. Scientific study of the onset of expansion and consequences of war; conditions of peace, emphasizing alliances, ar ms races, and crisis escalation. F ALL, SPRING. [3] Mattes.

222. American For eign Policy. Critical analysis of major inter national and domestic factors shaping U.S. foreign relations as reflected in selected twentieth- and twenty-first-century experiences. No credit for students who have taken 115F, Section 1. FALL, SPRING. [3] Staff, Ray.

224. Theories of World Politics. Analysis of major theories of the basic factors underlying global relations. [3] Ray. (Offered 2007/2008)

225. International Political Economy. Survey of major issues involving the interaction of political and economic for ces at the global level. Par ticular attention to theories of inter dependence and imperialism, the position of developing countries in the international system, multinational corporations, and the economic origins of war. FALL. [3] Alexander.

226. International Law and Organization. The r ole of inter national law and inter national organizations in the contemporar y global political system. Focus on the evolution and impact of inter national law, the United Nations, the Inter national Monetary Fund (IMF), and selected regional organizations. FALL, SPRING. [3] Mattes, Alexander.

227. Economics and Foreign Policy. Economic factors influencing foreign policy behavior, including economic actors, conditions, and motivations for conflictual and cooperative r elations. Economic instruments used by gover nments to achieve policy goals: trade ties, economic sanctions, foreign aid. Economic theories of war and peace. F ALL. [3] Staff.

228. International Politics of Latin America. Examination of Latin America's role in the international and inter-American system. Special attention to the inter national response to r evolutionary change in the ar ea, and to the r egion's major actors and their changing r elationship with the United States, with other major powers, and with other actors such as multinational corporations and international financial institutions. [3] Staff. (Offered 2007/2008)

229. Strategy and International Politics. Strategic behavior and strategic choices arising from interactive decision making within the context of international politics. General principles of strategy. In-class experiments and game playing. SPRING. [3] Benson.

230. Middle East Politics. Cross-national analysis of political institutions, political economies, and processes of change in the Middle East. FALL. [3] Carroll.

231. Contemporary Issues in Europe. Detailed analysis of the political, economic, and social issues facing Europe's post–Cold War period including regional integration, transitions to democracy, economic transformation, ethnic-national relations, industrial organization, environmental politics. [3] Hancock. (Offered 2007/2008)

232. Evolution in French Foreign Policy Under the Fifth Republic. Development of distinct French foreign policy; use of colonial experience in the North-South dialogue; France's place in the new international order. Offered only in Vanderbilt in France. [3] (Not currently offered)

233. Social Movements in the Developed and Developing Worlds. Comparative study of protest movements with emphasis on origins, activities, and impact of movements focusing on women, ethnic minorities, and the environment. [3] (Not currently offered)

234. Women, Politics, and the Development of the Third World. Analysis of the special problems afflicting women in the developing world and examination of proposed strategies, domestic and international, for reform. [3] (Not currently offered)

A&S

236. The Politics of Global Inequality. Causes of international inequality in the distribution of wealth. The emergence of rich and poor nations, and rich and poor people. Factors related to economic development, and their impact on income distribution. FALL. [3] Staff.

238. Comparative Political Parties. Political parties and their role in the democratic process of modern liberal western democracies, focusing on party systems and party organizations. SPRING. [3] Faucher-King.

239. Comparative Courts and Judicial Politics. Introduction to the structure, function, political significance, and policy making of courts and the judges who staff them, especially outside the boundaries of the United States. No credit for students who have completed 288-01 or 288–04. SPRING. [3] Tate.

240. Political Parties. Theories of party formation, organization, and behavior. Historical development of party systems. Criteria for the comparative evaluation of party systems. Parties as instruments of citizen control. Implications for electoral outcomes, coalition formation, legislative decision making, and public policy. FALL. [3] Oppenheimer.

241. American Public Opinion and Voting Behavior. The development and dynamics of political opinion and its effects on voting and public policy. Models of political behavior. SPRING. [3] Grose.

242. Political Communication. The relationship of government and the press. Theories of communication; mass media and sociopolitical change; political persuasion and propaganda; responsibilities of the press. SPRING. [3] Staff.

243. Political Campaigns and the Electoral Process. Theories of representation and democratic accountability; electoral strategies and tactics, including political polling and analysis. FALL. [3] Grose.

244. The Legislative Process. Legislative organization and processes in the U.S. Congress. Attention to parties, elections, institutional structure, interest groups, and other branches of government as they relate to the legislative process. SPRING. [3] Oppenheimer.

245. The American Presidency. Constitutional, historical, and political aspects. Attention to electing and nominating president, presidential leadership and personality, governing, and relations with Congress and the public. SPRING. [3] Staff.

247. American Political Culture. Content, historical development, and political consequences of the American public's deeply rooted values concerning how the political system ought to work and the ends it ought to serve. Attention to regional variation. FALL. [3] Fleming.

253. Ethics and Public Policy. Ethical argument in the public policy process; major approaches to ethics applied to specific issues of public policy. [3] (Offered 2007/2008)

255. Public Policy Problems. Specific problems of public policies and their relations to political and institutional structures. Particular policy problems vary from semester to semester. May be taken more than once only if there is no overlap with a prior offering. [3] (Not currently offered)

260. Introduction to American Law. Law as a component of public policy and the political system; the elements and rationale of private law. FALL. [3] Corley.

261a. Constitutional Law: Powers and Structures of Government. Development of U.S. constitutional system and fundamental principles of constitutional interpretation. Judicial development of principles of distribution and scope of governmental powers. Case method. No credit for students who have completed 261. FALL. [3] Lindquist.

261b. Constitutional Law: Civil Liberties and Rights. Supreme Court's interpretation of the Bill of Rights and the Fourteenth Amendment. Case method. No credit for students who have completed 261. SPRING. [3] Corley.

262. The Judicial Process. Functioning of the judiciary in the American political process; operation and powers of the courts; non-legal aspects of the judicial process; political role and effects of judicial decisions. SPRING. [3] Lindquist.

263. Religion and Politics. Religion in democratic societies. Abortion, gay marriage, faith-based initiatives, and the Pledge of Allegiance. Historical works and contemporary contributions to debates. FALL. [3] Booth.

270. Conducting Political Research. Research sources, designs, and methods used by political scientists. Locating and accessing data, the logic of causal inferences, and basic data presentation and analysis. SPRING. [3] Staff.

280a–280b–280c. Internship. Under faculty supervision, students from any discipline gain experience with local, state, national, and international government offices or other politically related organizations. A thorough report and research paper are submitted at the end of the semester. Completion of 6 hours of political science, normally a 2.90 grade point average, and prior department approval of the student's plan are required.

280a. Internship Training. May be taken on a Pass/Fail basis only and must be taken concurrently with 280b. These hours may not be included in the minimum hours required in the political science major. FALL, SPRING. [Variable credit: 1–9]

280b. Internship Research. FALL, SPRING. [Variable credit: 1–3]

280c. Internship Readings. FALL, SPRING. [Variable credit: 1–3]

283. Seminars in Selected Topics in American Govemment. Topics of special interest, as announced in the *Schedule of Courses*. 283 may be repeated for credit once if there is no duplication of topic. FALL, SPRING. [3] Staff.

284. Seminars in Selected Topics in Comparative Politics. Topics of special interest, as announced in the *Schedule of Courses*. 284 may be repeated for credit once if there is no duplication of topic. FALL, SPRING. [3] Staff.

285. Seminars in Selected Topics in International Politics. Topics of special interest as announced in the *Schedule of Courses*. 285 may be repeated for credit once if there is no duplication of topic. FALL, SPRING. [3] Staff.

286. Seminars in Selected Topics in Political Theory. Topics of special interest as announced in the *Schedule of Courses*. 286 may be repeated for credit once if there is no duplication of topic. FALL, SPRING. [3] Staff.

287–288. Seminars in Selected Topics. Topics of special interest, as announced in the *Schedule of Courses*. Either or both 287–288 may be repeated for credit once if there is no duplication of topic. [3–3] Staff.

289a–289b. Independent Research. Development of a research project by the individual student under direction of a faculty sponsor. Consent of both the faculty sponsor and the director of undergraduate studies is required. Normally open only to majors in political science. FALL, SPRING. [Variable credit: 1–3, not to exceed a total of 6 in 289a–289b, 290a–290b, 291a–291b combined] Staff.

290a–290b. Directed Readings. Supervised reading and writing in a selected field of the discipline under the guidance of a faculty supervisor. Consent of both the faculty supervisor and the director of undergraduate studies required. Normally open only to majors in political science. FALL, SPRING. [3–3, not to exceed a total of 6 in 289a–289b, 290a–290b, 291a–291b combined] Staff.

A&S

291a–291b. Directed Study. Participation in research projects under the direction of a faculty supervisor. Consent of both the faculty supervisor and the director of undergraduate studies is required. Open only to junior and senior majors. FALL, SPRING. [Variable credit: 1–3, not to exceed a total of 6 in 289a–289b, 290a–290b, 291a–291b combined] Staff.

299a–299b. Senior Honors Research. Open only to seniors in the departmental honors program. FALL, SPRING. [3–3]

300. Political Theory. SPRING. [3] Graham.

302. Democratic Theory. FALL. [3] Booth.

303. Philosophy of Science for Social Science. [3] Graham.

305. Feminist Social and Political Thought. [3] Ackerly.

306. Problems of Interpretation in Political Theory. [3] Staff.

308. Studies in Historical Political Thought. SPRING. [3] Ackerly.

309. Research in Political Theory. [3] Staff.

310. Studies in Comparative Analysis. FALL. [3] Hiskey.

311. Regional and International Dimensions of European Integration. SPRING. [3] Hancock.

312. Comparative European Politics. [3] Hancock.

315. Research in Latin American Politics. [3] Hiskey, Seligson.

316. Politics of Change in the Third World. [3] Seligson.

318. Qualitative Methods and Small-N Analysis. [3] (Not currently offered)

319. Research in Comparative Analysis. [3]

320. International Politics. FALL. [3] Ray.

321. International Conflict: Theories and Methods. [3] Staff.

322. Peace Research. [3] Staff.

323. Current Theory and Research in World Politics. [3] Staff.

325. International Political Economy. [3] Staff.

326. The Political Economy of War and Peace. [3] Staff.

329. Research in International Politics. [3]

330. Studies in American Politics. SPRING. [3] Oppenheimer.

331. Party Politics. [3] Hetherington.

332. Political Parties and Electoral Behavior. [3] Staff.

333. Political Culture, Opinion, and Behavior. [3] Staff.

335. Politics of American Legislation. [3] Oppenheimer.

336. The Judicial Process. [3] Lindquist, Tate.

339. Research in American Politics. [3]

355. Research Design. FALL. [3] Tate.

356. Statistics for Political Research I. SPRING. [3] Globetti.

357. Statistics for Political Research II. [3] Staff.

358. Topics in Political Methodology. [3] Staff.

359. Introduction to Formal Theory and Modeling. SPRING. [3] Benson.

360. Topics in Formal Theory and Modeling. [3] (Not currently offered)

361. Writing Proposals and Securing Grants in the Empirical Social Sciences.FALL. [3] Seligson.

370. Topics in Political Science. [3] Staff.

390a–390b. Independent Study. FALL, SPRING. [Variable credit: 1–3 each semester]

398. Dissertation Seminar. [3]

399. Ph.D. Dissertation Research.

3995. Half-time Ph.D. Dissertation Research. For students who have completed 72 hours and devote a half-time effort to dissertation research. [0]

Psychology

CHAIR Andrew J. Tomarken
DIRECTOR OF UNDERGRADUATE STUDIES Jeffery J. Franks
DIRECTOR OF GRADUATE STUDIES Thomas J. Palmeri
DIRECTOR OF CLINICAL TRAINING Jo-Anne Bachorowski
PROFESSORS EMERITI William F. Caul, Keith N. Clayton, Martin Katahn, Joseph S. Lappin, Richard D. Odom, Leslie Phillips, Oakley S. Ray, Hans H. Strupp, Warren W. Webb
PROFESSORS Randolph Blake, Vivien A. Casagrande, Ford F. Ebner, Robert Fox, Jeffery J. Franks, Steven D. Hollon, Jon H. Kaas, Gordon D. Logan, Timothy P. McNamara, Sohee Park, Jeffrey D. Schall, William P. Smith
ASSOCIATE PROFESSORS Jo-Anne Bachorowski, Isabel Gauthier, René Marois, Thomas J. Palmeri, Anna Roe, David G. Schlundt, Andrew J. Tomarken
ASSISTANT PROFESSORS Stephen D. Benning, Denise Davis, Merida Grant, Bunmi O. Olatunji, Andrew Rossi, Adriane Seiffert, Frank Tong, David Zald
RESEARCH ASSISTANT PROFESSORS Hans Peter Melzer, James D. Stefansic, Iwona Stepniewska, Susanne Sterbing
SENIOR LECTURERS Leslie D. Kirby, Leslie M. Smith, N. Jane Zbrodoff

PSYCHOLOGY is the scientific study of brain, behavior, and cognitive processes. At Vanderbilt, the undergraduate program introduces students to the major areas of contemporary psychology: clinical science, human cognition and cognitive neuroscience, developmental psychology, neuroscience, and social psychology. Clinical science studies human personality, emotion, abnormal behavior, and therapeutic treatments. Human cognition and cognitive neuroscience includes the study of processes such as learning, remembering, perceiving environmental objects and events, and neural mechanisms underlying these processes. Developmental psychology examines human development from conception through adulthood, including cognitive, emotional, physical, and social aspects. Neuroscience studies the structure and function of the brain and how nerve cells process sensory information about the environment, mediate decisions, and control motor actions. Social psychology examines interpersonal and intergroup relations and the influence of social conditions on cognitive, emotional, and behavioral processes.

The Department of Psychology offers a general program of study for students who desire a broad background in contemporary psychology, a research concentration for students who plan graduate study in psychology or related disciplines, and a research with honors program. The department offers a wide variety of opportunities for undergraduates to gain research experience through active participation in faculty research projects. Such research experience is encouraged as a basic aspect of education in psychology.

Programs of Concentration in Psychology

General Program	Research Concentration	Research with Honors
PSY 101	PSY 101	PSY 101
PSY 208	PSY 208	PSY 208
PSY 209	PSY 209	PSY 209
3 Distribution Courses*	3 Distribution Courses*	3 Distribution Courses*
4 Psychology Electives	2 Research Skills & Tools**	2 Concentration Courses***
	3 Concentration Courses***	PSY 295a-b and PSY 296 a-b
	1 Psychology Elective	
Total hours 30	**Total hours 36**	**Total hours 36**

General Program. The General Program is designed for students who desire a broad background in contemporary psychology but do not plan graduate research training in psychology or related disciplines.

Research Concentration Program. The Research Concentration Program is designed to offer additional background for students whose career plans involve continued research in psychology or a related discipline. This program differs from the general program by requiring additional (a) Research Skills & Tools courses relevant to psychological research and (b) Concentration Courses relevant to research in a specialized area of psychology. Both the Research Skills & Tools and Concentration Courses categories include many courses offered by other departments, reflecting the interdisciplinary nature of contemporary psychology. Many different course options might be selected for a specific area of research concentration, depending on the student's career plans. Students should meet with their major adviser (or honors supervisor) prior to selecting courses in the Research Skills & Tools and Concentration Courses categories.

Research skills and experience are highly valued for admission to graduate training programs in psychology and other areas, and are relevant to the needs for creativity that arise in many professions. Students in both the General Program and the Research Concentration Program are strongly encouraged to obtain research skills and experience through Directed Study, in a summer internship, or as an undergraduate research assistant. Students should meet with their major adviser for advice on seeking research experience.

Research with Honors Program. The Research with Honors Program requires four semesters of honors research, participation in the Honors Seminar (PSY 295 and 296), an honors thesis, and two Concentration Courses. (The Research with Honors Program is similar to the Research Concentration Program, but substitutes the honors project for the two Research Skills & Tools courses and one course in the Concentration Courses component.) Students in the Research with Honors Program must assure that their two Concentration Courses are consistent with the theme of their honors research, so the courses must be selected with the advice and consent of the faculty mentor for the honors project. Open only to honors candidates.

The Research with Honors Program offers unusual opportunities for interested students, including special seminars and individual research projects in collaboration with faculty members. Honors projects involve four semesters of research and participation in the Honors Seminars, PSY 295a–b and 296a–b. Under special circumstances (e.g., a semester abroad or student teaching), students may sometimes enroll in only three semesters of the Honors Seminars—provided that they can complete the four-semester research project by extra work during three regular semesters and/or a summer, and provided that this arrangement is acceptable to the faculty mentor and to the director of the Honors Program. Majors in psychology are eligible to apply for the Honors Program at the end of their sophomore year if they have a grade point average of at least 3.20 in all courses and in psychology courses. Students who complete the program successfully and who have a final grade point average of at least 3.20 will receive honors or high honors in psychology. The program should substantially aid those intending to do graduate work.

* *Distribution Courses*
(at least 3 of the following 5 courses are required)
The following courses provide a grounding in core content areas of experimental psychology.

PSY 215, 225, 201, 231, GPSY 1630

** *Research Skills & Tools*
(at least 2 of the following courses are required for the Research Concentration)
The following courses aim to develop laboratory, analytical, and quantitative skills and tools relevant to specific areas of research in contemporary psychology. Students planning to attend graduate school in psychology or a related discipline are strongly encouraged to obtain additional laboratory experience through Directed Study, a summer internship, or an undergraduate research assistantship.

PSY 234, 254, 290 (3 credit hours only),
BME 258, 260, 271, BME / EECE 263, CS 101 or 150, 201, 274, EECE 112, 116, 218,
GPSY 2102, 2520, 2530, MATH 170a,b, 175, 204, 208, 218 PHYS 228

*** *Concentration Course Areas*
(3 courses required for the Research Concentration Program and 2 courses for the Research with Honors Program)
Concentration Courses provide advanced training in a contemporary interdisciplinary area of experimental psychology. Each Concentration Area requires one or two specified Distribution Courses plus three advanced Concentration Courses. (For students in the Research with Honors Program, the Honors Seminar, PSY 295a, counts as one of the three Concentration Courses.) Possible Concentration Areas are listed below. Other specialized Concentration Areas may be formulated with approval of the student's major adviser or honors mentor and the director of undergraduate studies. The Concentration Courses must include at least one course from the Department of Psychology. Students should

consult with their major adviser or honors mentor in selecting specific Concentration Courses. Note that many Special Topics (280–289) and Independent Study (293) courses can be included within the Concentration Courses. Relevant Concentration Courses may be in other academic programs or other schools or colleges of the university. (Arts and Science students are reminded that a bachelor's degree requires at least 102 hours of course work within the College of Arts and Science. Students with an approved second major outside the College must complete at least 90 hours of course work within the College.)

Possible Concentration Areas:

Cognitive Development
Cognitive Neuroscience
Cognitive Science
Comparative and Systems Neuroscience
Psychopathology and Clinical Neuroscience
Social and Cultural Influences
Vision

Relevant Concentration Courses for Specific Areas of Research Concentration

Each set of Concentration Courses must include at least one course offered by the Department of Psychology.

Cognitive Development (required Distribution courses: PSY 225 and GPSY 1630)
PSY 222, 226, 232, 252, 276, 282, 283, GPSY 1500, 1600, 1750, 2000, 2250, 2310, 2320

Cognitive Neuroscience (required Distribution courses: PSY 225 and PSY 201)
PSY 214, 216, 222, 226, 232, 240, 242, 269, 272, 274, 276, 277, 280, 282, 285, NSC 255, PHIL 256

Cognitive Science (required Distribution course: PSY 225)
PSY 214, 216, 222, 226, 232, 240, 242, 251, 276, 277, 278, 280, 282, ANTH 201, 203, CS 260, GPSY 2000, PHIL 202, 246, 256, SOC 202

Comparative and Systems Neuroscience (required Distribution course: PSY 201)
PSY 216, 258, 269, 272, 274, 285, BSCI 205, 210, 239, 254, 256 NSC 255

Psychopathology and Clinical Neuroscience (required Distribution course: PSY 215)
PSY 211, 232, 235, 240, 244, 245, 246, 247, 252, 261, 267, 268, 275, 277, 288, GPSY 1700, NSC 255, PSCI 279, SOC 231, 232, 233, 264, 267

Social and Cultural Influences (required Distribution course: PSY 231)
PSY 217, 245, 266, 276, 282, 289, GPSY 1700, 1750, SOC 226, 247, 250, 254, 264, 267, SOC/ANTH 265

Vision (required Distribution course: PSY 201 or PSY 225)
PSY 214, 216, 232, 236, 272, 274, 277, 280, BSCI 254, 256, CS/EECE 253, EECE 254

Minor in Psychology

The minor in psychology is intended for those students who want to gain an overview of the science of psychology and its methodological foundations, and to sample more advanced work in the areas of specialization within psychology at Vanderbilt.

Students are required to complete 18 hours of course work inside the department, distributed as follows:

Psychology 101	3
Psychology 208 and 209	6
Two courses from the list of Distribution Courses specified for the major	6
One additional course at the 200 level	3
Total hours:	18

Students may elect undergraduate seminars (Psychology 280–289 or 297) as the additional course at the 200 level, but not Directed or Independent Study (Psychology 290, 291, 292, and 293)

Starred course 101 (or 115F, sections 1, 2, and 3) is prerequisite for all other psychology courses except 115F. PSY 115F – 01, 02, 03 – General Psychology, First-Year Writing Seminar – covers the same material as PSY 101 and also serves as the introductory prerequisite for all 200-level courses in psychology. Credit cannot be earned for both PSY 101 and PSY 115F – 01, 02, or 03. PSY 115F – sections 4 and higher – is a First-Year Writing Seminar on special topics in psychology. PSY 115F – section 4 and higher – does not replace PSY 101 as a prerequisite for all 200-level courses in psychology and may be taken in conjunction with PSY 101.

★101. General Psychology. A survey of modern scientific psychology. Topics include development, perception, motivation, learning, thinking, remembering, emotion, intelligence, special aptitudes, and personality development. General applications to human behavior. The student must either analyze published research or be a subject in current research. No credit for both 101 and 115. FALL, SPRING. [3] Gauthier, Bachorowski.

★115F – Sec's. 01, 02, 03. General Psychology, First-Year Writing Seminar. No credit for both 101 and 115F – 01, 02, 03. [3]

115F – Sec's. 04 and higher. First-Year Writing Seminar. Topics vary. [3]

201. Neuroscience. A comprehensive introduction to the field of neuroscience from important molecules to cell function to neural systems to cognition. Topics include the physiology of nerve cells, the sensory systems of vision, audition and touch, the motor system, sleep, consciousness, speech and sexual behavior. Coverage of clinical topics includes the chemical basis of the psychoses, diseases of the brain, and repair mechanisms after brain injury. FALL, SPRING. [3] L. Smith, Marois.

208. Principles of Experimental Design. An introduction to theory and research methods in psychological science. Topics include philosophy of science, ethical issues, experimental

design, and data interpretation. Not open to students who have received credit for Psychology 213. FALL, SPRING. [3] Palmeri, Seiffert.

209. Quantitative Methods. Introductory survey of principles and methods for the statistical analysis of experiments, with emphasis on applications in psychology. Major topics are descriptive and inferential statistics. Prerequisite: 208. FALL, SPRING. [3] Franks.

211. Personality. Introduction to the study of personality. Major theories of personality development, methods of assessment, and results of research. The study of normal behavior is emphasized. SPRING. [3] Zald.

214. Perception. Current theory and research in sensation and perception, including an analysis of philosophical and biological issues. Understanding how biological organisms acquire, process, and use information about objects and events in the environment. Vision, audition, taste, smell, and touch. FALL, SPRING. [3] Blake, Fox.

215. Abnormal Psychology. Introduction to the study of deviant behavior. Topics include definitions of adequate human functioning, processes that disrupt functioning, and methods of evaluation and treatment. No credit for students who have taken 115a Section 2 (Abnormal Psychology). FALL. [3] Hollon.

216. Movement. Psychological, computational, and neural perspectives on the activities of looking, reaching, grasping, speaking, smiling or frowning, walking and running. FALL. [3] Schall.

217. Psychology of Women. Feminist approaches to theory, research, and practice in psychology. Women at the center of analysis. Focus on their diversity Emphasis on inequities and the relationship between psychological understanding and social change. [3] (Not currently offered)

225. Cognitive Psychology. Attention, pattern recognition, knowledge representation, language, reasoning, and human intelligence. FALL, SPRING. [3] Zbrodoff.

226. Thinking and Reasoning. A survey of research findings, theories, and empirical approaches to understanding how we "think." Deductive reasoning, decision making, categorization, problem solving, and human rationality. [3] (Not currently offered)

231. Social Psychology. The influence of social conditions upon behavior in interpersonal and group relations; perception, judgment, learning, and attitudes. FALL, SPRING. [3] W. Smith, Kirby.

232. Mind and Brain. Introduction to cognitive neuroscience. How the brain supports perception, cognition, attention, memory, language, thought, emotion, social judgments, and consciousness. SPRING. [3] Tong.

234. Laboratory in Behavioral Neuroscience. Experimental methods in behavioral neuroscience. Computer-based data acquisition and analysis, statistical reasoning, and manuscript preparation. Prerequisite: 201. SPRING. [4] Rossi.

235. Biological Basis of Mental Disorders. Recent discoveries of brain changes that alter mental functioning. How a malfunctioning brain can produce suicidal behavior, mood and anxiety disorders, schizophrenia, alcoholism, and sexual dysfunction. How drug abuse results in altered brain chemistry and how organic brain diseases such as epilepsy, AIDS, or stroke can cause cognitive impairment. Prerequisite: 201. SPRING. [3] L. Smith.

236. The Visual System. An interdisciplinary approach to how humans see and interpret their visual environment. Topics include the structure of the eye and brain (including optics), the physiology of individual cells and groups of cells, machine vision and models of visual

function, visual attention, and mechanisms of complex visual perception. Lectures by faculty from Psychology, Engineering, and Cell and Developmental Biology. SPRING. [3] Roe.

240. Cognition, Consciousness, and Self. Perspectives from Buddhist psychology, cognitive, physical, and biological science. FALL. [3] Franks.

241. History of Neuroscience. Ideas about brain function from ancient Egypt to modern times. Technologies and scientists that have contributed to our current understanding of the brain. No credit for students who have completed 285: The History of Neuroscience. Prerequisite: 201. FALL. [3] Rossi.

243. Feminist Approaches to Clinical Practice. The therapeutic process from a feminist perspective; power relationships; the impact of stereotypes, trauma, institutionalized sexism, social construction of gender on women's lives. [3] (Not currently offered)

244. Introduction to Clinical Psychology. Historical foundations, professional ethics, principles of clinical assessment and therapy, and areas of specialization such as health psychology. FALL. [3] Grant.

245. Emotion. Introduction to the study of emotion. Topics include defining emotion, functions of emotion, emotion and health, emotion and psychopathology, individual differences, and emotional development. Repeat credit for students who have taken 288: Emotional Processes. FALL. [3] Kirby.

246. Schizophrenia. Neurological, psychological, cultural, and evolutionary perspectives. Genetics, epidemiology, symptomatology, sex differences, laterality, and affect. Prerequisite: 215. SPRING. [3] Park.

247. Depression. Psychological and biological perspectives on unipolar and bipolar affective disorders. Assessment and classification, epidemiology, genetics, family environment, and treatments. Prerequisite: 215. FALL. [3] Tomarken.

252. Human Sexuality. The physiological, psychological, and cultural bases of sexual behavior. History of sexuality, gender roles, sex in human relationships, diagnosis and treatment of sexual disorders and dysfunctions, cross-cultural perspectives, pornography, rape, AIDS, and homosexuality. FALL. [3] L. Smith.

254. Laboratory in Perception. Applications of experimental methods to the study of human perception. Psychophysical techniques, signal detection theory, direct and indirect scaling, chronometric analyses. Prerequisite: 208, 209, and 214. [3] (Not currently offered)

258. Animal Behavior and Evolutionary Psychology. A comparative and phylogenetic approach to the study of behavior, with special emphasis on sensory processes, instinctive behavior, the genetics of behavior, and ethology. SPRING. [3] Kaas.

266. Interpersonal and Intergroup Relations. An examination of social psychological literature related to intergroup and interpersonal conflict and its resolution, with special attention to problems of relations between black and white in contemporary society. [3] (Not currently offered)

267. The Delivery of Psychological Services. Introduction to methods of psychological assessment, intervention, professional ethics, and outcome evaluation. Lectures, reading, and class discussion are supplemented by practicum placements. Open only to psychology majors. Prerequisite: 211, 215, and consent of instructor. [3] (Not currently offered)

268. Health Psychology. The neurophysiological, endocrine, and immune systems; factors underlying health habits and lifestyles; methods to enhance health behaviors and prevent

illness; stress management. Reciprocal interactions among behavior, thoughts, and physiology with resulting effects on physical and psychological health and illness. FALL. [3] Schlundt.

269. Developmental Neuroscience. Normal and abnormal brain development. Cell division, migration, cell death, synapse formation, plasticity, and clinical syndromes. Prerequisite: 201. FALL. [3] Ebner.

272. Structure and Function of the Cerebral Cortex. Classic and current concepts of cerebral function. Species differences, receptive field organization, neurotransmitters, modifications by experience, and behavioral effects. Prerequisite: 201. SPRING. [3] Ebner.

274. Neuroanatomy. Gross structure, histological architecture, and techniques for creating images of the human brain. FALL. [3] Roe.

277. Brain Damage and Cognition. Effects of neurological impairment from stroke, injury, or disease on perception, speech, memory, judgment, and behavior. Relation between brain systems and cognitive systems. SPRING. [3] Gauthier.

Courses numbered 280–289 are seminars devoted to intensive study of special topics. Enrollment is restricted to majors, except with consent of instructor. Each seminar may be repeated once.

280. Special Topics in Perception. FALL. [3] Fox.

282. Special Topics in Cognitive Psychology. [3] (Not currently offered)

285. Special Topics in Neuroscience. [3] (Not currently offered)

288. Special Topics in Clinical Psychology. [3] (Not currently offered)

289. Special Topics in Social Psychology. SPRING. [3] W. Smith.

290–291–292. Directed Study. Participation in ongoing research projects under direction of a faculty sponsor. Consent of both the faculty sponsor and the director of undergraduate studies is required. Open only to juniors and seniors. FALL, SPRING. [Variable credit: 1–3 each semester] Staff.

293. Independent Study. Development of a project by the individual student under direction of a faculty sponsor. Consent of both the faculty sponsor and the director of undergraduate studies is required. Open only to juniors and seniors. FALL, SPRING. [Variable credit: 1–3 each semester] Staff.

295a–295b. Honors Seminar. Individual readings, reports, and seminar discussions of the basic areas of psychology. Selection of topics will provide some freedom to pursue individual interests. Open only to honors candidates. [3–3]

296a–296b. Honors Thesis. Participation with a staff member in work leading toward the senior thesis. This work may consist of readings and reports or active participation in research and will culminate in an independent research report. Open only to honors candidates. [3–3]

297. Senior Seminar. [3] (Not currently offered)

300a. Research Seminar. [Variable credit: 1–4 each semester]

301a–301b. Advanced General Psychology. [3 per section]

304b. Quantitative Methods and Experimental Design. [3–3]

306. Evolutionary Psychology. [3] (Not currently offered)

307. Group Process and Structure. [3] (Not currently offered)

310. Research Methods in Clinical Psychology. [3]

312. Psychological Assessment. [3]

315. Theories of Psychotherapy. [3]

316. Brain Imaging Methods. [3] (Not currently offered)

323. Practicum in Psychological Assessment. [Variable credit: 1–5 each semester]

324. Practicum in Psychotherapy. [Variable credit: 1–5 each semester]

331a–331b. Advanced Investigational Techniques. [Variable credit: 1–3 each semester]

335. Special Topics in Neuroscience. [2]

342. Seminar: Social. [3]

343. Seminar: Perception. [3]

344. Seminar: Neuroscience. [3]

351. Seminar: Cognitive Psychology. [3] Tong, Palmeri, Logan

352. Seminar: Clinical Psychology. [3]

353. Professional Ethics in Clinical Psychology. [3]

354. Clinical Neuropsychology. [3]

357. Seminar in Cognitive Science. [2]

358. Seminar in Neuroscience. [2]

360. Seminar in Clinical Science. [2]

361. Interdisciplinary Seminar in Social Psychology. [1–2]

Public Policy Studies

DIRECTOR Kathryn H. Anderson

STUDENTS may choose an interdisciplinary program of concentration in public policy studies. The program includes courses in economics, political science, history, philosophy, sociology, and statistics. Students take elective courses focusing on public policy issues.

Program of Concentration in Public Policy Studies

An interdisciplinary program of concentration in public policy studies consists of 39 hours approved by the chair of the Committee on Public Policy Studies.

The program of concentration consists of two parts: 24 hours of required core courses, and 15 hours of elective courses focusing on substantive policy issues. A student contemplating a program in public policy studies should

take Economics 100 and 101 and Political Science 100 or 101 as prerequisites to the core. Individual courses included in the program may specify additional prerequisites. If one of the required courses is not offered, students may substitute with the permission of the chair.

Core Courses

Students are required to take Sociology 211 or HOD 1700 or Political Science 270; Economics 150 or Psychology and Human Development 2101, or Math 218 plus 218L, or Sociology 127; Economics 231; Sociology 102, 204, 226, 235, 249, 260, or Political Science 231 or 233; Philosophy 239, 270, 271, or 272, or Political Science 208 or 253, or HOD 2890; and three courses from the following set: Economics 212, 251, 252, 254, 279, 284, 285, or 288, Philosophy 253, or Political Science 255, 261, or 262, or Sociology 240 or 244, or HOD 1800, 2610, or 2650.

It is the intention of the committee that the students put together a coherent set of courses with a policy theme for the other 15 hours of the major. To this end, several "tracks" have been suggested by way of guidance, but students are not required to choose one of them. Examples include:

Labor Market Policy: Economics 212 and 246, Sociology 251 and 255, Political Science 244.

Religion and Public Policy: Sociology 246, Political Science 246, Religious Studies 140, HOD 2260, Philosophy 242.

Health Policy: Economics 268, Sociology 237 and 264, History 204, General Biology 105.

Policy in Western Europe: Political Science 210 and 211, Economics 287, History 230, European Studies 201.

Crime and Justice: Economics 285, Psychology 215, Sociology 231 and 232, Political Science 208.

Students who find themselves interested in other tracks are encouraged to consult with the program director.

Honors Program

A student concentrating in public policy studies may apply for admission to the Honors Program. The admission, supervision, and evaluation of the student are subject to College of Arts and Science regulations and will be the responsibility of both the Committee on Public Policy Studies and the Committee on the Honors Program in an appropriate participating department.

Religious Studies

CHAIR Volney P. Gay
PROFESSORS EMERITI Charles H. Hambrick, Lou Silberman
PROFESSORS Lewis V. Baldwin, Volney P. Gay, Lenn E. Goodman, Thomas A. Gregor, Daniel M. Patte
ASSOCIATE PROFESSORS Victor Anderson, Beth Ann Conklin, William Franke, Richard King
ASSISTANT PROFESSORS Annalisa Azzoni, Susan Hylen, Richard McGregor, Martina Urban, Gay H. Welch
SENIOR LECTURER Bushra Hamad

☙ THE Department of Religious Studies offers courses that explore religion in cultures around the world and courses that train students in the intellectual skills relevant to such inquiry. Religion is the actions and thoughts people have toward that which they consider sacred, spiritual, or divine. Religion has inspired the rise of entire civilizations lasting thousands of years and the innermost experience of individuals in solitude. Religious studies courses reflect this vast scope: they range from lecture courses that compare great world traditions, such as Christianity and Buddhism, to seminars that focus upon a single religious text, or upon a religious form, such as myth and ritual, or upon a method of inquiry such as textual criticism and other methods of interpretation.

A&S

Students majoring in religious studies have a dual focus: they study religious traditions and they acquire research methodologies such as textual criticism, history, and the social scientific study of religion. Many students complete double majors, combining religious studies with history, anthropology, sociology, philosophy, or art. Many study abroad in Asia, the Middle East, or Europe and use their research in their senior projects. Religious studies trains students to investigate world cultures and, by comparing cultures, understand theirs in depth. The multicultural and interdisciplinary character of religious studies makes it an excellent foundation to a liberal arts education.

Program of Concentration in Religious Studies

The 30-hour major in religious studies is designed with two goals in mind. We want our students to become literate in at least two prominent world religious traditions—their own may be one of the two. We also ask students to take courses that will familiarize them with the range of ways in which religion is studied and understood. A major in religious studies lays a solid foundation on which to build either a career in professions that demand contact with diverse populations, such as international business, medicine, social work, law, and education or graduate and seminary studies.

Students majoring in religious studies must complete at least 30 hours distributed as follows. The first-year seminar (115) may be counted toward the major in either Category 1 or Category 2, according to its topic. Students planning to pursue graduate studies are especially encouraged to take language courses.

Category 1. *Religious Traditions in Cultural Contexts.* Students complete a minimum of 15 hours, including at least two courses in each of two religious traditions from the following:

a. Christianity: 109, 131, 201, 204, 206, 209, 212, 213, 215, 216, 217, either Greek 202, Latin 100, 102 or equivalent, History 180.
b. Judaism: 106, 108, 112, 131, 207, 208, 220, 222, 226, 228, 229, 233, 259, 260, Hebrew 111b, Jewish Studies (JS) courses.
c. Islam: 113, 117, 131, 251, 252, 254, Arabic 210b.
d. Buddhism and East Asian Religious Traditions: 130, 231, 244, 249, Japanese 212.
e. African American Religious Traditions: 107, 110W, 114, 145, 205, 219, History 201.
f. Native American Religious Traditions: Anthropology 250, 263.

Category 2. *Religion and Its Role in Human Life.* Students complete a minimum of 9 hours, including at least one course from each group.

a. 206, 233, 234, 235, 236, 237, Jewish Studies 244.
b. Ways in Which Religion Shapes the Thoughts, Lives, and Values of Practitioners: 201, 202, 206, 208, 220, 223, 230, 232, 239, 251, 258, Anthropology 226, Astronomy 203, Classical Studies 224, Jewish Studies 155, Music Literature 219, Music Literature 278, Philosophy 242, Philosophy 245, Sociology 246.

Category 3. *Senior Requirements.* A senior seminar (280, 3 hours) gathering majors during the fall semester of their last year.

Honors Program

The Honors Program in Religious Studies is designed to afford superior students the opportunity to pursue more intensive work within their major field. The program requires: (a) a 3.0 cumulative grade point average; (b) 6 hours of independent research, 299a–299b (Honors Research) normally taken during the senior year; (c) an honors thesis to be completed by the spring of the senior year; (d) successful completion of an honors oral examination on the topic of the thesis.

Minor in Islamic Studies

19 hours. Students complete a required minimum of 19 hours from the list below, which must include Arabic 210b, Elementary Arabic; Religious Studies 113, Introduction to Islam; and Religious Studies 254, The Qur'an and Its Interpreters. The maximum number of hours to be counted towards the minor from Arabic language courses is 8. No hours will be counted for Arabic 210a.

ARABIC: 210b, Elementary Arabic; 220a–220b, Intermediate Arabic.

CLASSICS: 224, Ancient Origins of Religious Conflict in the Middle East.

HISTORY: 115F, First-Year Writing Seminar (when related to Islamic history or culture as determined by the director of undergraduate studies); 253, Sub-Saharan Africa: 1400–1800; 255, The Islamic World to 1798; 256, Nationalism and Islam in the Middle East since 1798; 257, The Birth of Islam: Muhammad and Muslim Society.

PHILOSOPHY: 211, Medieval Philosophy.

POLITICAL SCIENCE: 287, Special Topics (when related to Islamic politics or culture as determined by the director of undergraduate studies).

RELIGIOUS STUDIES: 113, Introduction to Islam; 115F, First-Year Writing Seminar (when related to Islamic religion or culture as determined by the director of undergraduate studies); 117, Islam in the African American Experience; 251, Islamic Mysticism; 252, Islam in America; 254, The Qur'an and Its Interpreters.

Minor in Religious Studies

18 hours. Students complete a minimum of 12 hours in Category 1 (see above—6 hours in each of two religious traditions). Students complete a minimum of 6 hours in Category 2 (see above—3 hours from each group). The freshman seminar (115) may be counted toward the minor in either Category 1 or Category 2, according to its topic. Students may elect to participate in the Senior Seminar (280) to be counted in Category 2.

106. The Hebrew Bible and Its Interpretations. An examination of selected Biblical texts and how they have been understood through the centuries and in modern scholarship. Use of archeological, historical, and literary approaches. [3] (Not currently offered)

107. Introduction to African American Religious Traditions. Historical survey of the leadership, dynamics, and cultural milieu of African American religious traditions. Institutional expressions and theologies from the colonial period to the present. [3] Baldwin. (Offered 2007/2008)

108. Themes in the Hebrew Bible. A thematic introduction to the Hebrew Scripture/Old Testament. Selected themes—such as creation, revelation, covenant, law, suffering, messianic expectation—are traced through the diverse parts of the Bible (Pentateuch, Prophetic Writings, and Wisdom Literature) as well as in early Jewish texts. The comparison of the various expressions of these themes shows both the distinctiveness of each document and the continuity of the Biblical faith through the centuries. FALL. [3] Azzoni.

109. Themes in the New Testament. A comparative study of New Testament documents following central themes—such as salvation; evil and sin; the roles of Christ, God, and the Spirit; discipleship; the church; sacred history. The distinctive teaching of each New Testament document as related to a concrete historical setting. Comparison with similar themes in Jewish and Hellenistic texts of that period. FALL, SPRING. [3] Hylen.

110W. Introduction to Southern Religion and Culture. An exploration of the histories of evangelical and non-evangelical expressions in Southern religious culture from the colonial period to the present. The evangelical thrust of Southern culture, with some attention to Catholicism, Judaism, and other religious modes considered outside the mainstream of that culture. [3] Baldwin. (Offered 2007/2008)

112. Introduction to Judaism. Comprehensive historical overview of Judaism as a religion and a culture. The main ideas and institutions of Judaism, the centrality of the Hebrew Bible and the meaning of interpretation, thinkers, and movements in Jewish civilization, from rabbinic Judaism, medieval philosophy, mysticism, to modern thought, Zionism, and the foundation of the State of Israel. Recent Jewish self-representation in art. [3] Urban. (Not currently offered)

113. Introduction to Islam. An historical overview of the different religious traditions in Islam, their basis in the Qur'an and life of the Prophet, their proliferation in the medieval period, and their response to the challenge of modernity. Topics include sunni and shi'i Islam, evolution of law and theology, sufism and political philosophy. Islam in Africa, India, Spain, and southeast Asia as well as the Middle East. FALL. [3] McGregor.

114. Introduction to African American Philosophies of Religion. Contemporary African American religious thinkers. The idea of God, the problem of evil and suffering. The problem of divine revelation and religious knowledge, and the contributions of religion to problems of human identity and difference. [3] Anderson (Divinity School). (Offered 2007/2008)

115F. First-Year Writing Seminar. [3]

130. Introduction to Asian Traditions. Religious and philosophical traditions of South and East Asia, the teachings of the Hindu, Buddhist, Confucian, Daoist, and Jain traditions. SPRING. [3] King.

145. Interfaith Dialogue and African American Culture. An examination of the lives, thought, and activities of Malcolm X and Martin Luther King, Jr., with special attention to their significance as sources of dialogue for Christians and Muslims. Of particular importance are the constructive insights that these leaders provide for those who wish to understand the two great faith communities and culture in the African American context. [3] Baldwin. (Not currently offered)

201. The Problem of Biblical Authority. Past and present controversies over the authority of scripture. Comparisons of doctrinal statements about scripture with actual uses of it by believers, both in history and today's churches and synagogues. [3] Patte. (Not currently offered)

202. Natural Science and the Religious Life. How scientific discoveries and religious teachings are related. Descriptions of the physical universe from Aristotle through Albert Einstein are compared to contemporaneous definitions of the moral life by religious thinkers such as Thomas Aquinas, Martin Luther, Immanuel Kant, and Martin Buber. MAYMESTER. [3] Anderson.

204. Protestant Conservatism and the Culture Wars. Evangelical traditions from the Reformation to their present manifestations in twentieth-century America. Debates concerning the authority of the scripture, the person of Jesus Christ, evangelism and soul-winning mission, revivalism and social reform, church-state relations, the relationship between science and religion, Biblical vs. "New" morality, and other areas of cultural cleavage. [3] Baldwin. (Offered 2007/2008)

205. The Black Church in America. The development of the black church from the late eighteenth century to the present. Black denominationalism, church leadership, and the involvement of the church in the social, cultural, intellectual, political, and economic areas of African American life. [3] Baldwin. (Not currently offered)

206. Global Interpretations of Christian Scriptures. Comparative interpretations of Biblical texts by Christians in Africa, Asia, Latin America, and Oceania—with those by Orthodox Christians in Eastern Europe and the Middle East, and by Catholics and Protestants in Western Europe and North America. The role of culture in each type of biblical interpretation. SPRING. [3] Patte.

208. The Hebrew Bible. Selective study of each of the three major divisions of the Hebrew Bible. The early Hebrew beginnings and development of the Law; the Prophets and their leading ideas in relation to social, political, economic, and religious tensions of their age; and the Wisdom books and later historical writing. [3] Knight (Divinity School). (Not currently offered)

209. The New Testament. Selective study of the New Testament writings, showing the main characteristics of early Christianity as compared and contrasted with early Judaism and Hellenistic religions. Themes include religious authority in early Christian communities and the types of faith and ethics found within the New Testament traditions. SPRING. [3] Levine (Divinity School).

212. The Pauline Interpretation of Christianity. An introduction to Pauline Christianity and its place in the early church, using the letters of Paul, the deutero-Pauline letters, and the portrait of Paul in Acts. Alternate prerequisite: 109 or 209. FALL. [3] Patte.

213. Ethics of the New Testament. Major ethical teachings as presented in New Testament documents, letters, and as interpreted through history and cultures. [3] Patte. (Not currently offered)

215. Formation of the Catholic Tradition. The expansion of Christianity, the development of doctrine, relationships with the Empire, and changing modes of Christian life from the second century into the middle ages, with emphasis on the periods and themes that are formative of the classical doctrines and institutional patterns. Focus on positions and attitudes still important today (not only in Catholicism but in Protestantism), on differences between contemporary assumptions and the realities of Christian life and thought in the past. Prerequisite: 107. FALL. [3] Burns (Divinity School).

216. Christianity in the Reformation Era. The setting of the Reformation (c. 1500–1648) and its developments together with consideration of some of the significant ecclesiastical, theological, and historical issues of the period. Attention to backgrounds and causes and examination of major individuals and ecclesiastical patterns. The aim of the course is to help students understand and interpret the events, become familiar with some of the major theological documents, and reflect upon questions of continuing historical interest that have come out of the Reformation. [3] Johnson (Divinity School). (Not currently offered)

217. The History of Religion in the United States. History of organized religion in the United States from the adoption of the Constitution to the present time, with emphasis on the period from the Civil War to the present. SPRING. [3] Flake (Divinity School).

218. Theology of the New Testament. Major theological themes such as the concepts of God, Christ, salvation, sin, evil, faith, hope, love as presented in New Testament documents and as interpreted through history and cultures. [3] Hylen. (Offered 2007/2008)

219. Martin Luther King, Jr., and the Social Roles of Religion. King as religious leader and agent of social change. His views of the social roles of religion seen against the background of late nineteenth-century dissenting traditions and the early twentieth-century social gospel movement in America. Critical evaluations in terms of classical Christian views (e.g., Aquinas, Luther, Calvin, Wesley). SPRING. [3] Baldwin.

220. Constructions of Jewish Identity in the Modern World. How Jewish thinkers at the end of the nineteenth and early twentieth century addressed the question of individual and collective identity. Cultural, political, religious definitions of modern Jewish identity, the role and the reinvention of national myths, the "Jewry of muscles," the "New Hebrews," the Zionist myth narratives in Zionism. [3] Urban. (Offered 2007/2008)

222. Jewish Ethics. A study of the logic and basic values that, in the Jewish tradition, guide thinking about moral problems. Examination of family and social ethical issues found in Talmud and other Jewish classical texts. Basic religious views of modern Jewish thinkers and their relation to contemporary Jewish life. Offered alternately with 112. [3] (Not currently offered)

223. Ethics and Feminism. Implications of gender theory for understanding the Judeo-Christian moral traditions. Topics include: the nature of the moral subject, the social construction of gender, patriarchal consciousness, the abuse of women, black feminism, motherhood, and feminist ecology. SPRING. [3] Welch.

228. Antisemitism and Jewish Identity. A historical and cultural analysis of the dilemmas that Jewish emancipation presented to both Jews and non-Jews in Europe, examined through the study of a variety of popular and elite cultural representations of Jews. How antisemitism

became entangled with modern understandings of identity in terms of gender, sexuality, race, and class. [3] Geller. (Not currently offered)

229. The Holocaust: Its Meaning and Implications. An interdisciplinary study of the systematic destruction of the European Jewish communities during World War II. Historical, social, political, cultural developments that led to it. Psychological and sociological dimensions of its aftermath. Philosophical and theological problems it raises for both Jews and Christians. FALL. [3] Geller.

230. Women and Religion. Themes and issues in the traditions and texts of selected Western religions from a feminist perspective. Biblical and theological images of women, sources of religious authority, psychological and ethical implications of feminist approaches to religion. [3] Welch. (Offered 2007/2008)

233. History and Memory in Modern Judaism. The role of memory in traditional Jewish literature, the historiography and ideology of the nineteenth-century "Science of Judaism" school, Zionist reconstructions of the past, twentieth-century representations of the Shoah (Holocaust), uses of myth in the State of Israel. [3] Urban. (Not currently offered)

234. Post-Freudian Theories and Religion. An examination of contemporary European and American schools of psychoanalysis. Focus on both the clinical and explanatory theories as they relate to the examination of religious experience. Recommended: 120 or 121. FALL. [3] Gay.

235. Freudian Theories and Religion. A critical assessment of psychoanalytic theories as an explanation of religious behavior. Study of the basic structure of these theories followed by a systematic critique of texts by Sigmund Freud and Erik Erikson. Examination of religious narrative forms. Recommended: 120 or 121. [3] Gay. (Not currently offered)

236. The Religious Self according to Jung. The religious core of human existence as related to the concepts of the archaic unconscious and the birth of the self in C. G. Jung's analytical psychology. Study of the life and thought of Jung as illustrated by his autobiography *Memories, Dreams, Reflections.* Critical assessment of his theory as a means for understanding religious phenomena. [3] Gay. (Offered 2007/2008)

237. Psychology of Religious Myth and Ritual. Examination of religious rituals and myths from both Christian and other traditions. Critical review of major psychological theories of ritual and myth. Their relevance to an understanding of myth and ritual as religious phenomena. [3] Gay. (Not currently offered)

239. Religious Autobiography. The construction of identity in religious autobiography: motivations (personal salvation, witness, proselytism); relationships among self, God, and religious tradition; role of memory; cultural, gender, and religious differences. Readings may include Augustine, Gandhi, Malcolm X, Angelou, Wiesel. [3] Geller.

244. Buddhist Traditions. The history, teachings, and practices of Buddhism from its origins in India to its migration to Tibet and East Asia. Analysis of key aspects of Buddhist thought and practice, focusing upon the teachings of the Theravada school and development of Mahayana Buddhist traditions such as Zen. [3] King. (Offered 2007/2008)

249. Zen Buddhism. A study of the development of Zen Buddhism in China and Japan with special attention to its basic philosophy, its position within Mahayana Buddhism, its meditational techniques, and its contemporary significance. [3] (Not currently offered)

251. Islamic Mysticism. Origins and development of mystical traditions in Islam; rise of asceticism; early Sufis; development and systematization of Sufi orders and teachings; evolution of theosophical dimensions of mysticism; present day Sufism and its spread in North America; comparison of Islamic mysticism with other forms of mysticism. SPRING. [3] McGregor.

254. The Qur'an and Its Interpreters. The Qur'an and the Islamic tradition of interpretation. The treatment of Biblical prophets, Jesus and Satan. Interpretations will be drawn from all time periods including rationalist, dogmatic, Shi'i and mystical schools of interpretation. Prerequisite: one course in Religious Studies. SPRING. [3] McGregor.

258. The Book of Revelation and Its Interpreters. Practices of New Testament interpretation. Scholarly and popular visual, musical, and written interpretations and their social contexts. [3] Hylen. (Offered 2007/2008)

259. The Book of Joshua. An exegesis of the book of Joshua, with special attention paid to literary features, issues of historiography and archaeological evidence, ideological and religious concerns, and relation to other texts of the Hebrew Bible, especially the Deuteronomistic History. SPRING. [3] Knight.

260. Rabbinic Thought and Theology. Focus on the Rabbinic texts (first to sixth century) which defined traditional Judaism in post-Temple world. Emphasis on discontinuities from Hebrew Bible and midrashic techniques of rereading Scripture. [3] (Not currently offered)

280. Senior Seminar. Methods for studying religion and religious traditions. Open only to seniors with a major or minor in religious studies. FALL. [3] McGregor.

A&S

289a–289b. Independent Study. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 6]

294. Special Topics in Religious Studies. [3] Staff.

295. Special Topics in Religious Studies. [3] Staff.

299a–299b. Senior Honors Thesis. Reading of primary research sources and writing an honors thesis under the super vision of the thesis adviser. Open only to senior honors students. FALL, SPRING. [3–3] Staff.

Sociology

CHAIR Gary F. Jensen
DIRECTOR OF UNDERGRADUATE STUDIES James J. Lang
DIRECTOR OF GRADUATE STUDIES Karen E. Campbell
PROFESSORS EMERITI Ernest Q. Campbell, Jack P. Gibbs, Walter R. Gove, Richard A. Peterson
PROFESSORS Daniel B. Cornfield, Katharine Donato, Larry W. Isaac, Gary F. Jensen, Holly J. McCammon, Ronnie Steinberg
ASSOCIATE PROFESSORS George Becker, Karen E. Campbell, Monica J. Casper, James J. Lang
ASSISTANT PROFESSORS Tony N. Brown, Laura Carpenter, Michael Ezell, Shaul Kelner, Jennifer Lena, Richard Lloyd, Richard Pitt, Steven J. Tepper
SENIOR LECTURER Maryaltani Karpos

☙ SOCIOLOGY, the study of social relations, offers students a better understanding of their society and the consequences of social interaction. The department's courses cover a wide range of subjects: social problems and deviant behavior, including crime, delinquency, and mental illness; minority groups and race relations; methods of social research; cities,

communities, and urbanization; occupations and the organization of work; migration, mortality, and fertility; social classes and stratification; organizations and associations; social psychology; and the social organization of religion, law, medicine, art, political activities, and business. Undergraduate courses in sociology prepare students for graduate work or further their preparation for a career in law, medicine, business, the ministry, nursing, social work, civil service, or teaching.

Program of Concentration in Sociology

Students majoring in sociology are required to complete 30 hours of work in sociology. The major consists of five types of courses: introduction to sociology; a course in theory; courses that emphasize research skills; courses that familiarize students with core areas of the field; and electives. In addition to these sociology courses, students must take a statistics course as part of their training in research skills. The statistics course does not count toward the 30 hours in sociology.

Course work for the major is distributed as follows:

Introduction: Sociology 101 or 102	3
Theory: Sociology 201	3
Research Skills: (3 courses)	
Sociology 211, followed by	3
Sociology 212 (or Independent Research 295a, or 295b, or 299)	3
Sociology 127 (statistics) (or Math 127b, 180, or 218, or Economics 150), or Psychology 209 or Peabody Psychology and Human Development Statistics 2101 for those students who double major in sociology or one of these two programs)*	(3)
Core Areas:	
Crime, Law, and Deviance: Sociology 222, 224, 231, 232, 233, 234, 240, 263	
Organizations, Politics, and Inequality: Sociology 226, 235, 239, 243, 244, 247, 249, 250, 251, 254, 255, 268, 272, 279	
Family, Medicine, and Mental Health: Sociology 220, 230, 237, 261, 264, 267, Anthropology 265, Psychology 266	
Culture and Social Change: Sociology 203, 204, 215, 217, 218, 227, 228, 229, 241, 242, 245, 246, 248, 257, 258, 269, 270, 275, 276, 277, 278, 281, Women's and Gender Studies 243	
Students must take at least one course in three of the four core areas	9
Electives: Any 3 sociology courses not used to satisfy the above requirements	9
Total hours	30

* Not included in the 30 hours.

Honors Program

The Honors Program offers superior students the opportunity to pursue intensive work within sociology. Students who meet the College of Arts and Science requirements and are recommended for the program by the director of undergraduate studies will typically begin the program in the fall of their junior year. To be considered for the Honors Program in Sociology a student must have a minimum cumulative GPA of 3.0 and a minimum sociology GPA of 3.0. Interested majors should contact the director of undergraduate studies for information.

Minor in Sociology

The minor in sociology is intended for those students who want to gain an overview of the discipline and to sample some of the special lines of study in it.

Students are required to complete 18 hours of course work inside the department, distributed as follows:

1. Sociology 101 or 102	3
2. Sociology 201	3
3. Four courses, including at least one from three of the four core areas listed above in the major	12
Total hours	18

Licensure for Teaching

Candidates for teacher licensure in sociology at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

101. Introduction to Sociology. The study of human society; the nature of culture and its organization. Processes of communication, socialization, mobility, population growth. Credit not given for both 101 and 103. FALL, SPRING. [3] Staff.

102. Contemporary Social Problems. The impact of technological and social change and relatively high mobility in Western society. Deviation from social norms, conflict concerning social goals and values, and social disorganization as these apply to family, economic, religious, and other institutional and interpersonal situations. FALL, SPRING. [3] Staff.

104. Men and Women in American Society . This course focuses on ideas about masculinity and femininity and how these ideas carry with them inequalities in the distribution of power and resources available to men and women. We examine how gender permeates seemingly neutral aspects of everyday life—how we date, sexuality, family life, work relationships, political life, media images. [3] (Not currently offered)

115F. First-Year Writing Seminar. [3]

127. Statistics for Social Scientists. Introduction to descriptive and inferential statistics with social science research applications. Sampling issues; describing data with measures of central tendencies and dispersion; hypothesis testing using categorical and continuous indicators; multivariate techniques for continuous,categorical, and time dependent data. FALL. [3] Noble.

201. Sociological Perspectives. Major classical and contemporary sociological perspectives such as symbolic interactionism, functionalism, and conflict sociology. Attention to the orientation and style of outstanding representatives of each perspective. Analysis in terms

of basic concepts, central questions, substantive themes, methodology, and bearing on contemporary social issues. SPRING. [3] Becker.

203. Perspectives on Women in the World. The situation of women around the world examined through the lens of gender as a social construction. Topics include feminist critiques of knowledge, family and work, sexuality, health and medicine, the women's movement, and the future of feminism in a global context. [3] (Not currently offered)

204. Self, Society, and Social Change. Problems and prospects for individual participation in social change; volunteering, community service, and philanthropy; role of individuals and voluntary associations in social change. SPRING. [3] Cornfield.

211. Introduction to Social Research. Theory, hypothesis formation, and measurement. Overview and evaluation of research strategies in sociology. The ethics of social research. Univariate statistics and cross tabulation, logic and interpretation of multivariate analysis. Prerequisite: major or minor standing in the department. FALL. [3] Campbell, Karpos.

212. Research Practicum. Application of research skills acquired in 211. A research report, including statement of hypothesis, discussion of data and methods, and interpretation of results, is required. Prerequisite: 211 and a statistics course. SPRING. [3] Donato, Karpos.

215. Hip Hop and Rap Music. Political, social, economic, and aesthetic structures affecting the form and content of hip hop culture and rap music. Sociology of culture, race and ethnicity, organizations and institutions. No credit for students who have completed 115F, section 13 (The Social Construction of Hip Hop/Rap Music). FALL. [3] Lena.

217. Folklore and Folklife. An examination of folklore and the groups that produce it. Short fieldwork exercises and a research paper. [3] (Not currently offered)

218. Tourism, Culture, and Place. The nature of tourist encounters. Marketing and displaying culture to tourists. Implications for urban economies and landscapes, and for tourists and locals. Biweekly field trips in Nashville. SPRING. [3] Kelner.

220. Population and Society. The mutual influence of demographic factors and social structure. Trends in fertility, mortality, population growth, distribution, migration, and composition. Population policy and national development. FALL. [3] Donato.

222. Policing in Society. Analysis of the function, history, procedures, and structure of police administration in the United States. MAY. [3] Karpos.

224. Women and the Law. History of laws subordinating women and efforts by feminists to achieve substantive and procedural equity. American historical examples augmented by comparative research. Examines employment law, laws making rape and domestic violence illegal, and tax law. [3] (Not currently offered)

226. Gender, Race, and Class. How different societies use the categories of gender, race, and class to make distinctions among their members. How these categories intersect and mediate one another and contribute to inequalities in the distribution of political power, social well-being, and material and symbolic resources. [3] (Not currently offered)

227. Creativity and Innovation in Society. The social context for innovation and creativity. Interdisciplinary approaches to the creative process, invention, and entrepreneurship. Social relations and networks surrounding creative work; gate keeping; the diffusions of innovation; changing institutions; and economic forces. SPRING. [3] Tepper.

228. Cultural Consumption and Audiences. How audiences and consumers engage with art and culture—from popular music to film, classical art, fashion, and food. FALL. [3] Tepper.

229. Cultural Production and Institutions. The production of culture. The role of artists, firms, and markets in creating cultural objects, ideas, and practices, including: novels, television and news, science, music, visual arts, and food. Prerequisite: 228. [3] (Not currently offered)

230. The Family. Study of the relationship of family structure to social organization. Comparative and historical approaches to the family. Recent changes in the American family. Courtship, marriage, marital adjustment, parenthood, and family dissolution in relation to contemporary American society. FALL. [3] Karpos.

231. Criminology. The nature, distribution, causes, and control of crime with emphases on contemporary American society and a broad range of types of crime. SPRING. [3] Becker.

232. Delinquency and Juvenile Justice. The nature, distribution, causes and control of juvenile delinquency and the operation of the juvenile justice system in contemporary American society. FALL. [3] Jensen.

233. Deviant Behavior and Social Control. The social causes of, and societal reactions to, several types of deviant behavior (e.g., juvenile delinquency, crime, sex deviance, mental illness). Examines the probable consequences of suggested solutions to reduce different types of deviant behavior. FALL. [3] Noble.

234. Prison Life. Prison life from the perspective of prisoners, officials, and the society in which they operate. SPRING. [3] Noble.

235. Contemporary American Society. Shifts in the political, economic, and social structure of the United States; changes in technology, demography, and social mores. SPRING. [3] Lloyd.

237. Society and Medicine. Cultural and social factors in the perception, definition, diagnosis, treatment, and distribution of disease. Doctor-patient relations; role of nurses and other health professions. Social consequences of hospitals, medical technology, medical specialization, and health insurance. [3] (Not currently offered)

239. Women, Gender, and Globalization. Globalization and its impact on women and gender relations. Multinational corporations, economic development, and inequality; new forms of work; human rights; feminist movements for change. [3] (Not currently offered)

240. Law and Society. Examines the relationship between the legal system and other institutions with illustrations drawn from both American and other societies. The actual operation of the legal system including lawyers, courts, and police is described. SPRING. [3] McCammon.

241. Art in Society. A description of the process of creating, displaying, merchandising, and evaluating art. Analysis of artist circles, production companies, training centers, patrons, critics, dealers, audiences, and government influences in the contemporary American scene as well as in other times and places. [3] (Not currently offered)

242. The Urban Community. Social organization of the urban community. Historical and contemporary patterns in the structure and growth of the city. World urbanism and social change. SPRING. [3] Lloyd.

243. Revolutions in the Modern World. From the French Revolution to the breakdown of communism and the rise of radical Islamic movements. Diffusion and transformation of challenging strategies and ideologies. Developmental paths opened or altered on a global scale. Links to domestic terror and international terrorism. [3] (Not currently offered)

244. Politics, State, and Society. The relationship between state and society; the nature and distribution of power in democratic society; the social conditions necessary for democracy; social movements and protest in political change; and the politics of public policy

making. Attention to political actions, definitions of citizenship, and political ideology . [3] (Not currently offered)

245. Music in Society. Production, use, and evaluation of music as social processes and shared practices. How music expresses status and identity. Making music together and making musicians. The impact of changing technology on music. Examples use pop, rock, classical, jazz, and country, hip hop, salsa, blues, alternative, and folk music. [3] (Not currently offered)

246. Sociology of Religion. Theories of the nature, function, and structure of religion. Religion in America, including fundamentalism, the Black Church, and cults. How religion changes and is changed by secular society. FALL. [3] Pitt.

247. Human Behavior in Organizations. Organizations are treated as resources in the production and distribution of goods and services. Case analyses from the economy are reviewed to diagnose "organizational pathologies" and to understand reciprocal impacts among organizational structures, leaders, and citizens. [3] (Not currently offered)

248. Popular Culture Dynamics. Examination of theories and research that link culture and society. Consideration of the mass media arts with particular emphasis on popular music. Focus on creators, industry, and audiences. SPRING. [3] Lena.

249. American Social Movements. The effect of key social movements on American society. Comparison of the organization and success of movements such as the American Revolution, Southern Secession, Populism, Woman's Suffrage, and Civil Rights. SPRING. [3] Isaac.

250. Gender in Society. Theoretical approaches to gender relations with a focus on the contemporary U.S. Evolution of gender stereotypes, gender socialization over the life course, gender in social interactions, institutional sources of gender inequality, and intersections of gender with race, social class, and sexual identity. Topics include work, school, families, health, and intimate relationships. [3] (Not currently offered)

251. Women and Public Policy in America. A study of public policies as they affect women in contemporary American society. Issues considered include participation of women in the labor force; effects of employment patterns on the family; birth control, abortion, and health care policies; child care; participation of women in political processes; divorce, child support, and custody; affirmative action policies; present governmental remedies and proposed alternatives. FALL. [3] Campbell.

254. Schools and Society: The Sociology of Education. How schools affect individuals and relate to institutions: the government, the economy, social classes, and families. How social attributes, including race and class, affect academic achievement. Controversies such as desegregation and intelligence testing. SPRING. [3] Pitt.

255. Racial and Ethnic Minorities in the United States. Status of blacks, Asians, Hispanics, and other minorities. Migration, identity and association, and strategies to improve group status and reduce intergroup tensions. Comparisons to other countries. FALL. [3] Pitt.

257. Gender, Sexuality, and the Body. The body is a physical marker of gender and sexuality. Biological reproduction is saturated with social meanings—shaping ideas about masculinity, femininity, the gender division of labor, and heterosexuality. In this course, we will look at the body as reflexive project and as the site of historical and ideological significance. We address race, ethnicity, physical abilities, and class in explaining variations in cultural ideals. SPRING. [3] Carpenter.

258. The South in American Culture. The changing relationship between the South and the rest of the country and its effects on understandings and definitions of the South, and changes in southern social structures and patterns, race relations, and economic and political institutions. [3] (Not currently offered)

263. Religion, Science, and the Paranormal. Critical study of paranormalism as a belief system at the fringes of science and religion. SPRING. [3] Jensen.

264. Social Dynamics of Mental Health. Definition and classification of mental health and mental illness. Emphasis on social factors affecting mental health. Different ways of responding to persons in poor mental health and consequences of particular responses. FALL. [3] Brown.

267. Seminar on Gender and Violence. In-depth study of violence against women, with a service-learning component in a community setting. Topics include domestic abuse, rape, sexual harassment, pornography, and global violence. Focus on problems and potential solutions, examining violence on a societal, institutional, and individual level, interrogating the "personal as political," and exposing power structures that shape our communities. [3] (Not currently offered)

268. Race, Gender, and Health. Effect of racial and ethnic background, gender, socioeconomic status, sexual identity, and age or generation on the experiences of health, illness, medical institutions, and work in the health professions. [3] (Not currently offered)

269. Ethnic American University Journeys. Evolution of racial and ethnic minority presence on college campuses, including integration/self-segregation, affirmative action, minority student support/retention, representation, activism. Examination of Vanderbilt's response to diversity issues as a campus-wide lab. [3] (Not currently offered)

A&S

270. Human Ecology and Society. Demography, social organization, technology, and the global environment. Shifting energy systems; sustainable industries; food production. Growth vs. development. Affluence, waste, and recycling. FALL. [3] Long.

272. Gender Identities, Interactions, and Relationships. Gender identities form and influence interactions in friendships, intimate relations, families, education, and other institutions. Changes and continuities in gender roles within the United States and ways in which race, class, and sexual orientation intersect processes of gender relations. [3] (Not currently offered)

275. African Society. Traditional African social structure. Influences of Europe, Asia, and the Americas on shaping African society. Emphasis on how traditional institutions have persisted or changed over time. [3] (Not currently offered)

276. Contemporary Africa. Colonial and post-colonial African institutions. Internal and external influences on contemporary African society. Social, economic, political, and health challenges. [3] (Not currently offered)

277. Contemporary Latin America. Current history and long-term trends; regional trade. Development strategies and social inequalities. Hispanic Americans, immigration, and the U.S. border; the war on drugs. Race, music, and popular culture. [3] (Not currently offered)

278. Comparative Asian Development. Emphasis on modern India, China, and Japan. Current history and long-term trends. Religious, social, and artistic traditions. Models of modernization; dilemmas of development; challenges of globalization. [3] (Not currently offered)

279. Contemporary Mexican Society. Sociological understanding of contemporary Mexican society. The historical roots of modern Mexican state. Economic, political, and social institutions operating in Mexico, formal and informal structures, and their consequences. FALL. [3] Donato.

280a–280b. Internship. Under faculty supervision, students gain experience in any of a variety of settings, such as civic, corporate, cultural, government, health, media, political, research, and social welfare organizations. Background reading and research will be completed in Sociology 280a concurrently with the completion of internship training, Sociology 280b. A minimum of 3 hours of 280a must be completed, independent of hours taken in 280b. Students may earn up to 6 hours of 280a credit. A research paper and report must be submitted at the end of the semester during which the internship training is completed. A 2.90 grade

point average, completion of 6 hours of sociology, and prior departmental approval of the student's plans are required.

280a. Internship Research and Readings. FALL, SPRING. [3]

280b. Internship Training. Offered on a pass/fail basis only and must be taken concurrently with 280a. Hours of 280b may not be included in the minimum hours counted toward the sociology major. FALL, SPRING. [1–9]

281. Development for a Small Planet. Community-based approaches to public health, food production, and education. Appropriate technology; creating sustainable life styles; dilemmas of big development. Examples from Asia, Africa, and the Americas. SPRING. [3] Long.

294. Seminars in Selected Topics. May be repeated for credit once if there is no duplication of topic. [3] (Not currently offered)

295a–295b. Research Project. An individual research project designed to increase knowledge and skill in research. Prerequisite: 211 and a statistics course. Admission by consent of instructor and chair of the department. FALL, SPRING. [3–3] Staff.

296. Honors Research. Research and writing supervised by department staff culminating in the Senior Honors Thesis. Work consists of both background reading and active research. Open only to honors candidates. [Variable credit: 3–6, not to exceed a total of 12]

299. Independent Research and Writing. FALL, SPRING. [Variable credit: 1–6; may be repeated, not to exceed a total of 6]

The following courses are offered in years suited to graduate students in residence:

301. Classical Sociological Theory and Major Theorists. [3]

302. Contemporary Theory. [3]

310. Sociological Inquiry. [3]

311. Multivariate Analysis I. [3]

312. Multivariate Analysis II. [3]

313. Quantitative Methods Workshop. [3]

323. Teaching Workshop. [3]

331. Survey Seminar on Inequalities and Movements. [3]

333. Survey Seminar on Cultural Sociology. [3]

335. Survey Seminar on Deviant Behavior and Social Control. [3]

339. Survey Seminar on Political Sociology. [3]

343. Survey Seminar on Social Psychology. [3]

345. Survey Seminar on Social Stratification. [3]

361. Special Topic Seminars on Social Phenomena at the Macro Level. [3]

363. Special Topic Seminars on Institutions and Organizations. [3]

367. Special Topic Seminars on Norms, Power, and Related Normative Phenomena. [3]

368. Special Topic Seminars on Social Processes and Social Change. [3]

371. Special Topic Seminars on Theory and Methodology. [3]

390a–390b. Directed Studies. [Variable credit: 1–3 each semester]

Spanish and Portuguese

CHAIR Cathy L. Jrade
ACTING DIRECTOR OF UNDERGRADUATE STUDIES Cynthia M. Wasick
DIRECTOR OF GRADUATE STUDIES Benigno Trigo
PROFESSORS EMERITI J. Richard Andrews, John L. Bingham, John Crispin, Russell G. Hamilton, C. Enrique Pupo-Walker, Francisco Ruiz-Ramón
PROFESSORS Earl Fitz, Edward Friedman, Cathy L. Jrade, William Luis, René Prieto, Philip D. Rasico
ASSOCIATE PROFESSORS M. Fráncille Bergquist, Susan Berk-Seligson, Victoria A. Burrus, Benigno Trigo, Andrés Zamora
ASSISTANT PROFESSORS Jason Borge, Carlos A. Jáuregui, Christina Karageorgou, Emanuelle K. F. Oliveira
SENIOR LECTURERS Frances Alpren, Tatiana Botero, Sarah Delassus, Chalene Helmuth, Paul Miller, Elena Olazagasti-Segovia, Raquel Rincón, Lorraine Sciadini, Waldir Sepúlveda, Cynthia M. Wasick

❧ THE Department of Spanish and Portuguese offers a wide range of courses in the language, culture, and literature of Spain and Spanish America and is well known for its program in Portuguese and Brazilian studies. Two courses in Catalan are also offered.

The department offers programs of concentration in both Spanish and Spanish and Portuguese. Spanish majors specialize either in literature and culture or in language and culture; the latter specialty includes theoretical courses in Spanish phonology, morphology and syntax, dialectology, and history of the Spanish language. Interdisciplinary majors are available in Spanish and European studies or in Spanish, Portuguese, and European studies. Qualified Spanish majors may elect to take graduate courses or participate in honors work. Minors in Spanish and in Portuguese are also offered.

The department serves majors from the Center for Latin American and Iberian Studies and the Max Kade Center for European and German Studies. On the graduate level, the department offers the master of arts and master of arts in teaching in both Spanish and Portuguese, a doctoral program in Spanish, and a combination doctoral degree in Spanish/Portuguese.

Many students participate in the Vanderbilt in Spain program (Madrid or Palma de Mallorca) or in Vanderbilt programs in Argentina, Chile, the Dominican Republic, and Brazil. Activities organized by the department include lectures, films, and symposia. The department has a chapter of the national honor society Sigma Delta Pi for students of Spanish. Students are encouraged to apply for living space in the Spanish Hall of McTyeire International House.

Program of Concentration in Spanish

Spanish majors choose between two programs of concentration: Program I and Program II. The basic requirement for both programs is a minimum of 30 credit hours in Spanish courses above 200. The distribution requirements are as follows:

Program I. Concentration in Spanish Language, Literature, and Culture.

1. Core requirements: 201, 202, and 203.
2. Literature: Nine hours from courses numbered 230–281 or 294.
3. Culture: Three hours from courses numbered 204, 221–226, or 296. Students may substitute a literature course numbered 230–281 or 294.
4. Language: Three hours from courses numbered 206–213. Students may substitute another literature course numbered 230–281 or 294, or another culture course numbered 221–226 or 296.
5. Linguistics: Three hours from courses numbered 214–220, 291, or 295.
6. Elective: Three hours from courses numbered above 200 (except 293). Students may substitute a course in either Portuguese (102 or higher) or Catalan (102 or higher).

Program II. Concentration in Spanish Language, Linguistics, and Culture.

1. Core requirements: 201, 202, and 203.
2. Linguistics: Six hours from courses numbered 214–220, 291, or 295.
3. Language: Three hours from courses numbered 206–213. Students may substitute a linguistics course numbered 214–220, 291, or 295.
4. Culture: Three hours from courses numbered 204, 221–226, or 296. Students may substitute another linguistics course numbered 214–220, 291, or 295, or another language course numbered 206–213.
5. Literature: Six hours from courses numbered 230–281 or 294.
6. Elective: Three hours from courses numbered above 200 (except 293). Students may substitute a course in either Portuguese (102 or higher) or Catalan (102 or 200).

A more advanced composition course may be substituted for 201. A more advanced conversation course may be substituted for 202. Spanish 203 is prerequisite for all literature courses offered by the department. Students must take Spanish 201, 202, and 203 in order to participate in Vanderbilt in Spain. Seniors are eligible to take one or two graduate-level courses (300 and above) with the approval of the instructor and the chair of the department.

Honors Program in Spanish

Candidates for honors in Spanish who meet college and departmental requirements must complete 36 hours in Spanish courses numbered above 200. Students satisfy the requirements of the 30-hour major in Spanish language, literature, and culture (Program I) or Spanish language, linguistics, and culture (Program II), in which one of the required literature courses is either the undergraduate seminar, Spanish 280, which may be taken during either the junior or senior year, or a graduate seminar (300-level course) approved by the adviser to the Honors Program, which may only be taken

during the senior year. (If Spanish 280 has not been available, it may, with permission of the adviser to the Honors Program, be substituted by an "enriched" undergraduate literature course in which the instructor assigns outside research and a second or longer term paper to an honors candidate.)

The remaining 6 hours of the honors major consist of a senior honors thesis, which is completed during the senior year as independent study (Spanish 299a–299b) under the direction of a faculty adviser. Candidates must submit a proposal for the thesis to their prospective faculty adviser no later than the second semester of their junior year. The completed thesis must be submitted within the second semester of the senior year (deadlines are available from the department). An oral examination on the thesis and the general area of research, administered by a committee of the department, will follow.

Minor in Spanish

The minor in Spanish consists of a minimum of 18 credit hours. The specific requirements are as follows:

Spanish 201 (A more advanced composition course may be substituted)	3
Spanish 202 (A more advanced conversation course may be substituted)	3
Spanish 203	3
One advanced Spanish literature course numbered between 230 and 281, or 294	3
One advanced course in Spanish language or linguistics numbered between 206 and 220, or 291 or 295	3
One additional course in civilization, literature, or language/linguistics, chosen from courses numbered between 204 and 281, or 291, 294, 295, or 296	3
Total hours	18

Minor in Portuguese

The minor in Portuguese consists of a minimum of 15 credit hours. The specific requirements are as follows:

Portuguese 200 (Intermediate Portuguese; a more advanced language course may, subject to approval by the department, be substituted)	3
Portuguese 205 (Introduction to Luso-Brazilian Literature)	3
Portuguese 225 (Brazilian Culture)	3

At least six additional hours selected from among other 200-level courses (three of which are listed below); one 300-level graduate course or seminar may, with the permission of the minor adviser, be included:

Portuguese 232 (Introduction to Brazilian Literature), 285 (Modern Brazilian Literature), 294 (Special Topics), 385 (Seminar).

Program of Concentration in Spanish and Portuguese

This major focuses on the two dominant languages (Spanish and Portuguese) of Latin America and their literatures and cultures (those of Spanish America and Brazil).

The basic requirement for this major is a minimum of 33 credits in Spanish and Portuguese numbered 200 or above. The distribution is as follows:

1. Core requirements of Spanish 201, 202, and 203; Portuguese 200 and 205.
2. At least two of the following Spanish courses: 223, 235, 236, 243, 244, 272, and 276.
3. At least two of the following Portuguese courses: 225, 232, 285, and 385.
4. Two electives to be chosen from Spanish 223, 235, 236, 244, 272, 276, Spanish/Portuguese 293 and from Portuguese 225, 232, 285, 297, 298, 385. A student may also choose a Spanish or Portuguese 294, if the topic relates to Latin American literature and/or culture.

Under exceptional circumstances, a student may request permission from both the director of undergraduate studies and from the chair to replace a requirement in area 2 or 4 with another advanced-level Spanish course or to replace a requirement in area 3 or 4 with another advanced-level Portuguese course.

Program of Concentration in Spanish and European Studies

Students in Spanish may elect this interdisciplinary major, which requires a minimum of 42 hours of course work. A semester of study abroad in Vanderbilt in Spain is recommended.

Course work for the major is distributed as follows:

Spanish

Spanish language and literature core courses (9 hours): SPAN 201, 202, and 203 (212 may be substituted for 201; 207 or 208 may be substituted for 202)

Spanish culture and civilization (6 hours): Two of the following: SPAN 204, 221, 226, 296; History of Art 237*, 238* (**offered in Vanderbilt in Spain*)

Spanish literature (6 hours): Two Spanish courses numbered from 230–281 or 294

Elective (6 hours): Two additional Spanish courses that count towards the Spanish major. Students may substitute one course in either Portuguese (102 or higher) or Catalan (102 or higher).

Total in Spanish: 27 hours

European Studies

European Studies core courses (6 hours): EUS 201 and 250

Social Science (3 hours): One course in economics, political science, or sociology selected from the list of social science courses approved for European Studies

History (3 hours): One of the following: History 213, 214, 215, 216, 218, 220, 225, 226, 228, 230, 258, 259
Elective (3 hours): One additional course in European Studies from those listed above under Social Science and History

Total in European Studies: 15 hours

Program of Concentration in Spanish, Portuguese, and European Studies

Students in Spanish and Portuguese may elect this interdisciplinary major, which requires a minimum of 42 hours of course work. A semester of study abroad in Vanderbilt in Spain is recommended.

Course work for the major is distributed as follows:

Spanish

Spanish language and literature core courses (9 hours): SPAN 201, 202, and 203 (212 may be substituted for 201; 207 or 208 may be substituted for 202)
Spanish culture and civilization (3 hours): One of the following: SPAN 204, 221, 226, 296; History of Art 237*, 238* (**offered in Vanderbilt in Spain*)
Spanish literature (3 hours): Any Spanish course numbered from 230–281 or 294
Elective (3 hours): Any additional Spanish course that counts toward the Spanish major

Total in Spanish: 18 hours

Portuguese

Portuguese language and literature courses (6 hours): PORT 200 and 205
Brazilian culture and civilization (3 hours): PORT 225

Total in Portuguese: 9 hours

European Studies

European Studies core courses (6 hours): EUS 201 and 250
Social Science (3 hours): One course in economics, political science, or sociology selected from the list of social science courses approved for European Studies
History (3 hours): History 213, 214, 215, 216, 218, 220, 225, 226, 228, 230, 258, 259
Elective (3 hours): One additional course in European Studies from those listed above under Social Science and History

Total in European Studies: 15 hours

Teacher Licensure

Candidates for teacher licensure in Spanish at the secondary level should refer to the chapter on Licensure for Teaching in the Peabody College section of this catalog.

Spanish

Entering students should consult their advisers or the Department of Spanish and Portuguese for advice on placement. Students who have not studied Spanish in high school should begin their studies at Vanderbilt in Spanish 100. Students with high school Spanish on their records must present an achievement test score in Spanish to be placed correctly.

100. Spanish for True Beginners. Designed exclusively for students with no previous exposure to Spanish. Development of basic listening, speaking, reading, and writing skills with Spanish-speaking culture through a communicative approach. Conducted primarily in Spanish. Not open to students with previous training in Spanish. Four hours of classroom instruction plus one hour of independent research activities. Students continuing in Spanish take Spanish 102. [5] Staff.

101. Elementary Spanish I. Basic listening, speaking, reading, and writing skills. Cultures through a communicative approach. Conducted entirely in Spanish. Prerequisite: some previous study of the language. Four hours of classroom instruction plus one hour of independent research activities. [5] Staff.

102. Elementary Spanish II. Further development of listening, speaking, reading, and writing skills. Communicative approach, exposure to aspects of Spanish-speaking culture. Conducted entirely in Spanish. Four hours of classroom instruction plus one hour of independent research activities. Prerequisite: 100 or 101, or appropriate placement test score. [3] Staff.

Starred course 104 is prerequisite for all Spanish courses numbered above 199. Spanish 203 is prerequisite for 231 and all higher-numbered literature courses.

★104. Intermediate Spanish. Development of intermediate linguistic competence in Spanish (listening, speaking, reading, and writing) using a communicative approach. Study of cultures of Spanish-speaking countries by incorporating authentic materials. Four hours of classroom instruction plus one hour of independent research activities. Prerequisite: 102 or appropriate placement test score. [5] Staff.

115F. First-Year Writing Seminar.

200. Intensive Spanish. A one-month intensive course in the Spanish language, meeting before regular classes begin. Emphasis is placed on conversation, reading, composition, and grammar. Offered only in the Vanderbilt in Spain program. FALL, SPRING. [3]

201. Intermediate Spanish Writing. Development of abilities in composition tasks related to expository writing. Focus on rhetorical techniques for organizing information, vocabulary abilities, and emphasis on collaborative work. Students write several short papers and a final long paper. Prerequisite: 104 or appropriate placement test score. FALL, SPRING. [3] Staff.

202. Spanish for Oral Communication through Cultural Topics. Development of speaking skills in Spanish through the study of Spanish/Hispanic culture, and Spanish and Spanish-American current affairs. Contemporary articles, short texts, TV news, documentaries, and Web materials. Special attention is given to different registers of spoken Spanish, and the development of effective strategies for oral communication. Prerequisite: 201 or appropriate placement test score. FALL, SPRING. [3] Staff.

203. Introduction to Spanish and Spanish American Literature. Critical reading and methods of literary analysis. Selections cover all genres in several periods. Prerequisite: 201 and 202. FALL, SPRING. [3] Staff.

204. Introduction to Hispanic Cultural Studies. An examination of contemporary Hispanic culture through a variety of media (newspapers, magazines, comics, Web sites), arts, and entertainment. Prerequisite: 201 and 202. Not open to students who have studied abroad. FALL. [3] Borge, Zamora.

206. Spanish for Business and Economics. Linguistic skills and cultural information for conducting business in the Spanish-speaking world. Basic syntactic and phonological structures within the context of business. Activities to develop written, oral, and aural skills in several areas, including finance, management, marketing, and tourism. Prerequisite: 201. FALL, SPRING. [3] Sciadini, Wasick.

207. Advanced Conversation. An intercultural approach contrasting Spanish and American perspectives. Discussions and oral presentations on contemporary issues. For students with a high level of oral proficiency, especially those returning from the Vanderbilt in Spain program. [3] Staff. (Not currently offered)

208. Advanced Conversation through Cultural Issues in Film. Spanish and Latin American films as the basis for discussion and analysis of linguistic, historic, cultural, and social issues. Open to students who have completed at least one course beyond the 201, 202, and 203 sequence but closed to native speakers. FALL. [3] Olazagasti-Segovia.

A&S

209. The Spanish Language. An advanced grammar course with emphasis on problem constructions, stylistics, and composition. Offered only in the Vanderbilt in Spain program. FALL, SPRING. [3]

210. Spanish for the Legal Profession. Advanced conversation course incorporating linguistic skills and cultural information necessary for dealing with legal issues in the Hispanic world. Service learning with the Latino community as an important component. Prerequisite: 201 and 202; closed to native speakers of Spanish. FALL. [3] Wasick.

211. Spanish for the Medical Profession. Advanced conversation course incorporating linguistic skills and cultural information necessary for dealing with medical issues in the Hispanic world. Service learning with the Latino community as an important component. Prerequisite: 201 and 202; closed to native speakers of Spanish. SPRING. [3] Sciadini.

213. Translation and Interpretation. The art and practice of translation and interpretation dealing with materials from science, economics, politics, belles lettres, etc. Prerequisite: 201 and 202. SPRING. [3] Bergquist.

214. Dialectology. Formation, general characteristics, distinctive features, and geographical extension of the principal dialectal regions of Spain and Spanish America. Both historical and modern dialects are considered. Emphasis on non-standard dialectal varieties of Spanish. [3] Rasico. (Offered 2007/2008)

215. Words and Stems. A morphological presentation of the structural principles governing the creation of noun, verb, adjective, and adverb along with an overview of the formation of the underlying stems. [3] Bergquist. (Offered 2007/2008)

216. Phonology. Analysis of the production, nature, and systematic function of the sounds of the Spanish language, as well as of problems frequently experienced by non-native speakers. Both standard and dialect features of Spanish are examined. FALL. [3] Rasico.

217. Contrastive Analysis of Spanish and English. A comparison of the phonological, morphological, and syntactical structures of Spanish and English to demonstrate the similarities and differences between the linguistic systems of these two languages. FALL. [3] Bergquist.

218. Morphology and Syntax. An introduction to the principles of modern Spanish morphology (word formation) and syntax (phrase structure and usage) through an analysis of

the native speaker's organization of reality and use of language to reflect and to express that organization. [3] Rasico. (Offered 2007/2008)

219. History of the Spanish Language. Origins and evolution of the Spanish (Castilian) language. Emphasis on the phonological and morphological development of Spanish within historical and cultural contexts of the Iberian Peninsula. [3] Rasico.

220. The Languages of Spain. Origins, development, and the contemporary sociolinguistic situation of the principal languages and dialects of Spain, including Castilian, Catalan, Galician, and Basque. [3] Rasico. (Offered 2007/2008)

221. Spanish Civilization. The development of Spanish culture from the Middle Ages to the present in the context of Western civilization. Discussion of historical background, literary and artistic trends, and political and socioeconomic patterns. Not open to students who have attended Vanderbilt in Spain. Prerequisite: 201 and 202. [3] Burrus, Wasick.

223. Spanish American Civilization. The development of Spanish American culture from colonial times to the present; discussion of basic institutions, political and socioeconomic patterns, education, the arts, and folklore. Prerequisite: 201 and 202. [3] Jrade. (Not currently offered)

226. Film and Recent Cultural Trends in Spain. The cinema and Spanish cultural evolution during and after the Franco dictatorship. Prerequisite: 203, 212, or Vanderbilt in Spain semester. [3]

230. Development of Lyric Poetry. Popular and traditional forms; the sonnet and other Renaissance and Baroque classical forms. Romanticism. [3] Staff. (Not currently offered)

231. The Origins of Spanish Literature. From its beginnings to the Renaissance; the creation of a social order and a cultural tradition. Close study of three literary landmarks—*Poema del Cid, Libro de Buen Amor, La Celestina*—and other prose and poetry selections. [3] Burrus. (Offered 2007/2008)

232. Literature of the Spanish Golden Age. Representative works from early modern Spain, including poetry, prose, and drama of the Renaissance and Baroque periods. [3] Friedman. (Not currently offered)

233. Modern Spanish Literature. The eighteenth and nineteenth centuries: essays and Neoclassic literature, Romanticism, Realism, and Naturalism. Representative works and authors from all genres. [3] Zamora. (Offered 2007/2008)

234. Contemporary Spanish Literature. Representative authors and works from the Generation of 1898 to the present. [3] Staff. (Not currently offered)

235. Spanish American Literature. The development of all forms from colonial times to World War I. The different patterns of interaction of native American, African, and European cultural traditions. The unity and diversity of Spanish American literature. [3] Jáuregui, Trigo. (Offered 2007/2008)

236. Contemporary Literature of Spanish America. All literary forms from World War I to the present. Emphasis on the works of Neruda, Borges, Paz, García Márquez, and others. [3] Jrade, Jáuregui, Prieto, Trigo.

237. Contemporary Lyric Poetry. From Modernism to the present in Spain and Spanish America. SPRING. [3] Karageorgou.

239. Development of the Novel. From the seventeenth century through Realism and Naturalism in Spain and Spanish America. [3] Zamora. (Offered 2007/2008)

240. The Contemporary Novel. New forms in the twentieth-century novel in Spain and Spanish America. [3] Staff. (Not currently offered)

243. Latino Immigration Experience. Literature and film that depict the immigration and assimilation experiences of the main Latino groups. Service to the Latino community integral part of course work. SPRING. [3] Olazagasti-Segovia.

244. Afro-Hispanic Literature. From nineteenth-century slave narrative to modern writers such as Miguel Barnet, Alejo Carpentier, and Quince Duncan. [3] Luis. (Not currently offered)

246. *Don Quixote.* Directed reading and intensive study of the novel. [3] Friedman. (Offered 2007/2008)

251. Development of Drama. Spanish theatrical works from 1600 to 1900, including the Golden age comedia, neoclassicism, romanticism, and early realism in drama. [3] Friedman.

256. Love and Honor in Medieval and Golden Age Literature. The evolution of the key themes of love and honor in works from various genres of medieval and Golden Age Spanish literature with special attention to sociohistorical context. [3] Burrus. (Not currently offered)

260. Development of the Short Story. From early manifestations in Spain through its current forms in Spain and Spanish America. SPRING. [3] Friedman, Prieto.

A&S

272. Love in the Latin American Novel. Conceptions of love in Latin American novels beginning in the nineteenth century. The effect of history, race, and morals on the shaping of affective response. FALL. [3] Prieto.

276. Going Native in Latin American Literature and Film. Intersections among literature, cinema, anthropology, and cultural theory, through selected movies and texts from different moments of Latin American cultural history. Ethnographic, historical, and literary narrations and films in which the encounter with the native "savage" causes the destabilization of identity for the "civilized" conqueror, missionary, captive, ethnographer, or traveler. [3] Jáuregui. (Not currently offered)

280. Undergraduate Seminar. Close contextual readings of major Hispanic literary texts through selected critical approaches. Open to junior and senior majors in Spanish; required of candidates for honors. [3] Staff. (Not currently offered)

281. The Theory and Practice of Drama. Critical works and plays from different periods. Introduction to the principles of dramaturgy. [3] Friedman. (Offered 2007/2008)

289. Independent Study. Designed primarily for majors. Projects are arranged with individual professors and must be approved by the director of undergraduate studies, before the close of registration. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed 12 over a four-semester period] Staff.

291. Spanish Applied Linguistics. Addresses main areas of Spanish applied linguistics needed by future educators of Spanish language and culture. Includes an introduction to the field of applied linguistics, research in the area of second language acquisition, a study of the Spanish language from the English-speaking learner's point of view, the relationship between language and society/culture, the use of technology, and proficiency assessment. Reading of relevant literature and practical exercises to foster critical thinking. Intended for upper-level undergraduates and graduate students. [3] (Not currently offered)

294. Special Topics in Hispanic Literature. FALL, SPRING. [May be repeated for credit if there is no duplication of topic] [3] Staff.

295. Special Topics in Spanish Language and Linguistics. FALL, SPRING. [May be repeated for credit if there is no duplication of topic] [3] Staff.

296. Special Topics in Hispanic Culture. FALL, SPRING. [May be repeated for credit if there is no duplication of topic] [3] Staff.

299a–299b. Senior Honors Thesis. [3] Staff.

Seniors are eligible to take one graduate course or seminar in the last semester of their undergraduate program, subject to approval of the instructor of the course; of the department's director of graduate studies, who will assess the student's preparation; and of the Graduate School. For further information on the courses listed below, see the Graduate School catalog.

301. Literary Analysis and Theory. FALL. [3] Zamora or Friedman.

302. Ibero-Romance Philology. SPRING. [3] Rasico.

310. Foreign Language Learning and Teaching. FALL. [3] Alpren.

314. Introduction to Latin American Colonial Studies. [3] Jáuregui, Fitz.

330. Survey of Medieval Spanish Literature. [3] Burrus.

331. Seminar: Studies in Medieval Literature. [3] Burrus.

332. Love in Late Medieval Spanish Literature. [3] Burrus.

333. Seminar: Modernismo. [3] Jrade.

334. Ordering and Disrupting Fictions in Latin America. SPRING. [3] Trigo.

335. The Spanish American Novel of the Boom Period. [3] Luis.

336. Self Writing in Latin America. FALL. [3] Trigo.

337. The Melancholy Novel in Latin America. FALL. [3] Trigo.

338. Seminar: Studies in Colonial Literature. (Also listed as Portuguese 338) [3] Fitz, Jáuregui. (Not currently offered)

342. Seminar: The Baroque. SPRING. [3] Friedman.

343. Seminar: Studies in Golden Age Drama. [3] Friedman.

345. Seminar: Early Modern Spanish Narrative. [3] Friedman.

351. Comparative Methodology. (Also listed as Portuguese 351) [3] Fitz.

352. Seminar: Issues in Hispanic Cinema. [3] Zamora, Borge.

353. The Literature of Indianismo and Indigenismo. FALL. [3] Prieto.

354. The Politics of Identity in Latino U.S. Literature. [3] Luis.

361. Seminar: Studies in Eighteenth- and Nineteenth-Century Spanish Literature. [3] Zamora.

362. Seminar: The Realist Novel of the Nineteenth-Century Spanish. [3] Zamora.

363. Seminar: Modern Spanish Poetry and Poetics. [3] Karageorgou.

372. Seminar: Studies in Twentieth-Century Spanish Literature. [3] Staff.

387. Seminar: Contemporary Spanish American Novel. SPRING. [3] Luis, Jrade, Prieto.

388. Seminar: Special Topics in Spanish Literature. [3] Friedman, Zamora, Karageorgou.

389. Seminar: Special Topics in Spanish American Literature. FALL. [3] Jrade, Luis, Prieto, Trigo.

396. Seminar: Special Studies in Spanish Linguistics. [Variable Credit: 1–6]

397. Special Studies in Spanish Literature. [Variable Credit: 1–6]

398. Special Studies in Spanish American Literature. [Variable Credit: 1–6]

Courses in English Translation

293. Contemporary Latin American Prose Fiction in English Translation. (Also listed as Portuguese 293) A study of major themes and techniques of the contemporary fiction in Spanish America and Brazil. Does not count toward the hours required for a major or minor in Spanish or Portuguese. [3] Fitz, Jrade, Trigo. (Not currently offered)

Portuguese

102. Intensive Elementary Portuguese. Intensive Elementary and Intermediate Portuguese. (Formerly Portuguese 110a) An accelerated introduction to reading, writing, speaking, and listening. Emphasis on practical usage. Open to students with prior study of another Romance language or by permission of instructor. May be counted as an elective toward the major in Spanish. FALL, SPRING. [5] Staff.

115F. First-Year Writing Seminar.

200. Intermediate Portuguese. Review of Portuguese grammar with emphasis on conversation, composition, and reading of modern Portuguese literary texts. Prerequisite: 102 or equivalent. SPRING. [3] Oliveira.

205. Introduction to Luso Brazilian Literature. Critical readings and methods of literary analysis. Selections include masterpieces from Portugal and Brazil and cover all genres in several periods. Emphasis on improving conversational and writing skills. Prerequisite: 200. FALL. [3] Oliveira, Fitz.

225. Brazilian Culture. The values and attitudes that shape Brazil and Brazilian national identity. History, race relations, literature, music, cinema, and ecology. Taught in English. FALL. [3] Oliveira.

232. Brazilian Literature through the Nineteenth Century. Main literary trends, principal writers and works of Brazilian literature, from colonial beginnings through the nineteenth century. Study of the works of Gregório de Matos, Gonçalves Dias, Alencar, Machado de Assis, and Euclides da Cunha. FALL. [3] Fitz.

285. Modern Brazilian Literature. The development of Brazilian literature from the Semana de Arte Moderna to the present. Emphasis on the modernist and neo-modernist movements. [3] Staff.

289. Independent Study. A reading course, the content of which varies according to the needs of the individual student. Primarily designed to cover pertinent material not otherwise available to the student in the regular courses of the curriculum. FALL, SPRING. [Variable credit: 1–3 hours, not to exceed 12 over a four-semester period]

294. Special Topics in Portuguese Language, Literature, or Civilization. [3] Fitz, Oliveira.

297. Latin American Literature in a Comparative Perspective: From the Pre-Columbian Era through the Nineteenth Century. Spanish American and Brazilian literature from the conquests to the end of the nineteenth century. Authors may include Sor Juana, Mathos, Alencar, Assis, and Carrasquilla. Prerequisite: 205. [3] Fitz. (Offered 2007/2008)

298. Latin American Literature in a Comparative Perspective: The Twentieth Century up to the Present. Spanish American and Brazilian literature from twentieth century and to the present. Texts may include *Os sertões, La guerra del fin del mundo, Ficciones, Perto do coração selvagem,* and *Água viva.* Prerequisite: 205. [3] Fitz. (Offered 2007/2008)

A&S

Seniors are eligible to take one graduate course or seminar in the last semester of their undergraduate program, subject to approval of the instructor of the course; of the department's director of graduate studies, who will assess the student's preparation; and of the Graduate School. For further information on the courses listed below, see the Graduate School catalog.

301. Literary Analysis and Theory. [3]

302. Ibero-Romance Philology. [3] Rasico.

310. Foreign Language Learning and Teaching. FALL. [3] Alpren.

314. Introduction to Latin American Colonial Studies. [3] Jáuregui, Fitz.

351. Comparative Methodology. (Also listed as Spanish 351). [3] Fitz.

385. Special Topics in Luso-Brazilian Literature. SPRING. [3] Fitz.

397. Special Studies in Portuguese Literature. [Variable Credit: 1–6]

398. Special Studies in Brazilian Literature. [Variable Credit: 1–6]

Courses in English Translation

293. Contemporary Latin American Prose Fiction in English Translation. (Also listed as Spanish 293) A study of major themes and techniques of the contemporary fiction in Spanish America and Brazil. Does not count toward the hours required for a major or minor in Spanish or Portuguese. [3] Fitz, Trigo. (Not currently offered)

295. Special Topics in Portuguese and Brazilian Literature or Civilization in English Translation. Does not count toward a major or minor in Portuguese. [3] (Not currently offered)

Catalan

102. Intensive Elementary Catalan. Romance tongue of northeastern Spain, Andorra, and southwestern France. Emphasis on oral communication, grammar, reading, and culture. Prior study of another Romance language through the intermediate level is highly recommended. May be counted as an elective toward the major in Spanish. FALL. [3] Rasico.

200. Intermediate Catalan. Review of Catalan grammar with emphasis on conversation, composition, and reading of modern Catalan literary texts. Prerequisite: 102 or equivalent. [3] Rasico. (Not currently offered)

Teacher Education

STUDENTS interested in preparing for licensure as early childhood, elementary, special education, or secondary school teachers should meet with Associate Dean M. Fráncille Bergquist, College of Arts and Science, as soon as possible, to initiate discussion with appropriate personnel in teacher education.

Specific information on program requirements will be found under Licensure for Teaching in the Peabody College section of this catalog.

Early Childhood and Elementary Education

Students interested in preparing to teach early childhood or elementary school pupils major in a single discipline or an interdisciplinary program in the College of Arts and Science as well as in education at Peabody College.

Secondary Education

The College of Arts and Science and Peabody College offer teacher education programs leading to secondary school teacher licensure in the following fields:

English
Foreign Languages (French, German, Latin, Spanish)
Mathematics
Science (Biology, Chemistry, Earth and Space Science, Physics)
Social Studies (History, Economics, and Political Science). Psychology and Sociology may become additional endorsement areas for students who also have selected history, political science, or economics as an endorsement area.

Students major in an academic discipline in the College of Arts and Science and complete a second major in education at Peabody College.

Special Education

Students interested in preparing to teach children with special needs major in special education at Peabody College. Areas of teacher licensure available are mild and moderate disabilities, multiple and severe disabilities, visual impairment, hearing impairment, and early childhood special education.

Theatre

CHAIR Phillip N. Franck
DIRECTOR OF UNDERGRADUATE STUDIES Jon W. Hallquist
PROFESSORS EMERITI Robert A. Baldwin, Cecil D. Jones Jr.
ASSOCIATE PROFESSORS Phillip N. Franck, Jon W. Hallquist, Terryl W. Hallquist
ASSISTANT PROFESSOR Jeffrey Ullom
SENIOR LECTURERS William M. Akers, Alexandra Sargent
LECTURER Nate Otto

❧VANDERBILT'S Department of Theatre offers a vital center of innovative scholarship, teaching, creative expression, and exploration. The study of theatre introduces students to a major form of literature and performing arts, thereby developing a familiarity with one of the greatest cultural heritages and an understanding of human behavior and civilization as it is reflected through the ages. Theatre uniquely shapes perceptions about life into an active experience. Because this process encourages critical thought and discussion, the department provides a singular and important aspect of a liberal arts education through its production season and course work. Viewed as a practical extension of the department's curriculum, plays are produced in Neely Auditorium, a laboratory where students learn to form creative expressions as well as to evaluate and to critique them.

On one level, the Department of Theatre helps the general liberal arts student develop reasoned standards of criticism and an understanding of the intimate correlation between the theatre and the society which it reflects, preparing Vanderbilt graduates for successful careers in theatre as well as other fields of interest. For its majors and minors, the department provides a more detailed and specialized study of the major components of theatrical endeavor, allowing opportunities for the practical application of course work in the productions staged at the theatre. In many cases, the department helps to prepare students with professional aspirations as either artists or teachers in their specialized area of interest.

Work in the productions at Vanderbilt reflects the instruction that occurs in the classroom at Neely Auditorium. Because the academic endeavors require hands-on, project-oriented teaching, students can expect small-to-medium class enrollments and numerous opportunities for exposure to faculty instruction outside of the classroom. The department's curriculum includes courses in acting, directing, design, technology, dramatic literature, theatre history and criticism, playwriting, and filmmaking. Students can either major or minor in theatre at Vanderbilt. The major consists of a minimum of 33 hours that include courses in acting, directing, dramatic literature, theatre history/criticism, design, technology, and stagecraft. For the minor, students select one of three more narrowly focused tracks (dramatic literature/theatre history, acting/directing, or design/technology) and complete 18 hours of course work.

Students may also learn about theatre by studying with Coe Artists, distinguished guest-artist professionals brought to campus each year to benefit majors, minors, and those with a serious interest in theatre. Week-long master classes are taught by playwrights, actors, designers, and directors from the professional world of theatre, television, and film. Previous Coe Artists have included such celebrated artists as Karl Malden, Olympia Dukakis, Fiona Shaw, Eva Marie Saint, and Actors from the London Stage. The Department of Theatre also offers a month-long program of study of theatre in London during the Maymester. Students have the opportunity to witness a variety of theatrical experiences, as well as hear professional artists speak as guest lecturers.

Theatre majors and minors from Vanderbilt have entered a wide variety of professions and post-graduate opportunities after they graduate. Those seeking employment in the fields of theatre, film, radio, or television have secured positions at appropriate graduate schools or internships with professional companies immediately following their study at Vanderbilt. Many distinguished professional theatre companies across the nation, television networks in New York, and the film industry in Los Angeles include Vanderbilt University Theatre alumni as writers, actors, designers, technicians, dramaturgs, and stage managers. In addition, many Vanderbilt theatre students have secured teaching assignments at either the college/university level (once they have completed appropriate post-graduate education) or the elementary/secondary education level. The practice of theatre requires individuals to participate through a variety of means: to collaborate with all other members of a production team; to express elements of abstract thought in both oral and written form; and to develop the critical ability to assess and analyze aesthetic choices. As a result of these experiences, recent graduates have also pursued careers in such widely diverse fields as law, medicine, psychology, and business.

Program of Concentration in Theatre

Students majoring in theatre are required to complete a minimum of 33 hours in courses concerned exclusively with dramatic literature and the theatre. Required courses are 100 or 115F, 110, 219, 230, and 232; two courses chosen from 212, 213, 214; three courses chosen from 201, 202, 203, and 204.

Honors Program

The Honors Program in Theatre is designed to afford superior students the opportunity to pursue more intensive work within their major field.

Admission requirements are: (1) completion of junior year; (2) completion of at least 21 hours of the theatre major; (3) 3.0 minimum cumulative GPA and a 3.5 minimum GPA in courses counting toward the major.

Candidates who successfully complete the following requirements may graduate with honors or high honors: (1) maintain the aforementioned GPA throughout the senior year; (2) complete all requirements of the theatre major; (3) complete 6 hours of independent research 299a–299b (Honors

Research and Thesis) normally taken during the senior year; (4) write an honors thesis to be completed by the spring of the senior year; (5) successfully complete an honors oral examination on the topic of the thesis.

Minor in Theatre

A minor in theatre requires 18 hours of courses in the department, all of which are involved in one of three major areas of work offered to majors. Theatre 100 or 115F and 232 are required in each option, plus courses from the following lists:

Dramatic Literature/Theatre History: Choose four from 201, 202, 203, 204, 205.
Acting/Directing: Choose four from 219, 220, 223, 230, appropriate 294 credit.
Design/Technology: 110 required; choose two from 212, 213, 214.

Starred courses 100 or 115F or consent of the instructor is prerequisite for the following courses: 212–213–214, 219, 225, 232, and 280. All other prerequisites are listed in the course descriptions.

★100. Fundamentals of Theatre. An introduction to the various elements that combine to form a theatrical experience; the development of critical standards to judge these elements in performance. No credit for students who have completed 115F. FALL, SPRING. [3] Ullom, Franck, T. Hallquist.

110. Introduction to Theatrical Production. Contemporary concepts, methods, and practices employed in the planning and implementation of stage scenery and lighting. Communication, creative problem solving, and organizational management through research, lecture, and class discussion. FALL, SPRING. [4] Otto.

★115F. First-Year Writing Seminar. [3]

170. Introduction to Filmmaking. Basics of motion picture production through the creation of four short video projects. Practical analysis of shorts, documentaries, and feature films. Emphasis on storytelling with the camera. FALL, SPRING. [4] Akers.

201–202. The Development of Drama and Theatre. A historical and critical study of significant drama and the physical theatre from the beginning to 1920. 201: Aeschylus to 1642; FALL. 202: 1642 to 1920; SPRING. Prerequisite: sophomore standing or consent of the instructor. [3–3] 201 (Offered alternate years); 202 (Offered alternate years) Ullom.

203. Contemporary Drama and Theatre. A critical study of significant drama and theories of theatrical production in Europe and America since 1920 with special emphasis on the emergence of the American theatre to a position of international importance. Prerequisite: sophomore standing or consent of the instructor. SPRING. [3] Ullom. (Offered alternate years)

204. Development of the American Theatre. Theatrical activity in the United States from the Colonial period to the present. The course will include the reading of selected plays. Prerequisite: sophomore standing or consent of the instructor. FALL. [3] J. Hallquist. (Offered alternate years)

205. American Musical Theatre. The American musical remains the most popular form of theatrical entertainment since its inception in 1866. By exploring and discussing the genre's

history and development, participants will gain appreciation for the unique history of musicals as well as a critical eye toward the craftsmanship and artistry involved in creating this distinctly American form of theatrical entertainment. Students who have taken Theatre 115F ("Musicals") are prohibited from taking this class. Prerequisite: sophomore standing or consent of the instructor. SUMMER. [3] Ullom.

211. Rehearsal—Production. Students performing major technical assignments in university theatre productions may receive 1 hour credit per assignment at the discretion of the technical director. Detailed plans of expected work and full reports on all crew sessions are to be submitted. Prerequisite: 212, 213, or 214 as appropriate. FALL, SPRING. [Variable credit: 1–2; may be repeated to a maximum of 3]

212–213–214. Elements of Basic Design. Physical aspects of the theatre explored as an aid to understanding and critical evaluation of their role in the art of theatre.

212. Scenery and Properties. Prerequisite: 100 or 115F and 110 or consent of the instructor. FALL. [4] Franck.

213. Lighting and Sound. Prerequisite: 100 or 115F and 110 or consent of the instructor. SPRING. [4] Franck.

214. Costuming and Makeup . Prerequisite: 100 or 115F and 110 or consent of the instructor. FALL. [4] Sargent.

216. The History of Costume. History of costume from Renaissance to moder n day. Emphasis on how clothing has shaped women's roles in society. SPRING. [3] Sargent.

219. Acting I. The actor's role in the theatre with emphasis on acting as artistic self expression through improvisation and development of performance skills. Prerequisite: 100 or 115F. Not available on a P/F basis. FALL, SPRING. [3] J. Hallquist.

220. Acting II. The actor's role in the theatre with emphasis on acting as character interpretation and ensemble performance through analysis and scene study. Prerequisite: 219. Not available on a P/F basis. SPRING. [3] T. Hallquist.

221. Rehearsal—Acting. Students performing major roles in university theatre productions may receive 1 credit hour per role at the discretion of the director. Full character analysis and periodic reports of rehearsal progress are required. Prerequisite: 220. FALL, SPRING. [Variable credit: 1–2; may be repeated to a maximum of 3]

223. Problems of Acting Style. Advanced scene study, investigating methods used today to perform drama of past eras which used non-realistic styles. Prerequisite: 220. Not available on a P/F basis. SPRING [3] J. Hallquist. (Offered alternate years)

225. Playwriting. Instruction in writing plays with critical attention to dramatic themes and characterization. Prerequisite: 100 or 115F and consent of the instructor. [3] Akers. (Not currently offered)

227. Screenwriting. An introduction to the techniques of screenwriting. Admission by consent of the instructor. FALL. [3] Akers.

230. Play Direction. Play direction as an aid to critical understanding and appreciation of the theatre. Development of techniques. Prerequisite: 219. FALL. [3] T. Hallquist.

232. Shakespeare in the Theatre. An intensive analytical study of selected plays and scenes designed to acquaint the student with the interaction between script, theatre, and audience in terms of production in the theatre. Prerequisite: 100 or 115F or consent of the instructor. SPRING. [3] T. Hallquist.

A&S

271. American Film Forms. A critical study of major forms of feature-length motion pictures especially associated with American filmmaking. Representative examples of five major genres. SUMMER. [3] J. Hallquist.

275. Advanced Screenwriting. Advanced instruction in screenwriting. Emphasis on compelling ideas, advanced story structure, dramatic character development, and dialogue. Prerequisite: 227. SPRING. [3] Akers.

276. Recent Cinema. Critical analysis of motion pictures produced in the past ten years with emphasis on a variety of story telling modes, including genre, and theme, and on practical application of production techniques. [3] Akers. (Not currently offered)

277. Advanced Filmmaking. Advanced instruction in filmmaking. Emphasis on film theory, camera placement, editing, and sound design. Prerequisite: 170. FALL. [4] Akers.

278. Advanced Production Workshop. Intensive advanced exercise in filmmaking. Students participate as crew for significant video project. Admission by consent of instructor. SPRING. [3] Akers.

280. Theatre in London. An intensive overseas summer study program in contemporary British theatre. In London students attend more than ten productions covering a broad spectrum of theatrical offerings, and weekly seminars with artists and administrators from the British professional stage. Prerequisite: Theatre 100 or 115F or consent of the instructor. SUMMER. [3] Staff.

289. Independent Study. A research project in selected aspects of theatre and drama to be arranged with the instructor. FALL, SPRING. [Variable credit: 1–3] Staff.

294. Selected Topics in Theatre. Intensive study of a particular area of theatre. Emphasis on personal investigation and written reports. [3]

299a–299b. Senior Honors Thesis. Independent research and completion of an honors thesis, done in consultation with a member of the faculty in Theatre. Open only to those who qualify to begin honors work in Theatre. FALL, SPRING. [3–3] Ullom.

Women's and Gender Studies

DIRECTOR Monica J. Casper
ASSOCIATE DIRECTOR Shubra Sharma
CHAIR, STEERING COMMITTEE Gay H. Welch

Affiliated Faculty

PROFESSORS Ellen W. Clayton (Pediatrics, Law), Beth A. Conklin (Anthropology), Colin Dayan (Humanities, English) Carolyn Dever (English, Women's and Gender Studies), Lynn E. Enterline (English), Earl E. Fitz (Spanish and Portuguese), Vivien G. Fryd (History of Art), Tracey George (Law), Barbara Hahn (Germanic and Slavic Languages), Laurence R. Helfer (Law), Gary Jensen (Sociology), Cathy L. Jrade (Spanish and Portuguese), Vera Kutzinski (English), Amy-Jill Levine (New Testament Studies), Leah S. Marcus (English), Holly J. McCammon (Sociology), Thomas A. J. McGinn (Classical Studies), Robin McWilliam (Pediatrics and Special Education), Bonnie Miller-McLemore (Pastoral Theology and Counseling), Dana Nelson (English), Kelly Oliver (Philosophy, Women's and Gender Studies), Charlotte Pierce-Baker (Women's and Gender Studies, English), Rene Prieto (Spanish and Portuguese), Tracy D. Sharpley-Whiting (African American and Diaspora Studies, French), John Sloop (Communication Studies), Ronnie Steinberg (Sociology), Carol M. Swain (Political Science), Cecelia Tichi (English), Susan F. Wiltshire (Classical Studies)

ASSOCIATE PROFESSORS Karen E. Campbell (Sociology), Monica J. Casper (Sociology, Women's and Gender Studies), Tina Chen (English), Cynthia Cyrus (Blair School), Kate Daniels (English), Idit Dobbs-Weinstein (Philosophy), Kathy Gaca (Classical Studies), Teresa Goddu (English), Stefanie A. Lindquist (Political Science, Law), José Medina (Philosophy), Bridget Orr (English), Lynn Ramey (French), Ruth Rogaski (History), Mark Schoenfield (English), Kathryn Schwarz (English), Benigno L. Trigo (Spanish and Portuguese), Arleen Tuchman (History), Holly Tucker (French and Italian)

ASSISTANT PROFESSORS Brooke Ackerly (Political Science), Laura Carpenter (Sociology), Lynn Clarke (Communication Studies), Katherine B. Crawford (History), Anastasia Curwood (African American and Diaspora Studies), Nathalie Debrauwere-Miller (French and Italian), Anne Demo (Communication Studies), Sara L. Eigen (Germanic and Slavic Languages), Jessica W. Giles (Psychology and Human Development), Sean X. Goudie (English), Eva M. Harth (Chemistry), Amy Hodges-Hamilton (English), Susan Hylen (Religious Studies), Christina Karageorgou-Bastea (Spanish and Portuguese), Jaya N. Kasibhatla (English), Melanie Lowe (Blair), Catherine Molineux (History), Emanuelle Oliveira (Spanish and Portuguese), Richard N. Pitt (Sociology), Nancy Reisman (English), Michele Salisbury (Nursing), C. Melissa Snarr (Ethics and Society), Lucia M. Tanassi (Medical Ethics), Gay H. Welch (Religious Studies), Meike G. J. Werner (Germanic and Slavic Languages), Paul Young (English, Film Studies)

SENIOR LECTURERS Tracy Barrett (French and Italian), Rory Dicker (Women's and Gender Studies, English), Julia A. Fesmire (Women's and Gender Studies), Yollette Jones (History), Linda Manning (Women's and Gender Studies), Elena Olazagasti-Segovia (Spanish and Portuguese), Shubra Sharma (Women's and Gender Studies)

LECTURERS Allison Pingree (Women's and Gender Studies), Ora Prilleltensky (Human and Organizational Development), S. Diane Sasson (Divinity School), Sandy Stahl (Women's and Gender Studies)

❧ WOMEN'S and Gender Studies is an interdisciplinary program that examines gender as a social construct, and as a historically variable component of culture that orders human behavior, perceptions, and values. Women's and gender studies teaches its students to reexamine traditional beliefs, to engage in new kinds of research, and to bring a critical perspective to the everyday practices that shape women's and men's lives in the United States and globally. Our courses and instructors pay particular attention to the consequences for women and girls of living in a world characterized by profound inequalities. The program also recognizes that race, class, ethnicity, age, sexuality, and nationality are crucial aspects of identity and experience; these are understood to be intersecting and contested features of social life and are examined as such. Because gender is a central feature of human experience and because the topic cuts across many disciplines, students in women's and gender studies can address similar questions within different areas, and achieve a deeper understanding of the complexity and wholeness of human experience by using various methodologies. In the classroom, as in faculty and student research, our goal is to transform traditional ways of knowing by reaching across epistemological and methodological divisions to foster comprehensive, interdisciplinary perspectives on gender, sexuality, identity, and power in social life. Women's and gender studies not only compels us to recognize the problems and possibilities of the changing times in which we live, but also empowers us to change the world.

The Women's and Gender Studies Program offers a major and a minor, which provide an excellent foundation for students who plan on entering professional schools in law, medicine, and business; for those who pursue advanced degrees in women's and gender studies, the humanities and social sciences; as well as for those who move into careers in business, government, research, teaching, health and social administration, counseling, journalism, advocacy, and the media.

Program of Concentration in Women's and Gender Studies

The interdisciplinary major in women's and gender studies consists of 33 hours of course work, distributed as follows:

1. *Introduction to Sex and Gender in Everyday Life*. Women's and Gender Studies 150 or Sociology 104. (3)
2. *Gender in a Global Context*. Women's and Gender Studies 201 or equivalent course by permission of the director. (3)
3. *Feminist Theories/Theorizing Gender.* Women's and Gender Studies 210, English 246, French 255, Philosophy 235, Religious Studies 223, or equivalent course by permission of the director. (3)
4. *Feminist Research Skills.* Women's and Gender Studies 292 (to be taken in or before spring semester of the student's third year), or equivalent course by permission of the director. (3)
5. *Senior Thesis Preparation.* Women's and Gender Studies 291 (to be taken in fall semester of the student's final year) and Women's and Gender Studies

289 (to be taken in spring semester of the student's final year under supervision of the thesis adviser). (6)

6. Fifteen hours of electives, selected from Women's and Gender Studies Program courses, any courses dual-listed in Women's and Gender Studies, or any other course that meets the approval of the director, not used to satisfy the above requirements. These elective courses may include up to 6 credit hours for internship training, research, and readings (Women's and Gender Studies 288a–c).

Honors Program

The Honors Program in Women's and Gender Studies requires 36 hours of course work and is designed to afford exceptional students the opportunity to undertake independent research on a topic in feminist and/or gender scholarship in consultation with faculty members. The program is open to all women's and gender studies majors with junior standing who have completed at least 21 credit hours of the major and who have earned a 3.0 cumulative grade point average and a 3.3 grade point average in women's and gender studies courses. Students must be approved for acceptance into the Honors Program by the program director. To graduate with honors in women's and gender studies, students must:

(a) Complete 36 hours of course work;
(b) Complete the required courses for the major (described above);
(c) Submit for approval a short description of the proposed thesis project to the director of the Women's and Gender Studies Program, no later than spring semester of the junior year;
(d) Complete 6 hours of independent research, Women's and Gender Studies 298 and 299 (Honors Research and Thesis), typically during the senior year under supervision of the thesis adviser;
(e) Undertake an honors thesis in lieu of a senior thesis to be completed in the spring of the senior year; and
(f) Pass an oral examination on the topic of the thesis.

Candidates for honors in women's and gender studies may, with the written permission of the director of the program, substitute one 300-level course in gender and/or feminist studies for one 200-level course required for the major. Such permission must be acquired *prior to* enrollment in the course.

Information concerning the Honors Program is available from the director of the Women's and Gender Studies Program. College regulations governing honors may be found in this catalog under Honors Programs.

Minor in Women's and Gender Studies

The minor in women's and gender studies consists of 18 hours of course work, distributed as follows:

Core Requirements

1. Women's and Gender Studies 150 or Sociology 104.
2. Women's and Gender Studies 201 or equivalent course by permission of the director.
3. Women's and Gender Studies 210 or equivalent course by permission of the director.
4. At least 9 hours of courses selected from Women's and Gender Studies Program courses, any courses dual-listed in Women's and Gender Studies, or any other course that meets the approval of the director, not used to satisfy the above requirements.

Recommended courses organized by subject area are as follows.

**Note*: Topics for 115W Freshman Seminar and 115F First-Year Writing Seminar vary each semester. For full descriptions of current seminar offerings and information on whether a particular freshman or first-year writing seminar can be used to fulfill requirements for the women's and gender studies major or minor, consult the program director.

AFRICAN AMERICAN AND DIASPORA STUDIES: 115W, Freshman Seminar or 115F, First-Year Writing Seminar*; 120, Diaspora Feminisms; 201, African American Family History; 294, Selected Topics: Biography, Sex, Gender; African American Philosophy.

AMERICAN STUDIES: 295, History, Memory, Narrative.

CLASSICAL STUDIES: 115W, Freshman Seminar or 115F, First-Year Writing Seminar*; 220, Women, Sexuality, and the Family in Ancient Greece and Rome.

COMMUNICATION STUDIES: 115W, Freshman Seminar or 115F, First-Year Writing Seminar*; 224, Rhetoric of Social Movements; 235, Gender and Communication; 241, Rhetoric of Mass Media; 294, Selected Topics: Philosophy of Communication.

ENGLISH: 115W, Freshman Seminar or 115F, First-Year Writing Seminar*; 246, Feminism in a Global Perspective; 260, Nineteenth-Century American Women Writers; 271, Caribbean Literature; 272e, Renaissance Novels: Sex, Violence, and Narrative Experiences; 273e, Problems in Literature: Shakespearean Sexualities; 274, Major Figures: Jane Austen and Mark Twain; 278, Colonial and Post-Colonial Literature.

FRENCH AND ITALIAN: 232, The *Querelles Des Femmes*; 255, French Feminist Thought: Literary and Critical; 294, Special Topics: Diva in Literature and Film.

GERMANIC AND SLAVIC LANGUAGES: 237, Women and Modernity; 244, German Fairy Tales; 271, Women at the Margins; 275, Art and Rebellion.

HISTORY: 115F, First-Year Writing Seminar*; 222, Sexuality and Gender in the Western Tradition since 1700; 223, Medieval Sexuality; 263, Gender in Colonial American Latin America; 287, Gender, Sexuality, and Race in American Culture, 1865 to the Present; 295, Undergraduate Seminar in History: Comparative Slavery; 295, Undergraduate Seminar in History: Women in the U.S. South; 295, Undergraduate Seminar in History: British Culture in the 1950s; 305, History of Psychoanalysis.

HISTORY OF ART: 242, Art since 1945; 288, Selected Topics: Studies in Art History, Theory, and Gender Construction; 295, South Asian Art.

MEDICINE, HEALTH, AND SOCIETY: 290, Narrative Medicine.

MUSIC (BLAIR SCHOOL): MUSL 294, Music and American Presidents.

POLITICAL SCIENCE: 209, Global Feminisms; 236, Politics of Global Inequality; 283, Hate Groups in America.

PSYCHOLOGY: 252, Human Sexuality.

RELIGIOUS STUDIES: 115F, First-Year Writing Seminar*; 223, Ethics and Feminism; 234, Post-Freudian Theories and Religion.

SOCIOLOGY: 102, Contemporary Social Problems; 115F, First-Year Writing Seminar*; 220, Population and Society; 230, The Family; 249, American Social Movements; 251, Women and Public Policy in America; 257, Gender, Sexuality, and the Body; 368, Social Movements and Culture.

SPANISH: 272, Love in the Latin American Novel; 294, Special Topics.

For additional curricular options, please consult the Women's and Gender Studies Program Web site, *www.vanderbilt.edu/womens-studies*.

Starred course Women's and Gender Studies 150 is a prerequisite for all Women's and Gender Studies courses numbered above 210 with the exception of Women's and Gender Studies 272.

115F. First-Year Writing Seminar. [3] Staff.

★150. Sex and Gender in Everyday Life. Sex and gender roles in culture and society. Gender, race, and class. Women and men in literature, art, culture, politics, institutions. FALL, SPRING. [3] Staff.

201. Perspectives on Women in the World. The situation of women around the world examined through the lens of gender as a social construction. Topics include feminist critiques of knowledge, family and work, sexuality, health and medicine, the women's movement, and the future of feminism in a global context. SPRING. [3] Staff. Sharma.

210. Introduction to Feminisms. Overview of feminist theory. History and praxis. Intersections of gender, race, class, and sexuality. Prerequisite: 150. FALL. [3] Sharma.

212. Lesbian, Gay, Bisexual, and Transgender Studies. Introductory study of sexual identity, queer theory, relationships, politics. Prerequisite: 150. SPRING. [3] Staff.

226. Gender, Race, and Class. How different societies use the categories of gender, race, and class to make distinctions among their members. How these categories intersect and mediate one another and contribute to inequalities in the distribution of political power, social well-being, and material and symbolic resources. [3] (Not currently offered)

239. Medieval Women in Their Own Words. European writers from the late classical period through the Middle Ages. Autobiographies, hymns, fictions in poetry and prose with attention paid to ethnic and linguistic difference, cultural background, religious and philosophical ideas. Focus on political influence, personal relations, health and other life concerns, condition in society, and self-perception as writers. SPRING. [3] Barrett.

240. Women's Health. How culture influences women's health, body image, self esteem. Issues include fertility control and child bearing, medical innovations to detect disease, alternative therapies, psychological well-being, sexuality, physical and sexual abuse. Impact of politics on health options for women. FALL. [3] Salisbury.

243. Sociologies of Men and Masculinity. Traditional and emerging perspectives on masculinity and male gender-roles. Emphasis on relationship between social forces and males' everyday experiences across the life-span. SPRING. [3] Pitt.

244. Feminist Approaches to Clinical Practice. The therapeutic process from a feminist perspective; power relationships; the impact of stereotypes, trauma, institutionalized sexism, social construction of gender on women's lives. FALL. [3] Manning.

245. Psychology of Women. Feminist approaches to theory, research, and practice in psychology. Women at the center of analysis. Focus on their diversity. Emphasis on inequities and the relationship between psychological understanding and social change. FALL. [3] Manning.

259. Reading and Writing Lives. Interdisciplinary exploration of life-stories as narratives. Strategies of (self-)representation and interpretation, with particular attention to women. Includes fiction, biography, autobiography, history, ethnography, and the writing of life-story narratives. [3] Dicker. (Not currently offered)

261. Sex, Gender, and Law in Classical Antiquity. How law regulates sex and gender. SPRING. [3] Fesmire.

264. Sex, Power, and Politics. Sex and sexuality in culture and society, with an emphasis on politics, practices. Sexuality in social and feminist theory. Prerequisite: 150. [3] Casper. (Not currently offered)

265. Cultural Politics of Reproduction. Women and reproduction. Technologies, politics, women's bodies as contested sites. Prerequisite: 150. [3] (Not currently offered)

267. Seminar on Gender and Violence. In-depth study of violence against women, with a service-learning component in a community setting. Topics include domestic abuse, rape, sexual harassment, pornography, and global violence. Focus on problems and potential solutions, examining violence on a societal, institutional, and individual level, interrogating the "personal as political," and exposing power structures that shape our communities. FALL. [3] Manning.

268. Gender, Race, Justice, and the Environment. Gender and racial aspects of environmental degradation. Risk, activism, health and illness, policy and politics. Prerequisite: 150. [3] (Not currently offered)

269. Feminist Science and Technology Studies. Feminist perspectives on science, technology, and medicine. History, key theorists, role of activism, women in science. Prerequisite: 150. [3] Casper. (Not currently offered)

271. Feminist Legal Theory. Theoretical issues about the interaction between law and gender. Application of feminist analysis and perspective to law relating to family, work, criminal law, reproductive freedom, pornography, and sexual harassment. Prerequisite: 150. SPRING. [3] Fesmire.

272. Feminism and Film. Images of gender and race; techniques, sound, lighting, cinematography in relation in gender. [3] Staff. (Not currently offered)

288a–288b–288c. Internship. Under faculty supervision, students gain experience combining theoretical and practical work in a project related to social change and focused on women, feminism, or gender. Legislative, community, educational, or non-profit settings. Internship plan developed between student and faculty sponsor, with approval of Women's and Gender Studies program director. A thorough report and research paper are submitted at the end of the semester. Prerequisite: 201 or 224 and one other 200-level Women's and Gender Studies course, and a 2.90 grade point average.

288a. Internship Training. May be taken on a Pass/Fail basis only and must be taken concurrently with 288b. FALL, SPRING. These hours may not be included in the minimum hours required for the women's and gender studies major. [Variable credit: 1–9]
288b. Internship Research. FALL, SPRING. [Variable credit: 1–3]
288c. Internship Readings. FALL, SPRING. [Variable credit: 1–3]

289. Independent Study. A program of reading and research for advanced students in an area of women's and gender studies arranged in consultation with an adviser. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 6] Staff.

291. Senior Research Seminar. Project developed under supervision of Women's and Gender Studies program faculty. Normally open only to senior majors. FALL. [3] Casper.

292. Research Methods in Women's and Gender Studies. Data collection and analysis, epistemology, feminist methodological issues and dilemmas. Prerequisite 150. SPRING. [3] Sharma.

294a. Special Topics: Topics in Gender, Culture, and Representation. Gender and women in culture, with varying substantive topics. Humanities-based material. Prerequisite: 150. FALL, SPRING. [3] Staff.

294b. Special Topics: Topics in Gender, Society, and Political Economy. Focus on gender and women in politics and society, with varying substantive topics. Social science–based material. Prerequisite: 150. FALL, SPRING. [3] Staff.

295. Selected Topics. Seminars or lecture courses devoted to topics in areas of competence of individual instructors, as announced in the *Schedule of Courses*. [3]

298. Honors Research. Reading and research under the guidance of a faculty supervisor. Consent of both the faculty supervisor and the director of Women's and Gender Studies program required. Open only to honors candidates. [Variable credit: 3–6; may be repeated, not to exceed a total of 6]

299. Honors Thesis. Open only to seniors in the Women's and Gender Studies Honors Program. [Variable credit: 3–6; may be repeated, not to exceed a total of 6]

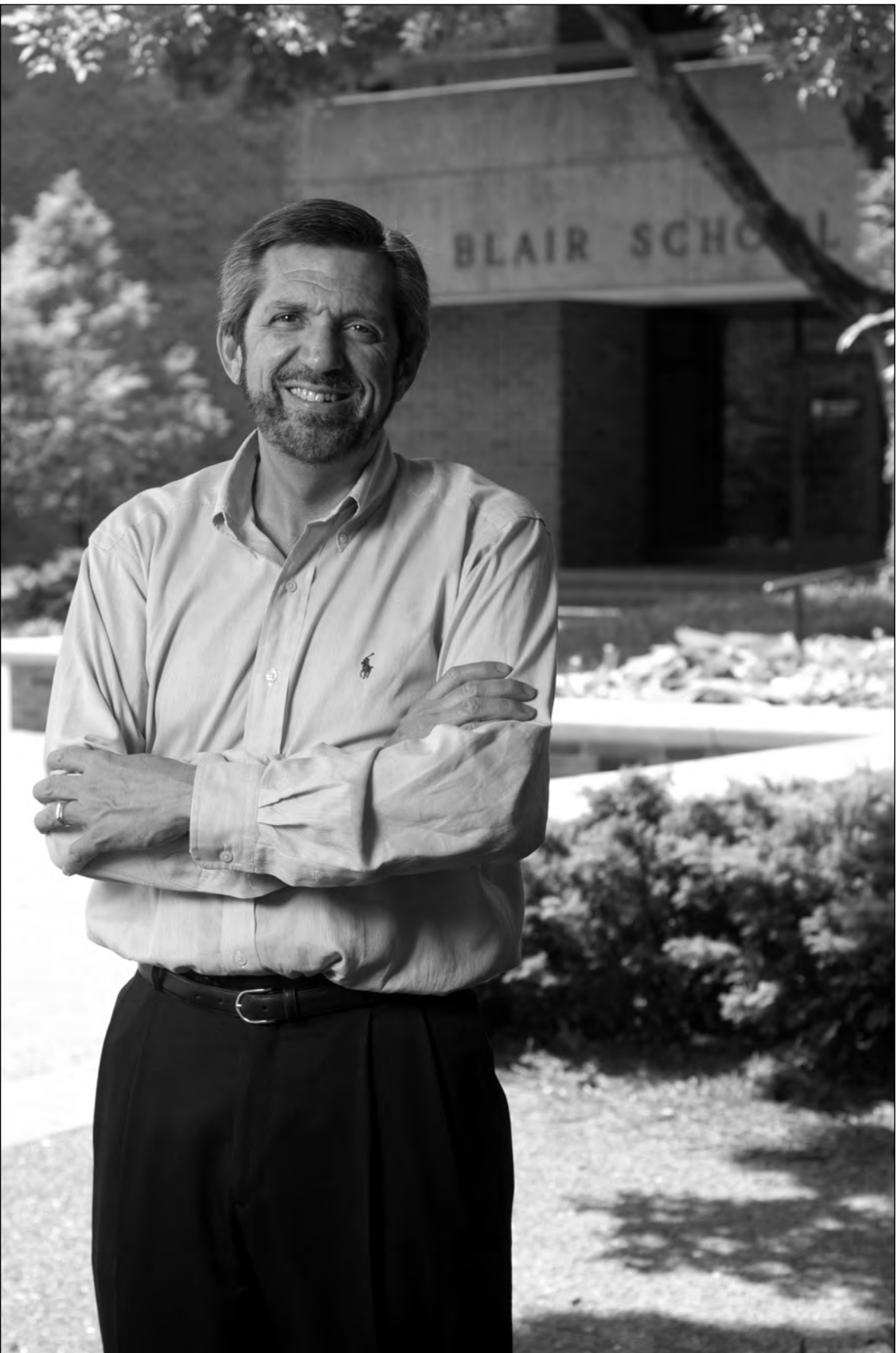
Graduate Courses

301. Gender and Sexuality: Feminist Approaches. [3] Casper.

302. Gender and Pedagogy. [1] Welch.

Blair School of Music

B


BLAIR

Music at Vanderbilt

BLAIR School of Music serves as the focal point at Vanderbilt for the study of music as a human endeavor and as a performing art. The school contributes to the quality of life at the University through concerts, lectures, and recitals by faculty, students, and visiting artists, scholars, and composers, and through course offerings in performance, music literature/history, composition, and theory. In an age of increasing technology and social complexity, music offers to persons of all ages a vital medium for the expression of the human spirit.

The Blair School has been an integral part of Nashville's musical environment since its founding in 1964 by the Justin and Valere Potter Foundation through a bequest of Valere Blair Potter. In 1981 the school was merged with Vanderbilt following the University's decision to develop an excellent program in music. Studies leading to the professional Bachelor of Music degree in performance were initiated in 1986.

Knowing the importance of a balanced education in music, Blair School subsequently expanded its Bachelor of Music degree program to include majors in composition/theory and musical arts. The major in composition/theory emphasizes analytical skills as well as the development of students' creativity. The major in musical arts is the school's most flexible program; it lays a solid foundation in the art of music, with equal preparation in the three basic disciplines of performance, theory, and music literature/history. The musical arts degree also forms the basis for a five-year program in teacher education offered cooperatively with Peabody College. Students in this curriculum can earn the B.Mus. degree in four years and the M.Ed. and teacher licensure for instrumental or vocal/general music in the fifth year (June–May). All Blair degree programs are accredited by the National Association of Schools of Music (NASM).

A non-professional 32-hour liberal arts music major makes it possible for students outside the Blair School to choose music as a second major. Students in other schools and colleges of the University also may pursue a minor in music, music history, or music performance. And Blair offers a remarkable variety of electives for students who wish to enrich their studies with credit in music courses, ensembles, or performance instruction, or to select music as an extracurricular activity.

Blair School of Music is home to internationally known faculty soloists and ensembles, and Blair's performers, composers, and musicologists are among the most respected in their fields. Their dedication to teaching and a low student/faculty ratio provide students the personal attention that fosters maximum musical growth and understanding. The school is committed to its goal of developing students who are among the most articulate, culturally aware, and artistically sensitive of any graduates in the country.

The Faculty Ensembles

Blair String Quartet

Founded in 1967, the Blair String Quartet is the nucleus of the string department. Its members provide private instruction and coach chamber music ensembles and performance classes. The quartet performs throughout the United States.

Blair Woodwind Quintet

The Blair Woodwind Quintet forms the core of the wind department at Blair. Established in 1971, the ensemble concertizes regularly throughout the Southeast. Members of the quintet provide private instruction, coach chamber music ensembles, conduct woodwind seminars, and teach orchestral repertoire classes.

Blair Brass Quintet

The Blair Brass Quintet serves as a focal point for the brass faculty at the School. Its members provide private instruction, coach chamber ensembles, conduct brass seminars, and teach orchestral repertoire classes.

Blakemore Trio

Founded in 2002, the Blakemore Trio is Blair's newest faculty ensemble. Its members teach privately, coach chamber music, and hold performance classes at Blair. The trio performs throughout the United States.

Facilities

The Blair building incorporates innovative developments in acoustical design and engineering. It contains teaching studios and faculty offices, state-of-the-art computer learning stations, classrooms, rehearsal halls, practice rooms, library, administrative offices, MIDI piano labs with individual computer workstations, and two concert venues. The 278-seat Steve and Judy Turner Recital Hall—the focal point of the original facility (1980)—is the locus for student recitals and concerts and master classes by faculty members and visiting artists held on a regular basis. Opened in spring 2002, the 620-seat Ingram Hall garnered immediate acclaim for its superb acoustics, its visual beauty, and its enhancement of the school's ability to host and produce orchestra, opera, and other major concert events. The building's total square footage, nearly tripled in 2002, is 131,000. Building hours are 7 a.m. to 9 p.m. Office hours are 8 a.m. to 5 p.m.

The Anne Potter Wilson Music Library is a division of the Jean and Alexander Heard Library system. The collection, begun in 1947, was moved from Peabody College to its new and permanent home at Blair in the summer of 1985. Named to honor Anne Potter Wilson by the Vanderbilt Board of Trust in 1987, the 8,000-square-foot library holds more than 70,000 books, scores, sound and video recordings, and subscriptions to more than 150 journals. It is equipped with exceptional listening and study facilities.

Accreditation

All programs leading to the B.Mus. degree are accredited by the National Association of Schools of Music, 11250 Roger Bacon Drive, Suite 21, Reston, VA 20190-5248; telephone: (703) 437-0700.

Classes for the General Student

The Blair School of Music welcomes the general student into its classes and studios. A large number of courses are designed specifically for non-majors. Many classes are held in Sarratt Cinema and other central campus locations. Non-majors may also participate in any and all music major courses for which they are qualified.

A wide variety of music courses, including three first year seminars in music literature and history, earn Vanderbilt credit. Information about most of them can be found at the Web site *http://www.vanderbilt.edu/Blair/musictogo/index.html.* Many fulfill liberal arts core requirements for undergraduates in the College of Arts and Sciences, the School of Engineering, and Peabody College. These are listed by course numbers in each School's/College's section of this catalog, where requirements outlining Arts & Science AXLE and CPLE, Engineering, or Peabody liberal education core requirements are given. Requirements and the courses which fulfill them differ for each Vanderbilt school. The lists below provide information regarding the core credit, if any, available for each general music course. The designations H (Humanities), S (Social Science or History/Culture) or W (Writing) represent core courses in the School of Engineering and Peabody College and should be verified in the appropriate catalog section.

Courses of particular interest to the general student are:

*First Year Writing Seminars**	
Music and Global Health	MUSL115F (H) [W, INT]
Music and Modernism	MUSL115F (H) [W, HCA]
Shakespeare and Music	MUSL115F (H) [W, HCA]
Music Composition and Theory	
Beethoven and the Beatles	MUSC 107 (H)
Choral Arranging	MUSC 223 (H)
Computer Music	MUSC 216 (H)
Mozart	MUSC 118 (H)
Music Theory (Survey of)	MUSC 120a–120 b (H)
Romantic Generation, The	MUSC 105 (H)
Sonata Forms	MUSC 191 (H)
Songwriting and Elements of Music Theory	MUSC 100
Songwriting II	MUSC 102
*Music Literature and History**	
African Music	MUSL 171 (S) [INT]
Afropop	MUSL 252 (S) [INT]
American Music	MUSL 147 (S) [US]

American Music and Society	MUSL 263 (H) [US]
American Popular Music	MUSC 149 (H) [US]
Bible and Music, The	MUSL 219 (H) [HCA]
Blues, The	MUSL 151 (H) [US]
Country Music	MUSL 152 (H) [US]
Ethics and Music	MUSL 185 (H) [HCA]
Exploring the Film Soundtrack	MUSL 264 (H) [US]
Introduction to Music Literature	MUSL 140 (H) [HCA]
Jazz (Survey of)	MUSL 148 (H) [US]
Love and Death in Music	MUSL 184 (H) [HCA]
Music and Religion	MUSL 278 (H) [P]
Music, Gender, and Sexuality	MUSL 201 (H) [HCA]
Music, Identity, and Diversity	MUSL 261 (S) [P]
Music in Latin America and the Caribbean	MUSL 250 (S) [INT]
Music of the South	MUSL 262 (S) [US]
Music, the Arts, and Ideas	MUSL 183 (H) [HCA]
Musical Theatre in America	MUSL 103 (H) [HCA]
Opera	MUSL 247 (H) [HCA]
Rock Music (History of)	MUSL 153 (H) [HCA]
Symphony, The	MUSL 144 (H) [HCA]
Women and Music	MUSL 200 (S) [P]
Words and Music	MUSL 218 (H) [HCA]
World Music	MUSL 160 (S) [INT]

Other Courses

Business of Music, The	MUSO 100
Computer Recording Technology Seminar	MUSO 102 (H)
Music and Cognition	MUSO 161 (S)

*The bracketed letters indicate categories of the Arts and Science AXLE curriculum, which may also be verified in the Arts and Science section of the catalog. These designations are as follows: Humanities and the Creative Arts [HCA]; International Cultures [INT]; History and Culture of the United States [US]; Social and Behavioral Sciences [SBS]; and Perspectives [P].

Performance and Ensembles for the General Student

Performance instruction and ensembles are available for university credit. Performance instruction is available in both group and individual settings. Private instruction is offered in 27 areas, including all orchestral instruments and in piano, organ, guitar, dulcimer, mandolin, saxophone, euphonium, recorder, viola da gamba, fiddle, banjo, steel drum/pan, and voice. Credit is flexible, but beginning students may register for only 1 credit hour. Students contract with the private instructor regarding lesson length and practice hours and can earn either 1 or 2 credit hours each semester.

Students in the School of Engineering can count 3 hours of performance instruction (or ensembles) towards liberal arts core requirements. For others, performance is elective credit. Group instruction is offered in piano, voice, guitar, recorder, fiddle, and percussion; groups have maximum of six students and earn 1 credit hour. Fiddle is also offered in a class setting.

Ensembles sponsored by the School are open by audition to all members of the University community. Ensembles may be taken for academic credit or on a no-credit (NC) basis. Auditions are held at the beginning of each semester. Audition information can be found on the Blair School of Music Web site. Primary ensembles include instrumental ensembles, (encompassing orchestra, wind ensembles, contemporary ensemble), Symphonic Choir, Chamber Choir, Opera Theatre, and Jazz Ensemble. Course descriptions are given under "Courses of Study" in the Blair section of the catalog. All undergraduates registered for instruction at Blair are admitted to the Blair Concert Series free of charge; a complimentary ticket must be obtained in advance, before noon of the performance day.

Music Minors

Students may elect one of three minors: music, music history, or music performance. Information flyers for all are available in the Blair office and online at *www.vanderbilt.edu/stop/forms.* Following interviews with the appropriate performance department, students plan their studies with Blair advisers Paul Deakin, Jim Lovensheimer, or Joe Rea Phillips. Mr. Deakin advises students with last names A–G, Mr. Phillips advises students with last names H–M, and Mr. Lovensheimer advises students with last names N–Z.

Music Minor. 24 hours.

Music Theory. *6 hours.*
MUSC 120a–120b; *or* 121–122 and 121e–122e

Music Literature/History. *12 hours.*
MUSL 140 *or* 141
One course chosen from: MUSC 191, MUSC 294, MUSL 115F (Shakespeare and Music), 144, 145, 242, 243, 244, 247, 249, 255, 256, and, with approval of department chair, 294 .
One course chosen from: MUSL 115F (Music and Global Health, Music and Modernism), 160, 170, 171, 200, 201, 242, 243, 244, 247, 250, 256, 261, 278, and 294.
One course chosen from: MUSC 191, 294, MUSL 103, 115W, 144, 145, 147, 148, 149, 151, 152, 153, 160, 170, 171, 183, 184, 185, 200, 201, 218, 219, 242, 243, 244, 247, 249, 250, 252, 255, 256, 261, 262, 263, 264, 278, and 294.

Performance. *4 hours.*
Individual performance instruction in a single area for at least 4 semesters (any orchestral instrument, piano, organ, guitar, saxophone, euphonium, or voice).

Students must meet minimum standards and obtain the approval of the appropriate department chair (brass/percussion, guitar, keyboard, strings, voice, woodwinds). Declaration forms are available in the Blair office and online at www.vanderbilt.edu/stop/forms.

Ensemble *2 hours (2 different semesters).*

Participation for two semesters in an appropriate performing ensemble, as assigned, following auditions by a faculty committee.

Music History Minor. 18 hours.

Music Theory. *6 hours.*

MUSC 120a–120b; *or* 121–122 and 121e–122e

Music Literature/History. *12 hours.*

MUSL 141,* 242, 243, and 244

*Students who have completed MUSL 140 must substitute another course for MUSL 141, selected from MUSL 103, 144, 145, 147, 148, 149, 151, 152, 153, 160, 170, 171, 183, 200, 201, 247, 249, 250, 252, 255, 256, 261, 262, 264, 278, *or* 294.

Music Performance Minor. 26 hours.

Music Theory. *6 hours.*

MUSC 120a–120b; or 121–122 and 121e–122e

Music Literature/History. *6 hours.*

MUSL 140 or 141

One course chosen from MUSL 103, 115F, 144, 145, 147, 148, 149, 151, 152, 153, 160, 170, 171, 183, 184, 185, 200, 201, 218, 219, 242, 243, 244, 247, 249, 250, 252, 255, 256, 261, 262, 263, 264, 278, 294, and MUSC 191.

Performance. *12 hours.*

Individual instruction in a single area for at least 6 semesters (any orchestral instrument, piano, organ, guitar, saxophone, euphonium, or voice.)

Students must meet minimum performance standards for admission to the program, with the required 12 hours at a level beyond that minimum. Repertoire information and declaration forms are available in the Blair office and online at *www.vanderbilt.edu/stop/forms.*

Ensemble. *2 hours* (*two different semesters).*

Participation for two semesters in an appropriate performing ensemble, as assigned, following auditions by a faculty committee. String, woodwind, brass, percussion, and harp students must audition for MUSE 101, Instrumental Ensemble. Guitar and voice students must audition for MUSE 101a, Symphonic Choir. Keyboard students must participate as a pianist in MUSE 102, 201b, 201c, 201d, 201e, 201f, or 202d; or in 101, 101a, 101f, 101g, or 201a, contingent upon permission of the ensemble instructor and the piano instructor. It is strongly recommended that keyboard students participate for at least one semester as an ensemble pianist.

Music as a Second Major

Blair offers a non-professional liberal arts major in music that requires a minimum of 32 hours. Designed jointly by Blair and the College of Arts and Science, it is also available to Peabody and Engineering students as a second major. Students must plan their studies with Blair adviser Professor Carl Smith, coordinator of the program. Information flyers and declaration forms are available in the Blair office and online at *www.vanderbilt.edu/stop/forms.* Requirements are as follows:

Music Major (Second Major). 32 hours.

Music Theory. *12 hours.*
MUSC 121, 121e, 122, 122e, 220, 221, taken in sequence.

Music Literature/History. *12 hours.*
MUSL 141,* 242, 243, 244, with MUSL 141 prerequisite to the other courses.

*Students who have completed MUSL 140 must take an additional course instead of MUSL 141, selected from MUSL 103, 144, 145, 147, 148, 149, 151, 152, 153, 160, 170, 171, 183, 200, 201, 247, 249, 250, 252, 255, 256, 261, 262, 264, 278, *or* 294.

Individual Performance Instruction. *4 hours.*
Four semesters of study in any orchestral instrument, piano, organ, guitar, saxophone, euphonium, or voice.
Students must meet minimum performance standards for admission to the program, with the required 4 hours at a level beyond that minimum. Representative repertoire lists reflecting minimum performance standards and required declaration forms are available online at *www.vanderbilt.edu/stop/forms* or from either the Blair office or Professor Carl Smith, coordinator of the program.

Ensemble. *2 hours (two different semesters).*
Participation for two semesters in an appropriate performing ensemble, as assigned, following auditions by a faculty committee. String, woodwind, brass, percussion, and harp students must audition for MUSE 101, Instrumental Ensemble. Guitar and voice students must audition for MUSE 101a, Symphonic Choir. Keyboard students must participate as a pianist in MUSE 102, 201b, 201c, 201d, 201e, 201f, or 202d; or in 101, 101a, 101f, 101g, or 201a, contingent upon permission of the ensemble instructor and the piano instructor. It is strongly recommended that keyboard students participate for at least one semester as an ensemble pianist.

Elective. *2–3 hours.*
One course in music theory, literature/history, or conducting, chosen from MUSC 191, 222, 223, 224, 225, 294; MUSL 103, 115F, 144, 145, 147, 148, 149, 151, 152, 153, 160, 170, 171, 183, 184, 200, 201, 218, 219, 247, 249, 250, 252, 255, 256, 261, 262, 264, 278, 294; MUSO 161, 261.

The Degree Program

BACHELOR of Music degree programs include four different majors: performance, composition/theory, musical arts, and the musical arts/teacher education track. The performance major is available in any orchestral instrument, piano, organ, classical guitar, saxophone, euphonium, multiple woodwinds, and voice. The composition/theory major emphasizes both the creation and analysis of music. The musical arts major provides a solid foundation in the art of music and includes equal preparation in the three basic disciplines—theory, literature/history, and performance. Students, excepting musical arts/teacher education majors, may complete an optional concentration in collaborative arts, composition, literature/history, pedagogy, or theory. Selected students may participate in the musical arts/teacher education program, a five-year curriculum jointly developed with Peabody College, for students interested in earning the Master of Education degree and teacher licensure in addition to the B.Mus. degree.

Liberal arts core requirements include English, the humanities, courses chosen from history or social science, mathematics or natural science, and academic electives. The degree total is 126 credit hours, 80 of which must be in music.

Music Core

All Bachelor of Music degree candidates complete a standard core of requirements designed to ensure an intense, yet broadly-based, understanding of the discipline of music. The core consists of 37–39 hours, plus performance instruction.

MUSIC THEORY AND KEYBOARD HARMONY. *18–20 hours*
MUSC 121, 121e, 122, 122e, 220, 221, 222
MUSC 131a-131b and 132a-132b (or 133a-133b)
MUSC 123e, 124e (required for majors in performance, composition/theory, and musical arts/teacher education)

MUSIC LITERATURE/HISTORY. *9 hours**
MUSL 242, 243, 244

CONDUCTING. *2 hours*
MUSO 261

ENSEMBLE. *8 hours minimum* (every semester in residence)
Specific ensemble requirements vary with performance area and are listed below. Auditions for major ensembles (instrumental ensemble, symphonic choir) are required each semester. Assignment to ensembles is at the discretion of the directors.

*Students must also take MUSL 141, listed under Humanities in the Liberal Arts Core.

Blair Choral Rehearsals; David Childs, director.

INDIVIDUAL PERFORMANCE INSTRUCTION
32 hours (instrumental performance majors) 8 semesters
28 hours (vocal performance majors) 8 semesters
16 hours (musical arts and musical arts/teacher education majors) 8 semesters
6 hours (composition/theory majors) 6 semesters in any orchestral instrument, piano, organ, harpsichord, guitar, saxophone, euphonium, or voice.
Performance instruction and performance class every semester in residence for performance, musical arts and musical arts/teacher education majors (all woodwinds, all brass, percussion, all strings, piano, guitar, voice).

RECITAL ATTENDANCE *No credit*
MUSO 108 (every semester in residence except final semester)
Specific requirements are outlined in the Academic Regulations section of the catalog.

Major Area, Minor Area, and Concentration Requirements

Each area has specific ensemble requirements and requires coursework in addition to the core, varying from 3 to 38 hours, as follows:

BRASS PERFORMANCE. *7 hours*
Ensemble: MUSE 101, 101b or 101e (eight semesters), 201 *L* (one semester), and 201c or 201*L* (one semester). Students may substitute MUSE 206 for 101b or 101e, if assigned.
Note: Horn students may substitute 201w for 201 *L and* 208 for 101b or 101e, if assigned.
Performance: MUSO 110a, 110b, *or* 111a (every semester); MUSR 295, 299
Other Music: MUSO 152, 252

COMPOSITION/THEORY. *38 hours*
Department approval required for admission.
Composition/Theory: MUSC 225, 229, 230, 231a–231b, 232a–232d, 299
Ensemble: eight semesters selected with the adviser's approval
Music Electives: 3 hours
Liberal Arts: must include one year of French, German, or Italian and 200-level courses in English, art history, and philosophy; a total of 36 hours, rather than 30, in liberal arts.

CONCENTRATION IN COLLABORATIVE ARTS. *15–21 hours*
Literature/History: MUSL 247
Performance: MUSP 193 (1 hour), MUSR 299 (1 hour), MUSO 109d every semester
Other Music: MUSO 159, 159c, 159d, 256, 259, 289 (2 hours in vocal coaching or chamber music literature)
Ensemble: one semester chosen from MUSE 101a, 201a, 101, 101f, or other approved conducted choir; one semester of 102: one semester of 101f (as apprentice pianist); six semesters of 201b, 201c, 201d, 201e, or 201f; and three semesters ensemble of choice with adviser's approval.
Liberal Arts: must include 5 hours each in two different languages chosen from Italian, German, or French. Students with previous study in one of these must study the other two.
Recommended: MUSC 224 and MUSL 218.
Deadline to declare concentration: December 1 of junior year.

CONCENTRATION IN COMPOSITION. *21 hours.*
Department approval required for admission to this concentration.
Composition/Theory: MUSC 123e, 124e, 230 and 16 hours in 230e
Deadline to declare concentration: December 1 of junior year.

CONCENTRATION IN MUSIC LITERATURE/HISTORY. *25 hours*
Literature/History: 9 elective hours (in addition to 9 hours required for the musical arts major)
Liberal Arts: History 100, 101, 10 hours of foreign language approved by the department; a total of 37 hours, rather than 30, in liberal arts)
Deadline to declare concentration: December 1 of junior year.

CONCENTRATION IN PEDAGOGY. *16 hours*
Other Music: MUSO 161 and either 256, 257, 258, 259, *or* 289 (in field, 2 hours), and either 266, 267, 268, 269 or 289 (in field, 2 hours), and 271 (2 hours)
Internship: MUSO 281 (6 hours)
Senior Recital: MUSR 299
Liberal Arts: must include Psy 1630 and 2310 (Peabody courses)
Deadline to declare concentration: December 1 of junior year.

CONCENTRATION IN THEORY. *21 hours*
Department approval required for admission to this concentration.
Composition/Theory: MUSC 123e, 124e, 230, and 16 hours in 225, 227, 261, or 294
Deadline to declare concentration: December 1 of junior year.

GUITAR PERFORMANCE. *6 hours*
Ensemble: MUSE 101a (two semesters), 204 (two semesters), and 201c, 201d, or 204 (four semesters). Students must audition for Symphonic Choir each semester until requirements are fulfilled.
Performance: MUSO 109e (every semester), MUSR 295, 299
Other Music: MUSO 258, 268

HARP PERFORMANCE. *3 hours*
Ensemble: MUSE 101 (six semesters), 201c or 209 (two semesters). Students must audition for MUSE 101 each semester until requirements are fulfilled.
Performance: MUSR 295, 299
Other Music: MUSO 254a

MINOR INSTRUMENT. *10 hours*
Ensemble: participation on minor instrument for two semesters in an appropriate ensemble, as assigned (2 hours)
Performance: four semesters in a second performance area (any orchestral instrument, piano, organ, harpsichord, guitar, saxophone, euphonium, *or* voice) at a level of proficiency represented by L-level registration. Representative repertoire lists reflecting minimum performance standards and required declaration forms are available in the Blair office or online at *www.vanderbilt.edu/stop/forms*. Consent of instructor required (8 hours).
Deadline to declare minor instrument: December 1 of junior year.

MULTIPLE WOODWINDS PERFORMANCE. *4–5 hours*
Ensemble: MUSE 101, 101b, or 101e (eight semesters), 201c, 201W, or 207 (two semesters).
Must include at least three semesters in ensemble on secondary instrument. Students may substitute MUSE 208 for 101, 101b, or 101e, if assigned.
Performance: MUSR 299. Must include performance on three woodwind instruments. Individual instruction requirements, Plans A and B, are outlined in *Beginning at*

Blair, the school's handbook for first year students. Performance class every semester of study on primary or secondary instrument. Upper divisional hearing required in the sophomore year; see p. 482.

Other Music: MUSO 151; 251 strongly recommended

MUSICAL ARTS. *22 hours*

Composition/Theory: MUSC 223, 224, 225, 230, 261, or 294 (2-3 hours)

Ensemble: students must audition for major ensembles (instrumental ensemble, symphonic choir) each semester until requirements are fulfilled.

Strings, woodwinds, brass, percussion—five semesters MUSE 101 and three semesters ensemble of choice.

Harp—three semesters MUSE 101 or 209, two semesters 201c, and three semesters ensemble of choice.

Guitar—two semesters MUSE 101a, two semesters 204, one semester 101a, 101c, 101d, or 204, and three semesters ensemble of choice.

Organ—three semesters of conducted choral ensemble, one semester of MUSE 102, one semester of 201b, one semester of 201f, and two semesters ensemble of choice.

Piano—one semester chosen from MUSE 101a, 201a, 101, 101f, or other approved conducted choir; one semester of 102; three semesters of 201b, 201c, 201d, 201e, or 201f; three semesters ensemble of choice with adviser's approval.

Voice—eight semesters Symphonic Choir or Chamber Choir

Literature/History: 9 hours chosen from MUSL 103, 114, 115F, 144, 145, 147, 148, 149, 151, 152, 153, 160, 170, 171, 183, 200, 201, 218, 219, 247, 249, 250, 252, 255, 256, 261, 262, 264, 278, 289, 294, 298, 299a, 299b

Performance: performance class every semester if offered (MUSO 109a, 109b, 109c, 109d, 109e, 109f, 109g, 109*L*, 110a, 110b, 110d, 110e, 110f, 110g, 111a)

Music Electives: 12–13 hours

MUSICAL ARTS/TEACHER EDUCATION, INSTRUMENTAL/GENERAL. *38 hours*

Composition/Theory: MUSC 224, 230

Ensemble: 6 semesters large ensemble (MUSE 101, 101b, 101e, 101a) and 2 semesters small ensemble. Instrumentalists must have experience in orchestra, wind ensemble, jazz ensemble (as appropriate), and chamber music.

Literature/History: MUSL 147, 160, and choice of 183 or 200

Performance: Performance class on primary instrument every semester. Secondary instrument(s) four semesters (may include Intro to Guitar MUSP 104a or Classroom Instruments MUST 105, but no more than 1 semester in the area of the major instrument). Intro to Voice MUSP 103a. Senior Recital MUSR 299.

Other Music: Instrumental Conducting MUSO 262.

Note: Conducting study must include two different professors.

Teaching: Class Instruments MUST 101, 102, 103, 104. Practica in Music Teaching MUST 250a, 250b, 250c. Two seminars chosen from MUST 212, 213, 214, 215. EDUC 2040.

Liberal arts: specific requirements are listed within each category of the Liberal Arts Core. Students are encouraged to choose a Writing/English course that will double-count either as a course in Humanities (e.g., a W or an F course in art history, philosophy or religious studies) or as part of the International Social Science requirement. See *Beginning at Blair* pp. 13 and 16-19 for details.

MUSICAL ARTS/TEACHER EDUCATION, VOCAL/GENERAL. *36 hours*

Composition/Theory: MUSC 230 and choice of 223 or 224

Ensemble: 6 semesters large ensemble (MUSE 101, 101a, 101b, 101e) and 2 semesters small ensemble. Pianists, vocalists, and guitarists must have experience accompanying.

All students must have ensemble experience on their secondary instrument.
Literature/History: MUSL 147, 160, and choice of 183 or 200
Performance: performance class on primary instrument every semester if offered. Secondary instrument 4 semesters (voice for pianists and organists, piano for singers, voice or piano for guitarists or other instrumentalists). Intro to Voice MUSP 103a (singers substitute Diction: English and Italian MUSO 159). Intro to Guitar, MUSP 104a (guitar majors exempt). Senior Recital MUSR 299
Other Music: Choral Conducting MUSO 263
Teaching: Teaching: Intro to Classroom Instruments MUST 105; Practica in Music Teaching MUST 250a, 250b, 250c. Two seminars chosen from MUST 212, 213, 214, 215. EDUC 2040.
Liberal arts: specific requirements are listed within each category of the Liberal Arts Core. Students are encouraged to choose a Writing/English course that will double-count either as a course in Humanities (e.g., a W or an F course in art history, philosophy or religious studies) or as part of the International Social Science requirement. See *Beginning at Blair* pp. 13 and 16-19 for details.

ORGAN PERFORMANCE. *6 hours*
Ensemble: MUSE 101a or 201a (four semesters), 201b (one semester), 201b, 201c, 201d, or 201f (one semester), and ensemble of choice (two semesters).
Performance: MUSR 295, 299
Other music: MUSO 257, 267

PERCUSSION PERFORMANCE. *8 hours*
Ensemble: MUSE 101, 101b, or 101e (eight semesters) and 201c, 210 or 215 (four semesters)
Performance: MUSO 110g (every semester), MUSR 295, 299
Other Music: MUSO 153, 253a *or* 253b

PIANO PERFORMANCE. *6 hours*
Ensemble: MUSE 102 (one semester), 201b (one semester), 201f (one semester), conducted ensemble 101a, 201a, 101, 101f, or other approved conducted choir (one semester), and choice of 101, 101a, 101f, 131, 201a, 201b, 201c, 201d, 201e, or 201f (four semesters). Participation in 101 or 101f is contingent upon approval of ensemble conductor and piano instructor
Performance: MUSO 109d (every semester), MUSR 295, 299
Other Music: MUSO 256, 266

STRING PERFORMANCE. *5–6 hours*
Ensemble: MUSE 101 or 101b (eight semesters); 201g (one semester, except double bass majors); 201c or 201e or 201g (two semesters)
Performance: MUSO 109b and 111c or 111d (violin majors, every semester); 109g (viola majors, every semester); 109c (cello majors, every semester); 109L (bass majors, every semester); MUSR 295, 299
Other Music: MUSO 254a

VOCAL PERFORMANCE. *11 hours*
Ensemble: MUSE 101a or 201a (eight semesters)
Performance: MUSP 186 (two semesters); MUSO 109f (every semester), MUSR 295, 299
Other Music: MUSO 159, 159c–159d, 259, 269

WOODWIND PERFORMANCE. *6 hours*
Ensemble: MUSE 101, 101b, or 101e (eight semesters); MUSE 201c or 201W (two semesters). Students may substitute MUSE 208 for 101, 101b, or 101e, if assigned.

Performance: MUSO 109a (flute majors, every semester); 110d (oboe majors, every semester); 110e (bassoon majors, every semester); 110f (clarinet majors, every semester); 110L (saxophone majors, every semester); MUSR 295, 299
Other Music: MUSO 151, 251

Liberal Arts Core

The liberal arts requirements are intended to ensure proficiency in the use of the English language and a broadly based liberal arts background. The curriculum, which provides maximum flexibility for each student, requires a minimum of 30 hours for performance or musical arts majors, 36 hours for composition/theory majors. Students electing a second major outside of music complete only the Blair liberal arts core; they are not expected to fulfill the core requirements (such as AXLE or CPLE) of another Vanderbilt school or college. Hours earned toward the Blair liberal arts core may also be counted toward a second major or minor, if appropriate. Students admitted with a deficiency relative to high school credits must plan their liberal arts work to overcome the deficiency.

English/Writing (6 hours)

Students must complete at least one writing course (ENG 100, any 115F, or any W course) during the first year. A score of 1500 on the Writing and Critical Reading portions of the SAT with a minimum score of 760 in the Writing portion of the test fulfills the English/Writing requirement, but earns no credit. A score of 4 or 5 on the College Board English Advanced Placement Examination earns 6 hours credit, fulfilling the English/Writing requirement. When courses which fulfill the English/Writing requirement are also used to satisfy other portions of the liberal arts core, additional credits of Academic Electives will be required.

For composition/theory majors, a 200-level English course is required regardless of SAT scores.

For musical arts/teacher education majors, a philosophy W or F, religious studies W or F, or art history W or F course is recommended.

Composition: English 100

A combined score of 1220 on the Writing and Critical Reading portions of the SAT, with a minimum score of 500 in each (or appropriate AP or IB credits in English), exempts English 100, allowing other courses to fulfill the six-hour requirement.

Electives from the following:

First year writing seminars (115F) in any discipline
Writing courses in any discipline, designated by W in the course number
English: all courses
Communication Studies: 100, 101
Music literature/history: 115F (first-year writing seminar in Music and Global Health *or* Music and Modernism *or* Shakespeare and Music), 218.

Humanities (9 hours)

MUSL 141. Students should complete this required course during the first year.

For composition/theory majors, 15 hours minimum, including MUSL 141; one year of French, German, or Italian; a 200-level course in art history; and a 200-level course in philosophy.

For teacher education track students, 12 hours are required: MUSL 141; MUSL 160; a choice of MUSL 183 or 200; and a course in art history, philosophy, or religious studies. (A W or F course would double-count as part of the English/Writing requirement.)
For vocal performance majors, 13 hours: MUSL 141 and 10 hours chosen from French, German, and Italian.
Electives from the following:
African American and Diaspora Studies: 150, 202, 260
Anthropology: 226
Arabic: all courses
Art History: all courses (art studio courses excluded)
Catalan: all courses
Chinese: all courses
Classics: 115, 115F, 130, 146, 150, 203, 204, 205, 206, 217, 231, 232
Communication Studies: 201
Comparative Literature: all courses
East Asian Studies: 211, 212
English: 102W, 104W, 105W, 106W, 109W, 112W, 208a–208b, 209a–209b, 210, 211, 212, 214a–214b, 221, 224, 232a–232b, 233, 235, 250, 252a-252b, 254a–254b, 256, 257, 258, 260, 263, 264, 268a–268b, 272, 276, 277, 278, 282, 286a–286b
European Studies 235
Film Studies: all courses
French: all courses (no knowledge of the language required for 210)
German: all courses except 238 and 241 (no knowledge of the language required for 243)
Greek: all courses
Hebrew: all courses
Humanities: all courses
Italian: all courses (no knowledge of the language required for 224)
Japanese: all courses
Jewish Studies: 135, 250, 251, 254
Latin: all courses
Music Literature/History: 103, 115F (Music and Modernism; Shakespeare and Music), 160, 183, 200, 278
Philosophy: all courses except 202
Portuguese: all courses (no knowledge of the language required for 293)
Religious Studies or Divinity School: all courses
Russian: all courses (no knowledge of the language required for 171, 172, 221, 222, 233, 234)
Spanish: all courses (no knowledge of the language required for 225, 293)
Theatre: 100, 115F, 201, 202, 203, 204,216, 232, 271, 276, 280, and MUSL 103
Women's Studies: 239, 259, 272

History, Social Science (3 hours)

For teacher education track students, 6 hours, one course chosen from HIST 131, 168, 169, 170, 171, 173, 176, 177, 205, 267, 271, 272, 274, 275, 276, 277, 278, 279, or 280, and an "international" social science course (see recommended courses under "International" listings below).
HISTORY.
History: all courses
Music Literature/History: 115F (Music and Global Health) 147, 170, 171, 250, 261

SOCIAL SCIENCE.
African American and Diaspora Studies: 101, 110, 120, 155, 200, 201, 210, 215, 221, 230
Anthropology: all courses
Communication Studies: 210, 220, 221, 228, 235, 240, 241, 250
Economics: 100, 101, 115, 115F
European Studies: 201
Human and Organizational Development (Peabody): 1000, 1100, 1200, 1700, 2100, 2240
Interdisciplinary Studies: 201
Jewish Studies: 120, 121, 155, 156, 244, 252, 255, 280
Latin American Studies: 201
Medicine, Health, and Society: 201
Music: MUSO 161
Political Science: all courses
Psychology (A&S): all courses
Psychology (Peabody): 1200, 1300, 1500, 1600, 1630, 1700, 1750, 2230, 2250, 2310; 2320; SPED 1010; EDUC 1020
Russian: 171, 172 (no knowledge of Russian language r equired)
Sociology: all courses except 228, 229
Women's Studies: 150, 210, 212, 226, 240, 243, 245, 261, 264, 265, 267, 268, 270, 271

INTERNATIONAL SOCIAL SCIENCE.
Anthropology: 115F-01, 115F-05, 214, 237, 246, 247
East Asian Studies: 240
Political Science: 102, 214, 215, 216, 217, 228
Sociology: 115F-10, 255, 277

Mathematics, Natural Science (3 hours)

Students who score below 520 on the SAT Reasoning Test Math Subtest or below 20 on ACT Math Subtest must take MATH 127a or 133.
For teacher education track students, 7 hours, including statistics (Econ 150, MA TH 127a or Psychology 2101 (Peabody)) or calculus (MATH 140-179); and a science course with a lab.
MATHEMATICS.
Economics: 150
Mathematics: all courses
Philosophy: 202
Psychology (Peabody): 2101
NATURAL SCIENCE.
Astronomy: all courses
Biological Sciences: all courses
Chemistry: all courses
Earth and Environmental Sciences (Geology): all courses except 205
History: 202, 204, 206
Molecular Biology: all courses
Neuroscience: 201, 255
Physics: all courses
Psychology: 201
Religious Studies: 202, 241
Women's Studies: 269

Academic Electives (9 hours)

For composition/theory majors, 5–9 hours, to complete 36 hours in liberal ar ts.
For musical arts/teacher education majors, 6 hours, specifically Education 1020 and Special Education 1010.
For vocal performance majors, 5 hours.
May include any course listed in the Liberal Ar ts Core including education courses listed under history and social science; all courses in the non-music disciplines listed in the Liberal Arts Core (excluding art studio, theatre tech or acting, and education); courses in American and Southern studies, computer music, computer science, engineering science, European studies, financial economics, any language, Latin American studies, managerial studies; courses in the Peabody College ar eas of human and organizational development and in psychology and human development; and any course in the Divinity School.

Free Electives (sufficient to complete 126 hours)

Any course in any Vanderbilt school.

Sample Curriculum Plans

Composition/Theory Major

		Semester hours FALL	SPRING
FIRST YEAR			
MUSC 121, 122	Music Theory I and II	2	2
MUSC 121e, 122e	Ear Training and Sightsinging I and II	1	1
MUSC 131a–131b	Keyboard Harmony I and II	1	1
MUSC 230	Introduction to Composition	–	3
MUSE	Ensemble	1	1
MUSL 141	Survey of Music Literature	3	–
MUSL 242	Music of the Middle Ages and Renaissance	–	3
MUSO 108	Recital Attendance	0	0
MUSP	Performance Instruction	1	1
	English/Writing	3	–
	Liberal Arts	3	3
		15	**15**
SOPHOMORE YEAR			
MUSC 123e, 124e	Ear Training and Sightsinging III and IV	1	1
MUSC 220, 221	Music Theory III and IV	3	3
MUSC 132a–132b	Keyboard Harmony III and IV	1	1
MUSC 231a–231b	Composition	3	3
MUSE	Ensemble	1	1
MUSL 243	Music of the Baroque and Classic Eras	3	–
MUSL 244	Music of the Romantic and Moder n Eras	–	3
MUSO 108	Recital Attendance	0	0
MUSP	Performance Instruction	1	1
	English/Writing	3	–
	Liberal Arts	–	3
		16	**16**
JUNIOR YEAR			
MUSC 222	Music Theory V	2	–
MUSC 225	Seminar in Advanced Analysis	–	2
MUSC 232a–232b	Advanced Composition	4	4
MUSE	Ensemble	1	1
MUSO 108	Recital Attendance	0	0
MUSO 261	Conducting	2	–

	Music Electives	–	3
	Liberal Arts	6	2
	Free Electives	1	4
		16	**16**

SENIOR YEAR

MUSC 229	Senior Thesis	1	–
MUSC 232c–232d	Advanced Composition	4	4
MUSC 299	Senior Composition Recital	–	1
MUSE	Ensemble	1	1
MUSO 108	Recital Attendance	0	–
MUSP	Performance Instruction	1	1
	Foreign Language	5	5
	Free Electives	4	4
		16	**16**
	Total Hours:		**126**

Musical Arts Major

Optional concentrations in collaborative arts, composition, literature/history, pedagogy, and theory will affect the outline. Curriculum plans with each of these added to the basic musical arts requirements are provided in *Beginning at Blair,* the school's handbook for new students.

		Semester Hours	
FIRST YEAR		FALL	SPRING
MUSC 121, 122	Music Theory I and II	2	2
MUSC 121e, 122e	Ear Training and Sightsinging I and II	1	1
MUSC 131a–131b	Keyboard Harmony I and II	1	1
MUSE	Ensemble	1	1
MUSL 141	Survey of Music Literature	3	–
MUSL 242	Music of the Middle Ages and Renaissance	–	3
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSP 1–L	Performance Instruction	2	2
	English/Writing	3	3
	Liberal Arts	3	3
		16	**16**

SOPHOMORE YEAR

MUSC 132a–132b	Keyboard Harmony III and IV	1	1
MUSC 220, 221	Music Theory III and IV	3	3
MUSE	Ensemble	1	1
MUSL 243	Music of the Baroque and Classic Eras	3	–
MUSL 244	Music of the Romantic and Modern Eras	–	3
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSP 1–L	Performance Instruction	2	2
	Liberal Arts	6	6
		16	**16**

JUNIOR YEAR

MUSC 222	Music Theory V	2	–
MUSC	Composition or Advanced Theory Elective	–	2
MUSE	Ensemble	1	1
MUSL	Music Literature/History Electives	3	3
MUSO 108	Recital Attendance	0	0

MUSO 109	Performance Class	0	0
MUSO 261	Conducting	2	–
MUSP 2–L	Performance Instruction	2	2
	Music Electives	3	3
	Liberal Arts	3	–
	Free Electives	–	5
		16	**16**

SENIOR YEAR

MUSE	Ensemble	1	1
MUSL	Music Literature/History Elective	3	–
MUSO 108	Recital Attendance	0	–
MUSO 109	Performance Class	0	0
MUSP 2–L	Performance Instruction	2	2
	Music Electives	3	4
	Free Electives	6	8
		15	**15**
	Total hours:		**126**

Musical Arts/Teacher Education Major (5 year M.Ed.) *

		Semester hours	
FIRST YEAR		FALL	SPRING
MUSC 121,122	Music Theory I and II	2	2
MUSC 121e, 122e	Ear Training and Sightsinging I and II	1	1
MUSC 131a, 131b	Keyboard Harmony I and II	1	1
MUSE	Ensemble	1	1
MUSL 141	Survey of Music Literature	–	3
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSP 103a	Introduction to Voice I (excluding voice majors)	–	1
MUSP 1–L	Performance Instruction	2	2
	Liberal Arts: Writing and Math [or other lib. arts]	6	–
EDUC 1020/ SPED 1010	Society, School & Teacher/Intro to Exceptionality	3	3
MUST 250a	Practicum I	–	1
		16	**15**

SOPHOMORE YEAR

MUSC 123e, 124e	Ear Training and Sightsinging III and IV	1	1
MUSC 132a, 132b	Keyboard Harmony III and IV	1	1
MUSC 220, 221	Music Theory III and IV	3	3
MUSE	Ensemble	1	1
MUSL 242	Music of the Middle Ages and Renaissance	3	–
MUSL 243	Music of the Baroque and Classic Eras	–	3
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSO 159	Diction for Singers (voice majors only)	1	0
MUSP 1–L	Performance Instruction	2	2
	Classroom Instruments	–	1
	Liberal Arts [Science, U.S. History]	4	3
MUST 250b	Practicum II	-	1
		16	**16**

* Programs vary somewhat for instrumental/general *or* vocal/general track. Curriculum plans for each track are provided in *Beginning at Blair,* the school's handbook for new students.

JUNIOR YEAR			
MUSC 222	Music Theory V	2	–
MUSE	Ensemble	1	1
MUSL 244	Music of the Romantic and Modern Eras	3	–
MUSL	Music Literature/History Elective**	–	3
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSO 261; 262, 263	Conducting; Instrumental or Choral Conducting	2	2
MUSP 2--L	Performance Instruction	2	2
	Secondary Instrument	1	1
MUST	Seminar [MUST 212-215]	2	2
	Philosophy W or Fine Arts W (writing course)	–	3
	Free Electives	3	2
		16	**16**

SENIOR YEAR		Semester hours FALL	SPRING
MUSC 224, 230	Orchestration/Introduction to Composition	3	3
MUSE	Ensemble	1	1
MUSL	Music Literature/History Elective**	3	3
MUSO 108	Recital Attendance	0	–
MUSO 109	Performance Class	0	0
MUSP 2--L	Individual Performance Instruction	2	2
MUSR 299	Senior Recital	1	–
EDUC 2040	Introduction to Classroom Technologies	1	–
	Secondary Instrument	1	1
	Liberal Arts [International Social Science	3	0
	Class Instruments or free elective	1	4
MUST 250c	Practicum III	–	1
		16	**15**
	Total Hours:		**126**

** Music literature/history electives: MUSL 147, 160, and choice of 183 *or* 200 (American Music; World Music; and choice of Music, the Arts, and Ideas; *or* Women and Music).

Note: Ensemble experience must include both large and small ensembles and varies according to specific track (i.e., vocal/general or instrumental).

Performance Major

Programs vary with departments, since specific requirements differ. Curriculum plans for each performance area are provided in *Beginning at Blair,* the school's handbook for new students.

FIRST YEAR		Semester hours FALL	SPRING
MUSC 121, 122	Music Theory I and II	2	2
MUSC 121e, 122e	Ear Training and Sightsinging I and II	1	1
MUSC 131a–131b	Keyboard Harmony I and II	1	1
MUSE	Ensemble	1	1
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSL 141	Survey of Music Literature	3	–
MUSL 242	Music of the Middle Ages and Renaissance	–	3
MUSR	Performance Instruction	4	4
	English/Writing	3	3
		15	**15**

SOPHOMORE YEAR

MUSC 123e, 124e	Ear Training and Sightsinging III and IV	1	1
MUSC 132a–132b	Keyboard Harmony III and IV	1	1
MUSC 220, 221	Music Theory III and IV	3	3
MUSE	Ensemble	1	1
MUSL 243	Music of the Baroque and Classic Eras	3	–
MUSL 244	Music of the Romantic and Modern Eras	–	3
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSR	Performance Instruction	4	4
	Liberal Arts	3	3
		16	**16**

		Semester hours	
JUNIOR YEAR		FALL	SPRING
MUSC 222	Theory V	2	–
MUSE	Ensemble	1	1
MUSE 201	Chamber Music	–	1
MUSO 108	Recital Attendance	0	0
MUSO 109	Performance Class	0	0
MUSO	Orchestral Repertoire/Instrument Literature	1	1
MUSO 261	Conducting	2	–
MUSR	Performance Instruction	4	4
MUSR 295	Junior Recital	–	1
	Liberal Arts	6	6
	Free Electives	–	2
		16	**16**

SENIOR YEAR

MUSE	Ensemble	1	1
MUSE 201	Chamber Music	–	1
MUSO 108	Recital Attendance	0	–
MUSO 109	Performance Class	0	0
MUSR	Performance Instruction	4	4
MUSR 299	Senior Recital	–	1
	Liberal Arts	3	–
	Free Electives	8	9
		16	**16**
	Total hours:		**126**

Teacher Education

The Blair School and Peabody College offer a program for students interested in teacher licensure. Students completing this program earn the Bachelor of Music (B.Mus.) degree, majoring in musical arts/teacher education track for four years, and the Master of Education (M.Ed.) degree to complete professional education requirements. During the senior year, application is made to Peabody College. The M.Ed. work requires one calendar year, June–May. Students may elect to work toward licensure in either instrumental or vocal/general music. The curriculum includes a strong

music performance emphasis; a solid foundation in music literature, theory, and the liberal arts; undergraduate and graduate courses in psychology and education; and practica (practical experience) every year, with two student teaching opportunities in the spring semester of the master's degree work. Practica constitute a wide variety of experiences, including public school, private school, and Blair's pre-collegiate programs such as Suzuki strings, Children's Chorus program, and the Youth Orchestra program. Students complete the same music core requirements as any other B.Mus. candidate. The liberal arts core is adapted to fulfill state licensure requirements. The music electives ordinarily associated with the musical arts curriculum are, for students in the five-year program, devoted to prerequisites for the M.Ed. degree and for the teaching license; thus, there are very few free elective hours in this curriculum.

Sophomore Review

All students admitted to this program at matriculation must be formally continued through a process called Sophomore Review. Criteria for this review are listed below. Students not approved can complete the general musical arts degree.

Specific Criteria

1. A minimum cumulative grade point average of 2.500.
2. Successful completion (C- or better) of EDUC 1020 and SPED 1010
3. Successful completion (C- or better) of two additional Vanderbilt courses which count towards the Liberal Arts Core.
4. Successful completion (C- or better) of MUSC 122, 122e, MUSL 141 and MUST 250a.

General Criteria

These criteria rest on the professional judgment of appropriate faculty members, who are polled following the student's application for Sophomore Review.

1. Endorsement by the appropriate faculty that the applicant has demonstrated the academic and musical qualifications expected of Vanderbilt teacher education candidates.
2. Endorsement by the appropriate faculty that the applicant has demonstrated the personal and character traits expected of Vanderbilt teacher education candidates.

Procedure for Sophomore Review

Students apply for continuation in the teacher education program (Sophomore Review) through the coordinator of the program.

Applications must be submitted in either the fall or spring semester of the sophomore year. Deadlines for submitting applications for Sophomore Review are 1 October and 1 February.

Admission to the Master's Degree

During the senior year, students with strong records are counseled to take the Graduate Record Examination (GRE) or the Miller Analogies Test (MAT)

and apply for admission to Peabody College for the Master of Education degree program. The admissions process includes consideration of GPA, test scores, and recommendations. Deadline for receipt of all application materials is 1 March.

Fifth Year Curriculum

SUMMER		Semester hours
EDUC 3050	Social/Philosophical Aspects of Education	3
EDUC 3110	Psychological Foundations of Education	3
EDUC 3510	Teaching in Secondary Schools	3
MUST 300	Philosophical Foundations and Contemporary Issues in Music Education	3
FALL		
EDUC 2320	Teaching for Understanding and Academic Literacy	2
EDUC 2330	Practicum	1
EDUC 3890	Independent Study in Music	2
MUST 320/330	Methods and Materials in Teaching Music, K–6 and 7–12	6
SPRING		
EDUC 3003	PreK–12 Student Teaching in Music	6
EDUC 3004	Student Teaching Seminar in Music	1
		Total Hours: 30

Admission to Student Teaching

Prospective student teachers must apply for admission to student teaching during the fall semester of the fifth year. Application materials are available from the Peabody Office of Teacher Licensure, located in 210 Peabody Administration Building. Deadline for submitting applications is 1 October. Student teaching requires at least two placements at two different age levels in a fifteen-week semester.

General Criteria for Admission to Student Teaching

1. Completion of the B.Mus. degree.
2. Admission to the Master of Education program.
3. Successful completion of all courses prerequisite to student teaching.
4. A minimum grade point average of 3.00.
5. Satisfactory performance in course work in areas in which teacher licensure is sought.
6. Submission of a résumé and personal statement, discussing why the applicant wants to teach and what strengths the applicant brings to the classroom.
7. Endorsement by the appropriate faculty regarding academic, musical, and personal readiness to teach, including dependability, professional and ethical behavior, attitude, and interpersonal skills.

Application for Teacher Licensure and University Recommendation for Licensure

All students completing the teacher education program at Vanderbilt are strongly advised to apply for a license in Tennessee whether or not they plan to teach in this state. Normally a Tennessee license is accepted in all other states and foreign countries in which Vanderbilt students apply to teach. The student is responsible for applying for licensure through the Office of Teacher Licensure located in 210 Peabody Administration Building. Each state has its own set of application forms and procedures for licensure; information is available in the Office of Teacher Licensure.

To be licensed through Vanderbilt's teacher education program, a graduate must earn a positive licensure recommendation from the University. The University's decision to recommend a candidate is based upon the following:

1. Maintaining a 3.0 grade point average in the fifth year ..
2. Achieving the state minimum score on all required parts of the PRAXIS Examinations. A copy of the scores must be sent to the Vanderbilt Office of Teacher Licensure (code R 1871).
3. Receiving a positive recommendation from the student's department as a result of the student teaching experience (Pass in student teaching does not guarantee a favorable recommendation).

All Vanderbilt teacher education programs are approved by the National Council for Accreditation of Teacher Education (NCATE). The program for licensure to teach instrumental or vocal/general music is approved by the National Association of Schools of Music (NASM).

Special Programs

BLAIR School of Music offers individual, group, class, and ensemble instruction to pre-college and adult students (defined as students above high school age not receiving university credit). A catalog describing these programs is available at the school.

The Adult Program

Blair offers to adults individual instruction in orchestral instruments, piano, organ, guitar, harp, saxophone, euphonium, recorder, viola da gamba, harpsichord, fiddle, banjo, mandolin, dulcimer, steel drum/pan, voice, and composition. Group instruction is available in piano, guitar, recorder, percussion, and voice.

Classes are offered in basic musicianship, music theory and ear training, music literature and history, music business, songwriting, and Alexander Technique. Ensembles open to adults include the Vanderbilt Community Chorus, guitar ensemble, saxophone ensemble, trombone ensemble, tuba ensemble, percussion ensemble, fiddle ensemble, and chamber music.

The Pre-College Program

Blair offers individual instruction in orchestral instruments and in piano, organ, guitar, harp, saxophone, euphonium, recorder, viola da gamba, harpsichord, fiddle, banjo, mandolin, dulcimer, steel drum/pan, and voice. Group instruction is available in piano, fiddle, recorder, voice, and (for young children) Kindermusik for ages birth to four years. Instruction using the Suzuki method is offered in violin, viola, and cello.

Class instruction includes elements of music, musicianship, music theory and ear training, and music literature/history.

Ensemble training is offered through the Nashville Youth Orchestra Program, the Blair Children's Chorus Programs, Blair Suzuki Players, guitar ensembles, and chamber music.

The Blair School Certificate Program provides a curriculum integrating advanced levels of performance study with training in music theory and history, performance classes, and recitals. Students who successfully complete the requirements for this program present a solo recital during their high school senior year and receive either the Certificate of Achievement or the College Preparatory Certificate upon graduation. A variety of scholarships, for which students may audition, are awarded each year to outstanding pre-college students by the school, the Blair Guild, and by several donors. Students in many area high schools earn out-of-school credit towards high school graduation for individual study of music at Blair or through participation in the Nashville Youth Orchestra Program.

The Blair Concert Series

The Blair Concert Series offers solo and chamber music performance to the University community and the city of Nashville, always focussing on the Blair faculty, resident ensembles, and soloists. Most Blair concerts are free and have open seating. For certain Blair-sponsored ticketed events, students may purchase tickets at a special discounted rate.

Blair faculty musicians, musicologists, and guest speakers are featured in the Blair Nightcap series, musical programs on selected Monday and Thursday nights. The Nightcap Series presents a talk about the music, themes, and composer beginning at 8 pm, followed by a 50-minute concert at 9 pm in Turner Recital Hall. Coffee and desserts are provided with each talk by the Blair School. Faculty members also present evening candlelight concerts for the University Club of Nashville. Numerous faculty recitals and other special programs are presented throughout the year. Weekly student recitals, held each Thursday at 3:00 p.m., are free and open to the public, as are all other student recitals, including junior and senior solo recitals and senior composition recitals. More than 200 concerts are presented at the school each year.

The BMI Composer-in-Residence program, sponsored by Broadcast Music Inc., brings visiting composers to campus every year. The three-day residency includes lectures, performances of the composer's works, and opportunities for interaction with students. Composers-in-residence for 2006/2007 are Peter Boyer, November 27-29, and Jake Heggie, March 11-13. Peter Boyer's orchestral works have received nearly one hundred performances by more than forty orchestras in venues including New York Carnegie Hall, London Abbey Road Studios, Los Angeles Shrine Auditorium, and Dallas Meyerson Symphony Center. Boyer has also conducted recordings of his music with the London Symphony Orchestra and the Philharmonia. Jake Heggie, recipient of a 2005 Guggenheim Fellowship and a 2004 Meet-the-Composer Grant, has composed more than 200 songs as well as concerti, orchestral works, and chamber music. His songs, song cycles, and operas are championed internationally by singers such as Renée Fleming, Audra McDonald, Susan Graham, Frederica von Stade, Kristine Jepson, Jennifer Larmore, Joyce DiDonato, Joyce Castle, Zheng Cao, Bryn Terfel, and Teddy Tahu Rhodes. The San Francisco premiere of Heggie's *Dead Man Walking* in October 2000 was directed by Joe Mantello. He is currently working on a commission from the Metropolitan Opera.

The John F. Sawyer Symposium on *Music and the Arts* was established to honor John F. (Del) Sawyer, founding director and former dean of the Blair School of Music. The inaugural event in 1996 featured a seminar and master class with Sawyer's mentor, master trumpeter and teacher William Vacchiano. In 2004, legendary Chicago Symphony principal player Adolph "Bud" Herseth visited the School to teach, perform, and lecture.

The Blair String Quartet

Academic Regulations

Honor System

All academic work at Vanderbilt is done under the Honor System (see the chapter on Life at Vanderbilt.)

Faculty Advisers

All entering students are assigned faculty advisers who assist in the planning of programs and course schedules. Students are required to meet with their advisers prior to registration for each semester.

Class Attendance

Students are expected to attend all sessions of each class in which they are enrolled. Attendance is usually a factor in determining the final grade in a course. A student who fails to abide by the attendance policy set by the course instructor is subject to removal from the course.

The last day before and the first day after official holidays are considered to be the same as any other day on which classes are scheduled. Assignments are made for classes scheduled on these days, and tests may be given in them. Students should take this fact into account in making travel plans.

October Break

The University's fall break, October 16–17 (Monday–Tuesday), requires an adjustment to the Blair School calendar because of the large number of once-weekly classes and lessons. Accordingly, all Monday and Tuesday classes and lessons that week will meet on Wednesday and Thursday (October 18–19) instead, and those that would normally meet on Wednesday and Thursday will not meet.

Course Load

Tuition is charged on the basis of a normal course load of 12 to 18 semester hours. Course loads outside the norm, which must be recommended by the student's adviser and approved by the associate dean, are charged at an hourly tuition rate. Students permitted to take fewer than 12 hours are placed on probation, unless their light load is necessary because of outside employment or illness. The maximum course load for the summer session is 12 hours (6 hours for a summer half-session).

Residence Requirement

Students must complete at least half the credit required for the B.Mus. degree (63 hours) and four semesters, including the last two semesters and the last 30 credits, in residence at the Blair School. "In residence" is defined as enrolled for a minimum of 12 hours.

Advanced Placement

Advanced Placement with Credit. Advanced placement with credit is granted in a number of areas (see the chapter on Admission).

Advanced Placement without Credit. Students may be admitted to advanced music courses on the basis of placement tests at Blair, but no credit is awarded for music courses exempted.

Work at Another Institution

Pre-freshman work. Credit for pre-freshman college work may be given, subject to evaluation by the registrar and approval of the associate dean. Credit for courses taken at another institution during the summer preceding a student's initial enrollment at Vanderbilt will be granted only if approval is obtained in advance from the associate dean. The course work must be comparable to courses offered at Vanderbilt.

Summer studies. Students enrolled at Blair may receive transfer credit for summer courses taken at another four-year, fully accredited institution. This may include work at festivals or camps, if offered through an accredited institution. To qualify for summer credit, a student must be in good standing, consult the registrar, provide course descriptions, and obtain authorization in advance.

Semester work at another institution. Students wanting to receive transfer credit for a semester of work at another institution must receive approval in advance from the associate dean. To qualify for such credit, the student must be in good standing and must present a plan that makes clear the educational rationale for such work, the ways in which it supplements the Vanderbilt curriculum, and the equivalence of standards to those at Vanderbilt. Approval of the overall plan must be followed by approval of specific courses by the associate dean, the appropriate academic department, and the Blair registrar's office.

Transfer courses are often taken as free electives, but they may also earn liberal arts core credit. They may not fulfill the music core requirements, count as part of the last 30 hours of residence, serve as repeat credit, or be taken on a pass-fail basis.

Study Abroad

Two study abroad programs are coordinated with the degree programs in music: the IES program in Vienna, Austria, and the IFSA/Butler program at The University of Sydney and Sydney Conservatorium of Music

in Sydney, Australia. Both of these programs include provisions for lesson and ensemble credits, contingent upon audition and admission to the program. These will count towards the Blair music core and are covered at least in part by regular tuition and fees. Both also allow for a range of liberal arts and elective credits. Students enrolled in IES Vienna will be required to enroll in German; there is, however, no language prerequisite for admission to the program. Further information can be obtained from the Vanderbilt Study Abroad Office and from Blair's associate dean.

Blair students may also elect any of the Vanderbilt-approved study abroad programs; see descriptions under "Study Abroad" in the front chapters of the catalog. Former Blair students in these programs have typically enrolled in music electives, courses in the liberal arts core, and coursework towards minors and second majors. Students in these programs typically arrange alternative private lesson study, and those fees are usually not covered by tuition. It is also possible to pursue study abroad through transfer credit; the associate dean's office has more details.

Transfer Students

Transfer applicants must comply with University standards (see the chapter on Admission.) The required audition is of major importance in the evaluation of any application. Composition/theory applicants must submit a composition portfolio and interview with a member of the composition/theory faculty.

Transfer students must submit catalog copy and, in some cases, course syllabi from the previous institution(s). A level of performance study is assigned based on the entrance audition. Credit for courses is subject to evaluation. Music courses may require an examination at Blair, and credit for non-music courses must be approved by the appropriate Vanderbilt department. Work transferred from another institution will not carry with it a grade point average; grades will show on the transcript but are not calculated in the Vanderbilt grade point average. Transfer students must complete at least half the credit required for the degree, or 63 hours, at the Blair School.

Intra-University Transfer. Students intending to transfer within the University should meet with Assistant Dean Amy Jarman and file appropriate paperwork. For students transferring out of the B.Mus. program, Blair will continue to cover private lesson fees for one interim semester. All students are expected to maintain a minimum of 3 credit hours within their home school until transfer is approved. First semester freshmen are ineligible for transfer status. See also the chapter on Admissions.

Registration

Registration is available to entering freshmen in June during Summer Academic Orientation or by mail. Other students register on dates specified each semester in the University Calendar. Packets are distributed to

students' Blair mailboxes by the Blair registrar. Conferences with faculty advisers are required before students may register. Detailed information on registration is printed in the *Schedule of Courses.* Returning students who fail to register by the date specified in the University calendar (usually early in May for the fall semester or mid-November for spring semester) are charged a $30 late registration fee.

Prior to registration, students should refer to the sample curriculum plans in *Beginning at Blair,* the school's handbook for new students. Records should be checked regarding progress toward completing the following:

1. Music core
2. Liberal arts core
3. Additional major area requirements

A student whose course requests are denied (class full or cancelled) may select alternate courses when notified of open registration.

Change of Course

Course changes may be made during Registration or the official Change Period (Drop/Add), normally the first week of classes, as published in the University Calendar. All changes need the adviser's approval. A course dropped during the Change Period does not show on a transcript.

A course may be dropped prior to the deadline for withdrawal published in the University Calendar (usually Friday of the week after midsemester). The approval of the instructor, adviser, and associate dean is required (see Grading System regarding withdrawal grades). Regularly enrolled students must maintain a minimum course load of 12 hours.

Grading System

A: outstanding
B: good
C: satisfactory
D: minimum pass work
F: failure

Under certain circumstances the following grades may be awarded (see explanations below):

Pass: D– or above
W: withdrawal
M: missed final examination (prior approval needed; see below)
I: incomplete in some requirement other than final examination (see below)
MI: missed final examination and incomplete in some other requirement

Plus and minus modifiers may be associated with letter grades *A* through *D* as shown in the table below. Grade point averages are calculated using indicated grade point values.

Defined Grades with Corresponding Grade Points Per Credit Hour

A	= 4.0	C	= 2.0
A–	= 3.7	C–	= 1.7
B+	= 3.3	D+	= 1.3
B	= 3.0	D	= 1.0
B–	= 2.7	D–	= 0.7
C+	= 2.3	F	= 0.0

Grade Point Average

A student's grade point average is obtained by dividing the total grade points earned by the number of hours for which the student registered, excluding courses audited or taken for no credit, those from which the student has withdrawn or for which an incomplete grade *(I, M,* or *MI)* has been authorized, and those with the grade *Pass.*

Pass-Fail Option

After the freshman year, students in good standing may take free elective courses in which they request a grade of *Pass* or *Fail*. Only one course (or 3 hours) per semester and a total of 18 hours towards the 126-hour degree total may be taken on a Pass-Fail basis. The 18-hour maximum includes any courses offered only with Pass-Fail grading and any hours in which credit is earned by departmental examination and thus graded as Pass. Liberal arts core courses may not be taken on a Pass-Fail basis.

Students must file for the Pass-Fail option using OASIS, the computerized registration system, before the end of the official Change Period, usually the first week of classes. Students may change from a Pass-Fail basis to a letter grade basis before the deadline for withdrawal published in the *University Calendar,* generally Friday of the week after mid-semester.

Students electing the Pass-Fail option must meet all course requirements and are graded in the usual way. Instructors are not informed of the names of students enrolled on a Pass-Fail basis. At the end of the semester, the registrar records grades of *D–* or above as *Pass*. Grades of *Pass* are not calculated in a student's grade point average; failing grades are.

Students electing coursework on a Pass-Fail basis need not be enrolled for 12 graded hours, but a student enrolled for fewer than 12 graded hours is not eligible for the Dean's List.

Deficiency Notices

During the week after mid-semester, the University Registrar distributes deficiency notices to students whose mid-semester grade in any course is a *C–* or below or whose work is incomplete *(I)*. These are issued as a matter of information and warning. Deficiencies do not show on transcripts, but copies are sent to the faculty advisers and parents of those students who are dependents of their parents or who have authorized such reports. A student who receives a deficiency notice is required to meet

with the faculty adviser before the deadline for withdrawal at the end of the week. A student with deficiencies in two or more courses or any senior who receives a deficiency notice is also required to meet with the associate dean before the deadline for withdrawal (usually Friday of the week after mid-semester).

W: Withdrawal

A student may withdraw from a course after the official Change Period and prior to the deadline for withdrawal published in the University Calendar, generally Friday of the week after mid-semester. A change of course card (green card) must be signed by the instructor, adviser, and associate dean and filed with the Blair School registrar. Students from other schools of the University must file with their home school registrar. Withdrawals after the published deadline result in an *F*. The grade *W* may be assigned by the associate dean to a student who seeks to withdraw from a course or from school after the deadline for reasons such as extended illness or unusual personal or family problems. No *W* grades are calculated in a student's grade point average.

M: Missed Final Examination

The grade *M* may be requested by a student absent from the final examination, but the grade *F* is recorded if a student could not have passed the course regardless of the examination score. To receive the grade *M,* the student must complete an authorization form available from the Blair registrar and present a written excuse to the instructor and the associate dean for authorization. A date by which the examination will be completed is scheduled jointly by the student and the instructor. A student who defaults on the final examination receives a score of zero. The grade *M* is not calculated in a student's grade point average, but a student who receives the grade *M* is not eligible for the Dean's List.

I: Incomplete

In the event that course work or quizzes are not completed by the last class day of the semester, the grade I may be requested by a student if the incomplete work is due to illness or circumstances beyond the student's control. With the instructor's permission and the approval of the associate dean, a student may be given an extension for missing work. Authorization forms are available from and must be filed with the Blair registrar before the grade *I* is given. A date by which the work must be completed is agreed upon by the student and the instructor. Work not completed by the extension date receives a zero. The grade *I* is not calculated in a student's grade point average, but a student who receives the grade *I* is not eligible for the Dean's List.

No-Credit Courses (NC)

Students who wish to take courses on a no-credit basis must file with the Blair registrar before the end of the Change Period, usually the first week of classes. Students must attend class and complete all course work. A grade is recorded on the transcript with the notation *NC*, indicating that it does not count toward the degree.

No-credit courses count in the computation of a student's academic load and tuition, but not in the computation of the grade point average.

Auditing

Blair Courses. Regularly enrolled Blair degree students who wish to audit Blair courses need only obtain the consent of the instructor. The transcript will show no record of the audit unless the student registers for the course in an audit status with the Blair registrar. Students from other schools of the University must register to audit Blair courses. The audit will be indicated on the student's record with no grade. Auditing students do not participate in class discussion and are not evaluated. Auditing of individual or group performance instruction is not permitted, but students may audit performing ensembles with the instructor's consent.

Courses in Another School. A Blair student who audits a course in another school of the University must register for audit. The audit will be indicated on the student's record with an "Au" for audit and will be considered, and paid for, as part of the regular load. Audit status in a course may affect full-time student status, since audited hours do not count as official "hours enrolled."

Repeated Courses

Certain courses, notably performing ensembles and variable credit performance instruction, may be taken more than once for credit. Otherwise, students may repeat any course to replace a grade, with no additional credit hours earned, subject to the following conditions:

Courses taken at Vanderbilt may not be repeated elsewhere.

A grade may not be replaced by a grade of "Pass."

A grade of W or I cannot replace a letter grade.

Only the most recent grade is calculated in the grade point average, but all grades show on the transcript.

Dead Week

The last week of classes, i.e., the last seven calendar days before the final examination period each semester, is designated as dead week. No examinations of any type, including quizzes and portions of final examinations, may be given during this time without the express written permission of the Dean and notification of students at least two weeks before dead week. Violations should be reported to the Dean.

Examinations

All examinations are conducted under the honor system. Primary and alternate exam schedules, which allow two hours for a final exam in each course, are listed in the *Schedule of Courses.* The instructor may use the alternate schedule in addition to, but not instead of, the primary schedule.

Alternatives to standard in-class final examinations, such as term papers or take-home, self-scheduled, or oral examinations may be given at the instructor's discretion. A take-home exam is distributed at the last regular class meeting and must be completed by the latest time scheduled for the final examination.

Performance examinations are scheduled by department chairs. Students giving full recitals during the semester may be exempted from performance examinations at the discretion of the instructor. If performance examinations are scheduled on a reading day (the day after classes end, when no course examinations are scheduled), students are also given the choice of a different day for their performance examinations.

A student who misses a final examination may be eligible to receive the grade *M* (see Grading System).

Grade Reports

Grade reports and faculty critiques of performance examinations will be provided to students as soon as possible at the end of each semester. Grades are available online in AAI (Access to Academic Information). Grade reports are sent to parents of those students who are dependents of their parents or who have authorized such reports. Occasionally, student academic information may be shared with appropriate faculty committees for purposes of promotion and tenure review.

A grade reported and recorded in the University Registrar's office may be changed only upon written request of the instructor, on certification that the original report was in error, with approval of the associate dean.

Academic Standards

Class Standing

To qualify for sophomore standing, a student must complete a minimum of 24 hours with a grade point average of 1.8.

To qualify for junior standing, a student must complete a minimum of 54 hours with a grade point average of 1.9 and must complete MUSC 122 and 122e.

To qualify for senior standing, a student must complete a minimum of 86 hours with a grade point average of 2.0

Students who fail to qualify for the appropriate class standing within two semesters are placed on probation. Students on probation must qualify for class standing in one additional semester or risk being dropped from the university.

Academic Probation

Freshmen are placed on academic probation if they do not complete one writing course or if their grade point averages are below 1.8 overall or 2.0 in music. Other students are placed on academic probation if they fail to qualify for class standing, if they complete fewer than 12 hours in a fall or spring semester except in cases involving documented mitigating circumstances (illness, injury, or family emergency), or if their semester grade point averages fall below 1.8 overall or 2.0 in music. Incomplete grades may adversely affect class standing or grade point averages. Students on academic probation may not transfer summer study credit, elect to take courses on a Pass-Fail basis, earn credit by departmental examination, or participate in any extracurricular performance activity. They are required to participate in a special program in the Learning Center. Students will be placed on probation no more than twice. Students who are candidates for probation a third time will be dropped from the university.

Sudden Academic Insufficiency

Any student who fails by a wide margin to reach prescribed levels of academic achievement, either at the end of a semester or at mid-semester, is reviewed by the Associate Dean's office in conjunction with the academic and studio adviser(s). If the student is not making satisfactory progress towards the degree, the student may be placed on probation or may be advised or required to take a leave of absence or advised to withdraw from the University. Appeals of such findings should be addressed to the Blair Curriculum Committee.

Scholarship Student Requirements

Students receiving honor scholarships through Blair School of Music must be enrolled full time, taking all assigned music courses, must qualify for class standing, and must maintain each semester minimum grade point averages of 2.0 overall and 2.7 in music. Students receiving the Harold Stirling Vanderbilt Honor Scholarship must maintain a minimum 3.0 grade point average overall and 3.0 in music each year. Additional requirements may be stipulated in scholarship award letters.

Honor scholarship awards are considered for renewal annually. Student work will be reviewed at the end of spring semester for possible renewal for the following academic year. Incomplete grades may adversely affect renewal. A student who falls short of the requirements will normally have the scholarship for one semester of grace, after which, if requirements are still not met, the scholarship will be lost.

Students receiving scholarships or grants as part of their financial aid packages (not honor scholarships) must qualify for class standing in order to be considered for renewal each year. Students receiving federal aid are expected to make satisfactory academic progress as outlined in the chapter on Financial Information.

Graduation Requirements

Candidates for degrees must have completed 126 hours and all curriculum requirements, have passed all prescribed examinations, and be free of indebtedness to the University.

Exceptions to stated degree requirements and procedures must be approved by the Curriculum Committee as the representative body of the faculty in matters pertaining to the curriculum.

The minimum grade point averages required for graduation are 2.0 overall and 2.0 in music. A student taking a second major must earn a 2.0 in that major in order for it to be certified on the transcript.

If requirements for graduation change, students may elect to be bound by requirements published in the *Undergraduate Catalog* in either their entering or their graduating year.

Degree Audit Reports

A degree audit report is prepared by the Blair registrar and included in each student's registration packet during the spring semester of the junior year, showing total hours earned, degree requirements completed, and those still to be met. Students should examine these reports carefully with their faculty advisers and return a signed copy to the Blair registrar. Problems or suspected errors should be discussed immediately with the Blair registrar.

Credit by Departmental Examination

In certain circumstances, students may be awarded course credit (a maximum of 8 hours) by departmental examination. This procedure is distinct from the awarding of credit through the College Board Advanced Placement Tests or the International Baccalaureate. Students apply for credit by examination through the Blair registrar.

To earn credit by departmental examination, students must be enrolled for at least 12 hours, be in good standing, be recommended by their advisers, and have the approval of the appropriate department. In addition, students must seek *prior approval* of their study plan through the associate dean's office. Grading is on a Pass-Fail basis. The maximum of 18 hours toward the degree graded as Pass includes credit earned by examination.

Students may attempt to earn credit by examination in no more than two courses in one semester, only once in any course in one semester, and no more than twice in the same course.

A $50 fee is charged for administering the examination unless credit earned by examination exceeds the normal 18-hour maximum load, in which case tuition must be paid at the hourly rate for those hours in excess of 18, and the examination fee is waived.

Senior Re-examination

Candidates for graduation who fail one exam and therefore one course in the final semester of the senior year are allowed one re-examination,

provided the course failed would prevent the student's graduation and provided the student could pass the course by passing the re-examination. The re-examination is given after all grades for the senior year have been received by the registrar. Students passing a senior re-examination receive a *D–* in the course.

Independent Study

Students must obtain permission to enroll in Independent Study from the instructor of their choice prior to registration. Independent Study authorization forms are available from the Blair registrar and at *www.vanderbilt.edu/stop/forms.* The instructor's signature on the authorization form indicates a willingness to supervise the Independent Study project. A contract or study plan, approved by the instructor in consultation with the appropriate department chair and the associate dean, must be submitted to the Blair registrar by the tenth calendar day after classes begin. If no plan is submitted, the student will be dropped from Independent Study. An Independent Study project should result in a substantial written report, paper, or lecture/recital. The report, tape, or some physical manifestation of the project should be retained by the instructor. Independent Study projects proposed by students in the College of Arts and Science must be approved by Associate Dean Kate Daniels.

A student may register for a maximum of 3 hours in Independent Study in a semester. A student may count a total of 6 hours in Independent Study toward the degree. A faculty member may supervise no more than four students per semester in Independent Study projects.

Independent Study cannot substitute for courses which are part of the curriculum.

Internships

The Vanderbilt Career Center assists students interested in internship opportunities in the music industry and elsewhere; there are opportunities in many states of the U.S. and also abroad, both during the academic year and in the summer. A student serving as an intern may develop an Independent Study project as a corollary if credit is desired. Students with summer internships that require an academic component must register for credit and pay summer tuition. The project must be consistent with the regulations for any Independent Study.

Solo Recitals

Pre-Recital Hearing

All students (excepting composition) giving required recitals and any student who wishes to give a recital in the Blair building must pass a hearing, held at least three weeks before the recital. After establishing a recital date, the student's instructor will assemble a recital hearing committee, consisting

of two additional faculty members, one of whom must be from outside the student's performing area. For musical arts/teacher education students, the committee will normally consist of the studio instructor, a teacher education faculty member, and at least one additional faculty member. For non-required, non-credit recitals, the hearing committee may be from within the department. For any recital involving a student's second performing medium, a full-time faculty member from that department must be part of the hearing committee. The instructor must notify the recital hearing committee, in writing, of the hearing date, recital date, time, and place. Senior composition recitals are screened in advance at the department level.

For a required junior or senior recital, the repertory must encompass three major style periods, as appropriate to the medium; at least one work in a modern idiom must be included in either the junior or senior recital. The hearing committee should hear all of the recital repertory. Grading of the hearing is on a Pass-Fail basis, with written faculty comments. If a student fails the hearing, another must be scheduled. Only two recital hearings in one semester are permitted.

Recital and Recital Committee

For recitals given for credit, the recital committee is the same as the hearing committee whenever possible. The final grade is a composite of those of the committee members, with the instructor's grade valued at 50 percent. Copies of committee member's grades are kept by the instructor. Recitals not given for credit are not graded; they involve a hearing committee but not a recital committee.

Extracurricular Performance

Students must be in good standing and have the consent of their private instructors in order to participate in any extracurricular performance activities, including in-school accompaniment that is not required by a student's degree program or honor scholarship.

Recital Attendance

Each semester in residence, students (except graduating seniors in their final semester) are required to register for and attend weekly student recitals/convocations on Thursdays at 3:00 p.m. and a minimum of six Blair faculty or professional concerts and recitals or their community equivalents as described on the syllabus. Students must fulfill both aspects of the requirement to pass each semester. The course receives zero credit hours but is graded on a Pass-Fail basis and listed on students' transcripts. Incompletes will not be granted except in the case of documented medical emergency.

Attendance sheets are provided in the lobby before and after recitals for students to register their attendance. Two absences from Thursday afternoon recitals are permitted each semester. Under extraordinary circumstances, make-up assignments can be obtained from the Recital Attendance

Coordinator with the permission of the Associate Dean. Students must plan and keep up with their concert attendance. Except for weekly student recitals, performances in which students are participants do not fulfill the attendance requirement for the performer. Deadline for completion of all work is noon of the last day of final examinations. The first failure would result in the loss of the senior final semester exemption. Additional failure(s) would require students to enroll for additional semester(s) until the seven required semesters are passed.

Change of Address

Any change of address should be reported to the Blair registrar and the University Registrar. The University will consider notices or other information delivered if mailed to the address currently on file.

Leave of Absence

A student in good standing may, with the approval of the associate dean, take leave of absence for one or two semesters. Application forms, available from the Blair registrar, must be submitted by 1 December for spring semester leave or by 1 May for fall semester.

Students planning to study elsewhere while on leave (elective courses) must have prior approval if credits are to be transferrable. Upon the student's return, a performance examination during the first two weeks of the semester may be needed to determine the student's standing in the major performance area.

Registration materials are mailed to students on leave. Students failing to register by the dates printed in the University calendar (early May for fall semester, mid-November for spring) are withdrawn from the University and must apply for readmission if they wish to return.

Students who have been on leave of absence and not enrolled for three or more semesters or who leave the University while on academic probation must re-audition and achieve the approval of the associate dean prior to readmission.

Withdrawal from the University

Students proposing to withdraw from the University during any semester must report to the Blair registrar to initiate proper clearance procedures. Students are graded on the same basis as if withdrawing from a course. Students who withdraw before the end of the eighth week of classes receive a partial refund of tuition (see the chapter on Financial Information). Students intending to withdraw from the University for the following semester should notify the Blair registrar by 1 December for spring semester or by 1 May for the fall semester.

Students who have withdrawn from the University without filing a Leave of Absence form must apply for readmission if they wish to return.

Honors

Founder's Medal

The Founder's Medal, signifying first honors, was endowed by Commodore Cornelius Vanderbilt as one of his gifts to the University. The recipient is named by the Dean after consideration of faculty recommendations as well as grade point averages of the year's highest ranking graduates.

Academic Honors Designation

For students graduating in August or December 2009 and May 2010, honors, which are noted on diplomas and published in the *Commencement Program,* are earned as follows:

Summa Cum Laude. Students whose grade point average equals or exceeds that of the top 7 percent of the previous year's Vanderbilt graduating seniors.

Magna Cum Laude. Students whose grade point average equals or exceeds that of the next 11 percent of the previous year's Vanderbilt graduating seniors.

Cum Laude. Students whose grade point average equals or exceeds that of the next 17 percent of the previous year's Vanderbilt graduating seniors.

Students whose grade point average equals or exceeds that of the above percentages within their own schools or colleges will also earn the designated honors.

For students graduating in August or December 2008 and May 2009, honors, which are noted on diplomas and published in the *Commencement Program,* are earned as follows:

Summa Cum Laude. Students whose grade point average equals or exceeds that of the top 9 percent of the previous year's Vanderbilt graduating seniors.

Magna Cum Laude. Students whose grade point average equals or exceeds that of the next 14 percent of the previous year's Vanderbilt graduating seniors.

Cum Laude. Students whose grade point average equals or exceeds that of the next 22 percent of the previous year's Vanderbilt graduating seniors.

Students whose grade point average equals or exceeds that of the above percentages within their own schools or colleges will also earn the designated honors.

Founder's Medalist Daniel Jacob Schwartz and Dean Mark Wait

For students graduating before August 2008:

Summa Cum Laude. Students earning a grade point average of 3.75 or above.

Magna Cum Laude. Students earning a grade point average of 3.5 or above.

Cum Laude. Students earning a grade point average of 3.25 or above.

Dean's List

Students are placed on the Dean's List if they have a minimum 3.5 grade point average while carrying 12 or more graded hours with no *F, M, I, MI,* or missing grades in any course, including non-credit courses.

Pi Kappa Lambda

Election to Pi Kappa Lambda National Music Honor Society signifies superior accomplishment in the field of music. Students elected to membership must be outstanding musically and scholastically and ranked in the highest 20 percent of the senior class or the highest 10 percent of the junior class. The Eta Iota chapter was installed at Vanderbilt on April 8, 1992. Professor Karen Ann Krieger serves as its president.

Awards and Prizes

Several awards are presented to students at the Blair School of Music. Announcement is made at the final student recital/convocation of the spring semester. Each carries a monetary stipend. Awards, which are published in the *Commencement Program,* are as follows:

THE MARGARET BRANSCOMB PRIZE is given annually to a Blair freshman judged by the faculty to have the musical and personal qualities that best exemplify the spirit and standards of the school. The prize was established by family and friends in memory of Margaret Branscomb, wife of the late Vanderbilt Chancellor Emeritus Harvie Branscomb.

THE SUE BREWER AWARD was established by the Songwriters Guild Foundation in memory of Sue Brewer, who befriended many of Nashville's struggling songwriters in the late 1960s and 1970s. It is awarded for excellence to a student pursuing a degree in guitar or composition/theory.

THE CONFROY-LIJOI JAZZ AWARD is given to a student in the Blair School's jazz program, to recognize excellence in jazz performance during the year. The award, made by the entire faculty upon nomination by the directors of the jazz ensembles, was established in 2005 by Mr. and Mrs. Peter B. Lijoi in honor of their parents.

THE RICHARD C. COOPER AWARD was established in 2002 by the Pi Delta Chapter of Phi Mu Alpha Sinfonia, to remember the outstanding contributions made by Chris Cooper to the student experience of music at Vanderbilt. Nominations are made by student organizations, recognizing campus-wide leadership in music.

THE ROBIN DICKERSON AWARD was established in 1995 in honor of soprano Robin Nell Dickerson, B.Mus. '94, by Blair faculty and students. It is awarded by the voice faculty to an outstanding voice major for excellence in performance and scholarship.

THE JEAN KELLER HEARD PRIZE is designed for a string student seeking the Bachelor of Music degree. The scholarship fund was established by the Vanderbilt Women's Club to honor violinist Jean Keller Heard, wife of Vanderbilt's fifth Chancellor, Alexander Heard. The fund continues to grow as additional gifts in honor of Mrs. Heard are given to the school.

THE S. S. AND I. M. F. MARSDEN AWARD IN MUSICAL SCHOLARSHIP is awarded annually to a Blair student for excellence in scholarship, e.g., a major written paper, especially on a topic that might lie outside the normal core of scholarship. Honors projects, independent study projects, and substantial class papers are eligible for consideration for the award.

THE DELENE LAUBENHEIM MCCLURE MEMORIAL PRIZE is given to a voice major who exhibits excellence in opera performance. This prize was established by alumni and faculty of the Blair School of Music and other friends of Delene Laubenheim McClure, B.Mus. `91, whose untimely death foreshortened a promising career in music. Through her participation in Blair's first opera productions, Dede helped set a standard for excellence in performance.

THE ELLIOT AND AILSA NEWMAN PRIZE is presented annually to a promising clarinetist or woodwind student for excellence in performance. The prize was endowed by Ailsa Mackay Newman in memory of her husband, Vanderbilt's Werthan Professor of Experimental Medicine, 1952–1973, and an avid amateur clarinetist.

THE L. HOWARD "ZEKE" NICARA WARD is presented annually to the most outstanding woodwind or brass student. The award was established by family, faculty, and friends to honor the memory of the Blair School's first Assistant Dean for Admissions.

THE PRESSER AWARD is presented to a junior for musical and academic excellence and is the most prestigious honor available to a junior at Blair. At least one third of the student's credits must be outside the field of music. The recipient must have a cumulative grade point average of 3.25 and have been named to the most recent Dean's List. The award honors the memory of Theodore Presser, American publisher and musical philanthropist.

THE DAVID RABIN PRIZE was established by family and friends in memory of Dr. David Rabin, professor of medicine and of obstetrics and gynecology at Vanderbilt University Medical School, 1975 to 1984. The prize is awarded annually, based on excellence in musical performance, to a student enrolled at Blair. The fund continues to grow as contributions in honor of Dr. Rabin are given to the school.

THE MARTIN WILLIAMS AWARD was established in memory of Martin Williams, former director of the Smithsonian Institution's Jazz Program and Adjunct Professor of Jazz History at Blair. It is presented to the student writing the most outstanding class paper during the academic year. The fund continues to grow as gifts honoring Mr. Williams are given to the school.

Courses of Study

Course Numbers and Symbols

100-level courses are primarily for freshmen and sophomores.
200-level courses are normally taken by juniors and seniors but are open also to qualified sophomores and freshmen.
Bracketed figures indicate length of a course and semester hours credit—e.g., [3] for one semester and [3–3] for a two-semester course.
220a–220b indicates a year course. The first semester may be taken alone; but to take the second semester alone, students must have the consent of the instructor.
The semester in which a course is offered is indicated by the word FALL or SPRING in the course description.

The University reserves the right to change the arrangement or content of courses, to change the texts and other materials used, or to cancel any course on the basis of insufficient enrollment or for any other reason. Some courses are tentative. Current information is available on-line in OASIS during registration. A definitive *Schedule of Courses* is published each semester. Except for certain specified performance courses, it is the responsibility of each student to avoid duplication, in whole or in part, of the content of any courses offered toward the degree. Such duplication may result in withdrawal of credit.

Composition/Theory and Keyboard Harmony

Courses designed for the general university student (MUSC 100, 101, 102, 105, 106, 107, 116, 118, 119, 120a–120b, 191) focus on the recognition of stylistic and structural patterns. This skill enhances the non-technical listener's awareness—both analytical and affective—of creative expression in music. Several courses fulfill the humanities requirement for students in other schools of the University.

The music theory sequence I–V (MUSC 121, 122, 220, 221, 222) introduces serious students of music, whether majors or not, to the principles of harmony, voice-leading, counterpoint, structure, and analytical/ compositional techniques in a variety of historical styles; further, it fosters the all-important skills of hearing tonal relationships with facility and of communicating orally the structures and materials of music.

100. Songwriting and Elements of Music Theory. Introduction to fundamental elements of music as they apply to popular songwriting techniques. Selected readings on the technical and aesthetic facets of songwriting. Listening analysis and discussion of songs in a variety of current styles. Selected aural skills as they relate to the songwriter's craft. Class visits by successful songwriters. Designed for students with little or no technical training in music. Does not count toward a major or minor in music. FALL, SPRING. [3] Walker.

101. Fundamentals of Music Theory. The fundamental elements of music theory, including music reading, scales, key signatures, chords, chord qualities, inversions, intervals,

Pianist Gilbert Kalish in master class at Blair

rhythm, and meter. Designed for students with little or no technical training in music. Does not count toward a major or minor in music. [2] (Not currently offered)

102. Songwriting II. Project-based class designed to refine and advance skills developed in MUSC 100. Focuses on effective musical and lyrical thematic treatment. Extensive study of rewriting techniques; frequent performances of student compositions. Selected readings on the technical and aesthetic facets of songwriting. Listening, analysis, and discussion of songs in a variety of current styles. Occasional Monday night sessions with guest songwriters and experts in the field. Does not count toward a major or minor in music. May be repeated once for credit. Prerequisite: MUSC 100. [3] Walker.

103. Fundamentals of Singing. Basic fundamentals for the beginning vocalist, including developing the singing voice, posture, breathing technique, and the physiology of vocal production. Intended for students with limited vocal experience as preparation for 121e (Ear Training and Sightsinging I), Includes introduction to sightsinging. Open to students recommended by the ear training and sightsinging faculty or by consent of instructor Does not count toward a major or minor in music. FALL [1] Ahner.

105. The Romantic Generation. An exploration of outstanding works by Berlioz, Chopin, Liszt, Mendelssohn, and Schumann (all born between 1803 and 1811). Focus on structural analysis, stylistic innovations, mutual musical influences, and relations to classical models. Investigations into the meanings of musical Romanticism. SPRING. [3] Michael Rose. (Offered alternate years; offered 2007/2008.)

106. Musical Nationalisms. An exploration of selected works by 19th- and 20th-century composers of various nationalities who draw on folk and ethnic sources in their works. An investigation of their aesthetic principles and compositional techniques. [3] Michael Rose. (Not currently offered)

107. Beethoven and The Beatles. An analytical study of the music of Beethoven and The Beatles in their cultural contexts. Focus on analogous stylistic issues of consolidation and innovation. For students without formal training in music theory. Does not count toward a major or minor in music. SPRING. [3] Michael Rose. (Offered 2007/2008)

116. Discovering Music Creatively: Composition for the Novice. An investigation of the creative act through guided projects in composition, listening, reading, and discussion. Selected fundamental elements of music applied to aesthetically sophisticated creative projects modeled on concert music from Debussy to Cage to the present. Designed for students with little or no technical training in music. Prerequisite: any MUSC or MUSL course. Not open to majors or minors in music. [3] Kurek. (Not currently offered)

118. Mozart. The music of Wolfgang Amadeus Mozart. Techniques for listening to different genres of classical music. Emphasis on style and structure, music theory and history, and Mozart's life and character. No musical background assumed. SPRING. [3] Michael Rose. (Offered 2007/2008)

119. Motive, Counterpoint, and Structure: Bach, Brahms, and Bartok. Analysis of the compositional techniques shared by all three composers. For students without formal training in music theory. [3] Michael Rose. (Not currently offered)

120a–120b. Survey of Music Theory . Presents 18th- to 20th-century harmonic practice. Designed to develop music theory skills through written exercises of figured and unfigured basses; harmonization of melodies; and study of ear training, using sightsinging exercises and melodic and harmonic dictation. Not open to students who have completed 121 or 122. Does not count toward a major in music. [3–3] Deakin.

121. Music Theory I: Tonal Harmony and Voice-Leading. Fundamentals of tonal harmony (scales, functional triads, seventh chords), introduced through the principles of Bach chorale style. Emphasis on voice-leading exercises. FALL. [2] Harb, Carl Smith.

121e. Ear Training and Sightsinging I. Aural skills developed through sightsinging and harmonic/melodic dictation. Prerequisite: ability to match pitch; successful completion of placement exam, or completion of MUSC 103. Corequisite: MUSC 121 or consent of instructor. FALL, SPRING. [1] Summar.

122. Music Theory II: Tonal Harmony and Voice-Leading. Advanced tonal harmony (secondary dominants, modulations, altered chords, etc.), demonstrated through Bach chorale style, with further illustrations from music of various historical periods. Prerequisite: *C*– or above in 121. SPRING. [2] Deakin, Harb, Carl Smith.

122e. Ear Training and Sightsinging II. Continuation of 121e. Usually taken concurrently with 122. Prerequisite: 121e. Strongly recommended: C- or above in 121e. FALL, SPRING. [1] Summar.

123e. Ear Training and Sightsinging III. Continuation of aural skills developed in 121e and 122e. Prerequisite: 122e. Strongly recommended: C- or above in 122e. FALL, SPRING. [1] Summar.

124e. Ear Training and Sightsinging IV. Continuation of aural skills developed in 123e. Prerequisite: 123e. Strongly recommended: C- or above in 123e. FALL, SPRING. [1] Summar.

125e–126e. Advanced Ear Training and Sightsinging. Further development of aural skills, including techniques for hearing/singing atonal music. Prerequisite: 124e. [1–1] Bingham.

131a–131b. Keyboard Harmony I and II. Development of basic technique, reading proficiency, elementary transposition. Diatonic harmony at the keyboard. Prerequisite: placement test. Not open to students who have completed 133a or 133b. [1–1] Koutsoukos, Krieger, Melissa Rose.

132a–132b. Keyboard Harmony III and IV. Harmonization of melodies, improvisation of small musical forms, transposition in all keys with cadences and modulations, four-part score reading. Prerequisite: 131b. Strongly recommended: C- or above in 131b. Not open to students who have completed 133a or 133b. [1–1] Krieger, Melissa Rose.

133a. Accelerated Keyboard Harmony I. Functional skills are reinforced with pedagogy, music theory, harmony, and ear training. Topics include improvisation, musical styles, and computer MIDI technology. For keyboard majors or by consent of instructor. Prerequisite: placement test. Not open to students who have completed 131a–131b or 132a–132b. FALL. [2] Krieger.

133b. Accelerated Keyboard Harmony II. Intensive study of materials presented in 133a. Prerequisite: 133a. Strongly recommended: C- or above in 133a. Not open to students who have completed 132a–132b. SPRING. [2] Krieger.

191. Sonata Forms. An analytical survey of sonata forms in works by Classical, Romantic, and Modern composers. Emphasis on structural listening, not score reading. Prerequisite: one course from MUSC 105, 106, 107, 118, 119; MUSL 140, 141, 144, 183. [3] Michael Rose. (Offered alternate years; offered 2007/2008)

216. Computer Music. The computer as a tool for musical sound synthesis, digital instrument design, and computer-assisted composition and performance. Styles and techniques in computer music in the commercial and fine arts. Programming and computer composition. Prerequisite: any computer science course or consent of the instructor. FALL, SPRING, SUMMER. [3] Landes.

220. Music Theory III: Tonal Harmony and Tonal Counterpoint. Continuation of 122. Tonal harmony and voice leading, including elements of chromatic harmony and elements of counterpoint and fugue in the inventions and fugues of J. S. Bach. Prerequisite: 122. Strongly recommended: *C-* or above in 122. FALL, SPRING. [3] Harb, Slayton.

221. Music Theory IV: Form in Tonal Music. A study of the formal principles of music, beginning with the phrase and progressing through large-scale standard forms (sonata, rondo, etc.). Examination of scores in a variety of styles and textures, including scores exhibiting chromatic harmony. Concepts applied to original compositions. Prerequisite: 220. Strongly recommended: *C-* or above in 220. SPRING. [3] Harb, Slayton.

222. Music Theory V: Post-Romantic and Twentieth-Century Techniques. Analysis of the scores and compositional techniques of Debussy, Schoenberg, Webern, Stravinsky, Bartók, Crumb, and others. Concepts applied to original compositions. Prerequisite: 122e, 221. FALL. [2] Kurek, Link.

223. Choral Arranging. Technical and aesthetic considerations involved in arranging (and composing) for combinations of voices, from two-part to larger choral ensembles, accompanied and unaccompanied. Score analysis and composition projects. Prerequisite: 122 (Theory II) or consent of instructor. SPRING. [3] Carl Smith. (Offered alternate years; offered 2006/2007)

224. Orchestration. Technical and aesthetic considerations in composing or transcribing for individual orchestral instruments, sections, and full orchestra. Score analysis and composition projects. Prerequisite: 122. FALL. [3] Kurek.

225. Seminar in Advanced Analysis. Exploration of advanced tonal and post-tonal analytical techniques through intensive study of selected works of composers from the late 19th century through the 21st century, including Mahler, Debussy, Schoenberg, Dallapiccola, Scriabin. Prerequisite: 222. SPRING. [2] Slayton. (Offered alternate years; offered 2007/2008)

227. Individual Theory Instruction (Elective). Individual instruction and seminars. Score analysis and style-study composition. Prerequisite: 221 and consent of instructor. [Variable credit: 1–3 each semester] Music theory faculty.

229. Senior Thesis. Completion of an extended paper based upon musical analysis. Open only to composition/theory majors. Topic subject to approval. Progress monitored via tutorials. [1] Kurek, Link, Michael Rose, Slayton.

230. Introduction to Composition. An introduction to compositional techniques including a study of composers and their work. Principles of scoring, the study of notation including experimental types. Prerequisite: 120a, 121, or equivalent skills. SPRING [3] Kurek.

230e. Composition. (Elective) Individual instruction and seminars. A variety of media, styles, and forms. Electronic and experimental techniques. Prerequisite: 230 and consent of instructor. [Variable credit: 1–3 each semester] Kurek, Link, Michael Rose, Slayton.

231a–231b. Composition. Individual instruction and seminars. A variety of media, styles, and forms. Electronic and experimental techniques. Prerequisite: 230 and consent of instructor. [3–3] Kurek, Link, Michael Rose, Slayton.

232abcd. Advanced Composition. Continuation of 231a–231b. [4 each semester] Kurek, Michael Rose.

261. Counterpoint: 16th Century Principles. Techniques for handling independent musical lines according to sixteenth-century principles. Species counterpoint in two voices, composition in three and four voices, and in non-modal and freely tonal styles, but not high Baroque style. Prerequisite: 122. FALL. [2] Carl Smith.

294. Special Topics in Music Theory. Advanced study in theory, focussed on various topics from year to year, including such areas as advanced counterpoint, analysis of a specific composer, Shenkerian analysis, etc. Prerequisite: As listed in the *Schedule of Courses.* [2] Kurek, Link, Michael Rose, Slayton.

299. Senior Composition Recital. Planning, rehearsing, and performing in a concert devoted solely to a student's own work. Open only to composition/theory majors. Corequisite: 232d. [1] Kurek, Michael Rose.

Ensembles

Several major performing ensembles, including the Vanderbilt Symphonic Choir, the Vanderbilt Orchestra, the Vanderbilt Wind Ensembles, and the Vanderbilt Opera Theatre, are sponsored by Blair School of Music. A large number of smaller ensembles and chamber music groups also exist, offering students a wide variety of experiences.

Auditions. Auditions for the major performing ensembles are held at the beginning of each semester. Students must audition every semester unless excused. Assignment is at the discretion of the director. Openings at mid-year are not guaranteed. Students need the approval of the appropriate faculty chamber music coordinator before enrolling in chamber music; if participation has not been discussed with the coach, students may register tentatively for the "to be assigned" section of chamber music. Openings are not guaranteed.

Credit. Students may register for course credit or on a no-credit *(NC)* basis. Audit status or registration for zero hours may be possible with permission of the director.

101. Instrumental Ensembles. Open by audition to all Vanderbilt students. Musicians participate in orchestra, wind ensembles, and/or a variety of smaller ensembles on a rotational basis through the course of the semester. Performances include symphonic repertoire from the Classical and Romantic periods as well as standard and new repertoire from Baroque to Contemporary. At least three formal concerts are presented each semester. [1] Fountain, Verrier.

101a. Vanderbilt Symphonic Choir. Open by audition to all members of the Vanderbilt community, this choral ensemble performs literature requiring large forces, such as masses and oratorios. At least one formal concert each semester and at least one work each year with the Vanderbilt Orchestra. [1] Childs.

101f. Vanderbilt Opera Theatre. Open by audition to all Vanderbilt students. Performance material chosen from all forms of lyric theatre: standard operatic repertoire, operetta, and American musical theatre. At least one production is presented. [1] Shay.

101g. Collegium: Vocal Ensemble. Open by audition to all Vanderbilt students, this small ensemble performs music of the Medieval, Renaissance, and Baroque periods. At least one major concert is presented each semester, often in conjunction with Collegium instrumental ensembles (202a–c). [1] Childs.

102. Accompanying Techniques. Basic techniques of vocal and instrumental collaboration. Choral/orchestral score reading, orchestral reductions, continuo realization, modern editions of early music, musical terms, diction, and ensemble techniques. Performance of

vocal and instrumental accompaniments. Both group and individual coaching. Open only to piano majors or by consent of instructor. [1] Melissa Rose.

131. Jazz Ensemble: Big Band. Open by audition to all Vanderbilt students, this ensemble performs both traditional and modern jazz styles, including dance band, swing, contemporary, and charts currently under development. Improvisation, jazz timbres, and other idiomatic concepts explored through lecture-demonstration, and performance. At least one concert is presented each semester. [1] Billy Adair.

132. Jazz Ensemble: Small Combo. Open by audition to all Vanderbilt students. Provides focused laboratory training for performance of composed and improvised small combo jazz traditions. Discussion and application of techniques associated with solo, sectional, and ensemble performance in jazz. At least one concert is presented each semester. [1] Spencer

150. Steel Drum/Pan Ensemble. Open to all members of the Vanderbilt community, this course provides a laboratory and performance experience drawing on Caribbean steel drums/pans with emphasis on the music and dance repertories of the island of Trinidad. Lecture-demonstrations and rehearsals in one weekly two-hour session. At least one public performance each semester. No previous experience required. [1] Britain.

171. African Performing Ensemble. Open to all members of the Vanderbilt community, this course provides a laboratory and performance experience drawing on traditional African musical instruments (drums, percussion, winds) with an emphasis on West African (Ghana) and East African (Uganda) music and dance repertories. Lecture-demonstrations and rehearsals in one weekly two-hour session. At least one public performance each semester. No previous experience required. [1] Ahima.

201a. Blair Chamber Choir. Open by audition to all Vanderbilt students, this select 16–24 voice chamber ensemble performs music in a variety of styles. At least one formal concert each semester. [1] Childs.

201b. Vocal Accompanying. Introduces pianists to collaboration with singers. Weekly coaching with piano instructor and 5 hours practice/rehearsal per week. Focus on standard art song and opera repertoire. Open by consent of instructor. [Variable credit: 1–2 each semester] Dorfman, Nies, Melissa Rose, Shaffer.

201c. Instrumental Chamber Music. Open to all Vanderbilt students by audition or upon recommendation of the private instructor. Size of ensembles may vary. One hour weekly coaching. Two hours of additional rehearsal each week. [Variable credit: 1–2 each semester] Dorfman, Kochanowski, C. Lee, performance faculty.

201d. Vocal Chamber Music. Open by consent of the instructor. One hour weekly coaching for vocal/instrumental duos or ensembles, including singer/piano duos. Two hours of additional rehearsal each week. [Variable credit: 1–2 each semester] Dorfman, Melissa Rose.

201e. Chamber Music: Sonata Class for Strings and Piano. Open by consent of instructor. Two hours of class and at least one hour of additional rehearsal each week. [Variable credit: 1–2 each semester] Dorfman, Plummer.

201f. Chamber Music: Instrumental Accompanying. Introduces pianists to collaboration with instrumentalists. Weekly coaching with piano instructor and 5 hours practice/rehearsal per week. Standard instrumental repertoire will be assigned. Open by consent of instructor. [Variable credit: 1–2 each semester] Dorfman, Nies, Melissa Rose.

201g. Chamber Music: String Quartet. Open by consent of instructor. One hour of coaching and at least two hours of additional rehearsal each week. [Variable credit: 1–2 each semester] Kochanowski.

201L. Chamber Music: Brass Quintet. Open by consent of instructor. [1] Cox.

201w. Chamber Music: Woodwind Quintet. Open by consent of instructor. [1] C. Lee, Taylor.

202a–202b–202c–202d. Blair Collegium: Instrumental Ensembles. Open by audition to all Vanderbilt students or upon recommendation of the private instructor, the small instrumental ensembles are devoted to the performance of early music on authentic instruments. (202a: viols; 202b: recorders; 202c: mixed, including brass; 202d: continuo). 1–2 hours of rehearsal each week. [1] Stenstrom.

204. Guitar Ensemble. Open by consent of instructor. [1] Johns, Phillips.

205. Trombone Ensemble. Open by consent of instructor. [1] Borden.

206. Brass Choir. Open by audition to all Vanderbilt students, this chamber ensemble of 10–20 brass players performs concert repertoire from the late Renaissance to Contemporary. At least one formal concert is presented each semester. [1] (Not currently offered.)

207. Saxophone Ensemble. Open by consent of instructor. [1] F. Kirchner.

208. Woodwind Choir. Open by audition to all Vanderbilt students, this chamber ensemble of 8–20 woodwind players performs concert repertoire from early Classical to Contemporary. At least one formal concert is presented each semester. [1] (Not currently offered)

209. Harp Ensemble. Open by consent of instructor. [1] Shaffer.

210. Percussion Ensemble. Open by consent of instructor. [1] Wiggins.

211. Tuba Ensemble. Open by consent of instructor. [1] Davis.

212. Fiddle Ensemble. Open by audition to all Vanderbilt students with fiddling experience. One hour weekly coaching by visiting fiddlers from the community. Fiddle tunes, harmonies, and improvisation ideas in various styles of fiddle music, including old-time, bluegrass, swing, Celtic, and contemporary. One performance each semester. [1] Plohman.

213. Trumpet Ensemble. Open by consent of instructor. [1] Cox.

215. Chamber Music: Percussion. Open to all Vanderbilt students by consent of instructor with the recommendation of the private instructor. Size of ensembles may vary. One hour weekly coaching and two hours of additional rehearsal (independent of coaching) expected each week. [1] Wiggins.

Music Literature and History

Courses in the literature and history of music are designed to develop students' understanding of music within the prevailing social and cultural contexts; to establish a framework for critical evaluation of music and musical practices; to achieve a working familiarity with recognized, or at least representative, masterworks of musical literature; to develop students' ability to speak articulately about the styles and substance of music; and to equip students with analytic and literary skills and with a working knowledge of the bibliography of music. Courses appropriate for non–music majors include MUSL 103, 114, 115F, 140, 144, 145, 147, 148, 149, 151, 152, 153, 160, 170, 171, 183, 184, 185, 200, 218, 219, 247, 250, 252, 255, 256, 261, 262, 263, 264, 278, and 294. Most fulfill the humanities requirement for students in Peabody College and the Engineering School. Some fulfill the social science requirement. Many courses fulfill the various categories of the AXLE curriculum in the College of Arts and Science. The Arts

and Science section of the catalog gives additional information on AXLE. Six courses (MUSL 115W, 140, 141, 160, 183, and 200) fulfill the humanities requirement of the CPLE for students entering the College of Arts and Science prior to fall 2005. One, MUSL 147 (American Music), fulfills the American Component of the CPLE History and Culture requirement; two, MUSL 170 (Asian Musical Cultures) and MUSL 171 (African Music), fulfill the CPLE International Component. MUSL 115W fulfills the CPLE writing requirement. Several courses fulfill requirements for majors in African American and Diaspora Studies, American and Southern Studies, and European Studies in the College of Arts and Science.

Honors Program in Literature and History

The honors program in music literature and history is designed to afford superior students the opportunity to pursue more intensive work within the field of musicology or ethnomusicology, culminating in the preparation of a senior honors thesis. The course of study includes seminar work as well as independent study and writing under the supervision of a thesis adviser. Students who want to do honors work should contact the chair of the musicology department in the fall of their junior year. Departmental approval of a formal honors thesis prospectus must take place prior to registration for MUSL 299a in spring of the junior year or fall of the senior year. Minimum requirements are a 3.0 GPA overall and 3.3 in music literature and history courses.

Students accepted into the program must take a total of 9 credit hours: MUSL 299a–299b, Senior Honors Thesis (6 hours) and one course chosen from MUSL 201, 247, 249, 252, 255, 256, 262, 278, or 294 (3 hours). In addition, successful completion of the honors program requires an oral defense of the honors thesis before a faculty committee. This defense will occur at the end of the second semester of thesis enrollment. Those enrolled in the program who successfully complete its requirements may graduate with Honors or High Honors in music literature and history.

103. Musical Theatre in America: A Cultural History. From eighteenth century melodrama and vaudeville through the musicals of the 1940s and 1950s to the contemporary emphasis on integration of spectacle, dance, and other theatrical arts. Readings, live productions, guest lecturers, and film. FALL. [3] Lovensheimer. (Offered alternate years; offered 2007/2008)

114. Survey of Electronic Music. Development of *musique concrète,* electronic music and computer music since 1945. The theory, technique, and aesthetic of electro-acoustic music. [3] (Not currently offered)

115F. First-Year Seminar. Music and Global Health. The roles of music, dance, and drama in global health. Globalization theory, cultural studies, and individual music traditions that support local community responses (including those of Nashville's immigrant populations) regarding health care and healing worldwide. How music is adopted, adapted, and transformed in healing ceremonies and health care practice.SPRING. [3] Barz. (Offered alternate years; offered 2007/2008)

115F. First-Year Seminar. Music and Modernism: The Plunge into the Abyss. An investigation into the dramatic changes in Western musical style at the beginning of the twentieth century (including Stravinsky, Schoenberg, and Bartok). Listening assignments and

discussions of music; readings and discussions on the cross-currents among music, literature, and the plastic arts. Major focus is on the relationships between Modernism and tradition, and on the lines of force between historical events and artistic production. FALL. [3] Michael Rose. (Offered alternate years; offered 2007/2008)

115F. First-Year Seminar. Shakespeare and Music. Investigates a small cross-section of the thousands of works inspired by Shakespeare's dramas during the last 300 years, ranging from opera to film scores and Broadway renditions, from "authentic" music within Shakespeare's plays to nineteenth-century incidental music and symphonic compositions. Examines the relationship between changes in approach to Shakespeare on the stage and changes in the style, scope, and content of the music that claims a Shakespearean identity. No musical background required. FALL. [3] Cyrus. (Offered alternate years; offered 2006/2007)

140. Introduction to Music Literature. An introduction to the literature of music from A.D. 600 to the present through a study of selected works. Extensive listening is required. Not open to students who have completed 141. Does not count toward a major in music. FALL, SPRING. [3] Hime.

141. Survey of Music Literature. A genre-based study of music of the Western Art tradition in comparative contexts. Selected non-Western repertory. Emphasis on aural analysis and on writing and research techniques. Designed for music majors, minors, and others with appropriate musical background. Not open to students who have completed 140. FALL, SPRING. [3] Calico, Lovensheimer.

144. The Symphony. Orchestral literature with emphasis on the evolution of symphonic form and style, through the study of selected masterworks of the standard repertoire. FALL. [3] Michael Rose. (Offered alternate years; offered 2007/2008)

145. Survey of Choral Music. Choral literature, sacred and secular, from the Renaissance to the present, with emphasis on a study of selected masterworks from each period. [3] (Not currently offered)

147. American Music. A history of music in the United States, 1620 to the present. Distinctly American musical traditions such as shape-notes, minstrelsy, jazz, twentieth-century syntheses. Recommended: 140 or 141, or music-reading skills sufficient to follow a score. FALL, SPRING. [3] Cockrell, Lovensheimer.

148. Survey of Jazz. A survey of jazz history, with particular attention to the major composers, "Jelly Roll" Morton, Duke Ellington, and Thelonius Monk, who gave the music synthesis and form; and to its major innovative soloists, Louis Armstrong, Charlie Parker, and Ornette Coleman, who renewed its musical language. FALL. [3] Barz, Lovensheimer.

149. American Popular Music. Historical study of ways the culture of a nation is reflected and sometimes shaped by the chosen musics of the groups comprising the American "salad bowl." Topics include audience reception; production and consumption; multiculturalism; and meaning. FALL, SPRING. [3] Gunderman, Lowe.

151. The Blues. Downhome, classic, Chicago, and urban blues—history, musical structure, musical styles, singers' lives, and meanings of blues lyrics. The current blues revival, blues and tourism, race and revisionist blues scholarship, and the relation of blues to African American poetry and fiction. Artists such as Ma Rainey, Charley Patton, Robert Johnson, Lightnin´ Hopkins, Muddy Waters, B.B. King, Buddy Guy, Robert Cray. SPRING. [3] Barz.

152. Country Music. A musical and cultural survey of the talents, traditions, and trends of country music from its Colonial roots to its current status as a multi-million dollar global industry. Focus on the music, creators, and performers of that music and its cultural and social contexts. SPRING. [3] Lovensheimer.

153. History of Rock Music. History and development of rock and roll music and its performance from the 1950s to the present. Major artists from each decade, subgenres (rockabilly, R & B, folk, soul, metal, pop, alternative, etc.), and technological, cultural, and economic developments that helped shape the music. FALL, SPRING. [3] Gunderman.

160. World Music. World music as a cultural product; selected musics of Africa, Native America, India, Indonesia, and African America. Topics include music and religion, popular music, field work methodology, and gender issues. FALL. [3] Barz, Simonett.

170. Asian Musical Cultures. A survey of selected classical, folk, ritual/devotional, and popular musics of India, Indonesia, Japan, and China. Historical, social, and cultural contexts; extensive listening. Recommended: 160. [3] Barz. (Not currently offered)

171. African Music. A survey of selected traditional and popular music of Africa. Historical, social, and cultural contexts; listening; some performances in class. SPRING. [3] Barz.

183. Music, the Arts, and Ideas. The changing historical relationships among music, literature, fine arts, and philosophy. Musical developments as responses to social, political, and economic circumstances. FALL, SPRING. [3] Calico, Link, Michael Rose.

184. Love and Death in Music. Perspectives on two great problems of human life throughout the history of Western music. Themes include idealized love, sexual pathology, love and realism, love of God, confronting death, transcending death. Connections of music to visual arts, literature, film. No musical background required. SPRING. [3] Michael Rose.

185. Ethics and Music. Diverse ways in which Western musical works have communicated values about what kind of life to live. Contrasting themes include goodness and amorality, holiness and the allure of the sensuous. Investigations of historical styles and genres, composers' philosophical outlooks, and music's various functions in society. Consideration of changing performance practices and differing ideological responses to music. No musical background required. SPRING. [3] Michael Rose. (Offered alternate years; offered 2006/2007)

200. Women and Music. An investigation of the roles women have played in the development of Western music—performance, composition, patronage, education—and the social and economic factors that have influenced their position. Recommended: 140 or 141 or familiarity with the style periods of classical Western music. SPRING. [3] Cyrus. (Offered alternate years; offered 2007/2008)

201. Music, Gender, and Sexuality. Exploration of gender and sexuality in Western art and vernacular musical traditions. Topics include gendered musical forms, genres, and performance; feminist music criticism; ideologies of musical authorship and genius; musical canons; and musical representations of gender and sexuality. Prerequisite: MUSL 140 or 141 and ability to read a score. SPRING. [3] Lowe. (Offered alternate years; offered 2007/2008)

218. Words and Music. An investigation of literature that has inspired musical settings and of the musical settings themselves. Emphasis on literary and musical analysis and interpretation. No musical training assumed. [3] Michael Rose and Mark Jarman, Professor of English. (Not currently offered)

219. The Bible and Music. An investigation of Biblical Texts (Old Testament/Tanach; Deuterocanonical texts/Old Testament Apocrypha; New Testament) that have inspired musical settings and the musical settings themselves. Emphasis on literary and musical analysis and interpretation. No musical or scriptural background assumed. [3] Michael Rose; A.-J. Levine, Professor of New Testament Studies. (Not currently offered)

242. Music of the Middle Ages and Renaissance. An in-depth study of music of the Middle Ages and Renaissance with particular emphasis on social, religious, economic, and performance history. Cross-cultural perspectives, both historic and modern. Exploration of a variety of writing styles and approaches. Prerequisite: 140 or 141. FALL, SPRING. [3] Cyrus, Lowe.

243. Music of the Baroque and Classic Eras. An in-depth study of music and its historical, cultural, political, and performance contexts in the Baroque and Classic Eras. Development of research and writing skills. Prerequisite: 140 or 141. Strongly recommended: 242. FALL, SPRING. [3] Lowe.

244. Music of the Romantic and Modern Eras. An in-depth study of music from the Romantic period to the present. Emphasis on reception history and historical, cultural, political, and performance contexts. Refinement of research and writing skills. Prerequisite: 140 or 141. Strongly recommended: 243. FALL, SPRING. [3] Calico, Cockrell.

247. Opera. In-depth study of five or six representative works. Score and libretto analysis, reception history, cult of the performer, role of the contemporary producer/director. Prerequisite: 140 or 141. FALL. [3] Calico. (Offered alternate years; offered 2006/2007)

249. Historical Performance Practices. Methods, materials, and issues involved in the performance of music prior to 1800. Ornamentation, improvisation, vocal and instrumental tone color and technique, access to repertoire and performing editions. Practical application of concepts. Prerequisite: 140 or 141. [3] (Not currently offered)

250. Music in Latin America and the Caribbean. An introduction to a wide variety of musical genres and traditions in Latin America and the Caribbean. Indigenous, folk, popular, and art music forms and their social function, meaning, historical development, cultural blending, and cross-hybridization. FALL. [3] Simonett.

252. Afropop. Historical survey of the unique development of modern African popular music from its roots within syncretic dance/art forms. Topics include Cuban retentions, synthesis of African and European styles, blues, soukous, kwasa kwasa, samba, highlife, palm wine, juju, fuji, taarab, bubblegum, marabi, and the contemporary return to earlier styles. Prerequisite: any MUSL course. [3] Barz. (Offered alternate years; offered 2007/2008)

255. Charles Ives. An investigation of the life and music of the American composer Charles Ives (1874–1954), and the forms and meaning that follow from such a study. Prerequisite: any MUSL course or American and Southern Studies 100. [3] Cockrell. (Not currently offered)

256. Music in the Age of Beethoven and Schubert. The musical legacy of each composer in culture and (especially) social context: patrons, family, and friends. Prerequisite: 242, 243, or 244. FALL [3] Cyrus, Michael Rose. (Offered alternate years; offered 2007/2008)

261. Music, Identity, and Diversity. Issues of multiculturalism and intersections with musical expression in America. Cultural determinants, such as race, gender, ethnicity, class, religion, language, ideology, folklore, and history will be studied critically. Prerequisite: any MUSL course or American and Southern Studies 100. SPRING. [3] Simonett. (Offered alternate years; offered 2007/2008)

262. Music of the South. The musical riches of the American South approached from various perspectives, including the historical, cultural, social, political, and religious. Blues, country, and gospel are the primary genres of study; jazz, folk, and classical traditions in the South also receive attention. Prerequisite: any MUSL course or AMST 100. SPRING. [3] Cockrell. (Offered alternate years; offered 2007/2008)

263. American Music and Society: The 1960s. Examines from an interdisciplinary perspective American social issues, the political sphere, and music in the dynamic and generation-shaping 1960s. Books, articles, memoirs, documentaries, movies, and music critically analyzed and interpreted. No technical musical knowledge required. FALL. [3] Cockrell.

264. Exploring the Film Soundtrack. Relationships among soundtrack, image, and narrative in film. The complex of music, sound, and dialog in a variety of American films, from silents to Hollywood blockbusters and cartoons. Topics include diegesis, temporality, continuity, and

musical style. Discussion, video, and film research, reading, and listening. No musical background required. SPRING. [3] Link.

278. Music and Religion. An investigation into the ways in which religion and music contribute to community formation throughout the world. Music's interdependent relationship with religious texts, religious performance, trance, sacrifice, and folk religions. SPRING. [3] Barz. (Offered alternate years; offered 2007/2008)

289. Independent Study. Development and execution of a program of study in musicology or ethnomusicology under the direction of a member of the department. (See Academic Regulations section.) [Variable credit: 1–3 hours each semester] Musicology faculty.

294. Selected Topics in Music History. Selected methodological approaches focused on a particular topic each semester, as announced in the *Schedule of Courses.* Offerings have included "Music and the American Presidency," "Brahms and the Anxiety of Influence," "Haydn and Mozart," "Mozart Piano Concertos," "Mingus, Monk, and Miles: Jazz Biography and Jazz Composition," and "Mahler Symphonies: Songs of Irony." Prerequisite courses announced in the *Schedule of Courses.* May be repeated for credit when topics vary. [3] Musicology faculty.

298. Senior Thesis. Completion of an extended paper based in musicological or ethnomusicological research under the supervision of a faculty sponsor. Progress monitored via tutorials. Open only to seniors. Prerequisite: MUSL 242–244. [Variable credit, 1–3 hours each semester; may be repeated once] Musicology faculty.

299a–299b. Senior Honors Thesis. Independent research on a musicological or ethnomusicological topic, culminating in a written thesis submitted to the faculty. Progress monitored via tutorials. Students completing this course with distinction, including a thesis and an oral defense, will earn honors in music literature and history. Open only to students in the department honors program. Prerequisite: departmental approval of formal prospectus. [3–3] Musicology faculty.

Teacher Education

101. Woodwinds Class. Development of performance skills and teaching methods for flute, clarinet, oboe, bassoon, and saxophone. Includes teaching techniques and problems relative to woodwind instruments, care and minor repairs, and instructional materials. FALL. [1] F. Kirchner.

102. Brass Class. Development of performance skills and teaching methods for trumpet, french horn, trombone, euphonium, and tuba. Includes teaching techniques and problems relative to brass instruments, care and minor repairs, and instructional materials. SPRING. [1] Jones

103. Strings Class. Development of performance skills and teaching methods for violin, viola, cello, and double bass. Includes teaching techniques and problems relative to string instruments, care and minor repairs, and instructional materials. FALL. [1] Bingham.

104. Percussion Class. Development of performance skills and teaching methods for snare drum, timpani, mallet instruments, and other percussion instruments. Includes teaching techniques and problems relative to all percussion instruments, care and minor repairs, and instructional materials. SPRING. [1] Wiggins. (Offered alternate years; offered 2006/2007)

105. Introduction to Classroom Instruments. Development of performance skills and teaching methods for instruments such as recorder, Orff, classroom percussion, and others. Includes methods and materials for elementary general music, emphasizing development of children's ability to sing and play classroom instruments. SPRING. [1] Alley.

212. Seminar in Teaching Orchestra. Instructional strategies for string and full orchestras from the middle school through high school and youth orchestra levels. Topics to include rehearsal techniques, repertoire, materials, secondary string class instruction, and performance practices. Prerequisite: MUST 103 and MUSO 261, or permission of instructor. SPRING. [2] Bingham.

213. Seminar in Orff/Kodály Methods. Teaching general music with emphasis on Orff and Kodály principles and practices. Planning, instruction, and evaluation using techniques and materials from a variety of sources. [2] TBA.

214. Seminar in Teaching Jazz Styles. Principles and practices for teaching instrumental jazz styles. Rehearsal techniques (including observation), repertoire, jazz education philosophies, and stylistic elements for soloists, combos, and larger ensembles. Prerequisite: MUSO 131 or permission of instructor. [2] Billy Adair.

215. Seminar in Teaching Marching Band. Techniques and materials for Marching Band instruction. Organization, administration, literature, technology, auxiliary groups. Planning, writing, arranging and teaching half-time performances. Prerequisite or corequisite MUSO 261 or permission of instructor; corequisite: participation in marching band. FALL. [2] Sagen.

250abcd. Practicum in Music Teaching. Observation, participation, and supervised music teaching in a variety of school, grade level, and instructional music settings, designed to integrate and apply musical knowledge and teaching skills developed within the degree program. Weekly seminar included. SPRING. [1] Bingham, Verrier.

300. Philosophical Foundations and Contemporary Issues in Music Teaching. A comprehensive study of historical trends and philosophies relevant to music teaching. Readings and discussions of the practical application of educational research studies to music teaching. SUMMER. [3] Verrier.

EDUC 2360. Graduate Practicum in Music Teaching. Observation, participation, and supervised music teaching in a variety of school, grade level, and instructional music settings, designed to integrate and apply musical knowledge and teaching skills developed within the undergraduate degree program. Bi-weekly seminar included. FALL. [1] Verrier.

320. Methods and Materials in Instrumental Music, PreK through 12. Techniques and materials for teaching instrumental music, PreK through 12. Emphasizes instrumental organization, administration, pedagogical practices, and developing school instrumental music programs. FALL. [6] Verrier.

330. Methods and Materials in Vocal/General Music, PreK through 12. Techniques and materials for teaching vocal music in junior and senior high school and general music, PeK through 12. Emphasizes vocal music organization, administration, pedagogical practices, and the study of general music activities for PreK and elementary school, such as Orff, Kodaly, Dalcroze. FALL. [6] Alley, Childs.

EDUC 3003. Student Teaching. Observation and teaching experience on a full-time basis. Includes two placements at two different age levels. Prerequisite: Admission to student teaching. Co-requisite: ED 3004. SPRING. [6] Verrier.

EDUC 3004. Student Teaching Seminar. Study and discussion of experiences emerging from student teaching, particularly planning school programs and assuming full responsibility in the classroom. Co-requisite: ED 3003. SPRING. [1] Verrier.

Other Music Courses

Non-Credit Requirements

108. Recital Attendance. Weekly recitals in solo and chamber music settings, pr esented by students enrolled for performance instruction, and six additional faculty/student r ecitals and concerts. Required of all music degree (B.Mus.) students. (See Academic Regulations section above.) Offered on a pass/fail basis. [0] Hime.

109a. Flute Performance Class. Weekly observation and participation. Required of all flute majors, performance and musical arts. Offered on a pass/fail basis. [0] J. Kir chner.

109b. Violin Performance Class. Weekly observation and participation. Required of all violin majors, per formance and musical ar ts. Offered on a pass/fail basis. [0] Hear d, Huebl, and Teal.

109c. Cello Performance Class. Weekly observation and par ticipation. Requir ed of all cello majors, performance and musical arts. Offered on a pass/fail basis. [0] W ang.

109d. Piano Performance Class. Weekly observation and par ticipation. Requir ed of all piano majors, performance and musical arts. Offered on a pass/fail basis. [0] Nies.

109e. Guitar Performance Class. Weekly obser vation and par ticipation. Requir ed of all guitar majors, per formance and musical ar ts. Of fered on a pass/fail basis. [0] Johns, Phillips.

109f. V ocal Performance Class. Weekly observation and par ticipation. Requir ed of all voice majors, performance and musical arts. Offered on a pass/fail basis. [0] Voice faculty.

109g. V iola Performance Class. Weekly observation and par ticipation. Requir ed of all viola majors, performance and musical arts. Offered on a pass/fail basis. [0] Kochanowski, Plummer.

109L. Bass Performance Class. Weekly obser vation and par ticipation. Requir ed of all bass majors, performance and musical arts. Offered on a pass/fail basis. [0] Reist, W anner.

110a. Trumpet Performance Class. Weekly observation and par ticipation. Requir ed of all trumpet and horn majors, performance and musical arts. Offered on a pass/fail basis. [0] Cox.

110b. Low Brass Performance Class. Weekly observation and participation. Required of all trombone, euphonium, and tuba majors, per formance and musical ar ts. Offered on a pass/fail basis. [0] Bor den.

110c. Fiddle Performance Class. Weekly observation and participation. Required of all private students. Offered on a pass/fail basis. [0] Plohman.

110d. Oboe Performance Class. Weekly observation and participation. Required of all oboe majors, performance and musical arts. Offered on a pass/fail basis. [0] Taylor, Wiesmeyer.

110e. Bassoon Performance Class. Weekly observation and participation. Required of all bassoon majors, performance and musical arts. Offered on a pass/fail basis. [0] Estill.

110f. Clarinet Performance Class. Weekly observation and par ticipation. Requir ed of all clarinet majors, performance and musical arts. Offered on a pass/fail basis. [0] Lee.

110g. Percussion Performance Class. Weekly observation and participation. Required of all percussion majors, performance and musical arts. Offered on a pass/fail basis. [0] Wiggins.

110L. Saxophone Performance Class. Weekly observation and par ticipation. Requir ed of saxophone majors, performance and musical arts. Offered on a pass/fail basis. [0] F. Kirchner.

111a. Horn Performance Class. Weekly observation and participation. Required of horn majors, performance and musical arts. Offered on a pass/fail basis. [0] Norton.

111c. Violin Etude Class. Weekly observation and participation. Required of all students of Heard. Offered on a pass/fail basis. [0] Heard.

111d. Violin Scale and Etude Class. Weekly observation and participation. Required of all students of Teal. Offered on a pass/fail basis. [0] Teal.

111e. Violin Etude Class. Weekly observation and participation. Required of all students of Huebl. Offered on a pass/fail basis. [0] Huebl.

Specialty Courses

100. The Business of Music. A general survey of music in the world of commerce. Systems of the contemporary music business, with special emphasis on the recording industry. Music business professionals as guest lecturers. FALL, SPRING. [3] Foglesong.

101. Arts Management. A history of arts institutions in the United States. The production of exhibitions of the visual arts, drama, dance, opera, musical theatre, and symphonic concerts. Issues in contemporary arts management. Readings, live productions, guest speakers, and visits to local nonprofit arts institutions. [3] (Not currently offered)

102. Computer Recording Technology Seminar. The digital recording revolution. Recording, editing, and mixing music, using both audio and MIDI sequencing data inside the computer. Remixing techniques with universal plug-in software. Sampling, synthesis, and dissection of studio projects. FALL, SPRING. [2] Wilder.

104. Lyric Theatre Workshop. Various performance elements of the lyric theatre experience: acting, movement, improvisation, use of the voice, stage combat, and scene study. Open to all Vanderbilt students by consent of instructor. May be repeated once for credit. FALL. [1] Shay.

105a–105b. Traditional Fiddling. Historical and performance-based study of the fiddle's involvement with musical Americana. 105a: The older traditional styles of American music, including old-time, bluegrass, Texas (contest-style), and western swing fiddling. 105b: Other styles of fiddle music, including Celtic, old jazz, country, and other styles of world music. Prerequisite: basic violin skills. [1–1] Combs, Plohman.

114. Fingerboard Harmony. Advanced guitar skills: modal positions, modal patterns, score reading, arpeggios, transposition, and chord progressions. Prerequisite: MUSP 104B or permission of instructor. FALL, SPRING. [1] Phillips

125. Acoustics and Psychoacoustics of Music. The physics of sound as produced by common types of instruments (including voice), based on vibrations of strings, tubes, and plates. Basic aspects of sound perception and cognition: what sound is, how it is produced, and how it is perceived. MAY. [2] Borden.

127. Intonation, Keyboards, and Temperament. The piano's development and its influence on modern intonation. String behavior, the harmonic series, and tuning. Practical instruction on the piano's function, tuning, and the effects of various temperaments on keyboard music. [1] Foote. (Not currently offered)

131. Elements of Jazz Improvisation. Introduction to the techniques of jazz improvisation. Development of basic performing techniques in various styles. Prerequisite: MUSC 131a. FALL, SPRING, SUMMER. [1] Beegie Adair, Billy Adair, Johnson, Spencer.

132. Introduction to Jazz Improvisation for Strings. Open to all violin, viola, and cello students, the course is designed to provide an understanding of the basic rules of jazz improvisation and an appreciation of the history of stringed instruments in jazz. Includes associating

scales with chords, improvising with chord notes as target notes, incorporating space and rhythms and simple tune analysis. [1] Silver man. (Not currently offered)

133. Jazz Private Instruction. Private instruction on standar d jazz instr uments and voice. Repertory and techniques chosen to meet individual needs. Open by audition. Private lesson fees apply. Pr erequisite: 131 or 132. F ALL, SPRING. [V ariable cr edit: 1-2 each semester]. Dudley, Giampietro, Johnson.

151. Woodwind Seminar. Fundamentals of woodwind playing with emphasis on tone, intonation, practice and r ehearsal techniques, musicianship, and the psychology of per formance. Includes in-class performance and critique. Required of all woodwind performance majors. FALL [1] Estill, Wiesmeyer.

152. Brass Seminar. Fundamentals of brass playing; an overview of basic techniques. An in-depth study of non-traditional notation, per formance practice, and ensemble r ehearsal techniques. Required of all brass per formance majors. Open only to music majors. SPRING. [2] Borden.

153. Percussion Seminar . Overview of per cussion in W estern and non-W estern cultures from pre-history to pr esent. Emphasis on Eur opean/American orchestral practices. Representative works for study chosen fr om symphony , opera, oratorio, and other orchestral/choral sources. FALL. [1] Wiggins.

159. Diction for Singers: English and Italian. An introduction to the International Phonetic Alphabet as applied to lyric English and Italian diction. F ALL. [1] Montgomery.

159c. Diction for Singers: German. High German diction, using the International Phonetic Alphabet. Prerequisite: 159 or per mission of the instructor. SPRING. [1] Montgomer y.

159d. Diction for Singers: French. French stage diction, using the Inter national Phonetic Alphabet. Prerequisite: 159 or per mission of the instr uctor. FALL. [1] Montgomery.

162. The Alexander Technique. An accurate kinesthetic sense of the structure and movement of the body thr ough hands-on and verbal instruction in body mapping and the principles developed by F. M. Alexander . Emphasis on or dinary daily activities. Of fered on a pass/fail basis only. FALL, SPRING, MAY. [1] Ahner.

163. The Performer and the Body. Application of the Alexander technique in a small gr oup setting with attention to individuals and their par ticular per formance modes, i.e., public speaking, singing, dancing, acting, playing an instrument. Of ered on a pass/fail basis. May be repeated once for cr edit. Prerequisite: MUSO 162. FALL, SPRING, MAY. [1] Ahner

165. Tai Chi for Musicians. Principles of Tai Chi applied to musical per formance. The practice and understanding of anatomical movement, with emphasis on pr evention of injur y. Offered on a pass/fail basis. F ALL. [1] Phillips.

170. Breathing: Respiratory Function for Woodwind and Brass Performers. The use of the respiratory system for music performance. Physiology, the psychology of training, and air pathway diseases. Individual instruction applied to the per former's instrument. MAY [1] Borden.

230. Collaborative Composition in London. Exchange program with the Royal Academy of Music, London. Collaborative workshop between student composers and per formers at both schools, with faculty mentorship. T ravel to London over spring br eak (vouchers available), hosting of RAM students at Blair the following week. Enr ollment by audition. SPRING. [1] Michael Rose and Peter Sheppar d Skaerved (RAM). (Not cur rently offered)

231. Performance in Practice, IES Vienna. Open by audition to students in the IES V ienna program. The workshop is designed to of fer vocalists and instrumentalists the oppor tunity to expand repertoire and enhance performance skills. Rehearsal and discussion of aspects of selected works in r elation to the challenge of per formance. [2] Staff.

Orchestral Repertoire

251. Woodwind Orchestral Repertoire. Exploration of the standard orchestral repertoire with emphasis on performance practice. Performance of selected excerpts, coached and conducted. Not recommended for freshmen. SPRING. [1] Estill.

251e. Woodwind Orchestral Repertoire (Elective). Continuation of 251. May be repeated for credit. SPRING. [1] Estill.

252. Brass Orchestral Repertoire. Exploration of the standard orchestral repertoire with emphasis on the late Romantic period. Performance of selected excerpts, coached and conducted. FALL. [1] Borden.

252e. Brass Orchestral Repertoire (Elective). Continuation of 252. May be repeated for credit. FALL. [1] Borden.

253a. Orchestral Repertoire for Percussion. Exploration of the standard orchestral repertoire for percussion instruments, exclusive of timpani, with emphasis on score analysis, instrument selection, and performance techniques. Selected excerpts coached and conducted. SPRING. [1] Wiggins. (Offered alternate years; offered 2006/2007)

253b. Orchestral Repertoire for Timpani. Exploration of the standard orchestral repertoire for timpani. Emphasis on score analysis, editing, stick selection, and performance practice. Selected excerpts coached and conducted. FALL. [1] Wiggins. (Offered alternate years; offered 2006/2007)

254a. String Orchestral Repertoire. Analysis and coaching of the standard orchestral repertoire, including opera and ballet, with emphasis on style and technical problems. Selected excerpts in like instrument groups (violin, viola, cello, bass, harp). [1] Vanosdale, Plummer, Mansell, Wanner, Shaffer.

254c. Violin Orchestral Repertoire (Elective). Continuation of 254a. May be repeated for credit. [1] Vanosdale.

254d. Viola Orchestral Repertoire (Elective). Continuation of 254a. May be repeated for credit. [1] Plummer.

254e. Cello Orchestral Repertoire (Elective). Continuation of 254a. May be repeated for credit. [1] Mansell.

254f. Harp Orchestral Repertoire (Elective). Continuation of 254a. May be repeated for credit. [1] Shaffer.

Instrument Literature

255. Early Keyboard Literature. Keyboard music from the late fifteenth to the early eighteenth century. Compositional techniques and performance practices; study of period instruments; literature for clavichord, harpsichord, organ, and fortepiano. SPRING. [2] Carl Smith. (Offered alternate years; offered 2007/2008)

256. Piano Literature. A survey of works for piano from the seventeenth through the twentieth centuries, within the context of historical perspective, stylistic awareness, and pianism. Designed primarily for piano majors. SPRING. [2] Nies, Wait. (Offered alternate years; offered 2006/2007)

257. Organ Literature. Survey of organ literature from 1500 to the present. Reading and listening, with special attention to organ registration pertaining to nationality and time period. [2] Carl Smith. (Not currently offered)

258. Guitar Literature. Survey of literature for the classical guitar from the sixteenth century to the twentieth century. Various systems of notation including lute and vihuela are explored. FALL. [2] Johns. (Offered alternate years; offered 2007/2008)

259. Vocal Literature. Survey of literature for solo voice from the seventeenth century to the present, with focus on traditional art songs of the great masters of the genre. Prerequisite: MUSL 141, MUSC 221, two years of voice study FALL. [2] Retzlaff. (Offered alternate years; offered 2007/2008)

Conducting

261. Conducting. An introductory course of study stressing the fundamentals of movement and gesture as they relate to style, articulation, phrasing, tempo, cueing, etc. Score reading at the piano. Prerequisite: MUSC 122e,132b or 133b, and 221. FALL, SPRING, MAY. [2] Bingham, Fountain, Verrier.

262. Instrumental Conducting. Expansion of basic skills to include longer and more complex musical structures; expanded ability in analysis, memorization, and interpretation; significant independent preparation. Prerequisite: 261 and consent of instructor. [2] SPRING. Fountain.

263. Choral Conducting. Choral conducting and rehearsal techniques, score reading and analysis, methods, and materials of choral music. Prerequisite: 261 and consent of instructor. SPRING. [2] Childs.

Pedagogy

161. Music and Cognition. Theories and research about the cognition of music, appreciation, and performance. Selected musical topics include timbre, consonance, dissonance, tuning, melody, rhythm, scales, modes, chords, and composition. Concepts and research from the psychological sciences emphasize sensory mechanisms, perceptual discriminations, pattern recognition, categorization, transfer of learning, and motor coordination. Prerequisite: one course in music or psychology. FALL. [3] Borden, John Rieser, Professor of Psychology, Peabody College. (Offered 2006/2007)

260. Music Cognition Research Seminar. Continuation of 161, emphasizing study and discussion of recent research in music cognition. Development of formal research proposal. Prerequisite: MUSO 161. SPRING. [3] Borden, Rieser (Offered 2006/2007).

265a–265b. Suzuki Violin Pedagogy. Principles and procedures of teaching violin using the Suzuki Violin School, books 1–4. Individual and group instruction techniques observed and discussed. Designed for junior or senior violin/viola students. Violin for class use required. Open by consent of instructor. FALL, SPRING [3] Carol Smith. (Offered alternate years; offered 2007/2008)

266. Piano Pedagogy. Principles and procedures of teaching piano. Individual and group instruction techniques observed and discussed. Practicum with private students. Designed for piano majors; others admitted with consent of instructor FALL. [2] Krieger. (Offered alternate years; offered 2006/2007)

267. Organ Pedagogy. Review of organ methods and resource materials for piano and/or organ that describe the development of technique. Practicum with a private student. [2] Carl Smith. (Not currently offered)

268. Guitar Pedagogy. Principles and procedures of teaching classical guitar. Instructional methods and their applications with dif ferent age levels. Attention given to individual and group instruction. SPRING. [2] Johns. (Offered alternate years; offered 2007/2008)

269. Vocal Pedagogy. Principles and pr ocedures of teaching voice. Psychological and physiological approaches. Practicum with private students. Prerequisite: two years of voice study. FALL. [2] Retzlaff. (Offered alternate years; offered 2006/2007)

271. Pedagogy Practicum. Principles and pr ocedures of private teaching. Reading and research under the dir ection of a faculty sponsor , consistent with r equirements for Independent Study. Practicum with private students. Consent of the faculty sponsor is required. [Variable credit: 1–2 hours each semester] Staff.

281. Pedagogy Internship. Focused experience in the teaching of per formance under the direction of a faculty sponsor in that per formance area (consent required). Involves a specific program of regular consultation between student and supervising teacher. Open only to students seeking concentration in pedagogy. Prerequisite: MUSO 256, 257, 258, 259, or 289 (in field) and 266, 267, 268, or 269 (in field). [Variable credit: 1–3 hours each semester] Staff.

Independent Study

289. Independent Study . Development of a pr oject or a pr ogram of r eading under the direction of a faculty sponsor . Consent of the faculty sponsor is r equired. (See Academic Regulations section.) [Variable credit: 1–3 hours each semester] Staff.

Senior Seminar

297. Senior Seminar. Comprehensive review and correlation of the materials of music history, literature, and theory. Prerequisite: MUSC 221, MUSL 244. [1] (Not cur rently offered)

Group Performance Instruction: Non-Major

Group instruction is designed for beginning students with emphasis on basic technique, rhythm, tone, and musical interpretation. Groups are limited to six students.

Registration. New students must interview with the appropriate faculty member before finalizing registration. Instructions are given in the computer registration system.

Fees. Music fees are in addition to tuition charges and are not refundable after the change period. Fees include free admission to all Blair Series Concerts; a complimentary ticket must be obtained *in advance* at the ticket window with a Blair identification card. The cost for group instruction is $490 per semester for one 50-minute lesson weekly.

Fees, set annually by the Board of Trust,
are subject to review and change without further notice.

102a–102b. Introduction to Piano I and II. A total-musicianship appr oach to the piano. Repertoire, technique, and sight reading are studied. Also includes the study of transposition, harmonization, and improvisation. One 60-minute group lesson weekly. FALL, SPRING. [1–1] Koutsoukos, Wade.

103a. Introduction to Voice. Fundamentals of vocal technique, including breathing, posture, and vowel production. Also includes English and Italian diction. One 60-minute group lesson weekly. [1] Montgomery.

104a–104b. Introduction to Guitar I and II. A foundation in basic guitar technique that will prepare students for future studies in classical, jazz, or popular styles of guitar. Emphasis on chordal accompaniment, development of reading skills, improvisational techniques with melodies and chords. One 60-minute group lesson weekly. [1–1] Phillips.

105a. Introduction to Percussion. Basic percussion techniques with emphasis on rolls, embellishments, sticking combinations, and their applications for concert and popular musical styles. Prerequisite: previous musical experience and an understanding of notation. One 60-minute group lesson weekly. [1] Wiggins.

106a. Introduction to Recorder. Fundamentals of recorder playing using soprano, alto, tenor, and bass recorders. Instruction also available on krummhorn and cornetto. Ensemble literature from the Renaissance, Baroque, and Classic periods. One 60-minute group lesson weekly. [1] Epstein.

107a–107b. Introduction to Fiddle I and II. Designed for those with no experience in fiddle playing. Technical, stylistic, and historical elements involved in fiddling, as well as basic notation and idiomatic techniques. [1–1] Plohman.

108a–108b. Introduction to Mandolin I and II. Designed for those with no experience in playing mandolin. Technical, stylistic, and historical elements involved in playing mandolin, as well as basic notation and idiomatic techniques. 108a will focus on traditional American dance tunes, vocal songs, and waltzes; 108b will focus on more advanced American repertoire, Celtic tunes, swing, and improvisation. [1–1] Baldassari. (Not currently offered)

Individual Performance Instruction

Individual instruction is focused on the art and practice of an instrument or voice, with emphasis on tone quality, technique, rhythm, interpretation, and literature.

Level of Instruction. Blair offers collegiate-level instruction through 100- and 200-level offerings. Most students from outside of the B.Mus. program enroll through 100 level study. Students who have demonstrated sufficient mastery of technique and of repertoire (as described on the L-level approval form, available online at *www.vanderbilt.edu/stop/forms*) are eligible to enroll in L-level study. 200-level courses are open only to B.Mus. students in their Junior and Senior year.

Performance Instruction for Elective Credit, for Music Minors, and for Second Majors

Registration. New students must interview with the appropriate faculty member before finalizing registration. Instructions are given in the computer registration system. Students wishing to pursue L-level instruction must obtain departmental approval as well as instructor permission prior to registration.

Credit. University students enrolled in individual instruction may earn 1 or 2 credit hours depending on lesson length and practice commitment.

- 30-minute lessons with 5 hours minimum weekly practice earn 1 credit hour.
- 45-minute lessons with 5 or 10 hours weekly practice earn 1 or 2 credit hours respectively.
- 60-minute lessons with 10 hours minimum weekly practice earn 2 credit hours.

Beginners may not register for more than 1 hour of credit.

Fees. Music fees are charged in addition to regular tuition, and are not refundable after the change period. Students receiving need-based financial aid may request that music fees be considered in their financial aid package. Students with a declared second major or minor in music will be charged approximately one-half the music performance instruction fee. For courses numbered MUSP 171–196 and MUSP 171L–190L, fees per semester are as follows:

	Elective Credit / Non–Blair Students	2nd Majors and Minors
One 30-minute lesson weekly	$635	$320
One 45-minute lesson weekly	$905	$455
One 60-minute lesson weekly	$1,135	$570

Practice room rental (optional, 60 minutes daily) $235
Organ or harp practice room (optional, 60 minutes daily) $255

Fees, set annually by the Board of Trust, are subject to review and change without further notice.

Elective Credit. Students enrolling in lessons for elective credit should interview with the appropriate department and will normally register for a course number without the "L."

Music Minors. General Music Minor Declaration form (with departmental approval) required *(www.vanderbilt.edu/stop/forms)*. A minimum of 4 semesters of study totaling 4 credit hours at the 100 level in a single performance area required. General minors will normally register for a course number without the "L."

Music Performance Minors. Music Performance Minor Declaration form (with L-level approval) required *(www.vanderbilt.edu/stop/forms)*. A minimum of 6 semesters totaling 12 credit hours at the 100L level in a single performance area required.

Second Majors. Second Major Declaration form (with L-level approval) required *(www.vanderbilt.edu/stop/forms*). A minimum of 4 semesters totaling 4 credit hours at the 100L level in a single performance area required.

171-198. Individual Performance Instruction (MUSP).

171, 171L, 271L. Flute. J. Kirchner, Rogers.

172, 172L, 272L. Oboe. Taylor, Menking, Wiesmeyer.

173, 173L, 273L. Clarinet. C. Lee, Mitchell.

174, 174L, 274L. Saxophone. F. Kirchner.

175, 175L, 275L. Bassoon. Estill.

176, 176L, 276L. Horn. Hagen, Norton.

177, 177L, 277L. Trumpet. Cox, Suska.

178, 178L, 278L. Trombone. Borden.

179, 179L, 279L. Tuba. Davis, G. Long.

180, 180L, 280L. Percussion. Giampietro, Wiggins.

181, 181L, 281L. Harp. Shaffer.

182, 182L, 282L. Violin. Baker, Greer, Hall, Heard, Heubl, E. Long, Olson, Summar , Teal, Vanosdale.

183, 183L, 283L. Viola. Kochanowski, Plummer, Reinker.

184, 184L, 284L. Cello. Mansell, Wang.

185, 185L, 285L. Double Bass. Meyer, Nelson, Reist, Wanner.

186, 186L, 286L. Piano. Bartles, Dorfman, Eckert, Koutsoukos, Krieger , Nies, Reagan, Rhee, Melissa Rose, Roland Schneller, Walker.

187, 187L, 287L. Organ. Students must have had at least two years of piano study. Carl Smith.

188, 188L, 288L. Guitar. Johns, Phillips.

189, 189L, 289L. Voice. Diamond, Jarman, Montgomery, Prentice, Retzlaff, Shay.

190, 190L, 290L. Euphonium. Davis.

191. Viola da Gamba. Stenstrom.

192. Fiddle. Combs, Plohman.

193. Harpsichord. Carl Smith.

194. Dulcimer. Schnaufer.

195. Mandolin. Baldassari.

196. Recorder. Epstein.

197. Banjo. Brown.

198. Steel Drum. Britain.

Performance Instruction: B.Mus. Degree

Fees. Performance instruction fees are waived for B.Mus. students.

Composition/Theory Majors. Students register for MUSP performance courses with no letter suffix, or for "100L" level courses if their proficiency warrants it and the instructor has granted consent. A minimum of 6 semesters of study totaling 6 credit hours required.

Musical Arts Majors and Musical Arts/Teacher Education Majors. Students register for MUSP "L" level courses in their primary area: 100L level for freshmen and sophomores, 200L level for juniors and seniors. A minimum of 8 semesters totaling 16 credit hours required; performance instruction required every semester in residence.

Performance Majors. Students register for MUSR performance instruction in their primary area. Freshman register for 100-level instruction (a in fall, b in spring). Sophomores register for 100-level instruction (c in fall, d in spring). Juniors register for 200-level instruction (a in fall, b in spring). Seniors register for 200-level instruction (c in fall, d in spring). A minimum of 8 semesters totaling 32 hours (instrumental performance majors) or 28 hours (vocal performance majors) required; performance instruction required every semester in residence.

Elective credit. B.Mus. students taking a second instrument normally enroll in MUSP 171-196 (with no letter suffix) for 1 or 2 hours elective credit. Consent of the instructor is required. B.Mus. majors who have declared a minor instrument or who have been approved in their second area for L-level instruction may register for MUSP instruction at the 100L level; consent of the instructor and notification of the Blair registrar are required.

Performance Instruction for Performance Majors Only (MUSR)

Upper divisional hearing. Requirements for performance majors include an upper divisional hearing in the sophomore year to determine continuance in the performance degree program and permit subsequent enrollment in upper division study at the 200 level. Students are required to perform a program of twenty to thirty minutes for a faculty committee convened by the studio instructor or by the department chair. The committee will normally consist of the student's studio teacher and at least two additional members of the department. Memorization is required as appropriate, and accompaniment is expected where called for.

The student must consult with the studio instructor regarding appropriate repertoire. Instrumental selections must be chosen from the solo repertoire and should represent diverse historical periods. Percussionists must perform on keyboard percussion, timpani, and snare drum and/or multiple percussion. String repertoire must include solo Bach. Pianists must perform a 30-minute memorized program of solo piano literature representing at least three style periods. Vocal repertoire must include a minimum of five songs of contrasting periods and styles, using three languages (Italian, English, and either French or German).

Failure to pass this hearing demonstrates a lack of the requisite skills to graduate in performance at Blair, necessitating transfer to another degree program. A student may petition the faculty once for a second hearing, with entirely different repertoire, to take place before the end of the first semester of the junior year.

171-190. Individual Performance Instruction for Performance Majors (MUSR).

171abcd, 271abcd. Flute. [4] J. Kirchner.

172abcd, 272abcd. Oboe. [4] Taylor.

173abcd, 273abcd. Clarinet. [4] C. Lee.

174abcd, 274abcd. Saxophone. [4] F. Kirchner.

175abcd, 275abcd. Bassoon. [4] Estill.

176abcd, 276abcd. Horn. [4] Norton.

177abcd, 277abcd. Trumpet. [4] Cox.

178abcd, 278abcd. Trombone. [4] Borden.

179abcd, 279abcd. Tuba. [4] Davis, G. Long.

180abcd, 280abcd. Percussion. [4] Wiggins.

181abcd, 281abcd. Harp. [4] Shaffer.

182abcd, 282abcd. Violin. [4] Baker, Greer, Heard, Huebl, Teal, Vanosdale.

183abcd, 283abcd. Viola. [4] Kochanowski, Plummer.

184abcd, 284abcd. Cello. [4] Wang.

185abcd, 285abcd. Double Bass. [4] Meyer, Reist, Wanner.

186abcd, 286abcd. Piano. [4] Dorfman, Krieger, Nies.

187abcd, 287abcd. Organ. [4] Carl Smith.

188abcd, 288abcd. Guitar. [4] Johns.

189abcd, 289abcd. Voice. [4] Jarman, Retzlaff, Shay.

190abcd, 290abcd. Euphonium. [4] Davis.

Recitals.

295. Junior Recital. Students are encouraged to prepare a joint recital, shared with another degree candidate. (See Academic Regulations section.) [1] Per formance faculty.

299. Senior Recital. (See Academic Regulations section.) [1] Per formance faculty.

School of Engineering

E

Engineering Education in a University Setting

VANDERBILT University School of Engineering is the largest and oldest private engineering school in the South. Classes offering engineering instruction began in 1879, and seven years later Engineering was made a separate department with its own dean. The School's program emphasizes the relationship of the engineering profession to society and prepares engineers to be socially aware as well as technically competent.

The mission of the School of Engineering is threefold: to prepare undergraduate and graduate students for roles that contribute to society; to conduct research to advance the state of knowledge and technology and to disseminate these advances through archival publications, conference publications, and technology transfer; and to provide professional services to the community.

The school strives to meet the undergraduate education portion of its mission by offering degree programs in fields of engineering relevant to the needs of society. An objective of these programs is to provide a technical education integrated with strong humanities, fine arts, and social sciences subject matter to provide the requisite foundation for life-long learning. The availability of second majors and minors in subject areas in other schools and colleges of the University increases opportunities for engineering students to enhance their education by pursuing studies in the non-technical disciplines. Engineering students take close to 50 percent of their courses outside of the School of Engineering and associate daily with peers from other schools and colleges within the University.

Another objective is to accommodate students who will continue their studies at the graduate level in engineering or in other professional fields, as well as those who intend to enter engineering practice upon graduation. To this end, our programs emphasize mathematics and engineering sciences, yet provide significant exposure to engineering design and hands-on laboratory experiences.

A large fraction of the student body is destined for management positions early in their working careers. To meet these students' needs, the Engineering Management Program offers a well-integrated curriculum, including a minor. In addition, a joint program with the Owen Graduate School of Management is available.

The Bachelor of Engineering degree serves those programs in engineering where professional registration through state boards is desirable or necessary. Typically, about 90 percent of the students are enrolled in programs

that are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). To publicize professional registration and to serve the needs of engineers in the community who desire registration, the school sponsors a review course for the Fundamentals of Engineering Examination (FE).

The Bachelor of Science degree addresses the needs of those students seeking specialized programs not served by conventional engineering degree programs. The degree provides students with a general scientific and engineering background while allowing individual curricular desires to be addressed. For example, students who want to use a degree from the School of Engineering to enter the primary or secondary education fields may include the necessary courses in education from Peabody College in their engineering degree program.

Students at all levels have the opportunity to work with faculty in the generation of new knowledge. Those planning for graduate studies and research may participate in individual topics and research courses to fulfill that desire. Engineering students also participate in the University's Summer Research Program for Undergraduates.

Facilities

The School of Engineering is housed in four buildings on campus. The new William W. Featheringill Hall provides a focal point for the School, housing a three-story atrium designed for student interaction and social events, more than fifty teaching and research laboratories with the latest equipment and computer resources, and project rooms. School administrative offices and several classrooms are located on the ground floor of the Science and Engineering Building in the Stevenson Center, which also houses the Biomedical Engineering Department on the eighth and ninth floors. Jacobs Hall, which flanks the new Featheringill Hall, contains laboratories, offices and classrooms serving both the Civil and Environmental Engineering Department and the Electrical Engineering and Computer Science Department. Remodeling of Jacobs Hall was completed in 2002. The Olin Hall of Engineering houses Chemical Engineering, Mechanical Engineering, and Materials Science.

In all its engineering programs, Vanderbilt recognizes the valid place of experimental and research laboratories in the learning experience. Laboratories are planned to provide the strongest personal contact between students and faculty members consistent with enrollment.

Well-equipped undergraduate laboratories are maintained by the Departments of Chemistry and Physics in the College of Arts and Science, which offers mathematics and basic science courses required of all engineering students. Graduate and undergraduate divisions of these departments maintain teaching and research facilities in the Stevenson Center for the Natural Sciences, as does the Department of Earth and Environmental Sciences. Another supporting department, Biological Sciences, is

housed in Medical Research Building III. Most classes in humanities and the social sciences are conducted in Calhoun, Furman, Garland, and Wilson halls.

Accreditation

All programs leading to the B.E. degree are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Employment of Graduates

Of the recent Vanderbilt graduates with baccalaureate degrees in engineering, about 60 percent entered directly into professional practice. Forty percent continued with graduate education or chose military service careers. Others pursued diverse careers or other interests. Additional information regarding the employment of engineering graduates is available in the Career Center.

Supporting Organizations

Vanderbilt Engineering Council

The Engineering Council is a student organization whose main goal is facilitating communication between administration, faculty, and students in the School of Engineering. Officers of the Engineering Council are elected by the engineering student body, and representatives from the professional societies complete the organization's membership. While the council has no administrative power, it provides students with a voice in the decision-making process in the School of Engineering.

Professional Societies

The leading national engineering societies have chartered branches or student sections at Vanderbilt. These organizations are run locally by students with the help of a faculty adviser. Meetings are devoted to matters of a technical nature, including films, outside speakers, plant trips, and other subjects of interest to the membership.

Student speakers from the Vanderbilt groups compete annually with speakers from other groups in their region in technical paper competitions.

Freshmen and sophomores are cordially invited to attend meetings—and juniors and seniors are urged to join—as they will find the work of the professional societies beneficial in orienting them in their careers.

The student professional societies are:

American Institute of Aeronautics and Astronautics (A.I.A.A.)
American Institute of Chemical Engineers (A.I.Ch.E)
American Society of Civil Engineers (A.S.C.E.)
American Society of Mechanical Engineers (A.S.M.E.)
American Society for Metals (A.S.M.)
Association for Computing Machinery (A.C.M.)
Institute of Electrical and Electronics Engineers (I.E.E.E.)
International Society for Hybrid Microelectronics (I.S.H.M.)
National Society of Black Engineers (N.S.B.E.)
Society of Automotive Engineers (S.A.E.)
Society of Hispanic Professional Engineers (S.H.P.E.)
Society of Engineering Science (S.E.S.)
Society of Women Engineers (S.W.E.)
Vanderbilt Biomedical Engineering Society

Graduating seniors may join the Order of the Engineer, a society that recognizes the commitment of its members to the profession of engineering.

Degree Programs in Engineering

BACHELOR of Engineering degree programs are offered in the areas of biomedical, chemical, civil, computer, electrical, and mechanical engineering. Many of these programs allow considerable flexibility—but students are required to include in their courses of study those bodies of knowledge fundamental to each discipline.

Bachelor of Science degree programs offered in the interdisciplinary engineering disciplines often allow strong concentration in other areas of engineering or in the College of Arts and Science. The B.S. degree is awarded in the areas of computer science and engineering science.

The School offers the Master of Engineering (M.Eng.) degree, with emphasis on engineering design and practice, in most areas of study. The Graduate School, through departments of the School of Engineering, offers the research-oriented Ph.D. degree in eight major fields. Degree programs offered by the School of Engineering are shown below.

Degree Programs

	B.E.	B.S.	M.Eng.	M.S.	Ph.D.
Biomedical Engineering	•		•	•	•
Chemical Engineering	•		•	•	•
Civil Engineering	•		•	•	•
Computer Engineering	•				
Computer Science		•	•	•	•
Electrical Engineering	•		•	•	•
Engineering Science		•			
Environmental Engineering			•	•	•
Materials Science and Engineering			•	•	•
Mechanical Engineering	•		•	•	•

Undergraduate Degrees

Bachelor of Engineering

The Bachelor of Engineering degree is offered in Biomedical, Chemical, Civil, Computer, Electrical, and Mechanical Engineering. The B.E. degree requirements vary from 126 to 128 semester hours. Students seeking double majors will require somewhat more credit hours.

Bachelor of Science

The Bachelor of Science degree is offered in Computer Science and Engineering Science. Computer Science requires 122 semester hours and Engineering Science requires 120 semester hours. These programs have more flexibility in elective choice than the B.E. degree programs.

The Freshman Year

Many courses normally scheduled for the freshman year are common to both the B.E. and B.S. degree programs. While the curriculum for the freshman year is generally the same for all students, there are important variations. For example, some major programs require a full year of introductory chemistry; others do not. Students should become familiar with requirements of those programs in which they have an interest and confer with their adviser at the time of enrollment and throughout the freshman year to work out a program of study that will keep options open as long as possible.

Specimen curricula for the engineering programs are given in the *Courses of Study* chapter. Requirements for the B.E. and B.S. degrees for the various programs vary in the minimum amount of work and specific course requirements in the basic sciences and in specific subject requirements in mathematics.

Included in the freshman year is the course ES 140 (Introduction to Engineering), which introduces the student to design tools used in all areas of engineering.

Some students may qualify for advanced placement or advanced credit in mathematics, science, the humanities and social sciences, or computer science. If advanced credit is awarded, it will not affect the student's Vanderbilt grade point average.

Mathematics and Physics

Entering engineering students will be placed in the appropriate level mathematics course by the director of the undergraduate mathematics program. Students offering one full year or more of high school credit in

analytic geometry and calculus may qualify for advanced placement in a regular sequence by scoring well on the Advanced Placement Examination. Some students may be given advanced placement without credit if it is adjudged by the department that they have completed analytic geometry and calculus courses in high school equivalent to Vanderbilt courses, but have not taken Advanced Placement Examinations. In such cases, the minimum number of hours in mathematics required for the student's chosen engineering major will be reduced accordingly, but the minimum number of hours required for graduation will not be reduced.

Students with high mathematical ability and achievement may apply for enrollment in the honors mathematics sequence. For more information, see the course descriptions under Mathematics in the *Arts and Science* section of this catalog.

Students with inadequate backgrounds in mathematics may be required to take Math 133 (Pre-calculus Mathematics). Taking this course constitutes an additional requirement for graduation.

Math 127ab (Probability and Statistical Inference) and Math 140 (Survey of Calculus) cannot be credited toward a degree in the School of Engineering.

Precalculus physics courses 101, 105, 106, and 108 cannot be credited toward a degree in the School of Engineering.

Engineering Freshman Seminars

The School of Engineering provides optional seminars to give freshmen the opportunity to experience the creative process of using engineering concepts to solve real-world problems. These seminars offer students a unique opportunity to work closely, typically in small groups, with seasoned engineering professors.

Designed to challenge and engage freshmen intellectually, provide practice in communication skills, and aid in the selection of a specific engineering major, seminars are offered on a variety of topics. Some focus on research projects in the professor's area of engineering expertise, others concentrate on current scientific and technical problems of particular interest to the engineer, and others survey engineering practice in a variety of specialties and topics. Helping students learn problem-solving skills that can be applied across many disciplines throughout life, the seminars can be invaluable components of the freshman curriculum.

All freshman seminars carry 1 hour of open elective credit for engineering students. They are optional, but the Engineering School faculty consider this seminar program to be very important for both students and professors. Freshmen wishing to take a seminar will enroll in Engineering Science 101, Engineering Freshman Seminar.

Seminar offerings vary from year to year. During the summer preceding the freshman year the Office of the Dean will mail the booklet, Freshman Seminars, describing seminar topics for the upcoming year.

Liberal Arts Core

In order to provide the elements of a liberal education considered necessary for responsible practice as an educated engineer, the School of Engineering requires each student to complete at least 18 hours in the Liberal Arts Core. The Liberal Arts Core will be selected from courses in Humanities, Social Science, Music Performance and Studio Art, and Technology-Society. Acceptable courses in each category are listed in the tables below. Within the 18-hour requirement, the student must meet the following distribution requirements:

1. At least 6 hours of Humanities.
2. At least 6 hours of Social Science.
3. Within the minimum 12 hours of Humanities and Social Science, at least 6 hours must be "advanced". A course is considered advanced if it is 200-level (in the College of Arts and Science or the Blair School of Music) or if it is the student's second course in a specific discipline. History courses above 153 and Religious Studies courses above 115 are considered advanced.
3. A maximum of 3 hours of Music Performance and Studio Art may be taken to satisfy the Liberal Arts Core. Additional courses in Music Performance and Studio Art may be taken as open electives.
4. A maximum of 3 hours of Technology-Society electives may be taken to satisfy the Liberal Arts Core. The Engineering Science major requires 3 hours of Technology-Society electives.

Humanities

Department	Courses Qualifying
African American and Diaspora Studies	All courses
American Studies	All courses
Arabic	All courses
Art and Art History	All courses
Astronomy	203
Catalan	All courses
Chinese	All courses
Classics	All courses
Communication Studies	All courses
East Asian Studies	All courses
English	All courses
European Studies	All courses
Film Studies	All courses
French	All courses
German	All courses
Greek	All courses
Hebrew	All courses
Humanities	All courses
Italian	All courses
Japanese	All courses
Jewish Studies	All courses
Latin	All courses
Latin American Studies	All courses

Medicine, Health, and Society	290
Music	MUSC: All courses except 100, 101, 131ab, 132ab, 133ab; MUSL: All courses except 147, 160, 170, 171, 200, 250, 252, 261, 262; MUSO 261, 262, 263.
Philosophy	All courses
Religious Studies	All courses
Russian	All courses
Spanish	All courses
Theatre	All courses except 221
Women's and Gender Studies	150, 239, 259, 272

Social Sciences

Department	**Courses Qualifying**
Anthropology	All courses
Economics	All courses in economics except 150. Financial Economics and Managerial Studies courses must be classed as open electives.
History	All courses
Human and Organizational Development	1000, 1100, 1200, 2100, 2240, 2545
Linguistics	All courses
Medicine, Health, and Society	201
Music	MUSL 147, 160, 170, 171, 200, 250, 252, 261, 262 MUSO 161, 260
Political Science	All courses
Psychology	All College of Arts and Science psychology courses except 201, 208, 209, 234, 236, 269, 272, 274, 277 All Peabody College psychology courses except 2101, 2102, 2510, 2520, 2530, 2691, 2810, 2820, 2980, 2901, 2990
Sociology	All courses except 127
Women's and Gender Studies	201, 226, 240, 243, 245, 264, 265, 268

Music Performance and Studio Art

Department	**Courses Qualifying**
Art Studio	All courses
Music	MUSC: 131ab, 132ab, 133ab; MUSE: all courses; MUSO: 114, 132; MUSP: all 100-level courses.

Technology-Society Electives

Department	**Courses Qualifying**
Biomedical Engineering	201
Computer Science	151
Economics	266
Engineering Science	153, 155, 157, 159
Environmental Engineering	296
Engineering Management	150, 244, 275
Philosophy	244

Open Electives

Courses excluded from the listings in the Liberal Arts Core may be taken as open electives.

Officer education courses Military Science 113, 151, 152, and Naval Science 231 and 241 may be taken as open electives. NS 121 may be used as an open elective if the student has not taken ME 220a. No other officer education courses earn credit toward a degree. AFROTC students may count 6 hours of their military courses as open electives.

Master of Engineering

The Master of Engineering (M.Eng.) is an advanced professional degree awarded by the School of Engineering and especially designed for engineering practitioners who may prefer to work while doing professional study. It is also suitable for individuals who apply directly from undergraduate school—but the thrust of the program is toward professional practice in engineering rather than research or teaching. The degree is currently offered in biomedical engineering, chemical engineering, civil engineering, computer science, electrical engineering, environmental engineering, materials science and engineering, and mechanical engineering.

Students must complete 30 hours of approved course work. For information on the Accelerated Graduate Program in Engineering degrees, see the chapter on *Special Programs*. A maximum of 6 hours of graduate-level work may be transferred from another institution. Residency requirements are flexible, and a maximum period of seven years is allowed to complete the degree. An extensive, written design report shall be submitted on a project approved by the student's committee.

Admission to the Master of Engineering program normally requires graduation from an approved undergraduate program in engineering or a related scientific discipline, attainment of a *B* average in undergraduate courses applicable to the student's career goals, and recommendations containing favorable appraisals of professional promise and attitude. The A period of successful work experience prior to application to the program will also be given consideration. Application for admission should be sent to the Associate Dean of the School of Engineering. Further information about the program may be obtained by writing to the same office.

For information on integrated Bachelor and Master's of Engineering degrees, see the chapter on *Special Programs*.

Special Programs

Honors Programs

Honors programs allow selected undergraduate students to develop individually through independent study and research. Individual honors programs are described in the *Courses of Study* chapter.

Requirements vary somewhat but, in general, to qualify for consideration a student should have (a) completed the technical course requirements of the first two years, (b) attained a minimum grade average of 3.2 in all work taken for credit, and (c) shown evidence indicating a capacity for independent study and/or research. Formal admission is by election of the department concerned. Once admitted, candidates remain in the program only if they maintain a 3.2 or higher grade average.

Accepted candidates normally begin honors study in the junior year, but exceptions may be made for outstanding seniors. Honors students are usually exempt from some junior and senior class work in their major field in order to devote more time than other students to research, independent study, and graduate level courses. A comprehensive examination or written research report is required.

Successful candidates are awarded Honors in their area of interest. This designation appears on their diplomas.

Three-Year Program

The School of Engineering encourages students who so desire to earn a baccalaureate degree in three years. Three-year students normally will be in residence for three regular academic years and three summer sessions. They may enter in June or August. Entering freshmen should confer with the chair of their prospective department at the time of first enrollment to plan a suitable schedule of classes. In general, students should take the required mathematics and basic sciences during the first twelve to fifteen months in residence. They will then be prepared to take many junior-level basic engineering science courses during the second regular academic year. The third academic year should differ only slightly from the regular senior year.

Some liberal arts elective work must be taken during the summer session—and this may prove to be a limitation. The three-year student must also be prepared to accept some overload beyond the 15 to 16 hours per semester required in the normal four-year program.

Teacher Education

Students who are interested in preparing for licensure as secondary school teachers should plan their programs in consultation with the Associate Dean in the School of Engineering. The School of Engineering and Peabody College offer a teacher education program leading to secondary school licensure in physics (grades 9 through 12) and computer technology. Students major in engineering science in the School of Engineering and complete a second major in education at Peabody College.

More specific information on professional education course requirements can be found under the *Licensure for Teaching* chapter in the Peabody College section of this catalog. Inquiries can also be made to the Office of Teacher Licensure at Peabody.

Double Major

It is possible for a student to combine an engineering field with a second area outside the School of Engineering. The student must obtain prior approval of each department and satisfy the requirements of each major.

Certain double majors involving two programs within the School of Engineering have been approved by the faculty. The approved double majors are biomedical engineering/electrical engineering, and biomedical engineering/chemical engineering.

The double major is indicated on the student's transcript. Only one degree is awarded, from the school in which the student is enrolled.

Minors

A minor consists of at least five courses of at least 3 credit hours each within a recognized area of knowledge. A minor offers students more than a casual introduction to an area, but less than a major. A minor is not a degree requirement, but students may elect to complete one or more. Courses may not be taken on a Pass/Fail basis. A minor for which all designated courses are completed with a grade point average of at least 2.0 will be entered on the transcript at the time of graduation.

When a minor is offered in a discipline that offers a major, only those courses that count toward the major may be counted toward the minor. Students should refer to the appropriate sections of this catalog for specific requirements. Currently, minors are offered in engineering management, materials science, computer science, environmental engineering, and in most disciplines of the College of Arts and Science, Blair School of Music, and Peabody College.

Students should declare their intention to pursue minors by completing forms available in the Student Services Office of the School of Engineering. Departments and programs assign advisers to students who declare minors in their areas. Students are responsible for knowing and satisfying all requirements for the minors they intend to complete.

PAVE

PAVE (Preparatory Academics for Vanderbilt Engineers) is a six-week summer engineering program designed to allow a faster adjustment to college, to show students what is expected academically and how to go about accomplishing it. The curriculum is multidisciplinary so as to strengthen students academically. The program involves in-depth problem solving, computer skills, laboratory experiments, and technical writing—all in an engineering/science environment. The participants have access to all campus academic and recreational facilities. Optional nonacademic weekend activities are planned to provide a well-balanced summer. The program is open to students in the eleventh or twelfth grade or to high school postgraduates.

Three-Two Program

The School of Engineering recognizes a Three-Two program with certain liberal arts colleges. This plan allows students to attend a liberal arts college for three years of undergraduate study, usually majoring in mathematics or science, where they meet the residence requirements for a degree from that institution. They then transfer to the Vanderbilt University School of Engineering for two years of technical work in an engineering curriculum. Upon completion of the five years, students receive two bachelor's degrees, one from the liberal arts college and one from the School of Engineering.

To complete all required technical courses at Vanderbilt in two years, students enrolled in the Three-Two program should complete, before coming to Vanderbilt, as many as possible of the mathematics and science courses listed in the specimen curriculum—in general, mathematics through differential equations, a year of physics, a year of another laboratory science (usually chemistry), and a semester of computer programming. Students should plan their three years of liberal arts study so as to satisfy as nearly as possible the freshman and sophomore requirements of the particular engineering curriculum in which they will major at Vanderbilt.

Admission to the Three-Two program must be certified by the liberal arts college and is recognized by Vanderbilt University School of Engineering through special agreement between Vanderbilt and each of the liberal arts colleges participating in the Three-Two program.

Dual Degree Program with Fisk University

A coordinated dual degree program between the Vanderbilt University School of Engineering and Fisk University is especially designed to permit students to obtain an A.B. degree in biology, chemistry, computer science, physics, or mathematics from Fisk and a B.E. or B.S. degree in engineering from Vanderbilt, generally within five years.

For the first three years, the student is enrolled at Fisk in a science curriculum and, by cross-registration in the second and third years, takes introductory engineering courses at Vanderbilt. During the fourth and fifth years, the student is enrolled at Vanderbilt, following principally an engineering curriculum at Vanderbilt and completing science courses at Fisk. At the end of five years, the student should be able to satisfy the requirements for both bachelor's degrees.

Financial aid is available for qualified, deserving students. Additional information is available from the director of transfer admissions in the Office of Undergraduate Admissions.

Integrated Bachelor of Science/Master of Business Administration

In the five-year joint program in engineering and management, the student spends three undergraduate years in the Engineering Science major in the School of Engineering followed by two years at the Owen Graduate School of Management. First-year Owen School courses are used to meet the student's elective requirements for the B.S. in Engineering Science, with a concentration in Engineering Management. Successful students receive the B.S. from the School of Engineering after their first year at the Owen School and the M.B.A. from the Owen School the following year.

Application to the Owen School normally is made during the student's junior year. Successful completion of the undergraduate curriculum in Engineering Science does not ensure admission to the Owen School.

Integrated Bachelor and Master of Engineering

On the basis of recommendations containing favorable appraisals of professional promise, undergraduate students in the School of Engineering who have completed at least 75 hours with at least a *B* average may be accepted into an integrated Bachelor of Engineering–Master of Engineering program. The last two years of a student's program is planned as a unit and may thereby include a broader choice of technical work.

Completion of all work toward both degrees is required before either degree is awarded. To protect the option of dropping back to the Bachelor of Engineering as a terminal degree, students who enter the integrated B.E.–M.Eng. program are advised to satisfy all requirements for the Bachelor of Engineering degree as promptly as feasible. Further information about the program is available from the chair of the student's major department.

Accelerated Graduate Program in Engineering

Students who enter Vanderbilt with a significant number of credits (20 to 30 hours), earned either through Advanced Placement Tests or in college courses taken during high school, may be eligible for the Accelerated

Graduate Program in Engineering. Through this program, a student is able to earn both a bachelor's degree and an M.S. degree in about the same time required for the bachelor's degree. To be eligible for the program a student must complete 86 hours (senior standing) by the end of the sophomore year with at least a 3.5 grade point average. With the approval of the faculty in their major department, students apply through the School of Engineering Registrar for provisional admission and take one course approved for graduate credit each semester of the junior year. These courses will be credited toward the M.S. degree. Upon successful completion of these courses, the student is admitted to the Graduate School.

During the fourth year the student takes three courses (9 hours) for graduate credit each semester, and the remaining 6 to 10 undergraduate hours required for the bachelor's degree. The student receives the bachelor's degree at the end of the fourth year and spends the summer finishing a master's thesis to complete the M.S. degree. Further information can be obtained from the chair of the student's major department.

Honors

Founder's Medal

The Founder's Medal, signifying first honors, was endowed by Commodore Cornelius Vanderbilt as one of his gifts to the University. The recipient is named by the Dean after consideration of faculty recommendations and the grade point averages of the year's *summa cum laude* graduates.

Latin Honors Designation

For students graduating in August, 2009, December 2009, and May, 2010, Latin Honors noted on diplomas and published in the Commencement Program will be earned as follows: *Summa cum laude* will be awarded to students whose grade point average equals or exceeds that of the top 7% of the previous year's Vanderbilt graduating seniors. *Magna cum laude* will be awarded to students whose grade point average equals or exceeds that of the next 11% of the previous year's Vanderbilt graduating seniors. *Cum laude* will be awarded to students whose grade point average equals or exceeds that of the next 17% of the previous year's Vanderbilt graduating seniors. All students whose grade point averages equal or exceed the above percentages within their own school or college will also earn the designated honors.

Dean's List

The Dean's List recognizes outstanding academic performance in a semester. Students are named to the Dean's List when they earn a grade point average of at least 3.500 while carrying 12 or more graded hours, with no temporary or missing grades and no grade of *F.*

Honor Societies

TAU BETA PI. The Tennessee Beta chapter of the Tau Beta Pi Association was installed at Vanderbilt University 7 December 1946. Members of Tau Beta Pi are selected from undergraduate students in the School of Engineering who have completed at least four semesters of required work, are in the upper eighth of their class scholastically, and have shown marked qualities of character and leadership; seniors in the upper fifth of their class scholastically are also eligible for election.

CHI EPSILON. The Vanderbilt chapter of Chi Epsilon, installed 18 March 1967, is restricted to undergraduate civil engineering students in the top third of their class. Election is based

Founder's Medalist Michael Thomas Osborne and Dean Kenneth F. Galloway

on grade point average, faculty recommendation, and exceptional achievements in extracurricular campus activities.

ETA KAPPA NU. The Epsilon Lambda chapter of the Eta Kappa Nu Association was established 22 April 1966. Undergraduate members are selected from the upper third of the class in electrical engineering. Eta Kappa Nu recognizes leadership and scholastic accomplishment twice annually, selecting members also from the professional body of practicing engineers.

ALPHA SIGMA MU. The Vanderbilt chapter of Alpha Sigma Mu was installed in 1977. Senior materials engineering students in the upper twenty per cent of their graduating class are eligible upon recommendation of departmental faculty.

PI TAU SIGMA. The Delta Alpha chapter of Pi Tau Sigma was installed on the Vanderbilt campus 22 April 1971, for the purpose of recognizing scholastic achievement and professional promise in junior and senior mechanical engineering students. Students are elected to membership twice each year on the basis of academic excellence and recommendations from the faculty and chapter members.

SIGMA XI. The Vanderbilt chapter of the Society of the Sigma Xi recognizes accomplishment, devotion, and originality in scientific research. Associate members are elected annually from graduate-level students of the University.

HONOR SOCIETIES FOR FRESHMEN. Freshmen who earn a grade point average of 3.5 or better for their first semester are eligible for membership in the Vanderbilt chapter of Phi Eta Sigma and Alpha Lambda Delta.

Other Awards and Prizes

DEAN'S AWARD FOR OUTSTANDING SERVICE. Awarded to the senior candidate in the School of Engineering who has shown remarkable leadership qualities and who has also made the greatest contribution in personal services to the School.

DEAN'S AWARD FOR OUTSTANDING SCHOLARSHIP. Awarded to each member of the senior class who graduates with a 3.75 or higher grade point average.

PROGRAM AWARDS. The faculty associated with each of the departments of the school annually bestows a certificate and a prize to one member of the graduating class who is judged to have made the greatest progress in professional development during his or her undergraduate career. The Arthur J. Dyer Jr. and Greg A. Andrews awards are considered in this category.

AMERICAN INSTITUTE OF CHEMISTS AWARD. Awarded to an outstanding undergraduate student majoring in Chemical Engineering on the basis of a demonstrated record of leadership, ability, character, scholastic achievement, and potential for advancement of the chemical professions.

GREG A. ANDREWS MEMORIAL AWARD. Made to the senior in civil engineering who has been judged by the faculty to have made the greatest progress in professional development and who plans to do graduate work in environmental and water resources engineering.

THOMAS G. ARNOLD PRIZE. Awarded by the biomedical engineering faculty to the senior student who presents the best design of a biomedical engineering system or performance of a research project in the application of engineering to a significant problem in biomedical science or clinical medicine.

WALTER CRILEY PAPER AWARD. Endowed and awarded in electrical engineering for the best paper on an advanced senior project in electrical engineering.

JAMES SPENSER DAVIS AWARD. Given annually by the student chapter of Eta Kappa Nu in memory of Mr. Davis, this award recognizes excellence in the undergraduate study of electronics.

ARTHUR J. DYER JR. MEMORIAL PRIZE. Endowed and awarded in civil engineering to the member of the senior class doing the best work in structural engineering.

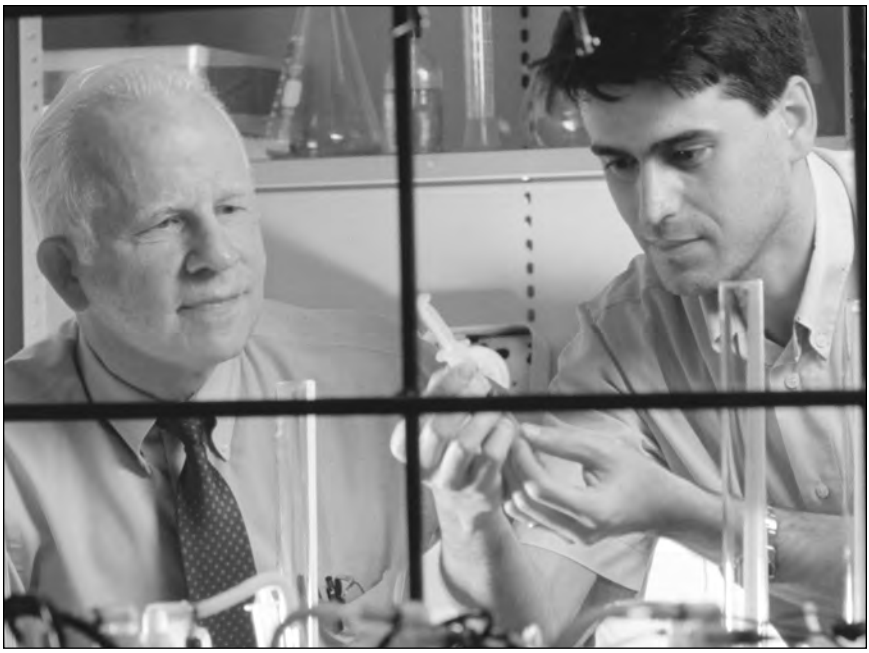
WALTER GILL KIRKPATRICK PRIZE IN CIVIL ENGINEERING. Endowed and awarded in the School of Engineering to the most deserving third-year undergraduate student in civil engineering.

WILSON L. AND NELLIE PYLE MISER AWARD. Awarded to the senior engineering student who has been judged by the faculty of the School of Engineering to have excelled in all aspects of mathematics during his or her undergraduate career.

STEIN STONE MEMORIAL AWARD. Endowed and awarded in the School of Engineering to the member of the graduating senior class who has earned a letter in sports, preferably in football, and who is adjudged to have made the most satisfactory scholastic and extramural progress as an undergraduate.

A. MAX AND SUSAN S. SOUBY AWARD. Established by Armand Max Souby Jr., in honor of his father, former alumni secretary of the University, and his mother, first headmistress at Harpeth Hall School. The award is made annually to a chemical engineering major.

W. DENNIS THREADGILL AWARD. Awarded to a graduating Chemical Engineering senior for outstanding achievement in the undergraduate program in honor of a former faculty member and department chair.



Academic Regulations

Honor System

All academic work at Vanderbilt is done under the honor system (see Life at Vanderbilt chapter).

Responsibility to Be Informed

It is the responsibility of the student to keep informed of course requirements and scheduling. Failure to do so may jeopardize graduation.

Academic Advising

A faculty adviser is appointed for each student. This adviser is chosen from the faculty in the student's major, when the major is known. For students who have not chosen a major upon entry, an adviser is selected from faculty in any department. If a student later chooses a different department for his or her major, a corresponding change of adviser is made. Engineering students are required to see their advisers at registration and any other time changes must be made in their programs of study. Any student who has academic difficulty is expected to see his or her faculty adviser for counsel. Faculty advisers can also provide useful career guidance.

Accreditation and Registration

Legislation exists in the various states requiring registration of all engineers who contract with the public to perform professional work. Although many engineering positions do not require professional certification, Vanderbilt supports registration and encourages its graduates to take the Fundamentals of Engineering examinations given by the Tennessee State Board of Architecture and Engineering Examiners as soon as they become eligible.

Bachelor of Engineering degrees in biomedical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, and mechanical engineering are accredited by the Accreditation Board for Engineering and Technology. Students in these programs may take the Fundamentals of Engineering examinations as seniors. In addition, proven professional experience is a requirement for registration. Other state boards may have different rules.

Graduate Record Examination

Most graduate schools, including Vanderbilt's, require or strongly encourage submission of Graduate Record Examination scores as a condition for admission. As a service to students the Psychological and Counseling Center administers the GRE periodically. Further information can be obtained from the Counseling Center or by writing the Educational Testing Service, Box 6000, Princeton, New Jersey 08540.

Grading System

A semester hour represents one hour of class lecture (or recitation) or one laboratory period per week in a course taken for a full semester. Work is graded by letter. *A, B, C,* and *D* are considered passing grades. The grade *E* is conditional and implies a reexamination, whereupon the *E* is changed to *D–* or *F*. The grade *F* signifies failure. A student who withdraws from a course before the date given in the University calendar is given the grade *W*. A student may not withdraw from a course after that date.

Grade Point Average

A student's grade point average is obtained by dividing the total grade points earned by the number of hours for which the student registered, excluding courses taken for no credit, those from which the student has withdrawn, those with the temporary grade of *I* or *M*, and those that are completed with the grade *Pass*.

Defined Grades with Corresponding Grade Points Per Credit Hour

A	= 4.0	C	= 2.0
A–	= 3.7	C–	= 1.7
B+	= 3.3	D+	= 1.3
B	= 3.0	D	= 1.0
B–	= 2.7	D–	= 0.7
C+	= 2.3	F	= 0.0

Pass-Fail Course Provision

Students will be permitted to take a limited number of courses for which they will receive a grade of either *Pass* or *Fail*. Regulations for taking courses on a Pass-Fail basis are:

1. The student must have completed two semesters at Vanderbilt and achieved at least sophomore standing.
2. No more than 9 hours graded *Pass* will be accepted toward the B.S. or B.E. degree.
3. No more than 6 hours of introductory level courses may be included in the total of *Pass* hours.

4. No more than two courses may be taken on a Pass-Fail basis in any one semester.

5. A minimum of 12 hours must be taken on a graded basis in any semester that a Pass-Fail course is taken.

6. No student on academic probation will be allowed to register for any course on a Pass-Fail basis.

7. No required courses may be taken on a Pass-Fail basis.

8. No course taken in the School of Engineering may be taken on a Pass-Fail basis, except as noted below.

The Pass-Fail option applies only to courses classified as open electives, elective courses offered in the College of Arts and Science, and technical electives not considered part of the student's major field as defined by the curriculum committee of the major field.

Credit hours earned in courses taken Pass-Fail are not included in calculating grade point averages. Hours taken on a Pass-Fail basis on which the grade *Fail* is received are included in computation of grade point averages unless removed by repeating the course. A student taking courses on a Pass-Fail basis, however, must still earn the minimum grade point average required of students not taking Pass-Fail courses.

Students electing the Pass-Fail option will be expected to meet all normal course requirements (e.g., reports, papers, projects, examinations, laboratory attendance, etc.) and will be graded in the normal way. At the end of the semester, students enrolled on a Pass-Fail basis will receive a letter grade; all grades of *D–* or above will be recorded as a *Pass*. Instructors will not be informed of the names of students in a course who are registered on a Pass-Fail basis.

Students may register on a Pass-Fail basis or change from a graded basis to Pass-Fail basis until the end of the change period, usually one week after classes begin (exact dates appear in the *Academic Calendar*). Changes from Pass-Fail basis to a graded basis may be made until the date indicated on the *Academic Calendar*.

Transfer students are eligible for Pass-Fail courses after they have been at Vanderbilt for one semester.

E: *Condition*

An instructor may assign the grade *E* in a course other than a laboratory course when in the instructor's judgment the work represents a borderline case and additional evidence is necessary to determine whether the student should be given the grade *D–* or *F*.

The grade *E* must be removed during the regular reexamination period of the student's next semester in residence or it becomes an *F* by default. A student who takes a reexamination to remove an *E* will receive the final grade *D–* or *F* in the course, depending on whether the grade on the second examination is passing or failing. Only one reexamination is allowed in the case of the grade *E*.

M: *Missed Final Examination*

The grade *M* will be given to a student who missed the final examination and is not known to have defaulted, but the grade *F* will be given to a student who could not have passed the course even with the final examination. Students who are ill at the time of a final examination are expected to notify the Student Services Office before or during the examination period. It is the responsibility of the student who is absent from a final examination to request permission to take a makeup examination during the makeup examination period of the student's next semester in residence. This request, giving the reason for missing the exam, must be submitted to the Office of the Dean before the first day of the next semester, regardless of whether the student is in residence that semester. In the absence of a request for a delayed examination, the *M* grade automatically becomes an *F*, whether or not the student is in residence. If the student has received permission to take a makeup final examination but is not in residence the next semester, completion of the examination may be delayed up to one year from the date of the missed examination, provided also that the examination is taken during one of the regular makeup examination periods. Failure to take the makeup examination within the prescribed time will result in an *F* grade. The grade for a student who misses a final examination and whose work is incomplete in other respects will be recorded as *MI*.

I: *Incomplete*

When an incomplete grade has been given, it is the student's responsibility to make arrangements to complete the work. An incomplete grade not cleared after one year or before the student graduates becomes an *F*. A course carrying an incomplete grade will not be included in the grade point average for academic progress determination.

Reexamination

For those students who receive an authorized grade of *M* or *E*, the departmental office will arrange makeup examinations during the next semester and will notify the student and the instructor of the time and place of the examination. Reexaminations are normally held during the first ten days of each semester to allow students who also fail the makeup examination to enroll in the same course if offered in the succeeding semester. The Administrative Committee may authorize a makeup examination at some other time, but a special $50 examination fee will be charged.

F: *Failure*

A subject in which the grade *F* is received must be taken again in class before credit is given. A student who deserts a course without following the correct procedure for dropping it will receive an *F* in the course.

Failure of Candidates for Graduation. A candidate for graduation who fails not more than one course in the senior year will be allowed one reexamination, provided all other requirements for graduation have been met. Reexamination for the removal of the grade *F* during any semester of the senior year will be given immediately after the close of the last semester of the student's senior year. This reexamination will result in the grade of either *D–* or *F* in that particular course. Reexamination must be requested through the Office of the Dean.

RC: *The Repeated Course Designator*

Courses in which a student has earned a grade lower than *B–* may be repeated under certain conditions. A course in which the student earned a grade between *D–* and *C+*, inclusive, may be repeated only once. The repeat must be accomplished within one year of the first attempt for courses offered every year, or, for courses not offered within a year, the first time the course is offered. Failed courses may be repeated at any time. A course may be repeated only on a graded basis, even if the course was originally taken Pass-Fail. Courses taken Pass-Fail in which the student earned a Pass may not be repeated. When registering for a course previously completed, the student must indicate that the course is being repeated.

Students should note that repeating a course may improve the grade point average, but it may also lead to problems in meeting minimum hour requirements for class standing and progress toward a degree. Repeating a course does not increase the number of hours used in calculation of the grade point average. All grades earned will be shown on the transcript, but only the latest grade will be used for computation of grade point averages.

W: *Withdrawal*

A student may withdraw from a course at any time prior to the deadline for withdrawal published in the *Academic Calendar.* The deadline is usually the Friday following the date for reporting mid-semester deficiencies. The grade *W* is recorded for any course from which a student withdraws. A course in which a *W* is recorded is not used in figuring grade point averages.

Requirements for the Degree

Candidates for a degree must have completed satisfactorily all curriculum requirements, have passed all prescribed examinations, and be free of indebtedness to the University.

Grade Average Requirements

To be eligible for graduation, a student must have passed all required courses, including the technical electives, and shall have earned a minimum average grade of *C* in (a) all courses taken, (b) courses taken within the School of Engineering, and (c) major department courses.

Any student who has been on probation for failure to meet the semester grade point average requirements in two successive semesters may be dropped for failure to meet the requirement in a third successive semester.

Hours Required for Graduation

The specific course requirements and total hours required for the bachelor's degree vary with the student's major program. Detailed requirements for each program are shown in the specimen curricula in the Courses of Study section. If graduation requirements change during the time students are in school, they may elect to be bound by the requirements published in the catalog in either their entering or their graduating year.

If a student elects or is required to take Mathematics 133 (Pre-calculus Mathematics), the minimum semester hours required for graduation shall be raised by the hours earned in that course.

Transfer Credit

It is the student's responsibility to provide all information needed for an assessment of the program for which transfer of credit is requested. Work transferred to Vanderbilt from another institution will not carry with it a grade point average. No course in which a grade below *C-* was received will be credited toward a degree offered by the School of Engineering.

Transfer students must complete at least 60 hours of work at Vanderbilt. Two of the semesters must be the senior year.

Summer Work at Another Institution

Work that a student contemplates taking at a summer school other than Vanderbilt is treated as transfer work and must be approved in advance in writing by the student's adviser and the Associate Dean in the School of Engineering, at which time a course description must be submitted. A course a student has taken at Vanderbilt may not be repeated in another institution to obtain a higher grade.

Credit by Examination

In certain circumstances students may be awarded course credit by departmental examination. (This procedure is distinct from the award of credit through the College Board Advanced Placement Examinations, taken prior to a student's first enrollment at Vanderbilt or another college.)

Students who want to earn credit by departmental examination should consult the Associate Dean concerning procedures. To be eligible, students must be in good standing.

Students must obtain the approval of the chair of the department that is to give the examination and of the instructor designated by the chair. Students may earn up to 8 hours of credit by examination in any one department, although this limitation might be raised on petition to the Administrative Committee. Students may attempt to obtain credit by examination no more than twice in one semester, no more than once in one course in one semester, and no more than twice in one course.

Students will be given the grade Pass in courses for which credit is received by examination. These courses will not be used in determining grade point averages.

Students enrolled for at least 12 hours are not charged tuition for hours for which credit by examination is awarded, so long as the amount of credit falls within the allowable limits of an 18-hour tuition load, including no-credit courses dropped after the change period of registration. Students in this category must pay a fee of $50 for the cost of administering the examination. Full-time students with a tuition load exceeding 18 hours and students taking fewer than 12 hours pay tuition at the regular rate with no additional fee.

Registration

A period is designated in each semester during which continuing students, after consultation with their advisers, register for work to be taken during the next term. Detailed instructions for registration by computer (OASIS) are given in the *Schedule of Courses*.

See the explanation of late registration fees in the chapter on *Financial Information*.

Auditing

Regularly enrolled students in the School of Engineering who want to audit courses in any of the undergraduate schools of the University must get the oral consent of the instructor to attend the class but do not register for the course. No record is kept of the audit. Regular students may audit classes each semester free of charge.

Change of Course

During the change period of registration as defined in the *Academic Calendar*, students may add or drop courses without academic penalty after securing approval from their adviser and the Associate Dean. After the change period, new courses may not be added, except under very unusual circumstances and with the approval of the adviser, the course instructor, and the Associate Dean.

A student may drop a course without entry on the final record, provided the course is dropped during the change period of registration. After the first week of classes and extending to the end of the eighth week, a course may be dropped with approval of the student's adviser; the grade *W* (withdrawal) will be recorded.

To drop a course or change sections after the change period ends, the student must procure a Change of Course card from the Student Services Office. The student then obtains the signature of his or her adviser and of all instructors involved in the proposed change and returns the card to the Student Services Office.

Examinations

Examinations are usually given at the end of each semester in all undergraduate courses except for certain laboratory courses or seminars. The instructor may exempt students who have excelled in course work from the final examinations. Exams will be no longer than three hours in length and are given according to the schedule published in the *Schedule of Courses (*the School of Engineering does not offer an alternate examination schedule). All examinations are conducted under the honor system.

Residence Requirements

A minimum of four semesters including the last two semesters shall be spent in residence in the School of Engineering. During these four or more semesters, the student must have completed at least 60 semester hours of an approved curriculum in one of the degree programs. In unusual cases, an exception to this requirement may be made by the Administrative Committee upon the recommendation of the department concerned.

Class Standing

To qualify for sophomore standing, a student must pass a minimum of 24 hours and maintain a grade point average of at least 1.7. Freshmen who fail to qualify for sophomore standing after two semesters are placed on probation. Freshmen who fail to qualify for sophomore standing in three semesters may be dropped. The summer session counts as a semester for this purpose.

To qualify for junior standing, a student must pass a minimum of 54 hours and maintain a grade point average of at least 1.8. Sophomores who fail to qualify for junior standing at the end of two semesters after qualifying for sophomore standing are placed on probation. A student who has been on probation for failure to qualify for junior standing and who does not qualify for junior standing in one extra semester may be dropped.

A student who has qualified for junior standing has two semesters to qualify for senior standing. Senior standing requires the completion of 86 hours and a minimum grade point average of 1.9. Juniors who do not qualify for senior standing at the end of the second semester after qualifying for junior standing will be placed on probation. A student who has been on probation for failure to qualify for senior standing and who does not qualify for senior standing in one extra semester may be dropped.

Seniors who do not qualify for graduation at the end of the second semester after being promoted to the senior class will be placed on probation and given one more semester to complete the graduation requirements. A senior who has been on probation for failing to complete the graduation requirements and who fails to complete the requirements in one additional semester may be dropped.

Probation

A freshman who fails to complete 9 hours and earn a 1.7 grade point average during any semester is placed on probation. A sophomore, junior, or senior who fails to complete 12 hours and earn a 2.0 grade point average during any semester is placed on probation. The student is removed from probation after completing 12 hours and earning a 2.0 grade point average during any semester provided that sufficient credit hours are obtained for promotion to the next class.

Full-time sophomores are removed from probation after earning 12 hours and a 2.0 grade point average in a given semester, except that those who have not qualified for junior standing after two semesters as a sophomore must in the next semester fulfill the requirement for junior standing. Failure to do so will cause the student to be dropped.

A student who fails all courses in any semester will be dropped.

To remain in good standing, a student must pursue a program leading toward a degree in the School of Engineering. A student who is deemed by the Administrative Committee not to be making satisfactory progress toward a degree in engineering will be dropped.

A student authorized by the Administrative Committee to carry fewer than 12 hours because of illness or outside employment, or for some other valid reason, may be placed on probation if the student's work is deemed unsatisfactory by the Administrative Committee and will be removed from probation when the committee deems the work satisfactory.

Class Attendance

Students are expected to attend all scheduled meetings of each class in which they are enrolled. At the beginning of each semester, instructors will explain the policy regarding absences in each of their classes. Students having excessive absences will be reported to the Office of the Dean. If class attendance does not improve thereafter, the student may be dropped from the class with the grade *W*, if passing at the time, or the grade *F*, if failing at the time. Class attendance may be a factor in determining the final grade in a course.

Scholarship Requirements

Those students having honor scholarships are expected to maintain a 3.0 grade point average while taking a minimum of 12 hours. Failure to maintain a 3.0 grade point average will result in the cancellation of the scholarship.

Grade Reports

A grade report will be sent to the student at his or her home address as soon as possible after the conclusion of each semester. This report will give the total hours and grade points earned during the semester, as well as the cumulative hours and grade points earned through that semester. Students should examine these reports carefully and discuss them with their faculty advisers. Any errors should be reported immediately to the Student Services Office of the School of Engineering.

A grade reported and recorded in the University Registrar's Office may be changed only upon written request of the instructor and with approval of the Administrative Committee. The committee will approve such a change only on certification that the original report was in error.

Undergraduate Enrollment for Graduate Credit

A qualified Vanderbilt senior undergraduate may enroll in courses approved for graduate credit by the graduate faculty and receive credit which, upon admission to the Vanderbilt University Graduate School, may be applicable toward a graduate degree. The principles governing this option are as follows:

1. Work taken under this option is limited to those 200- and 300-level courses approved for graduate credit and listed as such in the catalog of the Graduate School, excluding thesis and dissertation research courses and similar individual research and reading courses.
2. Such work must be in excess of that required for the bachelor's degree.
3. The student must, at the time of registration, have a *B* average in the preceding two semesters.
4. The total course load, graduate and undergraduate courses, must not exceed 18 hours in any one semester.

5. Undergraduate students who want to count for graduate credit courses taken under this option must consult the instructor of each course and must, at the time of registration, declare their intention on a form available in the Graduate School office.

6. Permission for Vanderbilt undergraduates to enroll in graduate courses does not constitute a commitment on the part of any program to accept the student as a graduate student in the future.

7. An undergraduate student exercising this option will be treated as a graduate student with regard to class requirements and grading standards.

All students who want to take 300-level courses, whether under this option or not, must obtain the written approval of their academic adviser, the instructor of the course and the Associate Dean for Research and Graduate Studies in the Engineering School.

Interested students should consult their faculty advisers and with the Graduate School office before attempting to register for graduate courses under this option.

Leave of Absence

A student at Vanderbilt or one who has been admitted to Vanderbilt may, with the approval of his or her academic dean, take an official leave of absence for as much as two semesters and a summer session. Leave of absence forms are available in the Student Services Office. A student who fails to register in the University at the end of the leave will be withdrawn from the University.

Change of Address

Any change of address should be reported to the School of Engineering Student Services Office or the University Registrar. The University will consider notices or other information delivered if mailed to the address on file in the University Registrar's office.

Special Students

The normal program of study is 12 to 18 hours per semester. Students authorized by the Administrative Committee to register for fewer than 12 hours are classified as special students.

Withdrawal from the University

A student proposing to withdraw from the University must notify the Student Services Office of the School of Engineering so that proper clearance may be accomplished and that incomplete work is not charged as a failure against the student's record.


Advanced Tactical Missile

Courses of Study

Hours are semester hours. The bracketed [3] indicates 3 semester hours of cr edit for one semester, and [3–3] for a two-semester course.
100-level courses are primarily for freshmen and sophomores.
200-level courses are normally taken by juniors and seniors but are open also to qualified sophomores and freshmen.
250 through 299 courses may count for graduate credit if approved by the instructor, the adviser, and the Dean of the Graduate School.
W symbols used in course numbers designate courses that meet departmental writing requirements.

Abbreviations

BME	Biomedical Engineering
CE	Civil Engineering
ChE	Chemical Engineering
CmpE	Computer Engineering
CS	Computer Science
EECE	Electrical Engineering and Computer Engineering
ENGM	Engineering Management
ES	Engineering Science
ENVE	Environmental Engineering
ME	Mechanical Engineering
MSE	Materials Science and Engineering

The Freshman Year

The freshman year curriculum for all of the engineering disciplines is:

Specimen Curriculum

FALL SEMESTER		Semester hours
Chemistry 102a*	General Chemistry	3
Chemistry 104a	General Chemistry Laboratory	1
Mathematics 155a	First-year Accelerated Calculus I	4
	Technology/Society Elective	3
Engineering Science 101	Engineering Freshman Seminar (optional)	1
Engineering Science 140	Introduction to Engineering	3
	Total	**14–15**

* Chemistry 102a students must also enroll in a recitation section of Chemistry 106a (zero credit).

SPRING SEMESTER		Semester hours
Chemistry 102b**	General Chemistry	3
and	and	
Chemistry 104b*‡	General Chemistry Laboratory	1
or	or	
Materials Science 150*‡	Materials Science I	4
Mathematics 155b	First-year Accelerated Calculus II	4
Physics 116a	General Physics	3
Physics 118a	General Physics Laboratory	1
Computer Science 101*	Programming and Problem Solving	3
or 103*		
	Total	**15**

‡ Chemical engineering and biomedical engineering majors must take Chemistry 102b and 104b.
**Chemistry 102b students must also enroll in a recitation section of Chemistry 106b (zero credit).

Biomedical Engineering

CHAIR Thomas R. Harris
DIRECTOR OF UNDERGRADUATE STUDIES Cynthia B. Paschal
DIRECTOR OF GRADUATE STUDIES Robert J. Roselli
PROFESSORS A. B. Bonds, Robert L. Galloway, Jr., Todd D. Giorgio, John C. Gore, Frederick R. Haselton, Thomas R. Harris, K. Arthur Overholser, C. Leon Partain, Robert J. Roselli, Richard G. Shiavi, Dennis Hallahan, John P. Wikswo, Jr.
ADJUNCT PROFESSOR A. Bertrand Brill
ASSOCIATE PROFESSORS Adam W. Anderson, E. Duco Jansen, Paul H. King, Anita Mahadevan-Jansen, Cynthia B. Paschal, David R. Pickens, III
RESEARCH ASSOCIATE PROFESSORS Jerry C. Collins, Paul A. Harris
ADJOINT ASSOCIATE PROFESSOR Richard A. Gray
ASSISTANT PROFESSORS Franz Baudenbacher, Bruce M. Damon, Mark D. Does, Daniel J. France, Alan J. Herline, Peter Konrad, Robert F. Labadie, Michael I. Miga, V. Prasad Shastri, Thomas E. Yankeelov
RESEARCH ASSISTANT PROFESSORS Andre Diedrich, Stacy Klein, Patricia K. Russ, Veniamin Sidorov
ADJUNCT ASSISTANT PROFESSORS L. Allen Bradshaw, Jason L. Pyle

THE Biomedical Engineering Program is designed to prepare students for a wide choice of careers by providing a background in engineering, the humanities, and the physical and life sciences. The undergraduate curriculum serves as a premedical program, preparation for advanced study in biomedical engineering and biomedical sciences, or preparation for a career in the practice of biomedical engineering. Students learn to apply engineering concepts to scientific and practical problems in biology, medicine, and health care. The graduate program prepares students for research and advanced practice in biomedical engineering.

The Department of Biomedical Engineering offers courses of study leading to the B.E., M.S., M.Eng., and Ph.D. degrees.

Undergraduate Honors Program. With approval of the Honors Program director, junior and senior students in biomedical engineering who have achieved a minimum quality point ratio of 3.5 may be accepted into the undergraduate Honors Program. Students in the program take at least 6 credit hours of 300-level (graduate) BME courses, which can be counted toward the 127-hour undergraduate degree requirements as BME electives or which can be taken for graduate school credit. Students in the Honors Program must also complete a two-semester-long research project and present a research report; this is generally accomplished through the BME 240a and 240b Undergraduate Research elective courses. Honors students must make a quality point ratio of 3.0 in these classes and maintain an overall 3.5 GPA to be designated as an honors graduate. The diploma designation is Honors in Biomedical Engineering.

Curriculum Requirements

The B.E. degree in biomedical engineering requires a minimum of 127 semester hours, distributed as follows:

1. Mathematics (15 hours): 155a-b, 175, 196.
2. Basic Science (24 hours): Chemistry 102a-b, 104a-b, Physics 116a-b and 118a-b, Biological Sciences 110/111a, and a second approved biological sciences course with laboratory.
3. Introductory engineering and computing (6 hours): ES 140 and either CS 101 or CS 103.
4. Electrical engineering (7 hours): EECE 112, 213.
5. Biomedical engineering (31 hours): BME 101, 103, 210, 251, 252, 260, 271, 255, 272, 273, 297.
6. Biomedical engineering electives (11 hours) from an approved departmental list.
7. Program electives (9 hours): science, engineering, and math courses from an approved list.
8. Liberal Arts Core (18 hours). BME students may take either a technology-society elective or humanities/social science elective in the freshman year.
9. Open electives (6 hours).

Specimen Curriculum for Biomedical Engineering

		Semester hours	
SOPHOMORE YEAR		FALL	SPRING
BioSci 110a/111a	Introduction to Biological Sciences	4	–
	Biological Sciences course*	–	4
Math 175	Second-year Accelerated Calculus	3	–
Math 196	Differential Equations and Linear Algebra		4
Phys 116b	General Physics	3	–
Physics 118a	General Physics Laboratory	1	
BME 101	Introductory Biomechanics	3	–
EECE 112	Electrical Engineering Science	–	3
BME 103	Biomedical Materials	–	3
	Liberal Arts Core	3	3
		17	**17**

* A second biological sciences course with laboratory must be selected from the departmental list of approved courses.

JUNIOR YEAR		FALL	SPRING
EECE 213	Network Theory I	4	–
BME 210	Physiological Transport Phenomena	3	–
BME 251–252	Systems Physiology	3	3
BME 260	Analysis of Biomedical Data	–	3
BME 271	Biomedical Instrumentation**	–	4
	Biomedical Engineering or program elective ***	3	4
	Open elective	3	–
	Liberal Arts Core	–	3
		16	**17**
SENIOR YEAR			
BME 255W	Biomedical Engineering Laboratory	3	–
BME 272–273	Design of Medical Engineering Systems I, II	2	3
BME 297	Senior Engineering Design Seminar (fall)	1	–
	Liberal Arts Core	3	3
	Biomedical Engineering or program elective***	7	6
	Open elective	–	3
		16	**15**

** BME 271 may also be taken in the fall of the senior year.
*** BME and program electives must be selected with approval of faculty adviser.

BME 101. Introductory Biomechanics. An introduction to the structure and mechanics of the musculoskeletal system and to the properties and strength of biological materials. Application of Newtonian mechanics, statics, and strength of materials to bone, muscle, tendon, other biological material, and medical devices. Credit offered for only one of BME 101, CE 180, and ME 141. Prerequisite: Physics 116a, Math 155b. [3]

BME 103. Biomedical Materials: Structure, Property, and Applications. Structure-property relationships in both natural and synthetic, hard and soft materials. Bio-inspired materials design, the role of self-assembly in achieving highly ordered structures, material design and properties for emerging biomedical applications, factors influencing biocompatibility, performance of biomaterials in both soft and hard tissues, and biological response to implants. Prerequisite: Chem 102b, BME 101. SPRING. [3]

BME 201. Biomedical Engineering Ethics. Ethical principles in the practice of biomedical engineering: responsibility in professional practice, health care, research and mentoring. Development of skills in perceptiveness, discernment, competency and visualization of alternatives through case studies. Prerequisite: junior or senior standing. FALL. [3] (Available for technology-society credit only for biomedical engineering majors).

BME 210. Physiological Transport Phenomena. An introduction to the mechanics of fluids, heat transfer, and mass transfer in living systems. Basic theories of transport phenomena are presented and applied to mammalian and cellular physiology as well as to the design of medical devices. Prerequisite: BME 101, 103 or equivalent, Math 198. [3]

BME 240a–240b. Undergraduate Research. 240a: independent research, either experimental or theoretical in nature or a combination of both, under the supervision of a biomedical engineering faculty member or another faculty member approved by the course director. 240b: a continuation of the research in 240a or research in a different area of biomedical engineering. Prerequisite: Consent of course director. [1-3 each semester; maximum of 6 hours total for all semesters of BME 240 and 241.]

BME 241a-241b. Undergraduate Project in Biomedical Engineering Education. 241a: an independent project, either developmental, experimental, or otherwise investigational in nature, that explores a selected topic in biomedical engineering education. The project is to

be conducted under the supervision of a biomedical engineering faculty member or another faculty member approved by the course director. 241b: a continuation of the work in 241a or work in a different area of bioengineering education. Prerequisite: Consent of course director [1-3 each semester; maximum of 6 hours total for all semesters of BME 240 and 241.]

BME 251–252. Systems Physiology. An introduction to quantitative physiology from the engineering point of view . Descriptive physiology of several organ systems (heart, lung, kidney, nerve, blood). Mathematical modeling and computer simulation of organ systems and physiologic control mechanisms. Prerequisite: differential equations or permission of instructor. [3–3]

BME 255W. Biomedical Engineering Laboratory . Laboratory experiments in biomechanics, thermodynamics, biological transport, signal analysis, biological control, and biological imaging. Emphasis is placed on current methods, instrumentation, and equipment used in biomedical engineering; on oral presentation of results; and on the writing of comprehensive reports. One lecture and one three-hour laboratory per week. Prerequisite: BME 210, 251. [3]

BME 256. Bioelectricity. Cellular basis of the electrical activity of nerve and muscle cells; action potential propagation; voltage- and ligand-gated ion channels; space, voltage, and patch clamp; and electrical, optical, and magnetic measurements of bioelectric activity in cells, isolated tissues, intact animals, and humans. Prerequisite: Math 196 or 198, BSCI 110a. FALL. [3]

BME 258. Foundations of Medical Imaging. Physics and engineering of image formation by different modalities used for medical applications. Concepts common to different imaging modalities and limits of physical phenomena. Mathematical concepts of image formation and analysis; techniques for recording images using ionizing radiation (including CT), ultrasound, magnetic resonance, and nuclear (including SPECT and PET). Methods of evaluating image quality. Prerequisite: PHYS 116b, 118b, MATH 196. No credit given for both BME 258 and PHYS 228. SPRING. [3]

BME 260. Analysis of Biomedical Data. Application of modern computing methods to the statistical analysis of biomedical data. Sampling, estimation, analysis of variance, and the principles of experimental design and clinical trials are emphasized. Prerequisite: Math 175. SPRING. [3]

BME 263. Signal Measurement and Analysis. (Also listed as EECE 263) Discrete time analysis of signals with deterministic and random properties and the effect of linear systems on these properties. Brief review of relevant topics in probability and statistics and introduction to random processes. Discrete Fourier transforms, harmonic and correlation analysis, and signal modeling. Implementation of these techniques on a computer is required. Prerequisite: Probability and Statistics. FALL. [3]

BME 271. Biomedical Instrumentation. Introduces methods used to determine physiological functions and variables from the point of view of optimization in the time and frequency domain and the relation to physiological variability. Laboratory exercises stress instrumentation usage and data analysis. Three lectures and one laboratory. SPRING. [4]

BME 272–273. Design of Biomedical Engineering Devices and Systems I and II. Integration of the engineering and life science backgrounds of senior biomedical engineering students through the presentation of design principles for medical devices and systems. Design principles and case examples for biomedical electronics, mechanical, chemical, and computing systems are presented. A full-semester design project is required. Evaluation is conducted through periodic oral and written presentations, and through a final written and poster report. Corequisite for BME 272: BME 271; Prerequisite for BME 272-273: BME 251, 252; Prerequisite for BME 273: BME 271. [2–3]

BME 274. Principles and Applications of BioMicroElectroMechanical Systems (BioMEMS). The principles, design, fabrication and application of micro- and nano-devices to instrument and control biological molecules, living cells, and small organisms, with a

strong emphasis on development of microfabricated systems and micro- and nano-biosensors. Students will lead discussions from the research literature. Graduate students will prepare a research proposal or fabricate a functioning BioMEMS device. FALL. [3]

BME 275. Therapeutic Bioengineering. Explores the engineering aspects of treating disease or disorders. Surgical mechanics, diffusion therapies including chemical and energy diffusion, image-guided therapies, and the role of discovery and design in the development of medical treatments. Prerequisite: EE 213, BME 101, and BME 210. Corequisite: BME 271; an imaging course may be helpful. SPRING. [3]

BME 276. Biological Basis of Imaging. Physical and chemical relationships between biological characteristics of tissue and image contrast in major medical imaging modalities. Imaging modalities include x-ray, MRI, PET, and ultrasound. Applications include neurological disorders, neurological function, cardiac function and disease, cancer, and musculoskeletal physiology. Prerequisite: BME 258 or equivalent. SPRING. [3].

BME 281. Biotechnology. Integration of process bioengineering with cellular and molecular biology to describe the manufacture of products derived from mammalian cells. Optimization of oxygen transport and fluid shear stress in bioreactor design for mammalian cells. Biotechnology ethics. Prerequisite: one year of basic biology (Biol 100 and Biol 201 or BSci 110a and BSci 110b or equivalent) and transport phenomena (BME 210 or ChE 230 or equivalent). SPRING. [3]

BME 282. Biotechnology Laboratory. Laboratory experiments in the culture of mammalian cells in bioreactors. Measurement of cell growth and transgene protein expression as a function of bioreactor conditions. Optimization of oxygen transport and fluid shear stress in bioreactor design for mammalian cells. Co-requisites: BME 281. SPRING. [1]

BME 285. Introduction to Biomedical Optics. Fundamental concepts of optics, tissue optics and laser tissue interaction. Instrumentation for light and laser applications. Current applications of light and lasers for diagnosis and therapy in biomedicine. Prerequisite: Senior standing or consent of instructor. Alternating FALL and SPRING. [3]

BME 286. Biomedical Optics Laboratory. Practical experience in basics of operating lasers, using optics, fiber optics and interferometry. Computer-aided design of optical system and computer simulations of light tissue interaction. Application of optical concepts to biomedical problems. Prerequisite: Senior standing or consent of instructor BME 285 a corequisite. Alternating FALL and SPRING. [1]

BME 289. Computational Modeling and Analysis in Biomedical Engineering. Introduction to biomedical modeling and simulation using numerical techniques to solve differential equations. Biotransport, biomechanics, tumor and virus growth dynamics, and model-based medical imaging techniques. Prerequisite: For graduate student enrollment, permission of instructor required. SPRING. [3]

BME 290a-b–c–d. Special Topics in Biomedical Engineering. Different topics taught as a–d. [3] (Offered periodically)

BME 297. Senior Engineering Design Seminar. Elements of professional engineering practice. Professionalism, licensing, ethics and ethical issues, intellectual property, contracts, liability, risk, reliability and safety, interdisciplinary teams and team tools, codes, standards, professional organizations, careers, entrepreneurship, human factors, and industrial design. Prerequisite: senior standing. Required, to be taken in conjunction with BME 272. FALL. [1]

BME 312. Advanced Biomedical Instrumentation. A study of the scientific bases and design strategies for advanced medical instrumentation systems. Measurements and diagnosis

systems for biomechanical, biochemical, cardiovascular, radiographic and bioelectric phenomena are discussed. Prerequisite: BME 271 or consent of instructor. SPRING. [3]

BME 313. Advanced Biomechanics. Application of advanced concepts in statics, dynamics, continuum mechanics, and strength of materials to biological systems. Topics include measurement of mechanical properties of biological materials; rheological properties of blood; mechanics of cells, bone, skeletal muscle, and soft tissue; normal and abnormal dynamics of human movement; mechanics of articular joint movement; pulmonary mechanics; cardiac mechanics; arterial mechanics; mechanics of veins and collapsible vessels; and mechanics of flow in the microcirculation. Prerequisite: BME 101, BME 210 or equivalent. [3]

BME 314. Bioelectric Signal Processing. Study of the analysis of signals generated by excitable tissues; electrocardiograms, electromyograms, electroencephalograms, and others. Course integrates physiological knowledge with an emphasis on mechanisms of signal generation, information in waveforms useful for physiologic investigation and medical diagnosis, and processing methodologies for automatically determining this information. Prerequisite: BME 252 or equivalent, BME 263. [3]

BME 315. Dynamics of Physiological Systems. Course begins with overview of linear representations of cardiovascular systems and introduction to rudimentary aspects of physiologic control. Attention will then concentrate on topics relating to physiological systems identification. Format will be didactic in part, supplemented by seminar presentations, literature review, and computational problems. Prerequisite: knowledge of LaPlace and Fourier Transform methods; BME 252 or equivalent desired. FALL. [3]

BME 316. Medical Imaging. A survey of medical imaging modalities and applications. Emphasis is on image formation and image analysis. Prerequisite: graduate standing, Physics 116a-b, Math 194, EECE 112, or equivalents. SPRING. [3] (Offered alternate years)

BME 317. Physiological Transport Phenomena. (Also listed as ChE 317) The quantitative description of momentum transport (viscous flow) and mass transport (convection and diffusion) in living systems. Prerequisite: BME 230 or equivalent courses in fluid dynamics and mass transfer. SPRING. [3]

BME 318. Principles and Applications of Magnetic Resonance Imaging. Physics and engineering of magnetic resonance imaging with an introduction to biomedical applications of MRI. Topics include signal generation, spatial localization, pulse sequence design, Fourier transform reconstructions, image processing, instrumentation, artifacts, MR angiography, cardiac MR, and echo planar imaging. Prerequisite: Physics 116a-b and Math 198, or equivalents; Math 194 or equivalent recommended. SPRING. (Offered alternate years) [3]

BME 319. Engineering Models of Cellular Phenomena. Application of engineering methods to model and quantify aspects of cell physiology. Topics include receptor mediated cell processes, cell-cell signaling, cooperative barrier behavior, cell structural components, and cell motility. SPRING. [3] (Offered alternate years)

BME 320. Laser-Tissue Interaction and Therapeutic Use of Lasers. Optical and thermal aspects and models of the interaction between laser/light and biological tissue as it is used for therapeutic applications in medicine and biology. Issues and objectives in therapeutic and surgical applications of lasers, overview of state-of-the-art topics and current research. FALL. [3]

BME 321. Optical Diagnosis: Principles and Applications. Applications of light and tissue optical properties for the diagnosis of tissue pathology. Basic scientific and engineering principles for developing techniques and devices that use light to probe cells and tissues. Recent applications of different optical diagnostic techniques. SPRING. [3]

BME 325. Physical Measurements on Biological Systems. A survey of the state-of-the-art in quantitative physical measurement techniques applied to cellular or molecular physiology. Topics include the basis for generation, measurement, and control of the transmembrane potential; electrochemical instrumentation; optical spectroscopy and imaging; x-ray diffraction for determination of macromolecular structure; magnetic resonance spectroscopy and imaging. Prerequisite: Physics 225a (modern physics) or consent of instructor. SPRING. [3]

BME 329. Advanced Computational Modeling and Analysis in Biomedical Engineering. Survey of current topics within biomedical modeling: biotransport, biomechanics, tumor and virus growth dynamics, model-based medical imaging techniques, etc. Mathematical development and analysis of biomedical simulations using advanced numerical techniques for the solution of ordinary and partial differential equations. Emphasis will be on graduate research related topics. SPRING. [3]

BME 350. Artificial Neural Networks. (Also listed as CS 350 and EECE 350) Theory and practice of parallel distributed processing methods using networks of neuron-like computational devices. Neurobiological inspirations, parallel soft constraint satisfactions, attractor networks, correlational learning, error-correction learning, regularization, vector coding schemes, unsupervised learning, reinforcement learning, Bayesian and information theoretic approaches, network analysis techniques, hardware support, and engineering applications. SPRING. [3]

BME 369. Master's Research.

BME 373. Design of Medical Products, Processes, and Services. Medical design projects involving teams of graduate level engineering and management students. Projects are solicited from industry or universities and are undertaken from the initial phase of a design request to the end product, prototype, plan, or feasibility analysis. Prerequisite: BME 272. SPRING. [3]

BME 389. Master of Engineering Project.

BME 391–392–393–394. Biomedical Research Seminar. [1–1–1–1]

BME 395a-b–c–d. Special Topics. Different topics taught as a–d graduate level. [1–3]

BME 399. Dissertation Research.

Chemical Engineering

CHAIR M. Douglas LeVan
DIRECTOR OF GRADUATE RECRUITING G. Kane Jennings
DIRECTOR OF GRADUATE PROGRAM Bridget R. Rogers
DIRECTOR OF UNDERGRADUATE PROGRAM Kenneth A. Debelak
PROFESSORS EMERITI Robert J. Bayuzick, Tomlinson Fort, Thomas M. Godbold, John A. Roth, Robert D. Tanner
PROFESSORS Peter T. Cummings, Todd D. Giorgio, Thomas R. Harris, David S. Kosson, Paul E. Laibinis, M. Douglas LeVan, K. Arthur Overholser, Robert J. Roselli, Karl B. Schnelle Jr.
RESEARCH PROFESSOR Ales Prokop
ASSOCIATE PROFESSORS Kenneth A. Debelak, G. Kane Jennings, Bridget R. Rogers
ASSOCIATE PROFESSOR OF THE PRACTICE Julie E. Sharp
ASSISTANT PROFESSORS R. Robert Balcarcel, Scott A. Guelcher, Clare McCabe

CHEMICAL engineers play key roles in the development and production of pharmaceuticals and bioengineered materials, high strength composites and specialty polymers, semiconductors and microelectronic devices, a wide range of ultrapure fine chemicals, and many other products. Indeed, chemical engineering is essential for the operation of contemporary society. The solution of many of the problems facing society today—e.g., energy, the environment, development of high-performance materials—will involve chemical engineers.

The undergraduate program in chemical engineering equips students to contribute to the solution of these and similar problems. Most graduates find meaningful careers in industry. Others are attracted to government laboratories, universities, and careers as private consultants. Some continue their education through graduate studies in chemical engineering, business, law, or medicine.

Mission. The mission of the Department of Chemical Engineering is to educate those who will advance the knowledge base in chemical engineering, become practicing chemical engineers, and be leaders in the chemical and process industries, academia, and government; to conduct both basic and applied research in chemical engineering and related interdisciplinary areas; and to provide service to the chemical engineering profession, the School of Engineering, Vanderbilt University, the country, and the world.

Degree Programs. The Chemical Engineering Department offers the Bachelor of Engineering degree and graduate study leading to the M.Eng., M.S., and Ph.D. degrees.

Undergraduate chemical engineering students acquire a solid background in mathematics, chemistry, and physics and take additional upper-level courses in chemistry. The chemical engineering program has as its basis courses in transport phenomena, thermodynamics, separations, and kinetics. Other courses deal with the principles and techniques of chemical engineering analysis and design, along with economic analysis, process control, chemical process safety, and engineering ethics. Laboratory courses offer the student an opportunity to make fundamental measurements of momentum, heat, and mass transport and to gain hands-on experience with bench scale and small scale pilot-plant apparatus, which can be computer controlled. Report writing is a principal focus in the laboratory courses. Selected students are offered the opportunity to carry out individual research projects.

A specimen curriculum for a chemical engineering major, which shows required and elective courses for the standard program, follows. This standard program includes a number of electives. Students, with the consent of their faculty advisers, may choose elective courses that maintain program breadth or may develop a special-interest minor program or concentration within the chemical engineering major. Established minors for chemical engineering students are environmental engineering, materials science and engineering, and management of technology. In addition, a concentration in biotechnology is offered. Double majors may be arranged in consultation with a faculty adviser.

The Chemical Engineering Department recommends chemical engineering students consider taking the Fundamentals of Engineering Examination (FE) in their senior year. This is the first step in obtaining a license as a professional engineer. The following courses are recommended for preparation for the FE: EECE 112, CE 180, and ME 190.

Undergraduate Honors Program. The professional Honors Program in chemical engineering provides an opportunity for selected students to develop individually through independent study and research. General requirements are described in the Special Programs chapter. The Chemical Engineering Department requires a minimum overall GPA of 3.5. Acceptance to the program is made at the beginning of, or during, the junior year. Transfer students meeting other requirements may be considered for admission after completing one semester at Vanderbilt. Candidates for honors choose their technical courses with the consent of a faculty honors adviser. These may be selected to obtain additional depth in chemical engineering by taking at least 6 hours of 300-level courses or by concentrating in an allied area with graduate courses recommended but not required. A special research project is substituted for ChE 229W in the senior year. A formal written research report is submitted each semester of the senior year.

Facilities. The Chemical Engineering Department is located in Olin Hall of Engineering. Departmental laboratories are equipped for study of transport phenomena, unit operations, kinetics, and process control. Current research areas for which facilities are available include adsorption and surface chemistry; biochemical engineering and biotechnology; chemical reaction engineering; environment, including air pollution; materials; process modeling and control.

Computers. A computer facility located in Olin Hall is used in undergraduate and graduate instruction and research. This equipment provides the Chemical Engineering Department with the opportunity to use computer-aided design techniques and computer control of processes. The department makes a special effort to employ computers for use in homework, design problems, and laboratory studies.

Curriculum Requirements

The B.E. degree in chemical engineering requires a minimum of 127 hours course credit. The courses and credits are distributed as follows:

1. Mathematics (17 hours). Required courses: Math 155a, 155b, 175, 198. Math elective: one course selected from Math 194, 218, 226, 229, 234, 261, or 286.

2. Basic Science (28 hours). Required courses: Chemistry 102a, 102b, 220a, 220b, 230, 236; Physics 116a-b or 117a-b, and 118a-b or 119a-b.

3. Engineering Science (3 hours). Required course: ES 140.

4. Computer Science (3 hours). Required course: CS 103.

5. Liberal Arts Core (18 hours). To be selected from the approved lists (see Liberal Arts Core). At least 6 hours must be taken from social sciences

and at least 6 hours must be taken from humanities. At least 6 hours of advanced level courses must be included. Three of the 18 hours may be a Technology Society elective, and 3 hours may be in music performance or studio art. Eligible for pass-fail credit.

6. Technical electives (12 hours). At least 6 hours must be selected from a departmental list of engineering courses. Another 6 hours to be selected from any technical or scientific field with approval of the faculty adviser. These technical electives may be eligible for pass-fail credit.

7. Open electives (6 hours). To be selected with approval of the faculty adviser. Eligible for pass-fail credit.

8. Chemical Engineering required courses (40 hours) ChE 161, 162, 180, 216, 223, 225, 228W, 229W, 230, 231, 232, 233W, 242.

Minor Programs and Concentration

Students who want to use their electives to pursue a minor or concentration have several options. Minors are offered by other programs with requirements given in appropriate sections of the catalog. Among the most popular for our students are minors in environmental engineering, materials science and engineering, and engineering management. Our students also minor in mathematics, chemistry, economics, and other fields. The Department of Chemical Engineering offers a biotechnology concentration for students within the department with requirements given below.

Biotechnology Concentration (13 hours). BioSci 110a/111a, ChE 282, ChE 283 along with one course selected from BME 281, ChE 246-247, ENVE 272, BioSci 110b.

All elective courses selected must be approved by the student's adviser so that the entire program satisfies the ABET (Accreditation Board for Engineering and Technology) accreditation criteria.

Specimen Curriculum for Chemical Engineering

		Semester hours	
SOPHOMORE YEAR		FALL	SPRING
Chem 219a-b	Organic Chemistry Laboratory	1	1
Chem 220a-b	Organic Chemistry	3	3
Math 175	Second-year Accelerated Calculus	3	–
Math 198	Methods of Ordinary Differential Equations	–	3
Physics 116b	General Physics	3	–
Physics 118b	General Physics Laboratory	1	–
ChE 161	Chemical Process Principles	3	–
ChE 162	Chemical Engineering Thermodynamics	–	3
ChE 180	Chemical Engineering Modeling/Simulation	–	3
	Liberal Arts Core	3	3
		17	**16**

JUNIOR YEAR		FALL	SPRING
Chem 230	Physical Chemistry I	3	–
Chem 236	Physical Chemistry I Laboratory	1	–
ChE 223	Chemical and Phase Equilibria	3	–
ChE 228W	Chemical Engineering Laboratory I	–	3
ChE 230	Introductory Transport Phenomena	3	–
ChE 231	Rate-Based Transport Operations	–	3
ChE 232	Separation Processes	–	3
	Mathematics elective	3	–
	Liberal Arts Core	–	3
	Technical elective *	3	3
		16	**15**
SENIOR YEAR			
ChE 216	Engineering Economy	3	–
ChE 225	Kinetics	3	–
ChE 229W	Chemical Engineering Laboratory II	3	–
ChE 233W	Chemical Engineering Process Design	–	4
ChE 242	Chemical Process Control	–	3
	Liberal Arts Core	3	3
	Technical elective *	3	3
	Open electives	3	3
		18	**16**

* Two of the four technical electives to be selected from a departmental list.

ChE 161. Chemical Process Principles. A foundation for advanced work in chemical engineering. Process problems of a chemical and physico-chemical nature are considered. Emphasis is on stoichiometry, material balances, and energy balances required for design computation. FALL. [3]

ChE 162. Chemical Engineering Thermodynamics. Application of the laws of thermodynamics to systems involving chemical reaction and phase change. Equations of state are further developed to provide background for chemical process design and simulation. The course is a prerequisite to an extended treatment of phase and chemical equilibria. SPRING. [3]

ChE 180. Modeling and Simulation in Chemical Engineering. Development of chemical engineering process models and their numerical solutions. The models include solution of linear and non-linear equations, eigenvalue problems, differentiation, and integration, ordinary differential equations, linear and nonlinear regression. Chemical process simulation using commercial simulators is introduced. A foundation for advanced work in chemical engineering. Prerequisite: ChE 161; Corequisite: Math 198; or consent of instructor. SPRING. [3]

ChE 216. Engineering Economy. (Also listed as CE 216 and ENGM 216) Economic evaluation and comparison of alternatives, interest, periodic payments, depreciation, criteria, and analytical procedures in investment decision-making, plant feasibility, and cost estimating for design. FALL. [3]

ChE 223. Chemical and Phase Equilibria. Thermodynamic basis and use of chemical and phase equilibrium data and correlations to design chemical processes. Applications to processes of chemical conversion and physical separations involving gases, liquids, and solids. Prerequisite: ChE 162. FALL. [3]

ChE 225. Kinetics. Analysis of chemical kinetic data and application to the design of chemical reactors. Batch, semibatch, and flow reactors are considered in both steady-state

and transient operation. A brief treatment of catalysis and physical and chemical adsorption is given. Prerequisite: Chem 230 and ChE 223. Graduate credit for non-majors. FALL. [3]

ChE 228W–229W. Chemical Engineering Laboratory I, II. Laboratory experiments in momentum, energy, mass transport, kinetics, process dynamics, and control. Interpretation of data for equipment and process design. Writing and oral presentations are emphasized. A technical communications professor provides instruction in written and oral communications. One lecture and one 5-hour laboratory. Prerequisite: ChE 230. Sequence begins in SPRING. [3–3]

ChE 230. Introductory Transport Phenomena. The principles of mass, momentum, and energy transport and their application to analysis and design of engineering systems. Graduate credit for non-majors. Prerequisite: junior standing or consent of instructor. Corequisite: Math 198. FALL. [3]

ChE 231. Rate-Based Transport Operations. Principles and techniques of chemical engineering practice and design. Analysis of chemical engineering processes involving mass transfer, heat transfer, and fluid mechanics. Consideration of safety in the context of process equipment design. Prerequisite: ChE 230 or consent of instructor. SPRING. [3]

ChE 232. Separation Processes. Chemical engineering design and practice of chemical separation processes which reach or approach equilibrium. These processes include distillation, absorption, and extraction. Process simulation of separation processes is required. Consideration of safety and economics in the context of process and equipment design. Prerequisite: ChE 230 or consent of instructor. SPRING. [3]

ChE 233W. Chemical Engineering Process Design. A capstone design course for chemical engineering students. A systematic approach to design and safety practices for chemical process operations. The course involves process design, economic evaluation of alternatives, ethics, and a cost and safety analysis of a typical chemical or petroleum process. The use of process simulations is required. A comprehensive design report is required. Prerequisite: ChE 232 and ChE 216 or consent of instructor. SPRING. [4]

ChE 242. Chemical Process Control. Design of control systems for chemical processes. Principles of process dynamics and control of single and multivariable systems. Frequency and stability analyses and their effect on controller design. Graduate credit for non-majors. Prerequisite: Math 198. SPRING. [3]

ChE 246–247. Chemical Engineering Projects. Opportunities for individual students to do research or design work under guidance of a faculty member. Requires faculty sponsorship of the project. [Variable credit: 1–3 each semester]

ChE 249. Seminar. SPRING. [1]

ChE 280. Atmospheric Pollution. (Also listed as ENVE 280) Fundamentals of atmospheric pollution and control. The sources and nature of gaseous and particulate air pollutants, the relation of meteorological conditions to their dispersal, and their effects on health and materials are discussed along with administration, standards, and control of air pollution. Prerequisite: junior standing. SPRING. [3]

ChE 282. Biochemical Engineering. A course in enzyme catalysis, microbial growth, bioreactor design and analysis and product recovery. Emphasis will be placed on enzyme kinetics and fermentation process modeling, applications to models of commercial fermentations, biomass plants, and enzyme engineering. For graduate students and advanced undergraduates. Prerequisite: consent of instructor. [3] (Offered on demand)

ChE 283. Biopharmaceutical Engineering. Production of biopharmaceuticals will be studied within the context of diseases and ailments that may be treated through the production

of novel bio-pharmaceuticals. Topics will include molecular bases of disease, drug discovery, drug delivery, cell line generation, nutritional requirements of cell cultures, metabolic engineering of cell lines, and large scale-production plant design of mammalian cell based processes. Prerequisite: junior standing or above. SPRING. [3]

ChE 284. Semiconductor Materials Processing. Introduction to the materials processing unit operations of silicon device manufacturing. Topics include basic semiconductor physics and device theory, production of substrates, dopant diffusion, ion implantation, thermal oxidation and deposition processes, plasma deposition processes, photolithography, wet chemical and plasma etching, and analytical techniques. FALL. [3]

ChE 290. Special Topics in Chemical Engineering. Prerequisite: consent of instructor. [3] (Offered on demand)

ChE 310a. Applied Mathematics in Chemical Engineering I. Chemical engineering applications of advanced mathematical methods such as LaPlace transforms, calculus of finite differences, and numerical methods, with emphasis on expressing physical situations in mathematical language together with methods used in analysis of experimental data. FALL. [3]

ChE 310b. Applied Mathematics in Chemical Engineering II. A continuation of 310a. [3]

ChE 311a. Advanced Chemical Engineering Thermodynamics I. Application of the thermodynamics method to chemical engineering problems. Development of the first, second, and third laws of thermodynamics; estimation and correlation of thermodynamic properties; chemical and phase equilibria; irreversible thermodynamics; and other special advanced topics relevant to chemical engineering. SPRING. [3]

ChE 311b. Advanced Chemical Engineering Thermodynamics II. A continuation of 311a. [3] (Offered on demand)

ChE 312a. Transport Phenomena I. The theory of non-equilibrium processes. Development of the analogy between momentum, energy, and mass transport with applications to many common engineering problems. SPRING. [3]

ChE 312b. Transport Phenomena II. A continuation of 312a. [3] (Offered on demand)

ChE 313. Applied Chemical Kinetics. Experimental methods in kinetics. Kinetics of industrial reactions and reactor design. Absorption and catalytic systems are considered. FALL. [3]

ChE 314. Advanced Separation Processes. Current separation operations such as distillation, absorption, extraction, reactive distillation, membrane processes, adsorption, and adsorptive bubble methods. SPRING. [3]

ChE 315a–315b. Systems Analysis for Process Design and Control. The design and control of chemical process plants, including economic optimization under steady-state and transient conditions. FALL–SPRING. [3–3]

ChE 316. Differential Operations. An advanced treatment of differential mass transfer and diffusional processes. [3] (Offered on demand)

ChE 317. Physiological Transport Phenomena. (Also listed as BME 317) The quantitative description of momentum transport (convection and diffusion) in living systems. Prerequisite: courses in fluid dynamics and mass transfer. SPRING. [3]

ChE 320. Surfaces and Adsorption. Surface energy, capillarity, contact angles and wetting, surface films, insoluble monolayers, solid surfaces, membranes, surface area determination, adsorption, adhesion, interface thermodynamics, friction and lubrication, interface in composites, relationships of surface to bulk properties of materials. FALL. [3]

ChE 325. Polymer Science and Engineering. Macromolecular systems with emphasis on the interrelationship of chemical, physical, and engineering properties and the further relation of these properties to synthesis and application. A basic understanding of organic and of physical chemistry is assumed. SPRING. [3]

ChE 328. Chemical Engineering Simulation. Modeling and simulation of chemical engineering systems using numerical methods applied to the solutions of multi-scale linear and non-linear systems of equations, and ordinary and partial differential equations. Fall [3].

ChE 334. Advanced Reaction Kinetics. The optimum design of chemical reactors and modern topics in engineering kinetics. [3] (Offered on demand)

ChE 352. Advanced Physical/Chemical Waste Treatment. (Also listed as EWRE 352.) The theory of mass transfer and chemical reactor technology in advanced wastewater treatment design; physical/chemical processes in municipal and industrial wastewater treatment; evaluation of process alternatives for cost effectiveness. Prerequisite: CE 211, Water and Waste Water Treatment, or consent of instructors. SPRING. [3] (Offered on demand)

ChE 369. Master's Thesis Research.

ChE 389. Master of Engineering Project.

ChE 397. Special Topics. [3]

ChE 398. Seminar. [0]

ChE 399. Ph.D. Dissertation Research.

Civil Engineering

CHAIR David S. Kosson
DIRECTORS OF GRADUATE STUDIES James H. Clarke (Environmental Engineering), Prodyot K. Basu (Civil Engineering)
PROFESSORS EMERITI W. Wesley Eckenfelder, Paul Harrawood, Peter G. Hoadley, Hugh Keedy, John A. Roth, Richard E. Speece, Edward L. Thackston
PROFESSORS Mark D. Abkowitz, Prodyot K. Basu, David J. Furbish, David S. Kosson, Sankaran Mahadevan, Frank L. Parker, Karl B. Schnelle, Jr.
PROFESSOR OF THE PRACTICE James H. Clarke
RESEARCH PROFESSOR Malcolm E. Baird
ASSOCIATE PROFESSORS Alan R. Bowers, Eugene J. LeBoeuf, Robert E. Stammer, Jr.
ASSOCIATE PROFESSORS OF THE PRACTICE Sanjiv Gokhale, Kenneth R. Pence, John R. Veillette
ASSISTANT PROFESSORS Harold S. Park, Florence Sanchez, Lori A. Troxel, L. Roy Xu
ASSISTANT PROFESSOR OF THE PRACTICE Kenneth R. Pence
RESEARCH ASSISTANT PROFESSORS Edsel B. Daniel, James P. Dobbins, Andrew C. Garrabrants, Leslie M. Shor
ADJUNCT INSTRUCTORS Curtis Byers, Gregory Cashion, Charles S. Higgins, Vic McConnell

VANDERBILT'S Department of Civil and Environmental Engineering offers a broad-based education in civil and environmental engineering fundamentals, coupled with development of leadership, management,

and communications skills to establish a foundation for lifelong learning and flexible career development. This goal requires going beyond technical competence in a balanced education to develop future leaders in the fields of consulting, industry, business, law, government, and research. Civil engineers must be able to face complex problems of modern society involving the development of physical facilities that serve the public while protecting the environment and preserving social values. Challenges facing civil and environmental engineers concern housing, urban transportation, pollution control, water resources development, industrial development, maintaining and advancing our nation's aging infrastructure, and exploring space. Addressing these challenges with today's limited resources requires innovative and original ideas from highly-skilled engineers.

Undergraduates majoring in civil engineering receive a strong background in mathematics, science, engineering science, and engineering design. The program also includes courses in economics, humanities, social sciences, resources management, and public policy. Students participate in design teams and laboratory studies as well as classroom activities. Use of various computer-based methods is integral to problem solving and design.

Degree Programs. At the undergraduate level, the Department of Civil and Environmental Engineering offers the B.E. degree in Civil Engineering. The curriculum includes upper-level analysis and design courses in structural, geotechnical, environmental, water resources, and transportation engineering. In addition, a major in chemical engineering with a minor in environmental engineering is available.

Vanderbilt's B.E. degree in Civil Engineering prepares students for entry-level positions in many specialty areas of civil engineering, as well as many other types of careers, such as business, construction, and law. Today, however, and even more so in the future, professional practice at a high level will require an advanced degree. We recommend that students seriously consider pursuing the M.S. or M. Eng. degree soon after obtaining the B.E. degree.

At the graduate level, the department educates leaders in infrastructure and environmental engineering research and practice, with emphasis on the use of reliability and risk management. Reliability and risk management includes engineering design, uncertainty analysis, construction and repair, life-cycle and cost-benefit analysis, information management, and fundamental phenomena intrinsic to the understanding of advanced infrastructure and environmental systems. Example applications include performance, reliability and safety of structures, restoration of contaminated sites, transportation control systems, management of environmental resources, and enhancing of the eco-compatibility of industry. Development and application of advanced information systems as applied to civil and environmental engineering needs is an important part of the program.

The graduate program in Civil Engineering offers the M.S. and Ph.D. degrees, with emphasis in the areas of structural engineering and mechanics and transportation engineering.

The graduate program in Environmental Engineering offers the M.S. and Ph.D. degrees in the areas of environmental engineering and environmental science, with emphasis on contaminant behavior in the environment, waste management, and environmental remediation. Both thesis and non-thesis options are available at the M.S. level.

The graduate programs in both civil engineering and environmental engineering also offer the Master of Engineering (M.Eng.) degree, an advanced professional degree especially designed for practicing engineers wanting to pursue post-baccalaureate study on a part-time basis, and for engineers seeking greater emphasis on engineering design as part of graduate education.

B.E./M.Eng. Five Year Program. Students seeking advanced study in civil and environmental engineering may be interested in the combined B.E./M.Eng. degree, enabling students to complete the B.E. in Civil Engineering and M.Eng. in Civil Engineering or Environmental Engineering in 5 years.

Construction Management Five Year Program. Students seeking advanced study in construction management may be particularly interested in the combined B.E./M.Eng. degree, enabling students to complete the B.E. in Civil Engineering and M.Eng. in Civil Engineering (construction management emphasis) in 5 years.

Undergraduate Honors Program. Recognized with the diploma designation Honors in Civil Engineering, exceptional students may be invited in their junior year to participate in the Civil Engineering Honors Program. Designed as a unique individualized educational experience, participants work closely with Departmental faculty members to tailor a selection of courses that actively immerses them in a selected field of study. Experiences include enrollment in a 3 semester hour independent study course and participation in a summer research internship. Honors Program participants are especially well-prepared to enter graduate study, and they may count the independent study course towards their Civil Engineering Technical Electives.

Facilities. The civil engineering laboratory provides for static and dynamic testing of materials and structural components and assemblies. Testing facilities include capabilities of testing composites, metals, and concrete under static loads, fatigue, base acceleration (to simulate seismic events) and intermediate to high speed impacts (to simulate responses to blast events). Full soils testing facilities are available. Hydraulics facilities include several model flow systems to illustrate principles of fluid mechanics and hydrology. The transportation laboratory is computer-based, with emphasis on transportation systems and design, intelligent transportation systems, and geographic information systems.

The newly renovated environmental laboratories are fully supplied with modern instrumentation for chemical, physical, biological, and radiological analysis of soils, sediments, water, wastewater, air, and solid waste. They include equipment for the study of biological waste treatment, physical-chemical waste treatment, contaminant mass transfer, and state-of-the-art instrumentation for gas and liquid chromatography, mass spectroscopy, atomic absorption spectroscopy, gamma spectroscopy, inductively coupled

plasma mass spectroscopy, gas adsorption (for pore structure determination), thermal mechanical analysis, modulated scanning differential calorimetry, and simultaneous thermal gravimetric analysis differential scanning calorimetry/mass spectroscopy. All are available for student use in courses, demonstrations, and research.

Curriculum Requirements

The B.E. degree in civil engineering requires a minimum of 126 hours, distributed as follows:

1. Mathematics (14 hours). Required courses: 155a-155b, 175, 198. (Qualified students may substitute an honors mathematics sequence.)

2. Basic science (12 hours). Required courses: Chemistry 102a and 104a; and Physics 116a-b or 117a-b and 118a-b or 119a-b.

3. Basic science elective (4 hours). To be selected from the following list of scientific subjects: (a) Chemistry 102b/104b and all chemistry courses at or above 200 (recommended for students interested in environmental engineering); (b) Biological Sciences 110a, 110b, and all courses 200 and above; (c) Geology 101&111, 103&113, 225, 226, 230, 240; (d) Physics—all courses above 130 (astronomy not accepted); and (e) Material Science and Engineering—all courses except 209b,c and 210a,b.

4. Computing (3 hours). Required course: CS 103.

5. Engineering fundamentals (27 hours). Required courses: ES 140; CE 160a, 160b, 180, 182, 203, 204, 216; ME 190; MSE 232; ME 220a or ChE 162 (students interested in environmental engineering are encouraged to enroll in ChE 162).

6. Probability and statistics elective (3 hours). Select from CE 247, Math 216, or Math 218.

7. Liberal Arts Core (18 hours). Selected from courses in Humanities, Social Science, Music Performance and Studio Art, and Technology-Society. (See Liberal Arts Core Distribution Requirements listed in the Degree Programs in Engineering chapter.)

8. Open electives (6 hours).

9. Technical electives (6 hours). To be selected from the following list of technical and scientific subjects: (a) all courses in BME, ChE, CE, ENVE, EE, ME, and ENGM 233, 242; (b) all courses acceptable as Science electives as indicated above; and (c) Math 194 and all Math courses 210 and above, except 218 and 252.

10. Civil Engineering Core (27 hours). Required courses: CE 205, 225, 226, 227, 232, 235, 240, 286, and CE 252a or CE 252b. In addition, all students must complete CE 248a-b, a major meaningful and comprehensive project design course.

11. Civil Engineering Professional Electives (6 hours). To be selected from following list of CE or ENVE course offerings: CE 242, CE 255, CE 257, CE 293, CE 294, ENVE 262, ENVE 272, ENVE 276, ENVE 277, ENVE 280.

Optional Areas of Specialization

Students may desire to use open electives, technical electives, and Civil Engineering professional electives to gain additional depth and expertise in particular areas of emphasis in civil engineering, including environmental and water resources engineering, structural engineering, and transportation engineering. It is recommended that students discuss specific course selections with their academic advisor. Students desiring advanced topic coverage should also consider 300-level courses, with approval of their advisor.

Environmental and Water Resources Engineering	Structural Engineering	Transportation Engineering
ENVE 260	CE 251	CE 255
ENVE 262	CE 293	CE 256
ENVE 269	CE 294	CE 257
ENVE 270	CE 295	CE 293
ENVE 271	ME 259	CE 294
ENVE 272	ME 275	ENVE 262
ENVE 273		
ENVE 274		
ENVE 276		
ENVE 277		
ENVE 280		

Cross-Cutting Courses. The following selected courses are multi-disciplinary in nature, cross-cutting multiple areas of specialization: CE 247, CE 259, CE 290, ENVE 264, ENVE 296, and MATH 194.

Specimen Curriculum for Civil Engineering

		Semester hours	
SOPHOMORE YEAR		FALL	SPRING
Math 175	Second-year Accelerated Calculus	3	–
Physics 116b	General Physics	3	–
Physics 118b	General Physics Laboratory	1	–
CE 160a	Civil and Environmental Eng. Information Systems I	2	–
CE 180	Statics	3	–
CE 225	Intro. to Transportation Systems Engineering	3	–
Math 198	Methods of Ordinary Differential Equations	–	3
CE 160b	Civil and Environmental Eng. Information Systems II	–	2
ME 190	Dynamics	–	3
CE 182	Mechanics of Materials	–	3
	Thermodynamics (ME 220a or ChE 162)	–	3
	Liberal Arts Core	–	3
		15	**17**

JUNIOR YEAR		FALL	SPRING
CE 203	Fluid Mechanics	3	–
CE 204	Fluid Mechanics Laboratory	1	--
CE 226	Introduction to Environmental Engineering	3	–
CE 232	Introduction to Structural Analysis	3	–
MSE 232	Strength and Structure of Engineering Materials	1	–
CE 240	Geotechnical Engineering	3	–
	Liberal Arts Core	3	–
CE 205W	Civil and Environmental Engineering Laboratory	–	2
CE 216	Engineering Economics	–	3
CE 227	Introduction to Water Resources Engineering	–	3
CE 235	Structural Design	–	3
	Probability and Statistics Elective	–	3
	Liberal Arts Core	–	3
		17	**17**
SENIOR YEAR		FALL	SPRING
CE 248a	Civil and Environmental Engineering Design I	1	–
CE 286	Construction Project Management	3	–
	CE Professional Elective	3	–
	Technical Elective	3	–
	Open Elective	3	–
	Liberal Arts Core	3	–
CE 248b	Civil and Environmental Engineering Design II	–	2
CE 252b	Civil and Environmental Engineering Seminar	–	1
	CE Professional Elective	–	3
	Technical Elective	–	3
	Open Elective	–	3
	Liberal Arts Core	–	3
		16	**15**

Pre-Architecture Program

Civil Engineering students interested in pursuing architecture at the graduate level should include courses that emphasize a broad sense of art and architectural history, including courses in studio art. Before applying to graduate programs, students will need to develop a portfolio of creative work that generally includes drawing, prints, sculpture, photographs, and creative writing. Professor Michael Aurbach in the Department of Art and Art History serves as the pre-architecture advisor to Vanderbilt students. In addition, the Vanderbilt student club, BLUEprint, seeks to educate and prepare students interested in this field.

Minor in Environmental Engineering

A minor in environmental engineering is available to all non-civil engineering students. It requires a total of 15 hours of environmental engineering courses, comprised by 6 hours of required courses and 9 hours of electives, chosen from the following list:

Required Courses *(6 hours)*
CE 226 – Introduction to Environmental Engineering
ENVE 271 – Environmental Chemistry

Elective Courses *(9 hours)*
CE 227 – Introduction to Water Resources Engineering
CE 259 – Geographic Information Systems
ENVE 260 – Solid and Hazardous Waste Management
ENVE 262 – Hydrology
ENVE 264 – Environmental Assessments
ENVE 269 – Radiological Aspects of Environmental Engineering
ENVE 270 – Environmental Thermodynamics, Kinetics, and Mass Transfer
ENVE 271 – Environmental Chemistry
ENVE 272 – Biological Unit Processes
ENVE 273 – Environmental Characterization and Analysis
ENVE 274 – Surface Water Quality Modeling
ENVE 275 – Environmental Risk Management
ENVE 276 – Groundwater Hydrology
ENVE 277 – Physical/Chemical Unit Processes
ENVE 280 – Atmospheric Pollution
ENVE 296 – Safety, Security, and Environmental Risk Management

Minor in Engineering Management

A minor in engineering management is available to all students in civil engineering. This program provides students with a working knowledge of the fundamentals of business and engineering management. It requires a minimum of 15 semester hours of course work, some of which may be taken as electives associated with the student's major program. Five courses are required: four core courses and the remaining course chosen from a list of electives. A detailed description of the Engineering Management minor is available in this catalog.

Study Abroad

Civil Engineering students can participate in the Vanderbilt Study Abroad Programs (see description of the Study Abroad Programs in this catalog). Civil engineering students often participate during the Fall semester of their junior year, but students may study abroad in either the sophomore or the junior year.

Civil Engineering

CE 160a. Civil & Environmental Engineering Information Systems I. Part I of a two semester sequence course providing an introduction to information technologies utilized by civil and environmental engineers. Computer graphics and engineering drawings in civil and environmental engineering. Plans reading in civil engineering project development. Software tools to facilitate communication of engineering concepts and models via modern computer technology. FALL. [2]

CE 160b. Civil and Environmental Engineering Information Systems II. Part II of a two semester sequence providing an introduction to information technologies utilized by civil and environmental engineers. Project-oriented course focusing on developing skills in leveling, mapping, and GIS. Integration of CAD and surveying in hands-on, team-oriented projects

addressing specific civil engineering information systems. Project work will include familiarization with, and use of, department information systems instrumentation. Computer applications. Prerequisite: CE 160a. SPRING. [2]

CE 180. Statics. Application to systems of forces in two and three dimensions (particles and rigid bodies), resultants, equivalent systems, and equilibria. Vector notation, introduction to shear and moment diagrams, moments of inertia, friction, three-dimensional representation. Credit is offered for only one of CE 180 or BME 101. Corequisite: Math 155b. FALL, SPRING, SUMMER. [3]

CE 182. Mechanics of Materials. Stress and strain; tension, compression, and shear; Hooke's law, Mohr's circle, combined stresses, strain-energy. Beams, columns, shafts, and continuous beams. Deflections, shear and moment diagrams. Prerequisite: CE 180. FALL, SPRING, SUMMER. [3]

CE 200a–200b–200c. Directed Study. Directed individual study of a pertinent topic in civil and environmental engineering. May include literature review and analysis, analytical investigations, and/or experimental work. Prerequisite: junior standing, completion of two CE courses, and one-page proposal approved by supervising faculty member and chair. FALL, SPRING, SUMMER. [Variable credit: 1-3 each semester]

CE 203. Fluid Mechanics. (Also listed as ME 224) Physical properties of fluids, fluid statics; integral and differential equations of conservation of mass, energy, and momentum; principles of real fluid flows: boundary layer effects, flow through pipes, flow in open channels, drag forces on bodies. Prerequisite: ME 190 and Math 198. Graduate credit for students in earth and environmental sciences. FALL, SUMMER. [3]

CE 204. Fluid Mechanics Laboratory. Team project-oriented course. Practical applications of fluid mechanics principles through laboratory exercises and field trips. Corequisite: CE 203. FALL. [1]

CE 205W. Civil and Environmental Engineering Laboratory. A team project-oriented course that integrates principles of engineering design, simulation and experimentation as applied to civil engineering. Emphasis on experimental design, data analysis and technical communication. Prerequisite: CE 203, CE 232, CE 240. SPRING. [2]

CE 216. Engineering Economy. (Also listed as ChE 216 and ENGM 216) Economic evaluation and comparison of alternatives: interest, periodic payments, depreciation, criteria and analytical procedures in investment decision making, plant feasibility, and cost estimating. FALL, SPRING. [3]

CE 225. Transportation Systems Engineering. The planning, design, and implementation of transportation systems. Particular emphasis is placed upon the design process, traffic engineering, urban transportation planning, and the analysis of current transportation issues. FALL. [3]

CE 226. Introduction to Environmental Engineering. Introduction to the parameters affecting environmental quality, including air and water pollutants, and treatment techniques to achieve drinking water quality or to permit safe discharge to the environment. Contaminant transport and interactions of contaminants with the environment. Governmental regulations covering air, water, solid and hazardous wastes. Overview of residuals management including hazardous and solid wastes and sludge handling, treatment, and disposal. Prerequisite: Chem 102a, Phys 116a-b or 117a-b, Math 198. CE 203 or ChE 230 or ME 224. FALL. [3]

CE 227. Introduction to Water Resources Engineering. Introduction to engineering of water resources and sewerage systems that control the quantity, quality, timing, and distribution of water to support human habitation and the needs of the environment. Closed conduit

flow, open channel flow, surface hydrology, groundwater hydrology, and contaminant transport. Prerequisite: Chem 102a, Phys 116a-b, Math 198. CE 203. SPRING. [3]

CE 232. Introduction to Structural Analysis. Analysis of statically determinate and indeterminate beams, trusses, and frames. Computer applications. Prerequisite: CE 182. FALL. [3]

CE 235. Introduction to Structural Design. Properties of steel and design philosophies. Load and resistance factor design of ties, struts, beams, beam-columns, and very simple connections using bolts and welds as fasteners based on AISC Specifications. Properties of reinforced concrete and design philosophy. Design of beams in flexure and shear, one-way slabs, T-beams, columns, development length, and serviceability based on ACI Codes of Practice. Prerequisite: CE 232. SPRING. [3]

CE 240. Geotechnical Engineering. Study of origin, formation, classification, identification, and engineering properties of soils. Discussions on index properties, soil moisture, soil structure, compressibility, shear strength, stress analysis, lateral pressures, and foundation capacities. Laboratory experience. Graduate credit for geology majors. Prerequisite: CE 182 or consent of instructor. FALL. [3]

CE 247. Probabilistic Methods in Engineering Design. Applications of probability and statistics to engineering problems. Review of basic probability concepts, random variables, probability distributions, estimation of distribution parameters (point estimation and confidence intervals), determination of distribution models, hypothesis testing, correlation and regression analysis, Monte Carlo simulation, and probabilistic design. Prerequisite: Math 170b or Math 175, and ES 140. FALL. [3]

CE 248a. Civil Engineering Design I. A meaningful, major engineering design course for civil engineering students. Includes a response to request(s) for proposals, project conception, project design, design analysis, and economic evaluation of alternatives for typical civil engineering projects within selected areas of professional depth. Includes consideration of safety, reliability, aesthetics, ethics, social and environmental impact, and government regulations. Prerequisite: CE 205W, senior standing, or consent of instructor. FALL. [2] (Credit hours change to [1] in Fall 2004.)

CE 248b. Civil Engineering Design II. A continuation of CE 248a. The course involves an oral presentation and the submission of a final design report. Prerequisite: CE 248a. SPRING. [2]

CE 251. Foundation Analysis and Design. Study of shallow and deep foundation elements and systems for civil engineering structures. Soil exploration and site investigation. Prerequisite: CE 240 or equivalent. SPRING. [3]

CE 252a–252b. Civil and Environmental Engineering Seminar. A two-part seminar series designed to introduce students to current technical and professional issues through literature discussions, seminars by faculty and practicing engineers, and participation in panel discussions. Prerequisite: senior or graduate standing or consent of instructor. FALL, SPRING. [1-1]

CE 255. Transportation System Design. Geometric analysis of transportation ways with particular emphasis on horizontal and vertical curve alignment. Design of highways, interchanges, intersections, and facilities for air, rail, and public transportation. Prerequisite: CE 225, junior standing. SPRING. [3]

CE 256. Urban Transportation Planning. Analytical methods and the decision-making process. Transportation studies, travel characteristic analysis, and land-use implications are applied to surface transportation systems. Emphasis is on trip generation, trip distribution, modal split, and traffic assignment. Computerized planning programs are used. Prerequisite: CE 225, junior standing. SPRING. [3]

CE 257. Traffic Engineering. Traffic Engineering. Analysis of the characteristics of traffic, including the driver, vehicle, volumes, speeds, capacities, roadway conditions, and accidents. Traffic regulation, control, signing, signalization, and safety programs are also discussed. Prerequisite: CE 225. FALL. [3]

CE 259. Geographic Information Systems. Principles of computerized geographic information systems (GIS) and analytical use of spatial information. Integration with global positioning systems (GPS) and internet delivery. Includes GIS software utilization and individual projects. SPRING. [3]

CE 262. Intelligent Transportation Systems. Elements of intelligent transportation system (ITS) architecture. Survey of component systems. Analysis of potential impacts. Field operational tests, analysis methods, deployment initiatives and results. SPRING. [3]

CE 286. Construction Project Management. Introduction to the theory and application of the fundamentals of construction project management. The construction process and the roles of professionals in the process. Broad overview of the construction project from conception through completion. Application of management practices including planning, directing, cost minimizing, resource allocation, and control of all aspects of construction operations and resources. Prerequisite: CE 235 or consent of instructor. FALL. [3]

CE 287. Construction Estimating. Fundamentals of construction estimating. Estimation of material, labor, and equipment quantities, including costing and pricing of projects. Application of estimating practices using real-world examples and project estimating software. Corerequisite: CE 286. FALL. [3]

CE 288. Construction Planning and Scheduling. Fundamentals of construction planning and scheduling. Application of management practices including: process planning; directing, costing; resource allocation; and controlling all aspects of construction operations and resources, from pre-construction through operation and maintenance. Use of real-world examples and project scheduling software. Prerequisite: CE 286 and CE 287. SPRING. [3]

CE 290. Reliability and Risk Case Studies. Review of case studies involving successes and failures in managing reliability and risk assessment of engineering systems from a wide range of perspectives, including design, production, operations, organizational culture, human factors and exogenous events. Analysis of event consequences in terms of public health and safety, the environment and business continuity, and the implications on regulation, legal liability and business practices. Evaluation of mitigation strategies based on achievable goals, technical and political feasibility and economic impact. Cases drawn from natural disasters, industrial accidents, and intentional acts. Prerequisite: junior standing or consent of instructor. FALL [3]

CE 292. Construction Law and Contracts. Review of case studies involving successes and failures in legal principles and landmark cases relevant to civil engineering and construction. Contracts, torts, agency and professional liability, labor laws, insurance, expert testimony, arbitration, patents and copyrights, sureties, and ethics. Prerequisite: CE 286. SPRING. [3]

CE 293. Advanced Structural Steel Design. Advanced topics in column and beam design including local buckling, composite beams, plate girders, and torsion design. Behavior and design of bolted and welded connections. Structural planning and design of structural systems such as multistory buildings including computer applications. Prerequisite: CE 235. FALL. [3]

CE 294. Advanced Reinforced Concrete Design. Design and behavior of two-way slab systems. Yield line theory. Shear and torsion analysis and design. Serviceability requirements and control of deflections of reinforced concrete systems. Introduction to prestressed concrete. Prerequisite: CE 235. SPRING. [3]

CE 295. Mechanics of Composite Materials. Review of constituent materials (reinforcements, matrices, and interfaces) and fabrication processes. Prediction of properties of unidirectional and short fiber materials (micromechanics). Anisotropic elasticity (derivation of Hooke's law for anisotropic materials, macromechanics of laminated composites). Analysis of laminated composites based on Classical Lamination Theory. Behavior of composite beams and plates. Special topics (creep, fracture, fatigue, impact, and environmental effects). Prerequisite: CE 182 and MSE 150. SPRING. [3]

CE 299. Special Topics. [3]

CE 301. Advanced Mechanics of Solids I. Stress and strain analysis: equilibrium, compatibility, and constitutive equations including linear elastic and thermo-elastic relations; transformations; octahedral and deviatoric stresses. Applications to the torsion of bars, stress concentrations, and semi-infinite medium problems. Euler-Bernoulli and Timoshenko beam theories. Energy and related methods including applications. Kirchoff's bending of rectangular and circular plates. Prerequisite: CE 182 or equivalent, Math 198 or equivalent, Math 194 or equivalent, or consent of instructor. FALL. [3]

CE 302. Advanced Mechanics of Solids II. Modes of failure: creep and relaxation, plastic flow, fracture and fatigue. Stability of members, frames, and plates. Membrane and bending analyses of shells, including the beam on elastic foundation analogy for cylindrical shells. Inelastic behavior and plasticity including frame, planar, axi-symmetric, and slip line problems. Prerequisite: CE 301 or consent of instructor. SPRING. [3]

CE 307. Finite Element Analysis. Discrete modeling of problems of the continua. Mathematical basis of finite element method—weighted residual and variational concepts. Finite element formulations—displacement, force, and mixed methods. One-D problems of the continua and finite element solution—Co and C1 elements, eigenvalue and transient problems. Error checks and control. Mapping, shape functions, numerical quadrature, and solution of equations. Finite element formulation of two-dimensional problems (single and multi-field)—mapping and shape functions, triangular and quad elements with straight or curved boundaries. Application problems in 1-D, 2-D and 3-D. Three-D elements, singular problems, and elements of buckling and nonlinear problems. Error estimation and quality control. Computer implementation. Commercial packages. Prerequisite: Math 194 and Math 226 or equivalent, or consent of instructor. FALL. [3]

CE 308. Advanced Computational Mechanics. Basics of nonlinear mechanics—geometric and material nonlinearities. Discrete Lagrangian, Eulerian and other formulations. Nonlinear material models. Numerical solution algorithms in space and time. Solution of nonlinear (second-order and higher) problems. Multi-disciplinary problems. Error estimation and adaptive model improvement. Introduction to multi-scale modeling and atomistic/continuum coupling. Prerequisite: CE 307 or equivalent. SPRING. [3]

CE 309. Structural Dynamics and Control. Analysis of single- and multi-degree-of-freedom systems. Modal superposition method. Time and frequency domain analyses. Numerical methods and nonlinear dynamic analysis. Application to structures subject to earthquake and impact forces. Elements of feedback control systems. Control of lumped parameter systems. Active, passive, and hybrid mass dampers. Application to simple building and bridge structures. SPRING. [3]

CE 310. Probabilistic Methods in Engineering Design. Applications of probabilistic methods in the analysis and synthesis of engineering systems. Review of basic probability concepts, random variables and distributions, modeling and quantification of uncertainty, testing the validity of assumed models, linear regression and correlation analyses, Monte Carlo simulation, reliability analysis and reliability-based design. Prerequisite: Math 194. FALL. [3]

CE 311. Engineering Design Optimization. Methods for optimal design of engineering systems. Optimization under uncertainty, reliability-based design optimization, robust design, multidisciplinary problems, multi-objective optimization. Discrete and continuous design variables, advanced numerical algorithms, and formulations and strategies for computational efficiency. Practical applications and term projects in the student's area of interest. Prerequisite: Math 287, Math 288 or CS 257 or CE 310. [3]

CE 313. Advanced Reliability Methods. Computational methods for probabilistic analysis and design of modern engineering systems. Emphasis on system reliability, nonlinear reliability methods, Weibull analysis, Bayesian methods, response surface modeling and design of experiments, advanced simulation and variance reduction concepts, sensitivity analysis and reliability-based design optimization. Practical applications using existing software. Prerequisite: CE 310. SPRING. [3]

CE 317. Stability of Structures. Buckling analysis of perfect and imperfect columns, mathematical treatment of various stability criteria, dynamic and static instability, energy methods. Buckling of frames, trusses, beam-columns, rings, and tubes. [3]

CE 318. Prestressed Concrete. Behavior and design of statically determinate prestressed concrete structures under bending moment, shear, torsion, and axial load effects. Design of statically determinate prestressed structures like continuous beams, frames, slabs and shells. Creep and shrinkage effects and deflections of prestressed concrete structures. Applications to the design and construction of bridges and buildings. Prerequisite: CE 235 or equivalent. [3]

CE 325a–325b. Individual Study of Civil Engineering Problems. Literature review and analysis of special problems under faculty supervision. FALL, SPRING, SUMMER. [1–4 each semester]

CE 351. Public Transportation Systems. Comprehensive study of public transportation, with emphasis on planning, management, and operations; paratransit, ridesharing, and rural public transportation systems. Prerequisite: CE 256. SPRING. [3]

CE 353. Airport Planning and Design. Integration and application of the principles of airport master planning from the beginning stages of site selection through actual design of an airport facility. Specific study topics address demand forecasting, aircraft characteristics, capacity analyses, and geometric design of runways, terminals, and support facilities. Prerequisite: CE 225 or consent of instructor. [3]

CE 355. Advanced Transportation Design. An in-depth view of the design process. Complex design problems and solutions, with the use of computer-based analytical and design tools. Comprehensive design projects. Prerequisite: CE 255. SPRING. [3]

CE 356. Advanced Transportation Planning. A continuation of the concepts from CE 256, with emphasis on analytical techniques used in forecasting travel. Use of computer-based models, transportation and energy contingency planning methods. Prerequisite: CE 256. SPRING. [3]

CE 357. Theory of Traffic Flow. A study of traffic flow from the perspective of probability as applied to highway, intersection and weaving capacities. Discrete and continuous flow, vehicle distributions, queuing, and simulation. Prerequisite: CE 257. [3]

CE 359. Emerging Information Systems Applications. An introduction to emerging information systems technologies and their role in improving productivity and efficiency in managing engineering operations. Design of integrated approaches to enhance the speed, accuracy, reliability, and quantity of information available for decision support. Emphasis on case studies of innovative applications in transportation and manufacturing, leading to individual and group projects requiring new product development. Prerequisite: background transportation or manufacturing operations or consent of instructor. FALL. [3]

CE 369. Master's Thesis Research.

CE 371a-371b. Reliability and Risk Engineering Seminar. Seminars by expert speakers will provide a wide range of perspectives on reliability and risk assessment and management of multi-disciplinary engineering systems. Topics on infrastructure and environmental systems, mechanical, automotive, and aerospace systems; network systems (power distribution, water and sewage systems, transportation etc.); manufacturing and construction; and electronic and software systems. FALL, SPRING. [1-1]

CE 389. Master of Engineering Project.

CE 399. Ph.D. Dissertation Research.

Environmental Engineering

ENVE 260. Solid and Hazardous Waste Management. An introduction to solid municipal and hazardous waste management including generation, characterization, collection, treatment and disposal. Emphasis given to the legal requirements, risk assessment and management, costs and policy considerations including pollution prevention, recycling and substitution. SPRING. [3]

ENVE 262. Hydrology. The hydrologic cycle, study of precipitation, evapotranspiration, hydrometeorology, stream flow, flood flow, flood routing, storm sewer design, detention basin design, and water quality. Prerequisite: CE 203, CE 227. FALL. [3]

ENVE 264. Environmental Assessments. Design and conduct of environmental assessments to evaluate risks posed by infrastructure systems or environmental contamination. Impact analyses for sources, infrastructure modifications, due diligence environmental audits, and contaminated site remedial investigations. Prerequisite: senior standing or consent of instructor FALL. [3]

ENVE 269. Radiological Aspects of Environmental Engineering. Characterization and detection of environmental radiation; biological effects of radiation; hazards, control, and disposal of radioactive wastes; use of radioactive tracers in environmental studies. SPRING of alternate years. [3]

ENVE 270. Environmental Thermodynamics, Kinetics, and Mass Transfer. Examination of fundamental environmental processes and phenomena which provide the analytical tools necessary to solve a broad range of environmental problems. These tools include equilibrium phenomena, process rate and mass transport phenomena. Prerequisite: Chem 102a and 102b, Math 198, CE 226 or equivalent, and senior standing or consent of instructor. FALL. [3]

ENVE 271. Environmental Chemistry. Theoretical aspects of physical, organic, and inorganic chemistry applied to environmental engineering. Estimation of chemical parameters based on thermodynamic and structural activity relationships, kinetics of chemical reactions, equilibrium processes in the environment, including the carbonate system, metal complexation and precipitation. Prerequisite: Chem 102a and b and senior standing or consent of instructor. FALL. [3]

ENVE 272. Biological Unit Processes. Principles of biology and their application to wastewater treatment processes with emphasis on microbial ecology, bioenergetics, and the role of chemical structure in biodegradability. Utilization kinetics of inhibitory and non-inhibitory organic compounds. Biological process analysis and design (aerobic and anaerobic) for municipal and industrial wastewaters, using a mass balance approach. Prerequisite: senior standing or above. SPRING. [3]

ENVE 273. Environmental Characterization and Analysis. Introduction to the acquisition and interpretation of environmental data. Principles of chemical measurement, sample collection and sample program design; laboratory safety and good laboratory practices; analytical instrumentation and methods; quality assurance and quality control; and statistical interpretation of data. Hands-on experience is gained in combination with demonstrations featuring state-of-the-art analytical instrumentation. Prerequisite: junior standing, CE 226, ENVE 271, or consent of instructor. SPRING. [3]

ENVE 274. Surface Water Quality Modeling. Analysis of physical, chemical, biological, and physiological contaminants in streams, lakes, and estuaries, and surface water/groundwater interfaces. Analytical and numerical modeling techniques. One- and two-dimension computer simulation of surface water quality. Prerequisite: ENVE 270 or equivalent. SPRING. [3]

ENVE 276. Ground Water Hydrology. The occurrence and flow of ground water. Basic concepts of the effects of varying permeability and capillarity on seepage flow. Flow toward wells, through dikes, and beneath dams. Students cannot receive credit for both ENVE 276 and Geology 257. Prerequisite: Math 198; CE 203. SPRING. [3]

ENVE 277. Physical/Chemical Unit Processes. Principles of mass transfer, chemistry, and chemical reactor technology applied to the design and operation of water and wastewater treatment processes. Unit processes such as coagulation/flocculation, sedimentation, filtration, carbon adsorption, ion exchange, air stripping, precipitation, chemical oxidation and chemical reduction will be evaluated as alternatives for the treatment of drinking water and industrial wastewaters. Prerequisite: CE 226 or equivalent and senior standing or above. SPRING. [3]

ENVE 280. Atmospheric Pollution. (Also listed as ChE 280) Fundamentals of atmospheric pollution and control. The sources and nature of gaseous and particulate air pollutants, the relation of meteorological conditions to their dispersal, and their effects on health and materials are discussed along with administration, standards, and control of air pollution. Prerequisite: junior standing. SPRING. [3]

ENVE 296. Safety, Security, and Environmental Risk Management. Development of safety and security programs for protecting human health, the environment and business continuity. Focus on defining an all-hazards risk management process and program implementation, performing risk assessments, determining and selecting appropriate risk reduction strategies, and influencing risk management decisions internally and externally. Applications drawn from natural disasters, man-made accidents and intentional acts. Prerequisite: senior standing or consent of instructor. SPRING [3]

ENVE 312. Pollutant Transport in the Environment. An introduction to the mathematical foundations of fluid mechanics and transport of pollutants in the environment. Fundamental conservation of mass, momentum, and energy equations will be developed. Appropriate initial and boundary conditions and solution techniques will be discussed for a number of applications. Prerequisite: CE 203, Math 198. FALL. [3]

ENVE 325a–325b–325c. Individual Study. Literature review and analysis, or laboratory investigation of special problems under faculty supervision. FALL, SPRING, SUMMER. [Variable credit: 1–4 each semester]

ENVE 369. Master's Thesis Research.

ENVE 389. Master of Engineering Project.

ENVE 399. Ph.D. Dissertation Research.

Computer Engineering

DIRECTOR A. B. Bonds
PROFESSORS EMERITI Arthur J. Brodersen, James A. Cadzow
PROFESSORS Gautam Biswas, A. B. Bonds, Benoit M. Dawant, Lawrence W. Dowdy, J. Michael Fitzpatrick, Weng Poo Kang, Gábor Karsai, Kazuhiko Kawamura, Douglas C. Schmidt, Lloyd W. Massengill, Ronald D. Schrimpf, Janos Sztipanovits
ASSOCIATE PROFESSORS Bharat L. Bhuva, Douglas H. Fisher, Stephen R. Schach, D. Mitchell Wilkes
ASSISTANT PROFESSORS Julie A. Adams, Robert E. Bodenheimer, Jr., Yi Cui, Aniruddha S. Gokhale, T. John Koo, Xenofon D. Koutsoukos, David Noelle, William H. Robinson, Nilanjan Sarkar, Yuan Xue

THE program in Computer Engineering deals with the organization, design, and application of digital processing systems as general-purpose computers or as embedded systems, i.e., components of information processing, control, and communication systems. The program provides a strong engineering background centered on digital technology combined with an understanding of the principles and techniques of computer science. Computer engineering is design-oriented. The basic principles of engineering and computer science are applied to the task at hand, which may be the design of a digital processor, processor peripheral, or a complete digital processor-based system. Whatever the undertaking, the comprehensive academic training in this program enables engineers to evaluate the impact of their decisions, whether working with hardware, software, or the interface between the two.

The Computer Engineering program combines fundamental core requirements with flexibility to allow students to specialize in a variety of emphasis areas within the program. The curriculum includes requirements in the basic sciences, mathematics, and humanities; a primary core of hardware and software courses; and a set of electives that combine breadth and depth requirements as described below. Students who major in Computer Engineering who wish to apply for graduate study in Electrical Engineering or Computer Science are encouraged strongly to select their elective courses to demonstrate depth in that particular area; the structure of the program enables that option. The course of study leads to a Bachelor of Engineering degree.

Undergraduate Honors Program. With faculty approval, junior and senior students may be accepted into the Honors Program. To achieve honors status, the student must:

1. achieve and maintain a minimum GPA of 3.5.
2. choose 6 hours of EE/CmpE program elective credit from among the following list:
   a. research-based independent study credit, or
   b. design domain expertise (DE) courses beyond the one course required by the program, or
   c. 300-level courses.

3. complete 3 hours of research-based independent study credit (with final written report) in addition to all other requirements.

The diploma designation is Honors in Computer Engineering.

Curriculum Requirements

The B.E. degree in Computer Engineering requires a minimum of 127 hours distributed as follows:

1. Mathematics (18 hours). Required courses: 155a, 155b, 175, 196, 216 (qualified students may substitute an honors mathematics sequence).

2. Basic Science (16 hours). Required courses: Chemistry 102a, Chemistry 104a, Physics 116a-b and 118a-b, MSE 150 (or Chemistry 102b).

3. Engineering Fundamentals (6 hours). Required courses: ES 140, ES 210W.

4. Culminating Design Experience (7 hours). Required courses: EECE 295, EECE 296, EECE 297.

5. Computer Engineering Core (20 hours). Required courses: EECE 112, 116, 218; CS 101, 201, 231.

6. Computer Engineering Electives (21 hours). Defined by a structure that includes the six Computer Engineering Areas of Concentration listed below. Students must complete at least two courses in each of two areas of concentration. At least one of the areas must be Embedded Architectures (Area 1) including EECE 276 or Computer Systems (Area 2) including CS 281. Students must complete at least one approved design domain expertise (DE) course as designated below. Other electives from any of the Areas of Concentration or approved independent study to total 21 hours.

Computer Engineering Areas of Concentration

Embedded Architectures (area 1)	Computer Systems (area 2)	VLSI/ Electronics (area 3)	Intell Systems/ Robotics (area 4)	Signal/Image Processing (area 5)	Networking & Communications (area 6)
EECE 276 (DE)	CS 215	EECE 235	CS 260	EECE 214	EECS 252
EECE 256 (DE)	CS 281	EECE 277 (DE)	CS 269 (DE)	EECE 252	EECE 261
EECS 272 (DE)	CS 270 (DE)	EECE 280 (DE)	CS 274 (DE)	EECE 253 (DE)	EECE 262
EECE 273 (DE)	CS 276 (DE)	EECE 283	EECE 253 (DE)	EECE 254	CS 283
EECE 277 (DE)	CS 278 (DE)	EECE 284	EECE 254	EECE 256 (DE)	
CS 274 (DE)	CS 279 (DE)	EECE 285 (DE)	EECE 257	EECE 263	
CS 278 (DE)	CS 282 (DE)		EECE 258	CS 258	
CS 279 (DE)	CS 284 (DE)		EECE 271		
	EECE 273 (DE)				

(DE) designates a Domain Expertise course

7. Liberal Arts Core (18 hours). To be selected from the approved lists (see Distribution Requirements).

8. Technical electives (18 hours).

a. (9-18 hours). At least 9 hours must be taken from this list of approved engineering technical electives.
BME (except 201, 240a-240b, 241a-241b)
ChE (except 216)
CE (except 216)
CS (except 103, 150, 151, 255, 257)
EECE (hours above basic requirement in sections 5 and 6 above)
ME
MSE (except 150)
ENGM 273

b. (0-9 hours). Up to 9 hours may be taken from this list of optional technical electives.
CS 255, 257
ChE 216 or CE 216 or ENGM 216
MSE 150 (if Chemistry 102b is used as a basic science)
ENGM 221, 244
Astronomy (except 102, 130, 203)
Biology
Biological Sciences
Chemistry (except 101a-b, 102a-b)
Earth and Environmental Sciences (except 100, 102)
Mathematics above 194 (except 198, 252)
Molecular Biology
Physics (except courses number 122 or below)
Neuroscience 255
Psychology 201, 208, 209, 234, 236, 269

9. Open Elective (3 hours).

Specimen Curriculum for Computer Engineering

		Semester hours	
FRESHMAN YEAR		FALL	SPRING
EECE 116/116L†	Digital Logic		4
	Other freshman courses (see the engineering freshman-year specimen curriculum)	14	11
		14	**15**
SOPHOMORE YEAR			
Math 175	Second-year Accelerated Calculus	3	–
Math 196	Differential Equations and Linear Algebra	–	4
Physics 116b	General Physics	3	–
Physics 118b	General Physics Laboratory	1	–
MSE 150 †	Materials Science I	–	4
EECE 112	Electrical Engineering Science	3	–
EECE 218/218L	Microcontrollers I	–	4
CS 201	Program Design and Data Structures	3	–
CS 231	Computer Organization	–	3
	Liberal Arts Core	3	3
		16	**18**

JUNIOR YEAR

Math 216	Probability and Statistics for EECE	–	3
ES 210W	Technical Communications	3	–
EECE 276/276L	Microprocessors and Microcontrollers II	4	–
or CS 281	Principles of Operating Systems I	3	–
	CmpE Program Elective ‡	6	6
	Liberal Arts Core	–	6
	Technical Electives	3	3
		15–16	**18**

SENIOR YEAR

EECE 295	Project Management for EECE	3	–
EECE 296	EECE Design	–	3
EECE 297	Senior Engineering Design Seminar	1	–
	Cmp E Program Electives ‡	6	3 (4)
	Liberal Arts Core	–	3
	Technical Electives	6	3
	Open Electives	–	3
		16	**15 or 16**

† Computer engineering majors are encouraged to take EECE 116 in the spring of their freshman year in lieu of MSE 150. MSE 150 may be taken in the sophomore year.

‡ As described in 'Computer Engineering Degree Requirements' subsection 6. At least one design domain expertise (DE) course required prior to EECE 296.

CmpE 203–204. Independent Study. Readings or projects on basic topics in computer engineering or related fields under the supervision of staff. Consent of instructor required. No more than 6 hours may be applied towards graduation. [Variable credit: 1–3 each semester]

CmpE 291–292. Special Topics. [Variable credit: 1–3 each semester]

Computer Science

DEPARTMENT CHAIR Daniel M. Fleetwood
ASSOCIATE CHAIR Douglas C. Schmidt
DIRECTOR OF UNDERGRADUATE STUDIES Lawrence W. Dowdy
DIRECTOR OF GRADUATE STUDIES Jeremy P. Spinrad
PROFESSORS EMERITI Patrick C. Fischer, William H. Rowan Jr., Horace E. Williams
PROFESSOR EMERITA Charlotte F. Fischer
PROFESSORS Gautam Biswas, Benoit M. Dawant, Lawrence W. Dowdy, J. Michael Fitzpatrick, Gábor Karsai, Douglas C. Schmidt, Janos Sztipanovits
ASSOCIATE PROFESSORS Douglas H. Fisher, Stephen R. Schach, Jeremy P. Spinrad
ASSISTANT PROFESSORS Julie A. Adams, Robert E. Bodenheimer, Jr., Yi Cui, Aniruddha S. Gokhale, T. John Koo, Xenofon D. Koutsoukos, David Noelle, Yuan Xue
LECTURER Jeanne C. Milostan

THE program in Computer Science blends scientific and engineering principles, theoretical analysis, and actual computing experience to provide undergraduate students with a solid foundation in the discipline. Emphasis is on computing activities of both practical and intellectual interest, and on theoretical studies of efficient algorithms and the limits of

computation. Computer facilities are available for class assignments, team projects, and individual studies. Students are challenged to seek original insights throughout their study. Working in teams, participating in summer internships, supporting student professional organizations, and developing interdisciplinary projects are strongly encouraged.

In addition to Bachelor of Science, degrees of Master of Science, Master of Engineering, and Doctor of Philosophy are also awarded in Computer Science. Many students choose to double major in mathematics.

Undergraduate Honors Program. Students interested in the Honors Program should apply to the department chair. See the *Special Programs* chapter for general requirements of the professional Honors Program in computer science.

Curriculum Requirements

The B.S. degree in computer science requires a minimum of 122 hours, with distribution as follows:

1. Mathematics *(16–22 hours).* Required components:
   (a) A Calculus sequence (7–12 hours).
      Selected from the following:
      –150a, 150b, 170a, 170b
      –155a, 155b, 175
      –205a, 205b
   (b) Linear algebra (3–4 hours): 194, 196, 204, or 205a.
   (c) Statistics/Probability (3 hours): 216, 218, or 247.
   Elective course (3 hours):
   Selected from: 198, 200, 208, 215, 219, 221, 223, 226, 247, 250, 253, 274, 275, 288.
2. Science *(12 hours).*

Selected from the following list. Each is a four credit hour lab course. Students are required to take at least one two-course sequence.

–Biological Sciences (110a–110b and 111a–111b)
–Biology (100, 218, 219)
–Chemistry (102a and 104a, 102b and 104b)
–Geology (101 and 111)
–Honors (185a, 185b)
–Materials Science and Engineering 150
–Physics (116a-b and 118a-b, or 117a-b and 119a-b)

Recommended: Chemistry 102a and 104a, Physics 116a-b, or 117a-b.

3. Introduction to Engineering *(3 hours).* ES 140.

4. Writing Component *(3 hours).* ES 210W or one designated "W" course, excluding English 100W.

5. Liberal Arts Core (18 hours). To be selected from the approved lists (see Distribution Requirements). Three hours may be in a technology and society elective.

6. Computer Science Core *(29 hours).*
–Software/Problem Solving: CS 101, CS 201, CS 251, and CS 270.
–Hardware/Systems: EECE 116, CS 231, and CS 281.
–Foundations: CS 212 and CS 250.

7. Computer Science Depth *(18 hours).* To be selected from Computer Science courses numbered CS 240 or higher, or from the following EECE courses: 253, 254, 271, 272, 273, or 276. At least one course (i.e., 3 hours) must be a designated project course selected from CS 258, 265, 269, 274, 276, 279, 282, 283, or 284.

8. Broadening Electives *(6 hours).* Adviser approval must be obtained for broadening electives. In particular, broadening electives are to be used for further study in areas that enhance majors as computer scientists. Computer science and computer engineering courses may not be used as broadening electives. Additional humanities-social science electives, international studies, business related courses, enhanced technical electives, or courses that lead to a double major are especially encouraged.

9. Open Electives *(11–17 hours).*

(*Note:* In the event that a given course could be used to satisfy, or partially satisfy, requirements in more than one of the above categories, the student and adviser must choose the category to which the course will apply. That is, no course may be "double-counted.")

Pass-Fail Courses. The only courses that computer science students may choose to take pass-fail are those in items 5, 8, and 9 above.

Specimen Curriculum for Computer Science

		Semester hours	
FRESHMAN YEAR		FALL	SPRING
Chem 102a	General Chemistry	3	–
Chem 104a	General Chemistry Laboratory	1	–
Physics 116a	General Physics	–	3
Physics 118a	General Physics Laboratory	–	1
Math 155a	First Year Accelerated Calculus	4	–
Math 155b	First Year Accelerated Calculus	–	4
ES 140	Introduction to Engineering	3	–
CS 101	Programming and Problem Solving	–	3
	Open Electives	3	–
	Liberal Arts Core	–	3
		14	**14**
SOPHOMORE YEAR			
Physics 116b	General Physics	3	–
Physics 118b	General Physics Laboratory	1	–
Math 175	Second-Year Accelerated Calculus	–	3
EECE 116	Digital Logic	4	–
CS 201	Program Design and Data Structures	3	–
CS 212	Discrete Structures	–	3
CS 231	Computer Organization	–	3
CS 251	Intermediate Software Design	–	3
	Liberal Arts Core	–	3
	Open Elective	3	–
		14	**15**

JUNIOR YEAR

Math 194	Methods of Linear Algebra	–	3
Math 218	Introduction to Math Statistics	3	–
ES 210W	Technical Communications	3	–
CS 250	Algorithms 3		–
CS 270	Programming Languages	–	4
CS 281	Operating Systems Principles I	3	–
	Computer Science Project	–	3
	Liberal Arts Core	3	3
	Computer Science Depth	3	3
		18	**16**

SENIOR YEAR

Math Elective (e.g., Math 250)	3	–
Computer Science Depth	3	6
Liberal Arts Core	3	3
Broadening Electives	3	3
Open Electives	4	3
	16	**15**

Second Major in Computer Science for Non-Engineering Students

The second major in computer science for students enrolled outside the School of Engineering requires 47 hours distributed according to items 6 and 7 of the *Curriculum Requirements* listed above.

Courses taken toward the second major may not be taken pass/fail.

Computer Science Minor

The minor in computer science requires 22 hours of computer science courses as follows:

1. Programming: CS 101	3
2. Discrete Structures: CS 212	3
3. Digital Logic Fundamentals: EECE 116	4
4. Intermediate Computer Concepts: CS 201 and 231	6
5. Two additional CS courses numbered 250 or above	6
Total Hours:	**22**

Courses taken toward the minor may not be taken pass/fail.

CS 101. Programming and Problem Solving. An intensive introduction to algorithm development and problem solving on the computer. Intended for engineering majors and others who already have some familiarity with computer programming. Structured problem definition, top down and modular algorithm design. Running, debugging, and testing programs. Program documentation. FALL, SPRING. [3]

CS 103. Introductory Programming for Engineers and Scientists. An introduction to problem solving on the computer. Intended for students other than computer science and computer engineering majors. Methods for designing programs to solve engineering and science problems. Generic programming concepts. SPRING. [3]

CS 151. Computers and Ethics. Analysis and discussion of problems created for society by computers, and how these problems pose ethical dilemmas to both computer professionals and computer users. Topics include: computer crime, viruses, software theft, ethical implications of life-critical systems. Technology-society elective. FALL, SPRING. [3]

CS 201. Program Design and Data Structures. Continuation of CS 101. The study of elementary data structures, their associated algorithms and their application in problems; rigorous development of programming techniques and style; design and implementation of programs with multiple modules, using good data structures and good programming style. Prerequisite: CS 101. FALL, SPRING. [3]

CS 212. Discrete Structures. A broad survey of the mathematical tools necessary for an understanding of computer science. Topics covered include an introduction to sets, relations, functions, basic counting techniques, permutations, combinations, graphs, recurrence relations, simple analysis of algorithms, O-notation, Boolean algebra, propositional calculus, and numeric representation. Prerequisite: A course in computer science or two semesters of calculus. FALL, SPRING. [3]

CS 231. Computer Organization. The entire hierarchical structure of computer architecture, beginning at the lowest level with a simple machine model (e.g., a simple von Neumann machine). Processors, process handling, I/O handling, and assembler concepts. Graduate credit not given for computer science majors. Prerequisite: CS 201; corequisite: EECE 116. FALL, SPRING. [3]

CS 240a–240b. Undergraduate Research. Open to qualified majors with consent of instructor and adviser. No more than 6 hours may be counted towards the computer science major. Prerequisite: CS 231. FALL, SPRING. [Variable credit: 1–3 each semester, not to exceed a total of 6]

CS 242. Special Topics in Computer Science. [Variable credit: 1–3]

CS 250. Algorithms. Advanced data structures, systematic study and analysis of important algorithms for searching; sorting; string processing; mathematical, geometrical, and graph algorithms, classes of P and NP, NP-complete and intractable problems. Prerequisite: CS 201 and CS 212. FALL, SPRING. [3]

CS 251. Intermediate Software Design. High quality development and reuse of architectural patterns, design patterns, and software components. Theoretical and practical aspects of developing, documenting, testing, and applying reusable class libraries and object-oriented frameworks using object-oriented and component-based programming languages and tools. Prerequisite: CS 201. FALL, SPRING [3]

CS 252. Theory of Automata, Formal Languages, and Computation. Finite-state machines and regular expressions. Context-free grammars and languages. Pushdown automata. Turing machines. Undecideability. The Chomsky hierarchy. Computational complexity. Prerequisite: CS 212. SPRING. [3]

CS 253. Image Processing. (Also listed as EECE 253) The theory of signals and systems is extended to two dimensions. Coverage includes filtering, 2-DFFTs, edge detection, and image enhancement. Three lectures and one laboratory period. FALL. [4]

CS 255. Introduction to Numerical Mathematics. (Also listed as Math 226) Numerical solution of linear and nonlinear equations, interpolation, and polynomial approximation theory, numerical solution of differential equations, errors and floating point arithmetic. Application of the theory to problems in science, engineering, and economics. Student use of the computer is emphasized. Prerequisite: computer programming and linear algebra. FALL, SPRING. [3]

CS 257. Linear Optimization. (Also listed as Math 288) An introduction to linear programming and its applications. Formulation of linear programs. The simplex method, duality, complementary slackness, dual simplex method and sensitivity analysis. The ellipsoid method. Interior point methods. Possible additional topics include the primal-dual algorithm, cutting planes, or branch-and-bound. Applications to networks, management, engineering and physical sciences. Prerequisite: linear algebra and computer programming. SPRING. [3]

CS 258. Introduction to Computer Graphics. Featuring 2D rendering and image-based techniques, 2D and 3D transformations, modeling, 3D rendering, graphics pipeline, ray-tracing, and texture-mapping. Prerequisite: Linear Algebra, CS 201, junior standing. FALL. [3]

CS 259. Introduction to Computer Animation. Introduction to the principles and techniques of computer animation. Students work in small groups on the design, modeling, animation, and rendering of a small animation project. Topics include storyboarding, camera control, skeletons, inverse kinematics, splines, keyframing, motion capture, dynamic simulation, particle systems, facial animation, and motion perception. Prerequisite: CS 201, Linear Algebra. SPRING. [3]

CS 260. Artificial Intelligence. Introduction to the principles and programming techniques of artificial intelligence. Strategies for searching, representation of knowledge and automatic deduction, learning, and adaptive systems. Survey of applications. Prerequisite: CS 250 and CS 270 or consent of instructor. FALL. [3]

CS 265. Introduction to Database Management Systems. Logical and physical organization of databases. Data models and query languages, with emphasis on the relational model and its semantics. Concepts of data independence, security, integrity, concurrency. Prerequisite: CS 201. FALL. [3]

CS 269. Project in Artificial Intelligence. Students work in small groups on the specification, design, implementation, and testing of a sizeable AI software project. Projects (e.g., an "intelligent" game player) require that students address a variety of AI subject areas, notably heuristic search, uncertain reasoning, planning, knowledge representation, and learning. Class discussion highlights student progress, elaborates topics under investigation, and identifies other relevant topics (e.g., vision) that the project does not explore in depth. Prerequisite: CS 260 or consent of instructor. SPRING. [3]

CS 270. Programming Languages. General criteria for design, implementation, and evaluation of programming languages. Historical perspective. Syntactic and semantic specification, compilations, and interpretation processes. Comparative studies of data types and data control, procedures and parameters, sequence control, nesting, scope and storage management, run-time representations. Non-standard languages, problem-solving assignments in a laboratory environment. Prerequisite: CS 231. FALL, SPRING. [4]

CS 274. Modeling and Simulation. General theory of modeling and simulation of a variety of systems: physical processes, computer systems, biological systems, and manufacturing processes. Principles of discrete-event, continuous, and hybrid system modeling, simulation algorithms for the different modeling paradigms, methodologies for constructing models of a number of realistic systems, and analysis of system behavior. Computational issues in modeling and analysis of systems. Stochastic simulations. Prerequisite: CS 201, Math 194 or Math 198, Math 216 or Math 218. SPRING. [3]

CS 276. Compiler Construction. Review of programming language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation, error diagnostics, object code optimization techniques, and overall design. Use of a high-level language to write a complete compiler. Prerequisite: CS 231. FALL. [3]

CS 278. Principles of Software Engineering. The nature of software. The object-oriented paradigm. Software life-cycle models. Requirements, specification, design, implementation, documentation, and testing of software. Object-oriented analysis and design. Software maintenance. Prerequisite: CS 270 or senior standing in Computer Science or Computer Engineering. FALL. [3]

CS 279. Software Engineering Project. Students work in teams to specify, design, implement, document, and test a nontrivial software project. The use of CASE (Computer-Assisted Software Engineering) tools is stressed. Prerequisite: CS 278. SPRING. [3]

CS 281. Principles of Operating Systems I. Overview of goals of operating systems. Introduction to the resource allocation and control functions of operating systems. Scheduling of processes and processors. Concurrent processes and primitives for their synchronization. Use of parallel processes in designing operating system subsystems. Methods of implementation of parallel processes on conventional computers. Introduction of notions of virtual memory, paging, protection of shared and non-shared information. Structures of files of data in secondary storage. Security issues. Case studies. Prerequisite: CS 231. FALL, SPRING. [3]

CS 282. Principles of Operating Systems II. Projects involving modification of a current operating system. Lectures on memory management policies, including virtual memory. Protection and sharing of information, including general models for implementation of various degrees of sharing. Resource allocation in general, including deadlock detection and prevention strategies. Introduction to operating system performance measurement, for both efficiency and logical correctness. Two hours lecture and one hour laboratory. Prerequisite: CS 281. SPRING. [3]

CS 283. Computer Networks. Computer communications, network architectures, protocol hierarchies, and the open systems interconnection model. Modeling, analysis and specification of protocols. Wide area networks and local area networks including rings, buses, and contention networks. Prerequisite: CS 281. SPRING. [3]

CS 284. Computer Systems Analysis. Techniques for evaluating computer system performance with emphasis upon application. Topics include measurement and instrumentation techniques, benchmarking, simulation techniques, elementary queuing models, data analysis, operation analysis, performance criteria, case studies. Project involving a real computer system. Prerequisite: CS 281. SPRING. [3]

CS 291–292. Special Topics. [Variable credit: 1–3 each semester] (Offered on demand)

CS 310. Design and Analysis of Algorithms. Set manipulation techniques, divide-and-conquer methods, the greedy method, dynamic programming, algorithms on graphs, backtracking, branch-and-bound, lower bound theory, NP-hard and NP-complete problems, approximation algorithms. Prerequisite: CS 250. SPRING. [3]

CS 311. Graph Algorithms. Algorithms for dealing with special classes of graphs. Particular emphasis is given to subclasses of perfect graphs and graphs that can be stored in a small amount of space. Interval, chordal, permutation, comparability, and circular-arc graphs; graph decomposition. Prerequisite: CS 310 or Math 275. FALL. [3]

CS 312. Computational Learning Theory. An overview of computational learning theory and problems of current interest. Topics include: the PAC model of learning, exact learning with queries, Occam's razor, the Vapnik-Chervonenkis dimension, techniques for proving positive and negative results for learnability, and a study of existing learning algorithms. Prerequisite: consent of instructor. FALL. [3]

CS 315. Automated Verification. Systems verification and validation, industrial case studies, propositional and predicate logic, syntax and semantics of computational tree and linear time logics, binary decision diagrams, timed automata model and real-time verification,

hands on experience with model checking using the SMV , SPIN and UPP AAL tools, and state reduction techniques. Fall. [3]

CS 320. Algorithms for Parallel Computing. Design and analysis of parallel algorithms for sorting, searching, matrix processing, FFT, optimization, and other problems. Existing and proposed parallel architectures, including SIMD machines, MIMD machines, and VLSI systolic arrays. Prerequisite: CS 310 or consent of instructor. [3]

CS 340. Computational Cognitive Neuroscience. Design and analysis of computational simulations of human behavior and brain function. Information processing accounts of the neural basis of cognition. General connectionist modeling which address the biophysics of active membranes, computations performed by individual neurons, activation dynamics produced by recurrent connectivity and lateral inhibition, mechanisms driving synaptic plasticity , and computational role of neurotransmitter systems. Neural network models of perception, attention, learning, memory, language, categorization, and cognitive control. SPRING. [3]

CS 343. High-Performance Computing for Engineers. (Also listed as ME 343) Introduction to high-performance computing. Engineering applications. Focus on high-speed cluster computing. Class project applying high-performance computing to various research topics. SPRING. [3]

CS 350. Artificial Neural Networks. (Also listed as BME 350 and EECE 350) Theory and practice of parallel distributed processing methods using networks of neuron-like computational devices. Neurobiological inspirations, attractor networks, correlational and error-correction learning, regularization, unsupervised learning, reinforcement learning, Bayesian and information theoretic approaches, hardware support, and engineering applications. SPRING. [3]

CS 351. Advanced Animation. Current research issues and problems in computer animation, with special focus on motion capture, dynamic simulation, and key-framing. Cloth, deformable bodies, natural phenomena, geometric algorithms, procedural techniques, facial animation, hair, autonomous characters, flocking, empirical evaluation, and interfaces for animation. Prerequisite: CS 259 or consent of instructor. FALL. [3]

CS 352. Human-Computer Interaction. An overview of human computer interaction and problems of current interest. Topics include: Human factors, GOMS, user interface design and evaluation, interaction modalities, distributed cognition, ubiquitous computing. A project involving design and evaluation will be performed. Prerequisite: consent of instructor. FALL. [3]

CS 357. Advanced Image Processing. (Also listed as EECE 357) Techniques of image processing. Topics include image formation, digitization, linear shift-invariant processing, feature detection, and motion. Prerequisite: Math 175; programming experience. FALL. [3]

CS 358. Computer Vision. (Also listed as EECE 358) The fundamentals of computer vision and techniques for image understanding and high-level image processing. Includes image segmentation, geometric structures, relational structures, motion, matching, inference, and vision systems. Prerequisite: CS 357 or EECE 357. SPRING. [3]

CS 359. Medical Image Registration. Foundations of medical image registration. Mathematical methods and practical applications. Image-to-image registration, image-to-physical registration, applications to image-guided procedures and the most commonly used imaging modalities with an emphasis on tomographic images. FALL. [3]

CS 360. Advanced Artificial Intelligence. Discussion of state-of-the-art and current research issues in heuristic search, knowledge representation, deduction, and reasoning. Related application areas include: planning systems, qualitative reasoning, cognitive models of human memory, user modeling in ICAI, reasoning with uncertainty, knowledge-based system design, and language comprehension. Prerequisite: CS 260 or equivalent. FALL. [3]

CS 362. Machine Learning. An introduction to machine learning principles of artificial intelligence, stressing learning's role in constraining search by augmenting and/or reorganizing memory. Topics include connectionist systems; concept learning from examples; operator, episode, and plan learning; problem-solving architectures that support learning; conceptual clustering; computer models of scientific discovery; explanation-based learning; and analogical reasoning. Psychological as well as computational interests in learning are encouraged. Prerequisite: CS 260, CS 360, or equivalent. SPRING. [3]

CS 364. Intelligent Learning Environments. (Also listed as EECE 355) Theories and concepts from computer science, artificial intelligence, cognitive science, and education that facilitate designing, building, and evaluating computer-based instructional systems. Development and substantiation of the concept, architecture, and implementation of intelligent learning environments. Multimedia and web-based technology in teaching, learning, collaboration, and assessment. Prerequisite: CS 260, CS 360, or equivalent. SPRING. [3]

CS 367. Advanced Reasoning Techniques in Artificial Intelligence. Model-based and qualitative reasoning methodologies. Modeling paradigms covered include structure-behavior models, component connection and compositional modeling, and functional-causal models of physical systems. The spectrum of reasoning and simulation methodologies from qualitative to quantitative analysis are discussed. Applications include design of engineering systems and diagnosis of complex engineering and physiological systems. Prerequisite: CS 360 or equivalent or permission of instructor. SPRING. [3]

CS 369. Master's Thesis Research. [0]

CS 375. Discrete-Event Systems: Supervisory Control and Diagnosis. Algebraic structures, automata and formal language theory, process modeling with finite-state automata, supervisory control theory, controllability and supervision, supervisory control under partial observation, modular and hierarchical supervisory control, supervisory control of real-time systems, fault diagnosis of discrete-event systems, and modular diagnosis approaches. SPRING. [3]

CS 376. Foundations of Hybrid and Embedded Systems. Modeling, analysis, and design of hybrid and embedded systems. Heterogeneous modeling and design of embedded systems using formal models of computation, modeling and simulation of hybrid systems, properties of hybrid systems, analysis methods based on abstractions, reachability, and verification of hybrid systems. FALL. [3]

CS 379. Topics in Embedded Software and Systems. Specification and composition of domain-specific modeling languages. Design methodologies for embedded systems. Platforms for embedded system design and implementation. Analysis of embedded systems. SPRING. [3]

CS 381. Advanced Operating Systems Principles. Techniques for formally analyzing various issues in operating systems. Includes process synchronization, interprocess communication, deadlock, naming, memory management, objective capability-models, architectural support, protection, fault tolerance. Prerequisite: CS 281. FALL. [3]

CS 382. Topics in Operating Systems. Prerequisite: CS 281. SPRING. [3]

CS 384. Performance Evaluation of Computer Systems. Techniques for computer systems modeling and analysis. Topics covered include analytical modeling with emphasis on queuing network models, efficient computational algorithms for exact and approximate solutions, parameter estimation and prediction, validation techniques, workload characterization, performance optimization, communication and distributed system modeling. Prerequisite: CS 281 or CS 381. SPRING. [3]

CS 385. Advanced Software Engineering. An intensive study of selected ar eas of software engineering. Topics may include CASE tools, formal methods, generative techniques, aspect-oriented programming, metrics, modeling, reuse, software architecture, testing, and open-source software. Prerequisite: CS 278. FALL. [3]

CS 386. System-Level Fault Diagnosis. An overview of the basic concepts of the theory of fault diagnosis and problems of current interest. Topics include the classical PMC and BGM models of fault diagnosis, hybrid (per manent and inter mittent faults) models, diagnostic measures for one-step, sequential, and inexact diagnosis. Emphasis is on algorithmic techniques for solving the diagnosis and diagnosability pr oblems in various models. Pr erequisite: CS 381 or consent of instructor. SPRING. [3]

CS 387. Topics in Software Engineering. Topics may include empirical software engineering and open-sour ce softwar e engineering. Pr erequisite: CS 278 or consent of instructor . SPRING. [3]

CS 388. Model-Integrated Computing. Model-Integrated Computing addresses the problems of designing, cr eating, and evolving infor mation systems by pr oviding rich, domain-specific modeling envir onments including model analysis and model-based pr ogram synthesis tools. Students are required to give a class presentation and prepare a project. FALL. [3]

CS 389. Master of Engineering Project.

CS 390. Individual Studies. Offered each term. [1–3]

CS 391–392. Seminar. [1–3 each semester]

CS 395–396. Special Topics. [3–3]

CS 399. Ph.D. Dissertation Research.

Electrical Engineering

CHAIR Daniel M. Fleetwood
DIRECTOR OF UNDERGRADUATE STUDIES A. B. Bonds
DIRECTOR OF GRADUATE STUDIES Benoit M. Dawant
PROFESSORS EMERITI Arthur J. Brodersen, James A. Cadzow, George E. Cook, L. Ensign Johnson, Robert T. Nash, Francis M. Wells, Edward J. White
PROFESSORS A. B. Bonds, Benoit M. Dawant, Jimmy L. Davidson, Daniel M. Fleetwood, Kenneth F. Galloway, Dennis G. Hall, Weng Poo Kang, Gábor Karsai, Kazuhiko Kawamura, Lloyd W. Massengill, Ronald D. Schrimpf, Richard G. Shiavi, Janos Sztipanovits, Robert A. Weller
PROFESSOR OF THE PRACTICE Andrew J. Dozier
ASSOCIATE PROFESSORS Bharat L. Bhuva, Richard Alan Peters II, D. Mitchell Wilkes, James E. Wittig
RESEARCH ASSOCIATE PROFESSORS William T. Holman, Robert A Reed, Arthur F. Witulski
ASSISTANT PROFESSORS William H. Robinson, Sharon M. Weiss
RESEARCH ASSISTANT PROFESSORS Theodore Bapty, Akos Ledeczi, Miklos Maroti, Sandeep Neema

THE electrical engineer has been primarily responsible for the information technology revolution that society is experiencing. The development of large-scale integrated circuits has led to the development of computers and networks of ever-increasing capabilities. Computers greatly influence the methods used by engineers for designing and problem solving.

The curricula of the electrical engineering and computer engineering majors are multifaceted. They provide a broad foundation in mathematics, physics, and computer science and a traditional background in circuit analysis and electronics. Several exciting areas of concentration are available, including microelectronics, computer systems, robotics and control systems, and signal processing. Double majors may be arranged with some programs, including biomedical engineering, and mathematics. Students receive an education that prepares them for diverse careers in industry and government and for postgraduate education.

Undergraduate Honors Program. With faculty approval, junior and senior students may be accepted into the Honors Program. To achieve honors status, the student must:

1. achieve and maintain a minimum GPA of 3.5.
2. choose 6 hours of EE/CmpE program elective credit from among the following list:
   a. research-based independent study credit, or
   b. design domain expertise (DE) courses beyond the one course required by the program, or
   c. 300-level courses.
3. complete 3 hours of research-based independent study credit (with final written report) in addition to all other requirements.

The diploma designation is Honors in Electrical Engineering .

Facilities. Electrical and computer engineering supports undergraduate laboratories emphasizing the principal areas of the disciplines: analog and digital electronics, microcomputers, microprocessors, microelectronics, instrumentation, and electromechanical energy conversion. In addition, several specialized facilities are available for graduate research: the advanced carbon nanotechnology and diamond labs, the Institute for Software Integrated Systems, the Institute for Space and Defense Electronics, the Medical Image Processing Laboratory, the Center for Intelligent Systems and Robotics Laboratories, the Embedded Computer Systems Laboratory, and biomedical, biosensing, and photonics laboratories.

The work in electrical and computer engineering is supported by a variety of computers and networks, including the high-performance computing facilities of the Advanced Computing Center for Research and Education. Vanderbilt is one of the founding partners in the Internet II initiative.

Curriculum Requirements

The B.E. degree in Electrical Engineering requires a minimum of 128 hours distributed as follows:

1. Mathematics (18 hours). Required courses: 155a, 155b, 175, 196, 216 (qualified students may substitute an honors mathematics sequence).

2. Basic Science (16 hours). Required courses: Chemistry 102a, Chemistry 104a, Physics 116a-b and 118a-b, MSE 150 (or Chemistry 102b for some double majors).

3. Engineering Fundamentals (6 hours). Required courses: ES 140, ES 210W.

4. Culminating Design Experience (7 hours). Required courses: EECE 295, EECE 296, EECE 297.

5. Electrical Engineering Core (24 hours). Required courses: CS 103 or 101; EECE 112, 116, 213, 214, 233, 235.

6. Electrical Engineering Electives (18 hours). Defined by a structure that includes the five *Electrical Engineering Areas of Concentration* listed below. Students must complete at least two courses in each of two concentration areas. Students must complete at least one approved design domain expertise (DE) course as designated below. Other EECE electives to total 18 hours.

Electrical Engineering Areas of Concentration

Computer Engr.	Microelectronics	Signal/Image Processing	Robotics	Networking and Comm.
EECE 218	EECE 280 (DE)	EECE 252	EECE 254	EECE 252
EECE 256 (DE)	EECE 283	EECE 253 (DE)	EECE 257	EECE 261
EECE 271	EECE 284	EECE 254	EECE 258	EECE 262
EECE 272 (DE)	EECE 285 (DE)	EECE 256 (DE)	EECE 271	
EECE 276 (DE)		EECE 263		
EECE 277 (DE)		CS 258		
EECE 285 (DE)				
CS 274 (DE)				

(DE) designates a Domain Expertise course

7. Liberal Arts Core (18 hours). To be selected from the approved lists (see Distribution Requirements).

8. Technical electives (18 hours).

a. (9–18 hours). At least 9 hours must be taken from this list of approved engineering technical electives.
BME (except 201, 240a-240b, 241a-241b)
ChE (except 216)
CE (except 216)
CS (except 101, 103, 150, 151, 255, 257)
EECE (hours above basic requirement of section 5 and 6 above)
ME
MSE (except 150)
ENGM 273

b. (0–9 hours). Up to 9 hours may be taken from this list of optional technical electives.
CS 255, 257
ChE 216 or CE 216 or ENGM 216

MSE 150 (if Chemistry 102b is used as a basic science)
ENGM 221, 244
Astronomy (except 102, 130, 203)
Biological Sciences
Chemistry (except 101a-b, 102a-b)
Earth and Environmental Sciences (except 100, 102)
Mathematics above 194 (except 198, 252)
Molecular Biology
Physics (except courses numbered 122 or below and 210)
Neuroscience 255
Psychology 201, 208, 209, 234, 236, 269

9. Open Elective (3 hours).

Double majors have special curricula that require more than 128 hours and a different distribution of electives. See the EECS Web page or the EECE double major advisor for these curricula.

Specimen Curriculum for Electrical Engineering

FRESHMAN YEAR †		FALL	Semester hours SPRING
EECE 116 /116L†	Digital Logic	–	4
	Other Freshman Courses (see the engr. freshman-year specimen curriculum)	14	12
		14	**16**
SOPHOMORE YEAR			
Math 175	Second-year Accelerated Calculus	3	–
Math 196	Differential Equations and Linear Algebra	–	4
Physics 116b	General Physics	3	–
Physics 118b	General Physics Laboratory	1	–
CS 103 or 101 †	Programming and Problem Solving	3	–
EECE 112	Electrical Engineering Science	3	–
EECE 213/213L	Network Theory I	–	4
	Liberal Arts Core	3	3
	Technical Electives	–	6
		16	**17**
JUNIOR YEAR			
Math 216	Probability and Statistics for Engineering	–	3
ES 210W	Technical Communications	–	3
EECE 214	Fundamentals of Communications and Control	3	–
EECE 233	Electromagnetics 3		–
EECE 235/235L	Electronic Circuits I	4	–
	EE Program Electives ‡	–	9
	Liberal Arts Core		3
3			
	Technical Elective	3	–
		16	**18**
SENIOR YEAR			
EECE 295	Project Management for EECE	–	3
EECE 296	EECE Design	–	3
EECE 297	Senior Engineering Design Seminar	1	–

EE Program Electives ‡	6	3
Liberal Arts Core	–	3
Technical Electives	6	3
Open elective	3	–
	16	**15**

† Electrical engineering majors are encouraged to take EECE 116 and EECE 116L in the spring of their freshman year in lieu of CS 103 or 101 (Basic Programming). Basic programming may be taken in the sophomore year. CS 103 is recommended over CS 101 for Electrical Engineering majors.

‡ As described in 'Electrical Engineering Degree Requirements' subsection 6. At least one design domain expertise (DE) course required prior to EECE 296.

EECE 112. Circuits I. Development of basic electrical circuit element models, signal representations, and methods of circuit analysis. Matrix methods and computer techniques. Demonstrations of physical components, measurement techniques, and transient phenomena. Corequisite: Physics 116b; Math 175. FALL, SPRING. [3]

EECE 116. Digital Logic. Numbering systems. Boolean algebra and combinational logic, graphical simplification, sequential logic, registers, and state machines. Corequisite: EECE116L. FALL, SPRING. [3]

EECE 116L. Digital Logic Laboratory. Laboratory for EECE 116. One three-hour laboratory per week. Corequisite: EECE 116. FALL, SPRING. [1]

EECE 203–204. Independent Study. Readings or projects on basic topics in electrical engineering or related fields under the supervision of the staff. Consent of instructor required. No more than 6 hours may be applied toward graduation. [Variable credit: 1–3 each semester]

EECE 213. Circuits II. Steady-state and transient analysis of electrical networks with emphasis on LaPlace transform methods and pole-zero concepts. Prerequisite: 112, Physics 116b. Corequisite: EECE 213L, Math 196. FALL. [3]

EECE 213L. Circuits II Laboratory. Laboratory for EECE 213. One three-hour laboratory per week. Corequisite: EECE 213. FALL, SPRING. [1]

EECE 214. Signals and Systems. Fundamental signals, systems, and linear algebra concepts necessary for the study of communications and control systems. Includes continuous-time and discrete-time signal and system concepts, Fourier analysis in both continuous and discrete-time, Z-transform, and the FFT. Prerequisite: EECE 112. FALL, SPRING. [3]

EECE 218. Microcontrollers. Microprocessor and microcontroller architecture with emphasis on control applications. Usage of assembly language and interfacing with programs written in high-level languages. Interfacing and real-time I/O with 8-bit microprocessors, control algorithms, and networking with microcontrollers. Prerequisite: EECE 116 and CS 101 or CS 103. Corequisite: EECE 218L. SPRING. [3]

EECE 218L. Microcontrollers Laboratory. Laboratory for EECE 218. A small structured project is required. One three-hour laboratory per week. Corequisite: EECE 218. SPRING. [1]

EECE 225. The Visual System. (Also listed as Psychology 236) Introduction to physiological optics, retinal anatomy, physiology, neurochemistry, color vision, brain processing, and clinical problems associated with the visual system. For students below senior standing, permission of instructor required. SPRING. [3]

EECE 233. Electromagnetics. Introduction to electromagnetic field theory. Maxwell's equations are developed from the historical approach. Electromagnetic waves are discussed with regard to various media and boundary conditions. Graduate credit except for electrical engineers. Prerequisite: Physics 116b. Corequisite: Math 196. FALL. [3]

EECE 235. Electronics I. Introduction to semiconductor devices and electronic circuits. Diodes, BJT and MOS transistors. Device models, modes of operation, biasing. Small-signal models, low-frequency analysis of single- and multi-stage analog amplifiers, simple amplifier design. Large signal models, dc analysis of digital cir cuits. No graduate credit for electrical engineers. Prerequisite: EECE 116. Corequisite: EECE 235L. FALL. [3]

EECE 235L. Electronics I Laboratory. Laboratory for EECE 235. One three-hour laboratory per week. Corequisite: EECE 235. FALL. [1]

EECE 252. Signal Processing and Communications. AM and FM modulation. Also, advanced topics in signal processing are treated. Prerequisite: EECE 214. SPRING. [3]

EECE 253. Image Processing. (Also listed as CS 253) The theory of signals and systems is extended to two dimensions. Coverage includes filtering, 2–D FFTs, edge detection, and image enhancement. Three lectures and one laboratory period. FALL. [4]

EECE 254. Computer Vision. Vision is presented as a computational problem. Coverage includes theories of vision, inverse optics, image representation, and solutions to ill-posed problems. Prerequisite: EECE 253. SPRING. [3]

EECE 256. Digital Signal Processing. Applications of Digital Signal Processing (DSP) chips to sampling, digital filtering, FFTs, etc. Three lectures and one laboratory period. Prerequisite: EECE 214. SPRING. [4]

EECE 257. Control Systems I. Introduction to the theory and design of feedback control systems, steady-state and transient analysis, stability considerations. Model epresentation. State-variable models. Prerequisite: EECE 213. FALL. [3]

EECE 258. Control Systems II. Modern control design. Discrete-time analysis. Analysis and design of digital control systems. Introduction to nonlinear systems and optimum control systems. Fuzzy control systems. Two lectures and one laboratory. Prerequisite: EECE 257. SPRING. [3]

EECE 261. Introduction to Voice/Data Networks. Overview of voice/data wide area networking (WAN) technologies, including the implementation of WAN designs. Prerequisite: Math 155 a/b, Physics 116a/b or equivalent. FALL. [3].

EECE 262. Introduction to Local Area Networks and Internetworking. Overview of Local Area Network (LAN) technology, internetworking, and selected higher layer applications. Common local area networking protocols, internetworking (bridging and routing), common routing protocols, dynamic routing algorithms, selected layer 4 applications, domain name system, and dynamic host configuration protocol. Prerequisite: EECE 261 or consent of instructor. SPRING. [3]

EECE 263. Signal Measurement and Analysis. (Also listed as BME 263) Discrete time analysis of signals with deterministic and random properties and the effect of linear systems on these properties. Brief review of relevant topics in probability and statistics and introduction to random processes. Discrete Fourier transforms, harmonic and correlation analysis, and signal modeling. Implementation of these techniques on a computer is required. Prerequisite: EECE 214, Probability and Statistics. FALL. [3]

EECE 264. Electromechanical Energy Conversion I. Theory and design of inductors, transformers, linear actuators, and simple motors. Prerequisite: EECE 213, Math 196. Corequisite: 233. FALL. [4]

EECE 265. Electromechanical Energy Conversion II. Theory and design of rotating machines. Dynamics and control of rotating machines. Prerequisite: EECE 264, EECE 257. SPRING. [4]

EECE 266. Power Electronics. Introduction to solid-state power electronics. Rectifiers, semiconductor switches, AC voltage controllers, controlled rectifiers, choppers, and inverters are studied. Three lectures and one laboratory. Prerequisite: EECE 213, EECE 235; Math 196. SPRING. [4]

EECE 267. Power System Analysis I. Analysis of large transmission and distribution networks. Analysis of power lines, load flow, short circuit studies, economic operation, and stability are introduced. Prerequisite: EECE 213. FALL. [3]

EECE 268. Power System Analysis II. Continued study of load flow, short circuit analysis, economic operation, and stability of power systems. Introduction to protection fundamentals. Prerequisite: EECE 267. SPRING. [3]

EECE 269. Electrical Energy Production. The production of electrical energy by conversion methods, little used today, which will become important as traditional sources of energy are depleted. Emphasis is on conservation, storage, efficiency, and direct energy conversion. Prerequisite: EECE 213, Math 196. No credit for both 269 and ME 265. SPRING. [3]

EECE 271. Introduction to Robotics. (Also listed as ME 271) History and application of robots. Robot configurations including mobile robots. Spatial descriptions and transformations of objects in three-dimensional space. Forward and inverse manipulator kinematics. Task and trajectory planning. Simulation and off-line programming. Prerequisite: Math 196 (or equivalent). ME 190 (or equivalent) recommended. FALL. [3]

EECE 272. Advanced Software Architectures. Tools and techniques for designing complex software systems. Programming language idioms, design patterns, and high-level architecture of systems. Overview of reactive systems, client-server architectures, distributed object systems, object database systems, and design methods. Lectures and seminars. A team-oriented approach is required. Prerequisite: CS 201 and knowledge of the C++ language. SPRING. [3]

EECE 273. Parallel Systems. An overview of the state of the field of Parallel Systems. Examination of the problems and limitations associated with developing parallel systems. Survey of current design trends and approaches for overcoming these problems. Critical evaluation of current and future parallel systems through review of current literature: distinguishing fact from fiction. Hands-on design experience through project work using available state-of-the-art parallel processors. Prerequisite: CS 101 or knowledge of the C language. SPRING. [3]

EECE 276. Embedded Systems. Advanced course on the design and application of embedded microcontroller-based systems. Architecture and capabilities of advanced microcontrollers. Embedded system modeling, design, and implementation using real-time and event-driven techniques. A structured project is required. Intended for seniors. Prerequisite: EECE 218. Corequisite: EECE 276L. FALL. [3]

EECE 276L. Embedded Systems Laboratory. Laboratory for EECE 276. A team-oriented structured project is required. One three-hour laboratory per week. Corequisite: EECE 276. FALL. [1]

EECE 277. FPGA Design. Design and applications of field-programmable gate arrays, CAD tools for design, placement, and routing. Practical experience is gained by implementing various designs on prototype FPGA board. A project is required. Prerequisite: EECE 116, EECE 218. SPRING. [3]

EECE 280. Electronics II. Integrated circuit analysis and design. High frequency operation of semiconductor devices. Frequency-response and feedback analysis of BJT and MOS analog amplifier circuits, multi-stage frequency-compensated amplifier design. Transient analysis of BJT and MOS digital circuit families. Digital-to-analog and analog-to-digital conversion circuits. Prerequisite: EECE 235. SPRING. [3]

EECE 283. Principles and Models of Semiconductor Devices. Physical principles of operation of the p-n junction, MOS field-effect transistor, and bipolar transistor. Fundamentals of charge transport, charge storage, and generation-recombination; application to the operation of MOSFET and BJT. Device modeling with emphasis on features and constraints of integrated circuit technologies. Prerequisite: EECE 235 or consent of instructor. SPRING. [3]

EECE 284. Integrated Circuit Technology and Fabrication. Introduction to monolithic integrated circuit technology. Understanding of basic semiconductor properties and processes that result in modern integrated circuit. Bipolar and MOSFET processes and structures. Elements of fabrication, design, layout, and applications as regards semiconductor microelectronic technologies. Prerequisite: EECE 235 or consent of instructor. SPRING. [3]

EECE 285. VLSI Design. Integrated circuit and fabrication techniques; CAD tools for design, layout, and verification; parasitic elements and their effects on circuit performance; system-level design experience is gained by completing design and layout phases of a project. Prerequisite: EECE 116, EECE 235 or consent of instructor. FALL. [3]

EECE 287. Engineering Reliability. Topics in engineering reliability with emphasis on electrical systems. Reliability concepts and models. Risk analysis. System examples. Prerequisite: senior standing. FALL. [3]

EECE 291–292. Special Topics. [Variable credit: 1–3 each semester]

EECE 295. Program and Project Management for EECE. Methods for planning programs and projects. Organization structures and information management for project teams. Communications between project teams and clients, government agencies, and others. Motivational factors and conflict resolution. Budget/schedule control. Similar to ENGM 274, but preparatory to the EECE senior design project course, EECE 296. Not for graduate credit. Credit given for only one of ENGM 274 and EECE 295. Prerequisite: senior standing. Corequisite: EECE 297. FALL. [3]

EECE 296. Electrical and Computer Engineering Design. Based on product specifications typically supplied by industrial sponsors, teams of students responsible for the formulation, execution, qualification, and documentation of a culminating engineering design. The application of knowledge acquired from earlier coursework, both within and outside the major area, along with realistic technical, managerial, and budgetary constraints using standard systems engineering methodologies and practices. Not for graduate credit. Prerequisite: EECE 295, at least one DE course, senior standing. SPRING. [3]

EECE 297. Senior Engineering Design Seminar. Elements of professional engineering practice. Professionalism, licensing, ethics and ethical issues, intellectual property, contracts, liability, risk, reliability and safety, interdisciplinary teams and team tools, codes, standards, professional organizations, careers, entrepreneurship, human factors, and industrial design. Prerequisite: senior standing. Corequisite: EECE 295. FALL. [1]

EECE 301. Introduction to Solid-State Materials. The properties of charged particles under the influence of an electric field, quantum mechanics, particle statistics, fundamental particle transport, and band theory of solids will be studied. FALL. [3]

EECE 302. Electric and Magnetic Properties of Solids. A review of electromagnetic theory of solids using advanced mathematical and computational techniques. Dielectric, magnetic, and optical properties. Fundamental interactions of electromagnetic radiation and charged particles in solids. Prerequisite: EECE 301 or equivalent. SPRING. [3]

EECE 304. Radiation Effects and Reliability of Microelectronics. The space radiation environment and effects on electronics, including basic mechanisms of radiation effects and testing issues. Total dose, single-event, high-dose-rate, and displacement damage radiation effects. Effects of defects and impurities on MOS long-term reliability. SPRING. [3]

EECE 305. Topics in Applied Magnetics. Selected topics in magnetism, magnetic properties of crystalline and non-crystalline materials; ferrite materials for electronics and microwave applications, resonance phenomena. Prerequisite: EECE 302 or consent of instructor. [3]

EECE 306. Solid-State Effects and Devices I. The semiconductor equations are examined and utilized to explain basic principles of operation of various state-of-the-art semiconductor devices including bipolar and MOSFET devices. FALL. [3]

EECE 307. Solid-State Effects and Devices II. The structure of solids, phonons, band theory, scattering phenomena, and theory of insulators. [3]

EECE 311. Systems Theory. Analysis and design of multivariable control systems using state space methods. Stability, controllability, and observability treated. Controllers designed using pole placement, optimal linear regulator, and the method of decoupling. State reconstruction via observers. SPRING. [3]

EECE 331. Robot Manipulators. (Also listed as ME 331) Dynamics and control of robot manipulators. Includes material on Jacobian matrix relating velocities and static forces, linear and angular acceleration relationships, manipulator dynamics, manipulator mechanism design, linear and nonlinear control, and force control of manipulators. Prerequisite: 271 (0r equivalent). SPRING. [3]

EECE 341. Advanced Analog Electronics. Analysis and design of analog electronics circuits with emphasis on integrated circuits. Topics include operational amplifiers, wideband amplifiers, multipliers, and phaselocked loops. FALL. [3]

EECE 342. Advanced Digital Electronics. Analysis and design of digital electronic circuits with emphasis on integrated cir cuits. Topics include logic families, semiconductor memories, and the analog-digital interface. SPRING. [3]

EECE 343. Digital Systems Architecture. Architectural descriptions of various CPU designs, storage systems, IO systems, parallel and von Neumann processors and interconnection networks will be studied. [3]

EECE 350. Artificial Neural Networks. (Also listed as BME 350 and CS 350) Theory and practice of parallel distributed processing methods using networks of neuron-like computational devices. Neurobiological inspirations, attractor networks, correlational and error-correction learning, regularization, unsupervised learning, reinforcement learning, Bayesian and information theoretic approaches, hardware support, and engineering applications. SPRING. [3]

EECE 354. Advanced Real-Time Systems. Hybrid architectures for combining symbolic and nonsymbolic programming for real-time systems; parallel architectures and programming methods for symbolic programming of dataflow systems, connection machines, actor systems; literature reviews and projects. SPRING. [3]

EECE 355. Intelligent Learning Environments. (Also listed as CS 364) Theories and concepts from computer science, artificial intelligence, cognitive science, and education that facilitate designing, building, and evaluating computer-based instructional systems. Development and substantiation of the concept, architecture, and implementation of intelligent learning environments. Multimedia and web-based technology in teaching, learning, collaboration, and assessment. Prerequisite: CS 260, CS 360, or equivalent. SPRING. [3]

EECE 356. Intelligent Systems and Robotics. Concepts of intelligent systems, AI robotics, and machine intelligence, using research books and papers. Emphasis on how AI, brain research, soft computing, and simulations are advancing robotics. Class projects. SPRING. [3]

EECE 357. Advanced Image Processing. (Also listed as CS 357) Techniques of image processing. Topics include image formation, digitization, linear shift-invariant processing, feature detection, and motion. Prerequisite: Math 175; programming experience. FALL. [3]

EECE 361. Random Processes. An introduction to the concepts of random variables, functions of random variables and random processes. Study of the spectral properties of random processes and of the response of linear systems to random inputs. Introduction to linear mean square estimation. The emphasis is on engineering applications. FALL. [3]

EECE 362. Detection and Estimation Theory . Fundamental aspects of signal detection and estimation. Formulation of maximum likelihood, maximum aposteriori, and other criteria. Multidimensional probability theory, signal and noise problems, and Kalman filter structure are studied. SPRING. [3]

EECE 365. Biomedical Pattern Recognition. (Also listed as BME 365) General problems of pattern recognition with applications to biomedical signals and images. Topics such as feature extraction, cluster analysis, discriminant analysis, statistical decision functions, and machine learning will be introduced. Prerequisite: EECE 263 or equivalent. SPRING. [3]

EECE 369. Master's Thesis Research.

EECE 389. Master of Engineering Project.

EECE 391–392. Seminar. [1–1]

EECE 393–394. Advanced Seminar for Ph.D. Candidates. [1–1]

EECE 395–396. Special Topics. Based on research and current developments in electrical engineering of special interest to staff and students. [3–3]

EECE 397–398. Independent Study . Readings and/or projects on advanced topics in electrical engineering under the supervision of the staff. Consent of instructor required. [Variable credit: 1–3 each semester]

EECE 399. Ph.D. Dissertation Research.

Engineering Management

DIRECTOR David M. Dilts
DIRECTOR OF UNDERGRADUATE STUDIES John A. Bers
PROFESSORS EMERITI Robert W. House, Barry D. Lichter, Robert T. Nash
PROFESSORS Mark David Abkowitz, Gautam Biswas, Jimmy L. Davidson, David M. Dilts, Kazuhiko Kawamura, Frank L. Parker
ADJUNCT PROFESSOR David A. Berezov
ASSOCIATE PROFESSORS OF THE PRACTICE John A. Bers, Benjamin T. Jordan, Kenneth R. Pence
ADJUNCT ASSISTANT PROFESSOR Saeed Zadeh
LECTURERS Christopher D. McKinney

ENGINEERING management is an interdisciplinary program of study designed to expose engineering students to the concepts and theories of: the management of the engineering function, the critical elements of technology development and innovation, and the implementation of such ideas in manufacturing, engineering, and technology environments. Approximately two-thirds of all engineers spend a substantial portion of their professional careers as managers. In the complex, competitive world of

technology-driven industry, skilled engineers who understand the essential principles of management and business have a competitive advantage.

The program in Engineering Management helps to prepare students to work more effectively in developing, implementing, and modifying technologies and systems. The ability to manage and administer large technical engineering and research projects and budgets will continue to challenge engineering management skills. Undergraduates interested in Engineering Management have two options. They may earn the B.E. degree in another engineering discipline with a minor in Engineering Management, or they may earn the B.S. degree in engineering science with Engineering Management as their area of concentration. Courses in Engineering Management may be approved for minor credit in several programs. Detailed information may be obtained from *http://eecs.vuse.vanderbilt.edu/programs/programs.html.* Further questions should be directed to the program director or the director of undergraduate studies.

Engineering Management Minor

The Engineering Management minor is designed to provide a student majoring in an undergraduate engineering program with a working knowledge of the fundamentals of management and business. Engineering Management courses include such topics as management of the high technology enterprise, engineering economics, systems engineering, applied behavioral science, accounting and finance, project planning and control, marketing, manufacturing and supply chain management, and technology-based entrepreneurship.

The minor program in Engineering Management consists of 15 hours of course work, some of which may be taken as electives associated with the student's major program. Five courses are required: four core courses and the remaining course chosen from a list of electives.

Program Requirements

The student must take the following four courses:

ENGM 221 Introduction to Engineering Management
ENGM 244 Applied Behavioral Science
ENGM 273 Systems Engineering
ENGM 274 Program and Project Management

The student must select one of the following courses:

ENGM 216 Engineering Economy *or* ENGM 251 Accounting and Finance for Engineers
ENGM 242 Technology Marketing
ENGM 253 Technology-Based Entrepreneurship
ENGM 254 Production and Supply Chain Management
ENGM 275 Technology Assessment and Forecasting
ENVE 296 Safety, Security, and Environmental Risk Management

Area of Concentration in Engineering Management

Students who are pursuing the B.S. degree in engineering science may select courses in engineering management to satisfy requirements for either engineering electives (up to 26 hours) or program electives (27 hours). Courses in engineering management are often selected in combination with courses in economics to satisfy the program electives.

ENGM 150. Dynamics of Change: Impacts of T echnology. An introductory course concerned with the interr elations among changes in society and advances in technologies in health care, infor mation processing, control systems, etc. Elementar y techniques for analyzing problems and for devising strategies for treating them are developed. Cases are presented to illustrate and confir m the techniques. No cr edit for junior and senior engineering students. Technology-society elective. FALL. [3]

ENGM 216. Engineering Economy. (Also listed as CE 216 and ChE 216) Economic evaluation and comparison of alter natives: inter est, periodic payments, depr eciation, criteria, and analytical pr ocedures in investment decision-making, and cost-estimating. May be taken as an alternative to ENGM 251. FALL, SPRING. [3]

ENGM 221. Introduction to Engineering Management. A study of the pr oblems encountered by managers in the planning, or ganizing, and allocating of r esources and in directing, and controlling technical activities. Required for ENGM minor. Normally taken in the sophomore year. FALL, SPRING, SUMMER. [3]

ENGM 242. Technology Marketing. Marketing industrial and technologically-based pr oducts and ser vices, marketing strategies, segmentation, distribution, and personal selling, from inception of a pr oduct to end use. Pr erequisite: ENGM 221 and junior standing. SPRING. [3]

ENGM 244. Applied Behavioral Science. Leadership styles, power team building, conflict resolution, management r esolution, inter viewing techniques. Requir ed for ENGM minor . Technology-society elective. Prerequisite: Junior standing. FALL, SPRING, SUMMER. [3]

ENGM 251. Finance and Accounting for Engineers. Finance and accounting topics ar e studied fr om the perspective of engineering pr ofessionals working in business organizations. Areas covered include time value of money , capital budgeting, capital for mation, financial accounting and r eporting, per formance measur ements, and working capital management. May be taken as an alternative to ENGM 216. Only one of these courses may be taken for the minor. Junior standing or above. FALL, SPRING, SUMMER. [3]

ENGM 253. Technology-Based Entrepreneurship. Identification and evaluation of opportunities: risks faced by entr epreneurs, market assessment, capital r equirements, ventur e capital acquisition, legal str uctures, tax implications for sharing technology-based busi - nesses. Prerequisite: ENGM 221. FALL [3]

ENGM 254. Production and Supply Chain Management. Manufacturing strategy, process analysis, product and process design, total quality management, capacity planning, inventory control, supply chain design, and advanced operations topics. Modeling and analysis using cases and spr eadsheets. Prerequisite: ENGM 221 and junior standing; ENGM 273 strongly recommended. FALL, SPRING [3]

ENGM 273. System Engineering. An introduction to the fundamental considerations associated with the engineering of large-scale systems. Models and methods for systems engineering and pr oblem solving using a systems engineering appr oach. Prerequisite: ENGM

221, Math 196 or Math 198 (may be taken concurrently), preliminary understanding of probability and statistics and engineering systems. Required for the ENGM minor. Normally taken in the junior year. FALL, SPRING, SUMMER, [3]

ENGM 274. Program and Project Management. Project planning and charting. Methods for planning budgets, schedule control, motivational factors, and conflict resolution. Credit given for only one of ENGM 274, CE 286 or EECS 295. Required for ENGM minor. Prerequisite: ENGM 221 and junior standing. FALL, SPRING, SUMMER. [3]

ENGM 275. Technology Assessment and Forecasting. Assess technological changes in social, political, economic, legal, and institutional environments. Intuitive thinking, exploratory techniques, trend exploration, normative techniques of relevance. Term project required. Prerequisite: Junior standing. Technology-society elective. SPRING. [3]

ENGM 291-292. Special Topics. [Variable credit 1-3 each semester]

Engineering Science

THE Engineering Science Program is flexible and interdisciplinary—offering students the opportunity to select a unique program of study to meet special interests or objectives that are not easily reached through traditional engineering programs. The program is under the supervision of the Engineering Science Committee consisting of faculty members John A. Bers, Jimmy L. Davidson, Taylor G. Wang, Weng Poo Kang, Robert E. Stammer, Jr., (Chair), Robert A. Weller, and James E. Wittig. Students who choose Engineering Science recognize the growing importance of a broad-based interdisciplinary engineering background. Many students choose a program of study in applied physics, engineering management, communication of science, various engineering concentrations, or materials science; however, students may develop unique plans of study to specialize in areas for which facilities and faculty competence exist but which are not covered within a single existing degree program at Vanderbilt. Engineering Science graduates may establish careers in engineering or science, interface with engineers (e.g., in marketing and sales), or use their analytical and problem-solving skills to build future professional careers.

Defined areas of concentration exist in applied physics, engineering management, communication of science, and materials science and engineering. Individual programs have been developed for students interested in careers in engineering mathematics, environmental engineering, transportation engineering, business administration, teaching, technical communications, hospital administration, and other areas requiring nontraditional combinations of engineering courses. Because of the flexible nature of the Engineering Science programs of study, ABET accreditation has not been sought for these programs of study.

Integrated Program in Management. Through a cooperative arrangement with the Owen Graduate School of Management, students majoring

in engineering science may be admitted to the Owen School after their junior year. The first year of course work in management is taken during the normal senior year, meeting senior year requirements in engineering science. This reduces by one year the amount of time normally required to obtain the two degrees. Pursuit of the integrated program is contingent upon admission to the Owen School. Automatic admission is in no way implied, nor is special consideration given to engineering students. Further information may be obtained from the coordinator of the Program in Engineering Management.

Engineering Management. Engineering management is an interdisciplinary program of study designed to give students the tools to manage competently technology development and innovation, to enhance manufacturing quality and productivity in a competitive international environment, and to implement these objectives successfully in an organization. Engineering management links engineering, science, and the management disciplines. In addition to the core science and math courses required of all engineering students, topics of study include entrepreneurship, human resources management, finance in technology-based organizations, total quality management, communications, and manufacturing.

Applied Physics. Applied physics is an important subdiscipline of applied science and is expected to increase in significance in the years to come. It is unique in its generality, overlapping almost all of the traditional engineering disciplines. Individualized courses of study in applied physics can be structured through the Engineering Science Program in cooperation with the Department of Physics and Astronomy.

Communication of Science and Technology. Many careers that are attractive to graduates of the Engineering Science Program require the communication of the often complex concepts of engineering and science to people who are not technically trained. The "Communication of Science and Technology" interdisciplinary program prepares engineering students for these communication intensive careers in areas such as technical consulting, high-technology marketing and sales, environmental law, and journalism. The program combines traditional engineering and science courses with communications and humanities courses in a flexible curriculum. Engineering science majors may select from a set of program electives identified by the faculty committee of the School of Engineering and the College of Arts and Science that supervises the program.

Minors. Students may also elect to pursue a minor consisting of at least five courses of at least three credit hours each within a recognized area of knowledge. Such a minor offers students more than a casual introduction to an area, but less than a major. An approved minor for which all designated courses are completed with a least 2.0 average will be entered on the transcript at the time of graduation. Approved minors are offered in engineering management, materials science and engineering, computer science, environmental engineering, and most disciplines within the College of Arts and Science. Students must declare their intention to pursue minors by completing forms available in the Student Services Office of the School of Engineering.

Curriculum Requirements

Students must complete a minimum of 120 hours. Each student must identify a minimum of 27 hours, not counting certain introductory-level courses, that directly contribute to meeting stated career goals. The preparation provided by this 27-hour package, together with a solid foundation in basic engineering courses, provides the engineering science student with a strong and useful career base.

1. Basic science (16 hours). Chemistry 102a and 104a plus 12 hours from the group Bio Sci 110 a-b; Chemistry 102b/104b; Physics 116a-b and 118a-b or 117a-b and 119a-b; or MSE 150 with two courses in a single discipline.

2. Mathematics (14 hours). Required courses (8 hours): 155a-b (qualified students may substitute an honors mathematics sequence). Electives (6 hours): to be selected, with consent of adviser, from the list of math courses numbered 175 and above, except 180.

3. Engineering courses (38 hours). Required courses (12 hours) include CS 101 or 103; ES 140, 210W and CE 180 or BME 101.

Engineering science electives (at least 12 hours)to be selected from:

BME 103, 210, 251, 252.
CHE 161, 162, 180, 216, 223, 225, 230, 231, 232, 242, 280, 282, 283, 284.
CE 160a, 160b, 182, 203, 216, 225, 226, 227, 232, 235, 240, 247, 251, 255, 256, 257, 259, 262, 286, 287, 288, 290, 292, 293, 294, 295.
CS 201, 212, 231, 250, 251.
EECE 112, 116, 116L, 213, 213L, 214, 218, 218L, 233, 235, 235L, 253, 256, 257.
ENGM 216, 221, 242, 244, 253, 273, 274, 275.
ES 260a, 260b, 290
MSE 150, 232, 250.
ME 160, 171, 190, 200, 201, 205, 213, 220a, 220b, 224, 226, 234, 236, 242, 248, 251, 259, 260, 261, 262.
Credit allowed for only one course of CE 195 or ME 160.

Engineering electives: Any Engineering School courses may be used to complete the 38-hour requirement, provided at least 9 hours are in one related area.

4. Liberal Arts Core (18 hours). To be selected in accordance with the Distribution Requirements under *Degree Programs in Engineering.* Three hours must be in a technology-society elective.

5. Open electives (7 hours).

6. Program electives (27 hours). To be selected in such a way as to provide a meaningful sequence of courses. Course work must be planned in advance and approved by the faculty adviser.

ES 101. Engineering Freshman Seminar. [1]

ES 103. Preparatory Academics. To prepare students to enter an undergraduate engineering or science program. The content will vary from year to year and is usually offered in combination with other academic courses, English as a second language, and various

PAVE programs. No credit toward a Vanderbilt degree. Prerequisite: Consent of instructor. SUMMER. [0]

ES 120. Introduction to Engineering Problem Solving. An introduction to the fundamentals of engineering, primarily for non-majors. Analytical problem solving, modeling and simulation, engineering design, and engineering ethics in a multi-disciplinary environment. Credit given for only one of ES 120, ES 140 and CS 150. Course open to non-engineering students or by consent of instructor. SPRING. [3]

ES 140. Introduction to Engineering. A module-based introduction to engineering analysis and design. Module 1 covers problem solving skills in a general engineering context. Modules 2 & 3 exemplify specific fields of engineering and are selected by the student according to individual interests. Emphasis is on solving contemporary engineering problems in specific disciplines. Open to engineering freshmen or by consent of instructor. Credit given for only one of ES 120, ES 140 and CS 150. FALL. [3]

ES 151. Introduction to Applied Physics. (Also listed as Phys. 151) Principles of atomic, molecular, and condensed matter physics. Applications in lasers, electronics and photonics, superconductivity, semiconductor processing, and nonlinear wave mechanics. Prerequisite: One year of physics and one year of calculus. FALL. [3]

ES 153. Impact of Our Nation's Space Program on Society. This course offers first-year students an opportunity to understand the impact of our nation's space program on society. It will address the substance of the space program as well as its impact on science, technology, medicine, and economics. Students will be exposed to how public policy regarding the space program has been determined, and how technical decisions are made. Technology-Society elective. Prerequisite: None. No credit for junior and senior engineering students. FALL. [3]

ES 155. Engineering: Stone Age to 1918. The evolution of engineering thought and the design process using examples of engineering projects from antiquity through World War I. Engineering solutions to human requirements for food, water, shelter, transportation, communication, and defense are examined. Technology-Society elective. Prerequisite: None. No credit for junior and senior engineering students. FALL. [3]

ES 157. Technology and the Environment. An introduction to the types of environmental problems caused by our technological society and the constraints that environmental protection regulations place on technology. History and philosophy of the development of an environmental ethic. Case studies of industry-specific impacts. Economic development and environmental protection. Laws, regulations, and conflict resolution process. Technology-Society elective. Prerequisite: None. No credit for junior and senior engineering students. FALL. [3]

ES 159. Engineering Failure: The Dark Side of Technology. The course provides first-year students with a grasp of the serious consequences of engineering failures and how they impact society. Perspectives are drawn from case histories. The societal cost of failure, underlying human values, the issue of liability, causes of failure, and failure prevention strategy are examined. Technology-Society elective. Prerequisite: None. No credit for junior and senior engineering students. FALL. [3]

ES 190. The Evolution of Modern Technology. The context and impact of the major technological developments since the eighteenth century. SPRING (even numbered years). [3]

ES 210W. Technical Communications. Instruction and practice in written and oral communication. Emphasis is on organization and presentation of information to a specific audience for a specific purpose. Course will include writing and editing reports of various lengths, preparing and using visual aids, and presenting oral reports. Required of all EE, CmpE, and ES students. FALL, SPRING. [3]

ES 248a–248b. Undergraduate Research. Offers students who have an independent study program the opportunity to pursue it under the direction of a faculty member with expertise in the area of study. FALL, SPRING. Variable credit 1–3 each semester, not to exceed a total of 6.

ES 260a–260b. Concepts and Methods of Applied Science. Conventional and computer-assisted methods of scientific pr oblem solving, emphasizing techniques impor tant in advanced mechanics (including relativistic systems), electromagnetism and optics, quantum and statistical mechanics and data analysis. Extensive use is made of the computer software system *Mathematica®* Prerequisite: general physics and mathematics thr ough differential equations. Prior exposure to symbolic computation is desirable. [3–3]

ES 290. Special T opics. Technical elective courses of special curr ent inter est. No mor e than six semester hours of these courses may be credited to the student's record. Prerequisite: consent of instructor. FALL, SPRING. [1–3]

Materials Science and Engineering

DIRECTOR James E. Wittig
DIRECTOR OF GRADUATE STUDIES James E. Wittig
PROFESSORS EMERITI Robert J. Bayuzick, William F. Flanagan, Tomlinson Fort, George T. Hahn, Donald L. Kinser, Barry D. Lichter
PROFESSORS Jimmy L. Davidson, Leonard C. Feldman, Weng Poo Kang, Taylor G. Wang, Robert A. Weller
RESEARCH PROFESSOR EMERITUS Robert A. Weeks
ASSOCIATE PROFESSOR James E. Wittig
RESEARCH ASSOCIATE PROFESSOR A.V. Anilkumar
ADJUNCT ASSISTANT PROFESSOR Robert H. Magruder III

MATERIALS are the limiting factor for most technological advances. The impact of materials on history is obvious, since technological progress in a given era is demarcated by the available materials. The Stone Age was followed by the Bronze Age and the Iron Age. The present period could be identified as the Silicon Age, which is only in its first century.

New materials allow for new technology and this is especially the case for the emerging field of nanoscience. As the size scale approaches nanometer dimensions, materials exhibit new and exciting physical properties. High performance metals, ceramics, polymers, semiconductors and composites are in demand throughout the engineering world and nanotechnology is proving to be the answer for many engineering problems. The U.S. National Science Foundation identified nanoscience and nanotechnology as a critical area for our future and created a national initiative to advance the processing and performance of nanomaterials. To accomplish these tasks, there is a need for specialists in materials science and engineering with an interdisciplinary background that combines engineering disciplines with the physical sciences.

The Materials Science and Engineering program is integrated into the extensive ongoing nanotechnology research. The Vanderbilt Institute for

Nanoscience and Engineering (VINSE) is at the center of this effort. Research areas include; nanofluidics, synthesis of semiconductor quantum dots, magnetic nanocrystals, nanoscale soft materials, optical properties of nanostructures, carbon nanotubes, nanodiamond devices, biological applications of nanocrystals, and molecular modeling and simulation of these nanoscale structures. This interdisciplinary research involves faculty from all of the engineering disciplines as well as faculty from chemistry, physics, and the medical school.

Two undergraduate options involving materials science and engineering are available. Students may pursue the B.S. degree in engineering science with materials science and engineering as their area of concentration or they may earn the B.E. degree in another engineering discipline with a minor in materials science and engineering.

Materials Science and Engineering Concentration

The B.S. degree in engineering science with a concentration in materials science and engineering requires satisfaction of the curriculum requirements of engineering science. The student must take 27 hours of materials science and engineering program electives that include MSE 150 and MSE 250 with the additional materials science related courses selected to provide a meaningful sequence that must be planned in advance and approved by the faculty advisor.

Materials Science and Engineering Minor

The minor in materials science and engineering is designated to provide the student with an understanding of engineering materials. The goal is to complement and add to the student's major in one of the other engineering disciplines for an interdisciplinary approach to problem solving. The minor program in materials science and engineering requires 16 hours of program courses, of which 7 hours are devoted to MSE 150 and MSE 250. No more than 10 hours below the 200 level may be applied to the minor.

Program Requirements

MSE 150	Materials Science I
MSE 250	Materials Science II

The remaining 9 hours can be chosen from the following list of courses.

MSE 209c	Materials Science and Engineering Udergraduate Research
MSE 210ab	Special Topics
BME 101	Introductory Biomechanics
BME 103	Biomedical Materials: Structure, Property, and Applications
CHE 284	Semiconductor Materials Processing
CHE 290	Molecular Engineering (Special Topics)
CE 182	Mechanics of Materials
CE 235	Introduction to Structural Design

CE 293	Advanced Structural Steel Design
CE 294	Advanced Reinforced Concrete Design
CE 295	Mechanics of Composite Materials
EECE 283	Principles and Models of Semiconductor Devices
EECE 284	Integrated Circuit Fabrication and Technology
ME 201	Design of Machine Elements
ME 251	Modern Manufacturing Processes
ME 275	Introduction to Finite Element Analysis
Chem 203	Inorganic Chemistry
Chem 230	Physics Chemistry I
Chem 235	Surface and Polymer Chemistry
Phys 225a	Introduction to Quantum Physics
Phys 229a	Electricity, Magnetism and Electrodynamics
Phys 254	Physics of Condensed Matter
Phys 258	Physics of Magnetism

MSE 150. Materials Science I. Concepts of materials science developed from an understanding of the atomic and molecular structure of materials and their relationship to the properties of matter. Mechanical, electrical, physical, chemical, and magnetic properties of metals, ceramics, organics, composites, and semiconductors are covered. Corequisite: Math 155b and Chem 102a or consent of instructor. Three lectures and one laboratory. SPRING. [4]

MSE 209b. Materials Science and Engineering Seminar. Involving individual experimental, analytical, or design projects. A written final report is required. FALL. [Variable credit 1–3]

MSE 209c. Materials Science and Engineering Undergraduate Research. Open to selected senior engineering students wanting to do independent research. A formal written report is required. SPRING. [3]

MSE 210ab. Special Topics. Technical elective courses of special current interest. No more than two semesters of this course may be credited to the student's record. Prerequisite: consent of instructor. [Variable credit: 1–3 each semester] (Offered on demand)

MSE 232. Strength and Structure of Engineering Materials. A laboratory supplement to Mechanics of Materials, CE 182. Students conduct experiments on the strength behavior of materials and simple engineering structures. Includes: tension and bending, fasteners, photoelastic analysis of stress concentrators, strain gage instrumentation to determine principal stresses, bending and deflection curves for simple beams, loaded columns, and short struts. Corequisite: CE 182. FALL. [1]

MSE 250. Materials Science II. Combines a physical chemistry approach with development of concepts of microstructures applied to materials, principally ceramics, glasses, metals, polymers, and composites. Includes a brief survey of relevant areas of thermodynamics and kinetics; phase equilibria; characterization of phases; diffusion, solidification, and resulting structure and properties; solid-state transformations; synthesis and modern processing techniques. Prerequisite: MSE 150. FALL. [3]

MSE 310. Atomic Arrangements in Solids. A basic understanding of the atomic arrangements observed in metals, ceramics, semiconductors, glasses, and polymers. Lattice geometry and crystal symmetry are discussed in detail and these concepts are used to describe important crystal structures. Nanocrystalline materials are also covered. An introduction to scattering theory and diffraction phenomena provides insight into the analytical methods used by materials scientists for structural characterization. FALL. [3]

MSE 343. Introduction to Electron Microscopy . Principles and applications of transmission electron microscopy in the study of materials. Electron scattering, image contrast theory, operation of electron microscope, and specimen preparation. Use of the electron microscope in experimental investigations. Two lectures and one laboratory period. Prerequisite: consent of instructor. FALL. [3]

MSE 369. Master's Thesis Research. FALL, SPRING. [0] Staff.

MSE 391–392. Special Topics. Based on faculty research projects and highly specialized areas of concentration. FALL, SPRING. [Variable credit: 1-3 each semester]

MSE 397–398. Seminar. A required noncredit course for all graduate students in the program. Topics of special interest consolidating the teachings of previous courses by considering topics which do not fit simply into a single course category. FALL, SPRING. [0-0] Staff.

MSE 399. Ph.D. Dissertation Research. FALL, SPRING. [0-12]

Mechanical Engineering

CHAIR Robert W. Pitz
DIRECTOR OF GRADUATE STUDIES Nilanjan Sarkar
PROFESSORS EMERITI John H. Dunlap, William F. Flanagan, George T. Hahn, Donald L. Kinser, Barry D. Lichter, Robert L. Lott, Jr., Arthur M. Mellor, James J. Wert, John W. Williamson
PROFESSORS Thomas A. Cruse, Michael Goldfarb, Dongqing Li, Robert W. Pitz, Carol A. Rubin, Alvin M. Strauss, Taylor G. Wang
ADJOINT PROFESSOR Andrew A. Wereszczak
RESEARCH PROFESSORS EMERITI J. Leith Potter, Robert A. Weeks
ASSOCIATE PROFESSOR Nilanjan Sarkar
RESEARCH ASSOCIATE PROFESSOR Amrutur V. Anilkumar
ADJOINT ASSOCIATE PROFESSOR Joseph A. Wehrmeyer
ASSISTANT PROFESSORS Eric J. Barth, Deyu Li, Mark A. Stremler, Greg Walker
ADJOINT ASSISTANT PROFESSOR Kenneth D. Frampton
SENIOR LECTURER Robert J. Barnett

THE vitality of our nation depends upon innovation in the design of new machines, devices to satisfy society's needs, engines to produce power efficiently, equipment to condition the environment of our buildings, and the systems to use and control these engineered products. Mechanical engineers are involved in solving problems by originating design concepts, developing products and processes of manufacture, and designing hardware and the systems needed to satisfy society's demands. Mechanical engineers work in virtually all industries.

The study of mechanical engineering requires a basic understanding of mathematics, chemistry, physics, and the engineering sciences. Mechanical engineering education emphasizes solid mechanics; dynamics of machines; aerodynamics; propulsion devices; material behavior; power producing and environmental conditioning processes; control of dynamics of machines; energy conversion; and the synthesis, development, evaluation, and optimization of designs of devices and systems.

Degree Programs. The Department of Mechanical Engineering offers the B.E., M.Eng., M.S., and Ph.D. degrees in mechanical engineering.

The curriculum in mechanical engineering leading to a Bachelor of Engineering degree provides a broad-based engineering education with opportunities for the student to elect courses in areas of study related to any industry and, with careful planning of the elective courses, to achieve some specialization. The Mechanical Engineering program prepares an individual to become a practicing engineer who can participate fully in the engineering activities of design, building, operation, production, maintenance, safety, marketing, sales, research, and administration.

Undergraduate Honors Program. See the *Special Programs* chapter for general requirements of the professional Honors Program in mechanical engineering. In general, rising juniors are admitted, although seniors may be accepted in special cases. Honors candidates choose their technical elective courses with the advice and consent of the department chair. Each candidate is expected to take ME 209c and at least 6 hours of graduate courses, including one 300-level course. A formal written report on the candidate's research is required. Honors candidates shall meet all Engineering School requirements in the nontechnical areas. The diploma designation is Honors in Mechanical Engineering.

Facilities. Facilities are available for studies in thermodynamics, combustion, heat power, refrigeration, air conditioning, fluid flow, heat transfer, design, mechanical vibrations, acoustics, robotics, instrumentation, and biomechanics. Subsonic and supersonic wind tunnels are used in general fluid dynamics studies. Laser diagnostic equipment is available for studies of the fundamental behavior of combustion processes. These are augmented by special equipment for investigations into the mechanism of fluid turbulence. Instrumentation for conducting experiments on mechanical systems is available to measure accurately a wide range of variables. The department also maintains various shops for fabrication of experimental equipment and for instruction.

Curriculum Requirements

The B.E. degree in mechanical engineering requires a minimum of 126 hours, distributed as follows.

1. Mathematics (17 hours). Required courses: 155a–155b, 175, 198 (qualified students may substitute an honors mathematics sequence). Required elective: one from courses numbered 194 or above, except 252.

2. Basic Science (16 hours). Required courses: Chemistry 102a, 104a, MSE 150 (or Chemistry 102b), Physics 116a-b and 118a-b.

3. Engineering Science (25 hours). Required courses: ES 140; CE 180, 182; CS 101; EECE 112; ME 190, 220a, 224, MSE 232.

4. Liberal Arts Core (15 hours). To be selected from the approved lists (see Distribution Requirements in the *Degree Programs in Engineering*

chapter). Advanced-level courses must be included in at least one area. At least one "W"-designated course must be included. Eligible for pass-fail credit. See faculty adviser for departmental restrictions.

5. Open electives (6 hours). Eligible for pass-fail credit. See faculty adviser for departmental restrictions.

6. Technology-society elective (3 hours). (See Distribution Requirements.) Students may elect to take an additional Liberal Arts Core elective instead of the technology-society elective.

7. ME core (29 hours). ME 160, 171, 200, 201, 213, 220b, 234, 242, 243, 248, and 297. Students who transfer into ME after the sophomore year will take a technical elective in place of ME 160.

8. Technical electives (6 hours). To be selected from any technical or scientific field; at least 3 hours must be above the sophomore level. See faculty adviser for departmental restrictions.

9. Professional (ME) depth (a minimum of 9 hours). See faculty adviser for recommended courses. Each student must choose at least 9 hours of advanced level ME elective courses approved by the student's ME faculty adviser.

No one-credit-hour ME course except 209a can be used as an ME elective. A maximum of three one-credit-hour ME courses may be used as technical electives. Additional ME one-credit-hour courses can be open electives.

Specimen Curriculum for Mechanical Engineering

		Semester hours	
FRESHMAN YEAR		FALL	SPRING
ME 160†	Mechanical Engineering Modeling	–	3
	Other freshman courses (see the engineering freshman-year specimen curriculum)	14	12
		14	**15**
SOPHOMORE YEAR			
Math 175	Second-year Accelerated Calculus	3	–
Math 198	Methods of Ordinary Differential Equations	–	3
Physics 116b	General Physics	3	–
Physics 118b	General Physics Laboratory	1	–
CE 180	Statics	3	–
ME 190	Dynamics	–	3
EECE 112	Electrical Engineering Science	–	3
ME 171	Instrumentation Laboratory	–	2
ME 220a	Thermodynamics I	–	3
CS 101 or 103	Programming and Problem Solving	3	–
	Elective	3	3
		16	**17**
JUNIOR YEAR			
ME 200	Kinematics	3	–
ME 201	Design of Machine Elements	–	3
MSE 232	Strength and Structure of Engineering Materials	1	–
ME 234	System Dynamics	4	–
ME 220b	Thermodynamics II	3	–

ME 224	Fluid Mechanics	–	3
CE 182	Mechanics of Materials	3	–
	Elective	3	6
	Math elective*	–	3
		17	**15**

* Mathematics elective may be chosen from courses numbered 194 or above 198, except 252.

SENIOR YEAR

ME 242	Design Synthesis	2	–
ME 243	Design Projects	–	3
ME 248	Heat Transfer	3	–
ME 213	Energetics Laboratory	2	–
ME 297	Senior Engineering Design Seminar	1	
	Electives*	9	12
		17	**15**

* See faculty adviser for recommended advanced level ME elective courses.

† Mechanical engineering majors are encouraged to take ME 160 in the spring of their freshman year in lieu of CS 101 or CS 103.

ME 150. Automotive Components Seminar. General automotive knowledge for engineering and design considerations. Basic component function, terminology and design. Suspension (including suspension kinematics), steering (including steering geometry), driveline, transmission, engine and braking. Discussion and in-class participation. FALL. [1]

ME 151. Laboratory in Machining. Introduction to machining and fabrication of metals and plastics. Fabrication, design and manufacturability of parts or components. FALL, SPRING. [1]

ME 160. Mechanical Engineering Modeling. A study of design, modeling, and graphical presentation for mechanical engineering components, processes, and systems, using computer-aided techniques and methods. Two lectures and one lab. No credit for juniors or seniors. Prerequisite ES 140. SPRING. [3]

ME 171. Instrumentation Laboratory. Techniques associated with engineering measurements, curve fitting, presentation, and analysis of data. Corequisite: Math 175. SPRING. [2]

ME 190. Dynamics. The principles of dynamics (kinematics and kinetics) of particles and rigid bodies. Mechanical vibrations. Introduction to continuous media. Prerequisite: CE 180, Physics 116a. Corequisite: Math 198. FALL, SPRING, SUMMER. [3]

ME 200. Kinematics. The kinematics of mechanisms using graphical and numerical methods. Computer applications and techniques. Prerequisite: ME 190; Corequisite: CS 101 or 103. FALL. [3]

ME 201. Design of Machine Elements. Application of the principles of mechanics of materials to the analysis and synthesis of machine elements. Prerequisite: CE 182; recommended: ME 200. SPRING. [3]

ME 209a. Mechanical Engineering Project. Each student selects a topic of interest, with approval of the faculty; conducts a literature search; and presents formal written and oral reports on the findings. Prerequisite: junior standing. FALL, SPRING. [1]

ME 209b. Mechanical Engineering Project. Involving individual experimental, analytical, or design projects approved by the faculty. A written final report is required. Prerequisite: junior standing. FALL, SPRING. [2]

ME 209c. Mechanical Engineering Undergraduate Research. Open to selected senior mechanical engineering students wanting to do independent research. A formal written report is required. Prerequisite: senior standing. FALL, SPRING. [3]

ME 210. Special Topics. Technical elective courses of special current interest. No more than six semester hours of this course may be credited to the student's record. Prerequisite: consent of instructor. FALL, SPRING, SUMMER. [Variable credit: 1–3 each semester] (Offered on demand)

ME 213. Energetics Laboratory. Experimental methods in heat transfer, fluid mechanics, and thermodynamics. Prerequisite: junior standing. FALL. [2]

ME 220a. Thermodynamics I. Application of the first and second laws to energy transformation processes and properties of technologically important materials. Prerequisite: Physics 116a; Math 175. FALL, SPRING, SUMMER. [3]

ME 220b. Thermodynamics II. Application of principles of thermodynamics to vapor and gas cycles, mixtures, combustion, and compressible flow. Prerequisite: ME 220a; corequisite: Math 198. FALL, SUMMER. [3]

ME 224. Fluid Mechanics. (Also listed as CE 203) Physical properties of fluids, fluid statics; equations of conservation of mass, energy, and momentum; dimensional analysis and similarity; principles of real fluid flows: boundary layer effects, flow through pipes, flow in open channels, drag forces on bodies. Prerequisite: ME 190; Math 198. Graduate credit for students in geology. FALL, SPRING, SUMMER. [3]

ME 226. Introduction to Gas Dynamics. An introduction to the study of compressible flow from subsonic to supersonic flow regimes. Includes shock waves, expansion waves, shock tubes, and supersonic airfoils. Prerequisite: ME 220b, 224. SPRING. [3]

ME 234. Systems Dynamics. Energy-based modeling of dynamic mechanical, electrical, thermal, and fluid systems to formulate linear state equations, including system stability, time domain response, and frequency domain techniques. Three lectures and one three-hour laboratory. Prerequisite: ME 190, Math 198. FALL. [4]

ME 236. Linear Control Theory. Classical and modern approaches to the analysis and design of single-input/single-output (SISO) and multiple-input/multiple-output (MIMO) linear time invariant control systems. Classical (frequency-domain) and modern (state-space) approaches to SISO and MIMO control, including optimal control methods. Credit is given for only one of ME 236 or ME 336. Prerequisite: ME 234. FALL. [3]

ME 242. Design Synthesis. Development of the design process: problem definition, design specifications, solution identification, idea synthesis, modeling and simulation, and design completion. Critical elements include problem selection, idea synthesis, and proposal writing. Individual design synthesis study projects required. Prerequisite: ME 201. FALL. [2]

ME 243. Engineering Design Projects. Each student participates in a major group design project. Lectures will cover case studies and topics of current interest in design. Prerequisite: ME 242. SPRING. [3]

ME 248. Heat Transfer. Steady-state and transient heat transfer by conduction, forced and free convection and radiation, including heat transfer by boiling and condensing vapors. Application is made to practical design problems. Prerequisite: ME 220a, ME 224. FALL. [3]

ME 251. Modern Manufacturing Processes. Introduction to manufacturing science and processes. A quantitative approach dealing with metals, ceramics, polymers, composites, and nanofabrication and microfabrication technologies. FALL. [3]

ME 259. Engineering Vibrations. Theory of vibrating systems and application to problems related to mechanical design. Topics include single degree of freedom systems subject to free, forced, and transient vibrations; systems with several degrees of freedom, methods of vibration suppression and isolation, and critical speed phenomena. Prerequisite: ME 190, Math 198. SPRING. [3]

ME 260. Energy Conversion I. Energy resources, use, and conservation are studied. The fundamentals of positive displacement machinery, turbo-machinery, and reactive mixture are introduced and used to examine various forms of power-producing systems. Prerequisite: ME 220b, ME 224. FALL. [3]

ME 261. Basic Airplane Aerodynamics. Includes aerodynamic forces, airfoil characteristics from both theory and experiment, aircraft experiment, aircraft performance, longitudinal and lateral stability and control. Prerequisite: ME 224. FALL. [3]

ME 262. Environmental Control. A study of heating and cooling systems, energy conservation techniques, use of solar energy and heat pumps. Prerequisite: ME 220b; corequisite: ME 248. SPRING. [3]

ME 263. Intermediate Fluid Mechanics. Mathematical and computational modeling of incompressible viscous fluid flows. Tensor notation; derivation of the Navier–Stokes equations; exact solutions; numerical and computational techniques; turbulence modeling. Prerequisite: ME 224. FALL. [3]

ME 264. Internal Combustion Engines. A study of the thermodynamics of spark ignition and compression ignition engines; gas turbines and jet propulsion. Prerequisite: ME 220b. SPRING. [3]

ME 265. Direct Energy Conversion. The principles and devices involved in converting other forms of energy to electrical energy. Conversion devices: electro-mechanical, thermoelectric, thermionic, fluid dynamic, and fuel cell. No credit for both ME 265 and EECE 269. Prerequisite: ME 220a. SPRING. [3]

ME 267. Aerospace Propulsion. Application of classical mechanics and thermodynamics principles to the study of rocket and aircraft propulsion. Design and performance analysis of air-breathing and chemical rocket engines. Advanced propulsion systems for interplanetary travel. Prerequisite: ME 224, ME 220b. SPRING. [3]

ME 271. Introduction to Robotics. (Also listed as EECE 271) History and application of robots. Robot configurations including mobile robots. Spatial descriptions and transformations of objects in three-dimensional space. Forward and inverse manipulator kinematics. Task and trajectory planning, simulation and off-line programming. Prerequisite: Math 194. FALL. [3]

ME 275. Introduction to Finite Element Analysis. Development and solution of finite element equations for solid mechanics and heat transfer problems. Introduction to commercial finite element and pre- and post-processing software. Two lectures and one three-hour laboratory each week. Prerequisite: CE 182, Math 198. SPRING. [3]

ME 280. Advanced Dynamics of Mechanical Systems. Development of methods for formulating differential equations to model mechanical systems, including formalisms of Newton-Euler, Lagrange, and virtual work methods to two- and three-dimensional systems. Prerequisite: ME 190 and Math 198. SPRING. [3]

ME 284. Modeling and Simulation of Dynamic Systems. Incorporates bond graph techniques for energy-based lumped-parameter systems. Includes modeling of electrical, mechanical, hydraulic, magnetic and thermal energy domains. Emphasis on multi-domain interaction. Prerequisite: ME 234. FALL. [3]

ME 297. Senior Engineering Design Seminar. Elements of professional engineering practice. Professionalism, licensing, ethics and ethical issues, intellectual property, contracts, liability, risk, reliability and safety, interdisciplinary teams and team tools, codes, standards, professional organizations, careers, entrepreneurship, human factors, and industrial design. Prerequisite: senior standing. Corequisite: ME 242. FALL. [1]

ME 320. Statistical Thermodynamics. Old and modern quantum theory, including H atom, rigid rotor, and harmonic oscillator. Atomic and molecular structure and spectra. Maxwell-Boltzmann statistical model for ideal, chemically reacting, electron, or photon gas. Introduction to Gibbs method. Prerequisite: 220b. FALL. [3]

ME 324. Low Reynolds Number Flow. Dynamics of incompressible fluids in situations where viscous effects are significant or dominant. Review of the Navier-Stokes equations; exact solutions to the Navier-Stokes equations; laminar jets and wakes; microhydrodynamics; fluid stability. Prerequisite: ME 263 or equivalent. SPRING. [3]

ME 325. High Reynolds Number Flow. Dynamics of incompressible fluids in situations where viscous effects are typically small. Review of the Navier-Stokes equations; two- and three-dimensional potential flows, with applications to thin airfoil theory and free streamline theory; inviscid flows with vorticity; boundary layer theory; fundamental turbulence theory. Prerequisite: ME 263 or equivalent. SPRING. [3]

ME 326. Gas Dynamics. Study of compressible fluid flow from subsonic to supersonic regimes in confined regions and past bodies of revolutions. Includes heat transfer, frictional effects, and real gas behavior. Prerequisite: ME 224. SPRING. [3]

ME 327. Energy Conversion Systems. An advanced study of energy conversion systems that include turbomachinery, positive displacement machinery, solar energy collection and combustion, with consideration for optimizing the systems. Prerequisite: consent of instructor. FALL. [3]

ME 331. Robot Manipulators. (Also listed as EECE 331) Dynamics and control of robot manipulators. Includes material on Jacobian matrix relating velocities and static forces, linear and angular acceleration relationships, manipulator dynamics, manipulator mechanism design, linear and nonlinear control, and force control manipulators. Prerequisite: ME 271. SPRING. [3]

ME 333. Topics in Stress Analysis. An investigation of thermal stress, transient stress, and temperatures in idealized structures; consideration of plasticity at elevated temperatures; and some aspects of vibratory stresses. Prerequisite: consent of instructor. FALL. [3]

ME 336. Linear Control Theory. Classical and modern approaches to the analysis and design of single-input/single-output (SISO) and multiple-input/multiple-output (MIMO) linear time invariant control systems. Classical (frequency-domain) and modern (state-space) approaches to SISO and MIMO control, including optimal control methods. Credit is given for only one of ME 236 or ME 336. Prerequisite: ME 234. FALL. [3]

ME 343. High-Performance Computing for Engineers. (Also listed as CS 343) Introduction to high-performance computing. Engineering applications. Focus on high-speed cluster computing. Class project applying high-performance computing to various research topics. SPRING. [3]

ME 348. Convection Heat Transfer. A wide range of topics in free and forced convection is discussed. Solutions are carried out using analytical, integral, and numerical methods. Internal and external flows are considered for both laminar and turbulent flow cases. Convection in high speed flow is also studied. Prerequisite: ME 248, ME 325a. SPRING. [3]

ME 352. Nonlinear Control Theory. Introduction to the concepts of nonlinear control theory. Topics include phase plane analysis, nonlinear transformations, Lyapunov stability, and controllability/observability calculations. A multidimensional geometric approach to these problems is emphasized. Prerequisite: Math 194. SPRING. [3]

ME 353. Design of Electromechanical Systems. Analog electronic design for purposes of controlling electromechanical systems, including electromechanical sensors and actuators,

analog electronic design of filters, state-space and classical controllers, and transistor-based servoamplifiers and high voltage amplifiers. Significant laboratory component with design and fabrication circuits to control electromechanical systems. Implementation of digital controllers. Prerequisite: ME 234. FALL. [3]

ME 355. Engineering Design and Optimization. Methods for optimal design of mechanical systems are developed and applied. Nonlinear optimization strategies are implemented through progressive exercises on unconstrained and constrained optimization problems with single and multiple design variables. Students explore the implementation of basic algorithms through computer-based tools and available Fortran (or C) subroutines. Feasibility and optimality conditions and design problem formulation are emphasized. Computer literacy and some programming experience are required. Each student is expected to complete a major design project in their area of technical interest. [3] (Offered on demand)

ME 356. Mechanical System Reliability. Design of mechanical systems subject to reliability constraints. Emphasis on response surface modeling, variance reduction concepts, probabilistic design methods and advanced simulation concepts with application development using reliability software. Prerequisite: ME 355 and either CE 310 or Math 233. [3] (Offered on demand)

ME 359. Advanced Engineering Vibrations. The development and application of Lagrange's equations to the theory of vibrations. Nonlinear systems and variable spring characteristics are analyzed by classical methods and by digital computer techniques. Applications to the design of high speed machines are emphasized. Prerequisite: ME 259; Math 234, ME 294. SPRING. [3]

ME 363. Conduction and Radiation Heat Transfer. A comparative study of available methods for solution of single and multidimensional conduction heat transfer problems. Both steady and transient problems are considered. Mathematical and numerical methods are stressed. Radiant exchange between surfaces separated by non-participating media is studied. Numerical methods are developed and discussed for non-isothermal surfaces and combined radiation and conduction problems are solved. Prerequisite: ME 248. SPRING. [3]

ME 365. Micro/Nanoscale Energy Transport. Theoretical examination of energy transport by electrons and phonons and modeling of transport phenomena in crystalline solids at reduced length scales. Particle transport models and solution methods for energy carriers in the context of semiconductor electronics, direct energy conversion devices and nanostructure. FALL. [3]

ME 366. Combustion. Introduction to combustion processes. Topics include combustion thermodynamics, chemical kinetics, premixed flame theory, diffusion flame theory, ignition and detonation. Prerequisite: ME 220b, ME 224. FALL. [3]

ME 369. Master's Thesis Research.

ME 389. Master of Engineering Project.

ME 391–392. Special Topics. A course based on faculty research projects and highly specialized areas of concentration. [Variable credit: 1–3 each semester]

ME 393–394. Independent Study. Readings and/or projects on advanced topics in mechanical engineering under the supervision of the faculty. Consent of instructor required. [Variable credit: 1–3 each semester]

ME 397–398. Seminar. [0–0]

ME 399. Ph.D. Dissertation Research. [Variable credit]

Peabody College

P

Education and Human Development at Vanderbilt

George Peabody College for Teachers, recognized for more than a century as one of the foremost independent colleges of teacher education, merged with Vanderbilt University in the summer of 1979 to become Peabody College of Vanderbilt University. Since that time, Peabody College has retained its heritage while achieving new stature as a national leader among schools of education and human development.

Peabody has identified five challenges which drive its vision of the future. These challenges are to enhance learning, to optimize human development, to build new visions of teacher education, to improve undergraduate education, and to render educational institutions more effective. Peabody faculty and students constitute a vibrant intellectual community dealing with pressing questions and expanding knowledge about education, including special education; psychology, especially focused on families and children; the development of individuals and organizations; and education administration, leadership, and policy. Peabody seeks to educate highly skilled professionals, for organizations both in and out of education, who share a deep concern for the human condition.

Peabody faculty and students engage in a broad spectrum of basic and applied research to generate new knowledge and translate that knowledge into practice. Current research findings inform classroom teaching at Peabody in every program. Moreover, Peabody faculty bring an interdisciplinary and entrepreneurial spirit to the research enterprise. Working collaboratively, often through one of the College's research centers, faculty and students publish and present their findings, apply them in real-world settings, and help to shape public debate about the nature and future of education and human development.

Today, more than 1,700 students are enrolled at Peabody, with more than one-third of them in post-baccalaureate graduate or professional degree programs preparing for careers in areas related to education and human development.

All teacher education programs are approved by the National Council for the Accreditation of Teacher Education (NCATE).

Centers and Outreach Efforts

Center for Community Studies

The Center for Community Studies is dedicated to strengthening human community. The multidisciplinary center is composed of psychologists, anthropologists, sociologists, and other social scientists with decades of experience in community development, community organizing, and community building. Center efforts include research, dissemination, outreach, and capacity-building components.

Center for Evaluation and Program Improvement (CEPI)

The Center for Evaluation and Program Improvement (CEPI) was established in 1986 as the Center for Mental Health Policy housed in the Vanderbilt Institute for Public Policy Studies. The center moved to Peabody in 2004. Originally focused on child, adolescent, and family mental health services research, in recent years the center has broadened its perspective to include program evaluation and program improvement in additional areas. While still maintaining an emphasis on mental health, the center currently has projects in the fields of health and education.

Classroom Organization and Management Program (COMP)

COMP's primary goal is to help teachers improve their overall instructional and behavioral management skills through planning, implementing, and maintaining effective classroom practices. The program also seeks to improve student task engagement and reduce inappropriate and disruptive behavior through well-planned academic tasks and activities.

Family-School Partnership Lab

The Family-School Partnership Lab is dedicated to the scientific investigation of the reciprocal relationships among families, schools, and children. Center investigators conduct empirical research to test the Hoover-Dempsey & Sandler model of parental involvement, while working to establish common ground among researchers studying parental involvement, generally.

IRIS Center

The IRIS Center for Faculty Enhancement was designed in response to a request from the U.S. Department of Education's Office of Special Education Programs. This national effort, serving college faculty working in preservice preparation programs, aims to ensure that general education teachers, school administrators, school nurses, and school counselors are

well prepared to work with students who have disabilities and with their families. IRIS is the nation's only faculty enhancement center established for this purpose.

Leadership Development Center

The Leadership Development Center seeks to prepare educational leaders who can creatively and courageously propel learning and teaching. Working in partnership with the State of Tennessee, the center trains school leaders to understand and apply best professional practices, concepts, and values.

Learning Sciences Institute (LSI)

The LSI is a University-wide organization dedicated to stimulating and supporting research and development in learning, teaching, curriculum, assessment, policy, and educational design. The institute brings together interdisciplinary teams of faculty to address basic and applied learning sciences in ways that create new knowledge, foster the development of the science of teaching, improve PreK-16 education, and enhance the quality of undergraduate, graduate, and faculty learning. The institute's work extends beyond the usual university focus on research and development to explore how results can best be used in society, especially in institutions of formal and informal education, as well as in the world of work.

National Research & Development Center on School Choice

The National Research & Development Center on School Choice aims to conduct scientific, comprehensive, and timely investigation on the individual and systemic effects of school choice and competition. The center will assume national intellectual leadership in coordinating efforts of multiple disciplines, methodologies, and substantive issues that are associated with the design, implementation, and effects of school choice.

Peabody Center for Education Policy (PCEP)

The Peabody Center for Education Policy was founded in 1994 as a research and development agency devoted to understanding and advancing education reform in multiple contexts. PCEP is engaged in academic research, policy development, and capacity-building focused on education finance and accountability at local, state, national, and international levels.

Principals Leadership Academy of Nashville

The Principals Leadership Academy of Nashville is a joint undertaking of Peabody, the Nashville Public Education Foundation, Metropolitan

Nashville Public Schools, and the Nashville Area Chamber of Commerce. The academy develops educational leaders for the Nashville school system who are creative and courageous professionals capable of encouraging the best practices in teaching and learning.

Susan Gray School for Children

The Susan Gray School for Children is an inclusive early childhood education program serving young children with and without disabilities, on site and in the community. The mission of the Susan Gray School is to provide high-quality services to children, families, and the community; to help train university students who plan to be teachers, health care providers, therapists, and researchers; to facilitate research; and to demonstrate high-quality early childhood education and special education practices.

Vanderbilt Kennedy Center for Research on Human Development

The Vanderbilt Kennedy Center is one of fourteen national centers for research on mental retardation and related aspects of human development. Its primary mission is to better understand human development, to prevent and solve developmental problems, and to enable persons with developmental disabilities to lead fuller lives. The Kennedy Center is a University-wide center with institutional support shared by Peabody College, the School of Medicine, and the College of Arts and Science.

The Undergraduate Program

PEABODY College offers the Bachelor of Science degree with majors in early childhood education, elementary education, secondary education, special education, cognitive studies, child development, and human and organizational development. These undergraduate programs are designed to prepare students for professional careers in their chosen fields. Programs for Peabody students include course work in a Liberal Education Core, a professional core, a major area of specialization, and electives. Peabody also provides professional education courses for College of Arts and Science students who want to prepare for teacher licensure.

The Bachelor of Science degree is granted on the basis of 120 semester hours of college work with a final grade point average of 2.000, and completion of the Liberal Education Core and the requirements of the major.

Liberal Education Core Program

In pursuit of breadth of knowledge and understanding about the world in which they live, all undergraduates complete the requirements of the Liberal Education Core program. This Liberal Education Core component of all Peabody undergraduate majors is intended to provide students with a solid foundation in the arts and sciences. The core curriculum incorporates the study of human conditions that are universal. The Liberal Education Core involves study in the following areas:

Communications. The study of language in its written and spoken forms. The study of computer language.

Mathematics. The study of mathematical concepts and procedures.

Social Sciences. The study of the past—both the heritage of the United States and the more global human story. The study of growth and development of individuals.

Humanities. The study of the universal language of the arts.

Natural/Health Sciences. The study of scientific process and interrelationships among the sciences.

Through the study of these universal subjects, concepts, and modes of thought, students gain a broad foundation transferable to their futures. They will continue to grow within society and the classroom and will look at problems from different perspectives while maintaining curiosity.

Courses identified to fulfill the Liberal Education Core requirement for each undergraduate major are listed in the current program descriptions that follow and in Peabody's *Undergraduate Handbook.*

Courses used to satisfy these core requirements may also be counted toward the fulfillment of requirements in an academic major. Special topics courses are ordinarily not acceptable for meeting Liberal Education Core requirements. These courses require prior approval as substitute courses. Independent study courses are not acceptable for meeting Liberal Education Core requirements.

Transfer students may use credits from other colleges to fulfill Peabody's Liberal Education Core requirements if the credits are equivalent to the courses offered at Vanderbilt. The use of transfer courses to satisfy Liberal Education Core requirements must be approved by the Dean's office. For transfer students, credits are evaluated when the student enrolls at Peabody in order to determine which transfer courses will substitute for Peabody's Liberal Education Core requirements. Requirements still to be fulfilled will be noted at that time.

Licensure for Teaching

PEABODY offers programs leading to teacher licensure in the following areas: *early childhood (grades PreK–4), elementary (grades K–8), and secondary education (grades 7–12) with endorsement in English, math, French, Latin, Spanish, German, biology, chemistry, physics, earth science, history, and political science. (Economics, psychology, and sociology endorsements also are available for those who will have a history endorsement.)* Offered by the Department of Teaching and Learning.

Special education–modified (LD, BD, EMR for grades K–12), comprehensive (multiple/severe disabilities for grades K–12), visual impairment (grades PreK–12), hearing impairment (grades PreK–12), or early childhood/preschool (grades PreK–3). All five of these programs are offered by the Department of Special Education.

Vanderbilt's Blair School of Music and Peabody College offer a program for students interested in teacher licensure with endorsement in the following: *(1) instrumental music (grades K-12), or (2) vocal/general music (grades K-12)*. Blair students complete the first part of the program as part of the Bachelor of Music degree and apply during the senior year to continue into the Master of Education degree for a final year of professional education.

Students seeking licensure may enroll in Peabody College, the College of Arts and Science, Blair School of Music, or the School of Engineering. There is a special physics/computer technology endorsement program available to Engineering Science students. In all cases, most of the liberal arts course work is taken in the College of Arts and Science, and the professional education course work is taken at Peabody College.

All students completing the teacher education program at Vanderbilt are strongly advised to apply for a license in Tennessee whether or not they plan to teach in this state. In addition, licensure is available by application in other states. The student is responsible for applying for licensure through the Office of Teacher Licensure located in the Peabody Administration Building. Each state has its own set of application forms and procedures for licensure; information is available in the Office of Teacher Licensure.

Licensure requirements continue to undergo revision. Students *must meet licensure requirements in effect at the time of their program completion*, which may be different from requirements in effect at the time they entered the program. Each year, teacher education students should consult the current Vanderbilt *Undergraduate Catalog* or the Peabody *Undergraduate Handbook* available in the Office of Records and Registration in the Peabody Administration Building. The licensure Web site *(www.peabody.vanderbilt.edu/licensure)* provides additional information.

Security Clearance

Most practicum and student teaching placements for Vanderbilt students in teacher education programs are in Metropolitan Nashville Public Schools. Education majors usually begin registering for practica in the sophomore year. A prerequisite for a Metro school placement is completion of a security clearance which begins with fingerprinting at the Metro Board of Education. Contact the Office of Teacher Licensure or visit *www.peabody.vanderbilt.edu/licensure* for additional information.

SCREENING

There are two points in each teacher education program when undergraduates must complete applications for screenings by departmental faculty. Screening reviews, described below, are important checkpoints that allow successful students to advance in the program. Attainment of 2.5 (4.0) cumulative grade point average and completion of required courses do not automatically qualify a student for continuation in the program.

Faculty evaluation of a student's qualifications for continuation in a teacher education program include academic and performance factors such as the following:

1. *Dependability* (as evidenced by good attendance in classes and practica and the completion of required assignments and procedures on time)
2. *Professional and ethical behavior* (honesty, acceptance of responsibility, emotional maturity, etc.)
3. *Attitude and interpersonal skills* (including the ability to work with children and with peers)
4. *Academic competence* (It is possible for a student to meet minimum grade point requirements and pass all courses and still have specific academic weaknesses which might cause denial of screening applications.)

Students seeking teacher licensure must be approved by each department through which licensure is sought. Secondary licensure candidates should contact an adviser or the director of undergraduate studies in the appropriate Arts and Science department(s) to be informed of any specific departmental requirements or standards.

5. *Teaching competence* (as evidenced by successful completion of practica requirements). It is possible for a student to meet minimum grade point requirements and pass all courses and still have specific performance weaknesses which might cause denial of screening applications.

These criteria rest on the professional judgment of faculty members. Whether a student meets them or not is determined by a vote of appropriate faculty. Undergraduate students seeking secondary education licensure must be approved by the Department of Teaching and Learning faculty and also by the faculty of College of Arts and Science department(s) for the A&S major(s).

Screening deadlines are *October 1* and *February 1.* (Note: If either of these dates falls on a weekend, the deadline is moved to the following Monday.)

Undergraduates in the Department of Special Education must apply for Screening I during the spring of their sophomore year. Again for special education students only, Screening II must be done in the fall of the senior year, restricting undergraduate student teaching in special education to the spring of the senior year. Deadlines are firm; late applications will not be accepted. The Screening I and II application form is online at *http://peabody.vanderbilt.edu/screening/* and should be submitted online no later than the deadline. (Note: Screening applications require additional documents when submitted. See specific requirements with the application.)

Students will be notified in writing of results of the faculty vote. In instances where there is a negative decision, the student wishing to appeal must do so in writing to the chairperson(s) of the department(s) denying the application. If the initial decision is upheld and the student wishes to continue the appeal, a written petition should be filed with the Administrative Committee of Peabody College.

Screening I (Formal Admission to an Undergraduate Teacher Education Program)

Each student seeking teacher licensure must be formally admitted to the teacher education program(s) by applying for Screening I review by the faculty of the department(s) in which endorsement(s) is/are sought. For special education majors, the Screening I application must be submitted in the spring of the sophomore year. For majors in the Department of Teaching and Learning, Screening I applications must be submitted by the student in the first semester of the junior year. With consent of the student's Teaching and Learning faculty adviser(s), application for Screening I may be made during the second semester of the sophomore year. Students who transfer more than 60 hours to Vanderbilt from another institution must apply for admission to the teacher education program by the screening deadline of their second semester at Vanderbilt.

Criteria for Screening I (formal admission to teacher education) are:

A. Specific Academic Criteria

1. Test scores (SAT 1020 or ACT 22 OR passing scores on the Praxis I Pre-Professional Skills Tests)
2. Minimum cumulative grade point average of 2.5 (4-point scale)
3. Successful completion of at least two of the required professional education courses with a minimum grade of C- in all professional education courses
4. For the Department of Special Education, minimum grade of C- in writing and speech/theatre courses used to meet the Communications requirement in the Liberal Education Core

B. Specific Faculty Evaluative Criteria

The faculty will consider the criteria of dependability, professional and ethical behavior, attitude and interpersonal skills, and teaching competence as itemized at the beginning of the Screening section.

Screening II (Admission to Student Teaching)

Admission to Student Teaching is not automatic when prerequisite course work and field experiences have been completed. Special education majors must submit the online Screening II application in the fall of the senior year. For majors in the Department of Teaching and Learning, the student must submit the online Screening II application the semester prior to the one during which a student is to student teach. Deadlines are *October 1 for fall semesters, February 1 for spring semesters*. At the time of screening application, the student should be enrolled in any remaining prerequisite courses. No course work may be taken during the semester of student teaching and seminar.

After an initial review in the Office of Teacher Licensure, the Screening II application and other submitted materials will be considered by departmental faculty according to the following criteria for Screening II approval to student teach:

A. Specific Academic Criteria

1. Formal admission to a teacher education program granted (completion of Screening I)
2. Approved program of studies on file (see Program of Studies)
3. Second semester junior standing (for student teaching in the fall of the senior year)

or first semester senior standing (for student teaching in the spring of the senior year)

4. Successful completion (C- or above) of all courses required and prerequisite to student teaching
5. Minimum cumulative grade point average of 2.5 (4.0 scale)
6. Satisfactory performance (C- or above) in coursework in areas in which teacher licensure is sought
7. Successful completion of Standard First Aid and CPR training (submit certificate copies to the Office of Teacher Licensure at the time of Screening II application)

B. Specific Faculty Evaluative Criteria

The faculty will consider the criteria of dependability, professional and ethical behavior, attitude and interpersonal skills, and teaching competence as itemized at the beginning of the Screening section.

Each Screening II online application requires additional documents, depending on the endorsement(s) being sought. Screening II applicants who are approved to student teach will receive notification of their student teaching placements no later than during the Student Teacher Orientation (Monday before VU classes begin on Wednesday of the student teaching semester).

Students who have passed Screening II are assigned two specific student teaching placements in the Nashville area. Students in early childhood and elementary education may apply to the Department of Teaching and Learning for one student teaching placement in Cambridge, England.

Program of Studies

Upon admission to teacher education (passing Screening I), each student, in consultation with the education adviser, must prepare an acceptable program of studies that constitutes the student's plan to take all courses and field work required for the degree and teacher licensure. The student should obtain the program of studies form in departmental offices and should meet with the faculty adviser to complete the form and to receive initial approval.

Once the program has been filed and approved in the Office of Administration and Records, changes in the program may be made with approval of the student's faculty adviser and department chair. Students should submit a program of studies for approval during the semester in which they register for their 60th hour.

Program of studies forms are available from the staff in the department for the education or special education major. Students may not apply for Screening II until the program of studies is approved and on file in the Office of Administration and Records.

Student Teaching

Vanderbilt students seeking teacher licensure must successfully complete a 15-week semester of full-time student teaching in two different grade levels in Nashville area public schools and must be recommended for licensure by the supervisors of student teaching and departmental faculty. Students seeking early childhood or elementary licensure may apply for fall or spring student teaching. Secondary education and special education student teaching may be done only in the spring semester. Prior to the start of student teaching, all prerequisite courses must have been completed, the cumulative GPA must be at least 2.5, and the appropriate departmental faculties must have voted to approve the candidate for student teaching during the previous semester as part of the Screening II application process. **The Tennessee State Department of Education and Metropolitan Nashville Public Schools prohibit student teachers from taking courses during student teaching.** See the *Undergraduate Handbook* provided by the Peabody Office of Administration and Records for details.

Application for Teacher Licensure and University Recommendation for Licensure

All students completing the teacher education program at Vanderbilt are strongly advised to apply for a license in Tennessee whether or not they plan to teach in this state. In addition, licensure is available in most other states. The student is responsible for applying for licensure through the Office of Teacher Licensure located in the Peabody Administration Building. Each state has its own set of application forms and procedures for licensure; information is available in the Office of Teacher Licensure.

Currently, the federal No Child Left Behind Act (NCLB), which became effective in 2002, requires states to develop proposals for submission to the federal government which detail strategies teachers may use to qualify for

"highly qualified" status by 2005/2006, one of the key elements in the No Child Left Behind Act. In Tennessee and some other states, eligibility for a state teaching license is not compromised by NCLB; however, in some other states, NCLB dictates are being incorporated into state licensing policies. At the time of publication of this catalog, there is no authoritative resource to provide such information for all states; in fact, states are still developing and submitting their plans for federal review. Vanderbilt teacher education students are apprised of the issues addressed by NCLB in Tennessee; however, how other states interpret NCLB in terms of licensing and/or employability cannot be determined at this time. Students are advised to research state policies regarding NCLB in states where they will be seeking a teaching license and teaching position. The Office of Teacher Licensure will provide additional information when it becomes available.

To be licensed through Vanderbilt's teacher education program, a graduate must earn a positive licensure recommendation from the University. The University's decision to recommend a candidate is based upon the following:

1. Maintaining the grade point average required for admission to the teacher education program (2.500 on a 4.000 scale).
2. For Tennessee licensure, achieving the state minimum score on all required parts of the PRAXIS Series (scores must be sent to the Vanderbilt Office of Teacher Licensure–code R 1871, and the Tennessee State Department of Education–code R 8190).* The Tennessee State Department of Education calculated a composite pass rate of 99 percent for Vanderbilt graduates who completed a teacher education program during AY 2004/2005 and who took one or more PRAXIS examinations within the Tennessee-defined time period.
3. Receiving a positive recommendation from the student's department as a result of the student teaching experience (*Pass* in student teaching does not guarantee a favorable recommendation).

*Testing requirements are changing almost annually; check instructions in the Office of Teacher Licensure or at *www.peabody.vanderbilt.edu/licensure* before registering to take the exams.

Accreditation

Vanderbilt is approved by the National Council for Accreditation of Teacher Education (NCATE) and by the Tennessee Department of Education and the following specialty professional associations:

National Council for Teachers of Mathematics (NCTM)
National Council for Teachers of English (NCTE)
National Science Teachers Association (NSTA)
National Council for the Social Studies (NCSS)
Council for Exceptional Children (CEC)
National Association for the Education of Young Children (NAEYC)
Association for Childhood Education International (ACEI)
Council for the Accreditation of Counseling and Related Education Programs (CACREP)
National Association for Schools of Music (NASM)

Academic Regulations

Honor System

All academic work at Vanderbilt is done under the honor system. (See the Honor System section in Life at Vanderbilt.)

Academic Advising

Each Peabody undergraduate is assigned an academic adviser who is familiar with his or her major. This adviser is generally a faculty member in the major department and is knowledgeable about the courses the student will need to complete his or her major. The adviser helps the student determine the courses that are most suitable for the chosen major and serves as a mentor to the student.

However, enrollment in appropriate courses to fulfill degree requirements and knowledge of University policies and regulations regarding courses are the responsibility of the individual student.

Class Attendance

Students are expected to attend all scheduled meetings of classes in which they are enrolled; they have an obligation to contribute to the academic performance of all students by full participation in the work of each class. At the beginning of the semester, instructors explain the policy regarding absences in each of their classes, and thereafter they report to the office of the Dean of the College the name of any student whose achievement in a course is being adversely affected by excessive absences. In such cases, the Dean, in consultation with the instructor, takes appropriate action, which may include dropping the student from the class; students dropped after the deadline for withdrawal receive the grade *F*. Class attendance may be specified as a factor in determining the final grade in a course, and it cannot fail to influence the grade even when it is not considered explicitly.

Course Load

During the fall and spring semesters, a student must take at least 12 hours of course work to qualify as a full-time undergraduate student. Students wishing to carry more than 18 hours must obtain the approval of

the Dean's office. All undergraduate students are assumed to be full-time students for the purpose of administering probation and retention policies. A student who for reasons of health, family, or outside employment wishes to enroll in Peabody as a part-time student must obtain permission from the Dean. The academic standing of such students will be considered on an individual basis.

Residence Requirement

Students must complete a minimum of 60 hours in residence at Vanderbilt including the final two semesters.

Credit by Examination

In certain circumstances students may be awarded course credit by departmental examination. (This procedure is distinct from the award of credit through the College Board Advanced Placement Tests taken prior to a student's first enrollment at Vanderbilt or at another college.)

Students wishing to earn credit by departmental examination should consult the registrar concerning procedures. To be eligible, students must be carrying a minimum of 12 hours and be in good standing. Exceptions to these requirements may be granted on petition to the Peabody Undergraduate Administrative Committee.

Students will be given the grade Pass in courses for which credit is received by examination. These courses will not be used in determining grade point averages.

Students enrolled for at least 12 hours are not charged tuition for hours for which credit by examination is awarded, so long as the amount of credit falls within the allowable limits of an 18-hour tuition load, including no-credit courses and courses dropped after the change period. Students in this category must pay a fee for the cost of administering the examination. Full-time students with a tuition load exceeding 18 hours and students taking less than 12 hours pay tuition at the regular rate, with no additional fee.

Liberal Education Core Guidelines

Applicants to Peabody College will be required to take the SAT II writing and mathematics tests. The following application of these scores will be made to the Peabody Liberal Education Core:

Writing Requirement:

All Peabody College freshmen who have not earned a combined score of 1220 on the writing and critical reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth

semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation, all students must successfully complete a second writing course at the 100 or 200 level.

First-year seminars (courses labeled 115F) offered through the College of Arts and Science and Blair School of Music may count as writing-intensive courses. Peabody freshmen may register for first-year seminars during the first week of the fall and spring semesters.

Mathematics:

Students with an SAT II Mathematics test score at or above 620 (Level I) or at or above 570 (Level II) are exempt from three hours of the math component of the Liberal Education Core mathematics category. Students must take a statistics course in the mathematics category. Students do not earn credit for the SAT II exemption.

Undergraduate Enrollment in 300- and 3000-level Courses

All students wishing to take 300- and 3000-level courses for either undergraduate or graduate credit must obtain the written approval of their academic advisers, the instructor of the course, and the Office of Records and Registration. Undergraduates wishing to receive approval for graduate credit in 300- and 3000-level courses also see below.

Undergraduate Enrollment for Post-Baccalaureate Credit

A qualified Vanderbilt University senior undergraduate may enroll in courses approved for post-baccalaureate credit and receive credit which, upon the student's admission into a Peabody College professional program, may be applicable toward the professional degree. The principles governing this option are as follows:

1. Work taken under this option is limited to those 200- and 300-level courses approved for post-baccalaureate credit, excluding thesis and dissertation research courses and similar individual research and readings courses.
2. Such work must be in excess of that required for the bachelor's degree.
3. At the time of registration, the student must have a *B* average in all prior work to be counted toward the bachelor's degree, or a *B* average in all prior work to be counted toward the undergraduate major, or a *B* average in the preceding two semesters.
4. Undergraduate students wishing to count for post-baccalaureate credit courses taken under this option must consult the instructor of each course and must, at the time of registration, declare their intention on a form available at the Office of Records and Registration.
5. The student's total course load (graduate plus undergraduate courses) must not exceed 15 hours during any semester in which graduate credit is pursued.

6. Permission for Vanderbilt undergraduates to enroll in post-baccalaureate courses does not constitute a commitment on the part of any department to accept the student in the future. Courses taken under this option are subject to departmental approval before they may be included on post-baccalaureate programs of study.

7. An undergraduate student exercising this option will be treated as a post-baccalaureate student with regard to class requirements and grading standards.

Interested students should consult the Office of Records and Registration to verify their eligibility as defined above before attempting to register for post-baccalaureate course work under this option.

Undergraduate Enrollment for an Independent Study

Independent study courses, ranging from one to three hours of credit, are listed in the *Schedule of Courses* and are intended for students in their junior and senior years. Students wanting to undertake an independent study must follow these guidelines:

1. Students must be in academic "good standing" (may not be on probation or Leave of Absence).
2. Students must arrange the independent study with a Vanderbilt full time faculty member who has agreed to supervise and grade this experience.
3. Students may enroll for up to 3 hours of independent study in one semester.
4. Students must make a written study plan detailing the nature of the project and the amount of credit. The Individual Learning/Directed Study contract must be approved by the instructor and the department chair (or the chair's designee) by the last day of the change period.
5. Registration for the course occurs when the completed Individual Learning/Directed Study contract is submitted to the Peabody Office of Administration and Records. Registration for an independent study will not be allowed after the change period has ended.

Students may not repeat independent study courses for grade replacement.

Transfer Credit/Summer Courses Off Campus

Students who transfer from another institution must have a final transcript sent directly to the Undergraduate Admissions Office, Vanderbilt University. Upon acceptance, students will be asked to submit course descriptions and syllabi for all proposed transfer credit. The Peabody Office of Records and Registration, in consultation with other appropriate academic units, will evaluate the course work to determine which credits will transfer and which requirements (e.g., Liberal Education Core, professional core) are met by the transfer courses. No course for which a student

received the grade *D+* or lower will transfer. Course work transferred to Vanderbilt from another institution will not carry with it a grade point average.

Transfer students must complete at least 60 hours of work at Vanderbilt. Two of the four semesters in residence must be the last two semesters of the student's degree program.

Peabody students who wish to take course work during the summer at another college and transfer up to 12 hours to Vanderbilt must be in good standing with at least a *C* average. Prior approval from the Office of Records and Registration must be granted for all courses to be taken elsewhere. Non-education students will not be permitted to take courses elsewhere to meet the basic 40-hour Liberal Education Core requirements. Course work transferred to Vanderbilt from another institution will not carry with it a grade point average.

Students who wish to participate in a non-Vanderbilt overseas program in a city where no Vanderbilt program is offered should complete the appropriate transfer of credit forms and apply for a leave of absence for the relevant semester. To qualify for such a leave, a student must be in good standing with at least a 2.700 grade point average as of the date of application. Students must obtain prior approval for the leave of absence and for up to 15 hours of credit to be taken in the other program if the credit is to be transferred to Vanderbilt. Petitions for leaves of this type must be filed at least one month before the close of the preceding semester. The credit hours earned in other programs cannot be used by non-education students to satisfy Liberal Education Core requirements. Final approval of leaves of absence always rests with the Dean's office.

Credit for Officer Education Courses

Peabody College awards elective credit for Naval Science 231 and 241 and for Military Science 151–152 and 113.

Declaration of Major

Peabody students declare a major as part of the application process prior to admission. Changes in the major (if within Peabody) may be made after the first semester. Second majors must be declared no later than the second semester of the sophomore year. Also during the sophomore year, students majoring in Special Education and Human and Organizational Development will be required to declare their area of specialization or track.

Grading System

Peabody College undergraduate students are on a four-point grading system. All work is graded by letters, interpreted as follows:

A: excellent
B: good
C: satisfactory
D: minimum pass work
F: failure

Under certain circumstances the following grades may be awarded:

W: withdrawal
P: pass (see Pass/D/Fail course provision)
M: missed final examination
I: incomplete in some requirement other than final examination
MI: missed final examination with additional incomplete requirements

Plus and minus modifiers may be associated with the letters *A* through *D* as shown in the table below. Grade point averages are calculated using indicated grade point values.

Defined Grades with Corresponding Grade Points per Credit Hour

A	= 4.0	C	= 2.0
A–	= 3.7	C–	= 1.7
B+	= 3.3	D+	= 1.3
B	= 3.0	D	= 1.0
B–	= 2.7	D–	= 0.7
C+	= 2.3	F	= 0.0

Grade Point Average

A student's grade point average is obtained by dividing the grade points earned by the hours for which the student has registered, excluding courses taken for no credit, those from which the student has withdrawn, and those that are completed with the grade *P*.

Pass/Fail and Pass/No Credit Provisions

Students may elect to take some courses in which they can receive the grade *P* (Pass). This grade is entered for the student enrolled under the P/F option who is awarded a grade of *D-* or higher. The grade *P* is neither counted in the grade point average nor used in the determination of honors. A failing grade will appear on the student record as *F* and will be counted in the student's grade point average.

To be eligible for the P/F option, the student must have completed two regular semesters at Vanderbilt and must not be on academic probation. No more than one course per semester may be taken on a P/F basis and no more than three total during the undergraduate career. No more than one course from any Liberal Education Core area (e.g., communications, humanities) may be taken under this option.

The P/F option does not apply to courses in the following categories:

1. A Liberal Education Core course specifically designated for the major (e.g., Econ 100 for human and organizational development majors, or American history for education majors);

2. For students with a single or double major, courses in the department(s) of the major(s) or other courses that may be counted for the major(s);

3. For students with an interdisciplinary major, courses listed in the student's plan of study;

4. For students planning an optional minor, courses in the department of the minor or those counting toward an interdisciplinary minor;

5. A course from a required professional core.

Students taking a course on a P/F basis must be enrolled for at least 12 hours on a regularly graded basis. If a student drops a course and falls below 12 graded hours, the P/F course is converted automatically to a regularly graded basis.

Seniors who meet the above criteria and have permission to take fewer than 12 hours on a graded basis may take one course on a P/F basis in one of their last two semesters (e.g., a semester in which an internship or student teaching is not being taken). If the student does not graduate at the end of the senior year, the grade of *P* is automatically converted to the grade actually earned.

All P/F students are expected to meet normal course requirements (e.g., reports, papers, examinations, laboratory attendance) and are graded in a normal way. At the end of the semester, students enrolled on a P/F basis are awarded a regular grade. Any grade of *D-* or better is converted in the Student Records System to a *P,* while an *F* grade remains as awarded. A student taking a course on a P/F basis must meet the course prerequisites as set forth in this catalog.

Students register for a course on a P/F basis through OASIS within the change period of the registration period during the first week of classes. After this, students may change from a P/F basis to a regularly graded basis—but *not* from a regularly graded basis to a P/F basis—until the end of the eighth week of classes. These deadlines are published in the calendar. When a student wishes to complete a major or minor in a field in which a grade of *P* has been received, the registrar converts this grade to the regular grade originally earned.

Departments may designate that certain courses or competencies be reported on a Pass/No Credit basis. Hours passed in this status will count as hours earned but will not be included in the calculation of the student's grade point average. Grades of *No Credit* earn no hours of credit toward graduation and are not calculated in the grade point average.

Missed Final Examination

The grade *M* (missed) will be given to a student who missed the final examination who is not known to have defaulted, but the grade *F* will be given to a student who could not have passed the course even with the final examination. The grade *M* must be authorized by the Dean, and it is the student's responsibility to obtain this authorization from the Peabody Office of Administration and Records before the end of the examination

period. The appropriate form requesting the grade *M* is available in the Peabody Registrar's Office. The grade for a student who misses a final examination and whose work is incomplete in other respects as well will be recorded as *MI.* The temporary grade *M* or *MI* is calculated as an *F* in the grade point average until it is replaced with the actual grade earned.

A student who secures authorization for an absence at the proper time is obliged to take a make-up examination during the first full week of the next semester, provided the student is in residence. It is the student's responsibility to contact the office of the Dean before the second day of classes to schedule the make-up.

Incomplete

The grade *I* (incomplete) is used in cases in which the student is not able to complete all course work in the normal time. The awarding of the grade *I* is the prerogative of the instructor and is used when illness or other extenuating circumstances prevent the completion of the work. The student must request an extension for incomplete work, and this request must be approved by the Dean before the date final grades are due. The appropriate form with which to secure approval for the grade *I* is available in the Peabody Registrar's Office. The instructor will specify a date by which remaining work must be completed and if the work is not completed by this date, the *I* grade will be changed to the grade the student would have received without the missing work. The temporary grade *I* is calculated as an *F* in the grade point average until it is replaced with the permanent grade.

Withdrawal

The symbol *W* (withdrawal) is assigned in lieu of a grade when a student formally withdraws from a class before the published mid-semester deadline. After that point, withdrawal will result in an *F.* A student who withdraws from school for reasons such as illness, unusual personal or family problems, and the like, may petition the Dean's office for an authorized administrative withdrawal. If approved, the student will receive the grade *W* for courses in progress. A student who withdraws from school without an authorized administrative withdrawal receives the grade *W* or *F* depending upon the date of withdrawal. The grade *W* is not included in the calculation of the grade point average.

Dead Week

Because Peabody classes integrate theory and practice, many courses include significant semester-long group and individual projects that culminate in papers, presentations, simulations, or other activities at the end of the semester. Therefore, while instructors are discouraged from scheduling quizzes, tests, or short-term assignments for the last week of the

semester, Peabody's "dead week" policy does not prohibit assignments during the week before finals.

Repeat Courses

If a course is repeated, only the last grade and credit hours earned will be used to calculate the grade point average and be creditable toward graduation. However, the original grade will appear on the transcript. Courses must be repeated in a graded status. This policy also applies to Advanced Placement credit.

Duplication of Course Content

It is the responsibility of the individual student to avoid duplication in whole or in part of the content of any courses offered toward the degree. Such duplication may result in the withdrawal of credit. This policy also applies to Advanced Placement credit.

Class Standing

To qualify for sophomore standing, a freshman must earn at least 24 hours with a grade point average of at least 1.800. A freshman who fails to achieve sophomore standing at the end of two regular semesters is placed on probation and has one additional semester in which to qualify for sophomore standing. This additional semester must be the summer session at Vanderbilt. Normally, students who fail to qualify for sophomore standing in the third semester are dropped from the University.

A student qualifies for junior standing by earning 54 hours with a grade point average of at least 1.900. Students who fail to qualify for junior standing at the end of two semesters after qualifying for sophomore standing are placed on probation and must qualify in an additional semester. This third semester must be the summer session at Vanderbilt. Normally, students who do not qualify for junior standing in this additional semester will be dropped from the University.

A student qualifies for senior standing by earning 84 hours with a grade point average of at least 2.000. A student who fails to qualify for senior standing within two semesters of qualifying for junior standing will be placed on probation and must qualify in one additional semester. This additional semester must be the summer session at Vanderbilt. Normally, students who do not qualify for senior standing in this additional semester will be dropped from the University.

Alternate Track

Occasionally students find that it will be necessary to reduce their normal load due to medical reasons, varsity athletics, or other circumstances.

The result is that they will accomplish the bachelor of science degree in nine or ten semesters instead of eight. In such cases, the student may request Alternate Track status. After discussing this option with their parents and faculty adviser, students petition the Dean for permission. This normally takes place during the sophomore year. Additional information is available in the Office of Peabody Student Affairs.

Progress Evaluation

Students enrolled in Peabody College are expected to satisfy most Liberal Education Core requirements during the freshman and sophomore years. Although legitimate circumstances sometimes force the postponement of Liberal Education Core requirements, upper-level students are not expected to have a significant number of Liberal Education Core requirements outstanding. A student who, in the opinion of the faculty adviser, the department chair, or the Dean, is not making satisfactory progress toward meeting Liberal Education Core or other degree requirements may be reported to the Undergraduate Administrative Committee and is subject to being placed on academic probation by that committee. Students placed on academic probation for failure to make satisfactory progress toward a degree must remove the deficiency in the manner specified by the Administrative Committee.

Academic Probation and Dismissal

After achieving sophomore standing, the student may not be on academic probation for more than two semesters. A student whose academic record warrants a third semester of probation normally will be dropped from the University.

Students will be placed on academic probation if any of the following conditions apply:

Freshmen

1. The student's grade point average falls below 1.800. Probation is removed (assuming there is no other reason for the probation) when the student's grade point average is raised to 1.800 or above.
2. The student fails to earn at least 12 hours in the first regular semester as a freshman. Probation is removed when the student achieves sophomore standing.
3. The student fails to achieve sophomore standing in the required two semesters. Probation is removed when the student achieves sophomore standing.
4. Freshmen who pass fewer than two regular courses in their first regular semester or who earn a grade point average lower than 1.000 have so seriously compromised their academic standing that they may be required to take a probationary leave of absence during the spring semester.

Sophomores

1. The student's grade point average falls below 1.800. Probation is removed (assuming there is no other reason for the probation) when the student's grade point average is raised to 1.800 or above, except that at the end of the second regular semester the student must qualify for junior standing.
2. The student fails to earn at least 12 hours in the first regular semester as a sophomore. Probation is removed when the student achieves junior standing.
3. The student is placed on probation by the Undergraduate Administrative Committee for failure to make satisfactory progress toward the degree. Probation is removed when the specified conditions are met.
4. The student fails to achieve junior standing in the required two semesters. Probation is removed when junior standing is achieved.

Juniors

1. The student's grade point average falls below 1.900. Probation is removed (assuming there is no other reason for the probation) when the grade point average is raised to 1.900 or above, except that at the end of the second regular semester the student must qualify for senior standing.
2. The student fails to earn at least 12 hours in the first regular semester as a junior. Probation is removed when the student achieves senior standing.
3. The student is placed on probation by the Undergraduate Administrative Committee for failure to make satisfactory progress toward the degree. Probation is removed when the specified conditions are met.
4. The student fails to achieve senior standing in the required two semesters. Probation is removed when senior standing is achieved.

Seniors

The student's grade point average falls below 2.000. Probation is removed when the grade point average is raised to 2.000 or above.

Sudden Academic Insufficiency

Any student who fails by a wide margin to reach prescribed levels of academic achievement, either at the end of a semester or at mid-semester, or who has been placed on probation more than once is reviewed by the Peabody Undergraduate Administrative Committee. The Committee considers each case within the general guidelines for maintenance of satisfactory academic standing and may take any of several actions, among which are the following:

- The student may be placed on probation;
- The student may be required to participate in the programs of the Learning Center;
- The student may be advised to take a leave of absence or to withdraw from the University;

•The student may be required to take a leave of absence.

Under certain circumstances, a student who has been formally dismissed may be readmitted to Peabody. The Peabody Undergraduate Administrative Committee must review and approve any request for readmission.

Appeal and Petition Process for Undergraduate Academic Matters

The procedures of the appeal process pertaining to academic matters within Peabody College are listed below. Please see Chapter 6 (The Judicial System) of the Vanderbilt University *Student Handbook* for a description of the appeal process for non-academic matters.

Petitions for exceptions to academic policies, appeals of academic policy implementations by Peabody Dean's Office staff, and appeals of academic actions by the Undergraduate Administrative Committee (UAC) Chair (e.g., letters of dismissal) may be directed to the full UAC.

Petitions and appeals should be sent to:

Chair, Peabody Undergraduate Administrative Committee
c/o Peabody Dean's Office
203 Peabody Administration Building
Peabody #329
230 Appleton Place
Nashville, TN 37203-5721
Fax: (615) 322-8501

A student may ask the UAC to reconsider a decision if the student has new information to offer. The chair of the UAC will decide whether the full UAC will reconsider. Requests for reconsideration of UAC decisions should be sent to the above address.

A final, negative decision of the UAC may be appealed to the Dean of Peabody College (at the above address), who may assign an associate dean to handle the matter on the Dean's behalf. The Dean or associate dean will consult with the UAC and other relevant faculty or staff as part of the review of the decision.

Further appeals beyond Peabody College should be directed to the Provost's Office.

Auditing

Peabody Courses. Any regularly enrolled Peabody student who wishes to audit a course at Peabody must obtain the oral approval of the instructor to attend the class but does not register for the course.

Student Leave of Absence

A student desiring a leave of absence should obtain the appropriate forms from the Office of Undergraduate Student Affairs. All students are

eligible, provided they have not been dropped by the University and are not dropped at the end of the semester during which application is made.

Leaves are granted for one or two semesters. Applications should be completed before the end of the fall semester for a leave of absence during the spring semester and before 15 August for a leave of absence during the fall semester (or for the academic year). If the leave is approved, the student must keep the Dean's office informed of any change of address while on leave.

Should a student seek to transfer to Vanderbilt credit earned elsewhere while on a leave of absence, it is mandatory that permission be obtained in advance from the Dean's office. Petitions for leaves of this type must be filed at least one month before the close of the preceding semester.

While the student is on leave, registration materials will be mailed to his or her permanent address. A student failing to register at the conclusion of the stated leave will be withdrawn from the University and must apply for readmission.

Students who wish to participate in a non-Vanderbilt program in the United States, abroad, or at sea should apply for a leave of absence for the relevant semester. To qualify for such a leave, a student must be in good standing at Vanderbilt with at least a 2.700 grade point average as of the date of application. Students must obtain prior approval for the leave of absence and for the credits to be taken in other programs if the credits are to be transferred to Vanderbilt. Final approval of leaves of absence always rests with the Dean's office. See the section on Transfer Credit in this chapter.

Graduation

Degree candidates must have completed satisfactorily all curriculum requirements, have passed all prescribed examinations, and be free of indebtedness to the University. Graduation requirements vary with the student's program of study but include a minimum of 120 hours (at least 60 of which must have been earned at Vanderbilt) and a minimum cumulative grade point average of 2.000. A degree candidate must also have a 2.0 cumulative grade point average in his or her major.

Commencement. The University holds its annual Commencement ceremony following the spring semester. A student completing degree requirements will be officially graduated, however, at the close of the semester or summer session in which the degree is earned, with such graduation recorded on the student's permanent record. Students who graduate at the close of the summer session or the fall semester preceding the spring commencement ceremony are encouraged to join spring graduates in the graduation ceremony in May. Those unable to do so may receive their diplomas by mail.

Special Programs

Peabody Scholars Program

Students entering Peabody College with outstanding academic records and freshmen who achieve academic distinction during their first semester at Vanderbilt are invited to participate in the Peabody Scholars Program. These students have the exclusive opportunity to pursue advanced scholarly work in an honors seminar. Peabody Scholars also participate with faculty in research projects and study. The yearly cohort of fifteen Peabody Scholars attend University lectures and hold discussions led by faculty with expertise in the area.

Peabody freshmen may apply for the Scholars Program in early December of their first semester at Vanderbilt. Selections will be made prior to the beginning of the spring semester. To remain in good standing in the program, students must maintain a minimum grade point average of 3.000. Further information on the Peabody Scholars Program may be obtained from Professor Claire Smrekar.

Post-Baccalaureate Program with School of Nursing

Students at Peabody College may complete the B.S. degree with a major in human and organizational development or child development and also earn the Master of Science in Nursing (M.S.N.) through a senior-in-absentia program in the School of Nursing. Students must complete the first three and a half years of study as Peabody undergraduate students. During this time students pursue the major and the core courses in the health and human services track. Application for admission to the School of Nursing is completed during the summer after the student's sophomore year. Admitted students begin taking professional nursing courses in the fall of their senior year. Students must have successfully completed a minimum of 105 hours of undergraduate course work before officially being enrolled as students in the School of Nursing. Upon successful completion of a minimum of 15 hours of nursing course work during the spring semester of the senior year, students are awarded the B.S. degree. Students continue full time in the professional program in the School of Nursing for the next summer, fall, spring, and summer sessions to earn the M.S.N.

degree. Students who receive the M.S.N. degree are qualified for all professional nursing careers and are eligible to apply to the National Council on Licensure Examination to become Registered Nurses.

Students may also complete a bridge program offered by the School of Nursing. Students who choose this pre-nursing program complete 72 hours of suggested course work in Peabody College, apply for admission to the School of Nursing, obtain admission, forgo the B.S. degree, and complete the remaining course requirements for the M.S.N. degree. Students interested in this program of study should consult the School of Nursing catalog for a more complete program description.

A sample curriculum is given below.

Sample Curriculum Plan
Human and Organizational Development Major/Nursing

		Semester hours	
FRESHMAN YEAR		FALL	SPRING
HOD 1000	Applied Human Development	3	-
HOD 1001	Intrapersonal Development	1	-
HOD 1100	Small Group Behavior	-	3
HOD 1101	Interpersonal Development	-	1
Math	Mathematics Course	3	-
	Statistics Course	-	3
Philosophy	Philosophy Course	-	3
	Liberal Education Core	10	4
		17	14
SOPHOMORE YEAR			
HOD 1200	Understanding Organizations	3	-
HOD 1210	Perspectives of Organizational Fit	1	-
HOD 1700	Systematic Inquiry I	-	3
Econ 100	Economics	3	-
HOD 2525	Introduction to Health Services	3	-
N150	Microbiology	- 4	
	Liberal Education Core	6	9
		16	16
JUNIOR YEAR*			
HOD 1800	Public Policy	3	-
HOD 2505	Introduction to Counseling	-	3
HOD 2510	Health Services Delivery to Diverse Populations	-	3
N210a, 210b	Human Anatomy and Physiology	4	4
N231A	Introduction to Nutritional Health	2	-
	Liberal Education Core 6		6
		15	16

* Students apply for admission to the School of Nursing during their junior year.

				MAY/
SENIOR YEAR		FALL	SPRING	SUMMER
N215	Foundations of Professional Nursing I	2	-	-
N225	Population Based Health Care	2	-	-
N235	Human Experience of Health and Illness across the Lifespan I	4	-	-
N245	Fundamentals of Clinical Practice*	5	-	-
N255	Basic Pharmacology	2		
N216	Professional Nursing Seminar	- 1		-

N226	Health Care Systems: Micro Issues	-	2	-
N231b	Nutrition and Health: Issues and Insights	-	1	
N236	Human Experience of Health and Illness across the Lifespan II	-	5	-
N246	Integration of Theoretical & Clinical Aspects of Nursing I*	-	4	-
N256	Strategies for Improving Self-Care	-	2	
N217	Foundations of Professional Nursing II	-	-	3
N227	Health Care Systems:Macro Issues	-	-	2
N237	Human Experience of Health and Illness across the Lifespan III	-	-	4
N247a	Integration of Theoretical & Clinical Aspects of Nursing II	-	-	2
N247b	Integration of Theoretical & Clinical Aspects of Nursing III	-	-	2
		15	14	13

* Acceptable as undergraduate Human and Organizational Development practicum/internship requirement.

B.S. in human and organizational development conferred at the end of the spring semester. Thirty-nine (39) additional hours are required for the M.S.N. degree. Refer to the *School of Nursing Catalog* for requirements for the completion of the M.S.N.


LIBRARY

Interdisciplinary Majors

PEABODY College, in conjunction with the College of Arts and Science, offers four interdisciplinary majors. These majors are to be taken as second majors only and are constructed around academic disciplines particularly appropriate for future teachers (except secondary), but are not limited to students entering teacher education. The interdisciplinary major consists of 36 hours of study and draws upon the academic resources of a number of departments throughout the University. Students follow the Liberal Education Core requirements of their first major.

Liberal Education Core Requirements. 40 hours.

Language and Literacy Studies

COMMUNICATIONS.
Communication Studies 100, Fundamentals of Public Speaking; 101, Interpersonal Communication; 230, Theory of Communication

ENGLISH.
(A total of 6 hours from 102W, 105W, 106W, 112W, 120W, or 240)

EDUCATION.
2530, 2540, 2550, 2560, 2570; ENED 2200 or 2920, 2280

FOREIGN LANGUAGE.
Two courses at 200 level or above—Spanish, Chinese, French, German, Japanese

Mathematics and Science Studies

PHYSICAL SCIENCE.
Take 8 hours from the following: Chemistry 101a-101b, Introductory Chemistry; Physics 105 and 106, Conceptual Physics and Laboratory

BIOLOGICAL SCIENCES.
100, General Biology

GEOLOGY/ASTRONOMY.
One of the following: Geology 100, Environmental Geology, or 101, The Dynamic Earth, or 102, Geological History of the Earth, or 103, Oceanography, or 106, Marine and Coastal Environments; or Astronomy 102, Introductory Astronomy: Stars and Galaxies

HISTORY/PHILOSOPHY.
One of the following: History 202, Science and Society after the Enlightenment, or 204, History of Medicine; or Astronomy 130, History of Astronomy; or Philosophy 244, Philosophy and the Natural Sciences; or SCED 2200, Science for Elementary Teachers

CALCULUS.
Mathematics 150a-150b, First-year Calculus, and 170a, Second-year Calculus; or 155a-155b, First-year Accelerated Calculus

One course from two of the following:

PROBABILITY AND STATISTICS.
Mathematics 180, Fundamentals of Probability and Statistics, or 214, Discrete Structures, or 215, Discrete Mathematics, or 218, Introduction to Mathematical Statistics, or Psychology 2101, Introduction to Statistical Analysis

GEOMETRY.
Mathematics 210, Axiomatic Geometry, or 240, Transformation Geometry

ALGEBRA.
Mathematics 194, Methods of Linear Algebra, or 223, Abstract Algebra, or 204, Linear Algebra

ELECTIVES.
3 additional hours from any 200-level course in Mathematics

Natural Science Studies

CHEMISTRY.
Chemistry 101a-101b, Introductory Chemistry; or 102a-102b, General Chemistry and 104a-104b, General Chemistry Laboratory

PHYSICS.
Physics 105 and 106, Conceptual Physics and Laboratory; or 117a-117b, General Physics

BIOLOGICAL SCIENCES.
100, General Biology and 219, Introduction to Zoology, or 218, Introduction to Botany

GEOLOGY/ASTRONOMY.
Geology 100, Environmental Geology, or 101, The Dynamic Earth, or 102, Geological History of the Earth, or 103, Oceanography, or 106, Marine and Coastal Environments; or Astronomy 102, Introductory Astronomy: Stars and Galaxies

HISTORY/PHILOSOPHY.
History 202, Science and Society after the Enlightenment, or 204, History of Medicine; or Astronomy 130, History of Astronomy; or Philosophy 244, Philosophy and the Natural Sciences; or SCED 2200, Science for Elementary Teachers

ELECTIVES.
Additional hours in Chemistry, Physics, Biological Sciences, Geology, Astronomy, History, or independent research for at least 6 hours

Social Studies

Students selecting an interdisciplinary major in social studies will have seven options available to them. Each option requires 18 hours of study focused on a single social science discipline that is supplemented with 18 hours of coursework drawn from studies within other social sciences. The seven options available to students include a focus on any of the following areas of study: Anthropology, Economics, American History, European History, American Politics, World Politics, or Sociology.

Anthropology
ANTHROPOLOGY.
101, Introduction to Anthropology; 103, Origins and Evolution of Human Culture; 104, The Rise and Fall of Civilization
A Comparative Anthropology and Anthropological Theory Course
An Archaeology and Physical Anthropology Course
A Ethnography, Ethnohistory, and Linguistics Course

Six courses drawn from at least three areas:
Economics 100, 101, 226
History 100 or 101, 170 or 171, 190, 200, 220, 271
Political Science 100, 101, or 102; 204, 210, 217, 221, 244, 245
Sociology 101 or 102, 201, 230, 236, 244, 248, 249, 250, 254, 255

Economics
ECONOMICS.
100, Principles of Macroeconomics; 101, Principles of Microeconomics; 150, Economic Statistics, and three other courses from Economics

Six courses drawn from at least three areas:
Anthropology 101, 102, 103, 104, 206, 207, 237
History 100 or 101, 170 or 171, 190, 200, 220, 271
Political Science 100, 101, or 102; 204, 210, 217, 221, 244, 245
Sociology 101 or 102, 201, 230, 236, 244, 248, 249, 250, 254, 255

American History
HISTORY.
170, History of the U.S. to 1865; 171, History of the U.S. since 1865
Plus four courses on American History (267-292)

Six courses drawn from at least three areas:
Anthropology 101, 102, 103, 104, 206, 207, 237
Economics 100, 101, 226
Political Science 100, 101, or 102; 204, 210, 217, 221, 244, 245
Sociology 101 or 102, 201, 230, 236, 244, 248, 249, 250, 254, 255

European History
HISTORY.
100, History of Western Civilization to 1700; 101, History of Western Civilization since 1700
Plus four courses on European History (208-245)

Six courses drawn from at least three areas:
Anthropology 101, 102, 103, 104, 206, 207, 237
Economics 100, 101, 226

Political Science 100, 101, or 102; 204, 210, 217, 221, 244, 245
Sociology 101 or 102, 201, 230, 236, 244, 248, 249, 250, 254, 255

American Politics
POLITICAL SCIENCE.
100, Intro. To American Government and Politics
Any five of the following PSCI courses: 204, 222, 223, 240-262

Six courses drawn from at least three areas:
Anthropology 101, 102, 103, 104, 206, 207, 237
Economics 100, 101, 226
History 100 or 101, 170 or 171, 190, 200, 220, 271
Sociology 101 or 102, 201, 230, 236, 244, 248, 249, 250, 254, 255

World Politics
POLITICAL SCIENCE.
101, Introduction to Comparative Politics, or 102, Introduction to International Politics
Any five of the following PSCI courses: 210-228

Six courses drawn from at least three areas:
Anthropology 101, 102, 103, 104, 206, 207, 237
Economics 100, 101, 226
History 100 or 101, 170 or 171, 190, 200, 220, 271
Sociology 101 or 102, 201, 230, 236, 244, 248, 249, 250, 254, 255

Sociology
SOCIOLOGY.
101 or 102, 201
A Sociology course drawn from the core area of Crime, Law, and Deviance
A Sociology course drawn from the core area of Organizations, Politics, and Inequality
A Sociology course drawn from the core area of Family, Medicine, and Mental Health
A Sociology course drawn from the core area of Culture and Social Change

Six courses drawn from at least three areas:
Anthropology 101, 102, 103, 104, 206, 207, 237
Economics 100, 101, 226
History 100 or 101, 170 or 171, 190, 200, 220, 271
Political Science 100, 101, or 102; 204, 210, 217, 221, 244, 245

Major in Child Development

CHAIR Kathleen V. Hoover-Dempsey
DIRECTOR OF UNDERGRADUATE STUDIES Craig A. Smith
PROFESSOR EMERITA Penelope H. Brooks
PROFESSORS Thomas H. Carr, David Cole, Bruce E. Compas, Elisabeth Dykens, Judy Garber, John J. Rieser, Howard M. Sandler, Tedra Ann Walden
ASSOCIATE PROFESSORS Kathleen V. Hoover-Dempsey, Daniel T. Levin, Bahr H. Weiss
ASSISTANT PROFESSORS Jessica W. Giles, Bethany Rittle-Johnson, Megan M. Saylor, Georgene L. Troseth
ASSISTANT CLINICAL PROFESSORS Vicki S. Harris, Patti Parkison Van Eys
SENIOR LECTURERS Steven A. McFadyen-Ketchum, Francis Joseph McLaughlin III

THE child development major is designed for students who wish to study children (infancy through adolescence) and the major family, cultural, peer, school, and neighborhood contexts in which they live. The major is designed to provide a strong background in the social and behavioral sciences related to child development, a focused understanding of the scientific study of children and the contexts in which they develop, and opportunities for supervised and independent research on aspects of child development in ways that enable students to link theories and prior research to research design and data on children's development. The major is excellent preparation for graduate study in selected social science and professional fields (e.g., psychology, medicine, nursing, education, public policy) and offers an excellent complementary (or second) major for undergraduate students simultaneously pursuing a major in cognitive studies, elementary education, human and organizational development, or special education.

The child development curriculum is designed to ensure that students develop a background in the liberal arts and sciences; a clear understanding of the theories, major research findings, and research methods central to the field of child development; and an area of focus or expertise in child development. Development of background in the liberal arts and sciences occurs within the context of the Liberal Education Core, composed of required and elective courses in communications, humanities, mathematics, natural sciences, and social sciences. A clear understanding of theory and research central to the field is developed through the major core courses. These include an overview of child development, courses focused on the domains of psychological processes central to human development (cognition; social and personality development), courses related to major epochs of child development (infancy and adolescence), and courses devoted to the major research methodologies in the field (experimental, observational, psychometric). Students select an area of concentration (major elective area) to complement the field as a whole.

Honors Program

The Honors Program in child development offers qualified majors the opportunity to conduct individual research projects in collaboration with faculty members. This research experience culminates in the writing and public presentation of a senior thesis. Students who major in child development are eligible to apply for the Honors Program at the end of their sophomore year if they have an overall grade point average of at least 3.2 and at least a 3.2 in child development courses. Students who complete the program successfully and who have a final grade point average of at least 3.2 will receive Honors or High Honors in child development. The program should substantially aid those intending to do graduate work. More specific information concerning admission to and the requirements of the Honors Program is available from the director of the Honors Program, the director of undergraduate studies, or the department education coordinator.

Curriculum

Students take a minimum of 120 hours, distributed as follows. [See the Peabody *Undergraduate Handbook,* available from the Office of Undergraduate Academic Affairs, for slight variations in programs of study for students pursuing child development as a second major.]

Liberal Education Core Requirements. Minimum 40 hours.

COMMUNICATIONS *(6 hours)* from the following courses:
Communication Studies (All Communication Studies courses count except 280abc and above)
English 102W, 106W, 112W, 115F, 118W, 120W, 122, 123
Humanities 105W, 106W, 107W, 108W, 115F
Theatre 100, 115F

HUMANITIES *(9 hours and two fields required)* to include:
Philosophy (3 hours) from the following courses:
Philosophy (All Philosophy courses except 289a and 289b and above); 105 is recommended
Political Science 203

Other Humanities courses (6 hours) from the following courses:
African American and Diaspora Studies 260
Arabic 210b and above
Art History 110, 111, 115F, 130, 200 and above (except 288 and above)
Chinese 202, 214, 216, 241, 242, 251, 252
Classical Studies 115F, 130, 146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
Computer Science 151
English (If the course selected has not been used to satisfy the Communications area) 102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133
French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)

Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and above)
Japanese 202 and above (except 289a and 289b)
Jewish Studies 135
Latin 102 and above (except 289)
Music MUSC 100 and above (except 294 and above); MUSL 103 and above (except 147, 160, 170, 289 and above)
Philosophy 100 and above (except 289a and 289b and above)
Physics 238
Portuguese 102 and above (except 225, 289, and 294)
Religious Studies 100 and above (except 280 and above)
Russian 102 and above (except 171, 172, 280a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 115F, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

The Humanities area cannot be met with three philosophy courses. Two different fields are required.

MATHEMATICS *(6 hours)* to include:
Statistics (3 hours)
PSY 2101
Mathematics *(3 hours):* SAT II Math Test Score Level I of 620 and above or Level II of 570 and above will exempt a student from the three hour Mathematics requirement. Academic credit is not awarded for SAT II Scores.
Or
One of:
Mathematics 140, 150a, 150b, 155a, 155b
Computer Science 212

NATURAL SCIENCE. *7 hours*. One Biological Sciences or Nursing course is required.
One lab science (4 or 5 hours) from the following courses:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110a and 111a, 110b and 111b, 218, 219
Chemistry 101a, 101b, 102a and 104a, 102b and 104b
Geology 101 and 111, 102, 103 and 113, 225
Nursing 150, 210a, 210b
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b
And
One of the following *(3 hours)* (Must be a BSCI or Nursing course if not taken as the lab science course):
Astronomy 102, 130, 175
Biological Sciences 105, 110a, 110b
Chemistry 102a, 102b
Geology 100, 101, 103, 106, 108, 150
Nursing 231a and 231b (231c is elective credit only)
Physics 105, 110
Psychology 201
Or
Two lab science courses (8-10 hours) will meet the Natural Science requirement,

CULTURAL STUDIES. *(3 hours)*
One course from the following;

African American and Diaspora Studies: 101, 110, 120, 155, 200, 201, 210, 215, 221, 230, 260
American Studies 100, 101, 104
Anthropology 101, 103, 106, 206, 207, 210, 214, 220, 222, 223, 226, 228, 232, 233, 234, 237, 243, 246, 247, 248, 249, 251, 253, 259, 260, 262, 263, 264, 265, 266, 267
Art History 120, 130, 222, 223, 234, 238, 239, 241, 242, 245, 251, 252, 253, 254, 255, 256, 257
Chinese 251, 252
Classics 130, 146, 150, 160, 171, 203, 204, 205, 206, 211, 217, 220, 222, 224, 236, 238
Communication Studies 223, 224, 228, 235, 240, 242
Comparative Literature 237, 240, 278, 285, 286, 287
Economics 224, 267, 288
East Asian Studies 211, 240
Education 2060
English 118W, 246, 260, 263, 267, 268a, 268b, 271, 275, 276, 277, 279g, 282
European Studies 201
Film Studies 133, 235
French 207, 208, 209, 215, 218, 232, 234, 239, 251, 255, 258, 261, 269, 270
Geology 205
German 172, 201, 216, 221, 222, 235, 237, 241, 270, 271, 273, 274, 275
Greek 212
History 140, 152, 154,155, 156, 157, 160, 161, 168, 169, 172, 180, 181, 182, 187, 201, 202, 204, 205, 206, 207, 208, 210, 211, 212, 213, 221, 222, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 246, 247, 248, 249, 250-260, 261, 262, 263, 264, 266, 267, 268, 269, 270, 271, 273, 276-280, 286, 287
Human and Organizational Development 2240, 2400, 2410, 2420, 2430, 2460, 2660
Humanities 107W, 156
Italian 230
Jewish Studies 120, 121, 135, 155, 156, 245, 250, 251, 252, 254, 255
Latin 206, 215
Latin American Studies 201, 235, 260
Medicine, Health, and Society 201
Music Literature 103, 160, 170, 171, 200, 201, 250, 252, 261, 262
Philosophy 103, 211, 235, 238, 252, 258, 261, 262, 263
Political Science 101, 102, 204, 205, 206, 208, 212, 213, 214, 215, 216, 217, 218, 219, 228, 230, 247, 263
Portuguese 225
Psychology—Peabody 2230; A&S 217, 240, 243, 266, 276
Religious Studies 107, 110W, 112, 113, 114, 130, 131, 132, 133, 145, 150, 204, 205, 206, 219, 220, 222, 223, 226, 228, 229, 230, 231, 232, 233, 241, 244, 249, 251, 254
Russian 171, 172, 231, 232, 234
Sociology 101, 102, 103, 104, 203, 215, 218, 224, 226, 227, 228, 229, 230, 234, 237, 239, 242, 244, 246, 248, 249, 250, 251, 254, 255, 256, 257, 258, 260, 261, 267, 268, 269, 272, 275, 276, 277, 278, 279, 291
Spanish 202, 204, 208, 221, 223, 226, 231, 235, 243, 244, 276,
Special Education 2060
Theatre 216
Women's and Gender Studies 150, 201, 210, 212, 226, 239, 240, 243, 244, 245, 261, 264, 265, 267, 268, 269, 270, 271, 272

SOCIAL SCIENCE. *6 hours.* 3 of the 6 hours must be from a subject area other than the Cultural Studies selection.
African American and Diaspora Studies 101, 155, 221, 230
American Studies 100, 101, 104, 226
Anthropology (All regular Anthropology courses except 288a and above)
Art History 130, 245, 255, 256, 257
Classical Studies 207, 208, 209, 212, 213
Economics 100, 101, 226, 245, 266, 271
History (All regular History courses except 131, 293 and above)
Human and Organizational Development 2280, 2670
Jewish Studies 156
Music Literature/History 147, 160, 170, 171
Political Science 100 and above (except 280a and above)
Psychology—A&S (All courses except 209, 222, 225, 231, 242, 280a and above)
Psychology—Peabody (All courses except 2101, 2102, 2810, 2820, 2970, 2980, 2990)
Sociology (All regular Sociology courses except 280a and above)
Women's and Gender Studies 240, 243, 245, 264, 267, 268

LIBERAL CORE ELECTIVE. *3 hours.* Any course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

NOTES. Special topic courses are not ordinarily acceptable to meet liberal education core requirements. These courses require prior approval as substitute courses. Independent study courses are not acceptable to meet Liberal Education Core requirements.

Courses chosen to fulfill an area of the Liberal Education Core can only be used to satisfy that one requirement. You may not use the same course for two requirement areas. Exception: Courses used to fulfill the Writing Requirement may also be used to satisfy the appropriate Liberal Education Core area.

WRITING REQUIREMENT
All Peabody College freshmen who have not earned a combined score of 1220 on the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation all students must successfully complete a second writing-intensive course at the 100 or 200 level.

WRITING-INTENSIVE COURSES. *6 hours.*
English 102W, 106W, 112W, 118W, 120W
Engineering Science 210W
Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open to further enrollment.

Major Requirements. 30 hours.

Students take a minimum of 30 hours in Child Development. The core consists of seven courses (21 hours) in developmental areas, epochs, and methods, and a minimum of three additional courses (9 hours) in an elective area of specialization.

Major Core. 21 hours.

Psychology 1630. Developmental Psychology
Psychology 1500. Cognitive Aspects of Human Development
Psychology 1750. Social and Personality Development
Psychology 2102. Statistical Analysis

One of the following two courses:
Psychology 2250. Infancy
Psychology 2320. Adolescent Development

Two of the following four courses:
Psychology 2510. Experimental Methods
Psychology 2520. Observational Methods
Psychology 2530. Psychometric Methods
Psychology 2980 or 2990. Directed Research or Honors Research (Only 3 hours of either Directed Research or Honors Research can be applied to this requirement.)

Major Elective Area. A minimum of 9 hours.

Suggested courses include the following. With the approval of the adviser, program director, or Director of Undergraduate Studies, other courses may also be used as part of the Child Development Elective Area.

Education 2120. Parents and Their Developing Children
Education 2130. Early Childhood Education: Programs, Curriculum, and Teaching
Education 2140. Infants and Toddlers: Programs, Curriculum, and Teaching
English Education 2100. Literature and Drama for Young Children
English Education 2200. Exploring Literature for Children
Psychology 201. Neuroscience
Psychology 269. Developmental Neuroscience
Psychology 1150. Freshman Seminar
Psychology 1300. Cognition and Instruction
Psychology 1600. Psychology of Thinking
Psychology 1700. Social and Emotional Context of Cognition
Psychology 2000. Language and Representational Systems
Psychology 2100. Advanced Topical Seminars (This course is intended for students with junior or senior standing. May be repeated provided no duplication of content.)
Psychology 2230. Family, Career, and Gender: Developmental Perspectives
Psychology 2250. Infancy (if not taken as part of CD required courses)
Psychology 2310. Educational Psychology
Psychology 2320. Adolescent Development (if not taken as part of CD required courses)
Psychology 2510. Experimental Methods (if not taken as part of CD required courses)
Psychology 2520. Observational Methods (if not taken as part of CD required courses)
Psychology 2530. Psychometric Methods (if not taken as part of CD required courses)
Psychology 2560. Health Psychology
Psychology 2610. Ethical and Moral Development
Psychology 2690. Special Topic Seminars (These vary from semester to semester; any Psychology 2690 appropriate for Child Development is acceptable.)
Psychology 2700. Introduction to Clinical Psychology.
Psychology 2810.* Child Development Practicum
Psych/HOD 2890. Ethical Issues in Human Services

Psychology 2970.* Independent Study
Psychology 2980.* Directed Research
Psychology 2990.* Honors Research
Special Education 2020. Family Interventions
Special Education 2030. Introduction to Language and Communication
Special Education 2400. Early Education for Children with Disabilities
Special Education 2420. Developmental Assessment Strategies

Note: Research/experiential courses marked * above may be repeated freely for elective credit toward graduation. However, only a total of 6 hours from among these courses, in any combination, may be used as elective credit within the major.

Second Major or Electives. 50 hours (or less if additional hours are earned in the Liberal Education Core, Major Core, or Major Elective Area).

The Minor in Child Development

The minor in child development consists of 18 hours in the following courses:

Psychology 1630. Developmental Psychology
Psychology 2101. Introduction to Statistical Analysis (may be taken as part of the Liberal Education Core)

One of the following:
Psychology 1500. Cognitive Aspects of Human Development
Psychology 1750. Social & Personality Development

One of the following:
Psychology 2250. Infancy
Psychology 2320. Adolescent Development

One of the following:
Psychology 2510. Experimental Methods
Psychology 2520. Observational Methods
Psychology 2530. Psychometric Methods

One Child Development elective course
(Any of the courses above not taken to meet a minor requirement or any course listed as an elective for the Child Development. major)

The Five-year Child Development/Nursing Program

The five-year Child Development/Nursing Program combines the undergraduate major degree in child development with the requirements of the Master of Science in Nursing program in the School of Nursing. The prerequisites for admission to the five-year Child Development/Nursing Program are completed within the first three years of the undergraduate program; these include all requirements of the child development major and all prerequisites for admission to the Master of Science in Nursing (M.S.N.) program. Application to the M.S.N. program in the School of Nursing is made by December of the sophomore year, and admissions decisions are

made during the spring that follows. If admitted to the program, the student takes all senior year courses in the School of Nursing. The Bachelor of Science degree in child development is awarded after the completion of the senior year (and a minimum of 120 credit hours). The student continues in the Nursing program during the summer immediately following graduation and continues through the fifth year as a student in the School of Nursing. The Master of Science in Nursing is awarded upon completion of all Nursing program requirements, usually at the end of the fifth year of study.

Sample Curriculum Plan: Child Development Major/Nursing

		Semester Hours	
FRESHMAN YEAR	*30 hours*	Fall	Spring
Psychology 1630	Developmental Psychology	3	-
Psychology 1500	Cognitive Aspects of Human Development	-	3
Psychology 1750	Social and Personality Development	-	3
	Liberal Education Core	12	9
		15	**15**
SOPHOMORE YEAR	*32 hours*		
Psychology 2101	Statistics*	3	-
Psychology 2102	Statistics*	-	3
Nursing 150	Microbiology*-	-	4
One of the following:		3	-
Psychology 2250	Infancy		
Psychology 2320	Adolescent Development		
One of the following:		-	3
Psychology 2510	Experimental Methods		
Psychology 2520	Observational Methods		
Psychology 2530	Psychometric Methods		
	Liberal Education Core	10	6
		16	**16**
Application to the Nursing program: middle of the junior year			
JUNIOR YEAR	*31 hours*		
Nursing 210a	Anatomy & Physiology I**	4	-
Nursing 210b	Anatomy & Physiology II**	-	4
Nursing 231	Nutrition	- 2	
One of the following:		3	-
Psychology 2510	Experimental Methods		
Psychology 2520	Observational Methods		
Psychology 2530	Psychometric Methods		
	Child Development major elective area	6	6
	Liberal Education Core/Electives	3	3
		16	**15**

*Meets child development major requirement and Liberal Education Core requirement.

**Meets Five-Year Nursing Program requirement and Liberal Education Core requirement.

Pre-Specialty 5-Year Curriculum

SENIOR YEAR*
(If not admitted to the nursing program, the student will not take the courses below, but will take "regular" senior year courses [e.g., electives])

		Semester Hours Fall	Spring
Nursing 215	Foundations of Professional Nursing I	2	-
Nursing 225	Population-based Health Care	2	-
Nursing 235	Human Experience of Health and Illness I	4	-
Nursing 245	Fundamentals for Clinical Practice	5	-
Nursing 255	Basic Pharmacology	2	
	Semester Total	**15**	

*In the fall semester, students are enrolled officially in Peabody College and are charged undergraduate tuition; in the spring semester, students are enrolled officially in the School of Nursing and are charged School of Nursing tuition. The two tuition rates are different.

Nursing 216	Professional Nursing Seminar		1
Nursing 226	Health Care Systems Micro Issues	-	2
Nursing 236	Human Experience of Health and Illness II	-	5
Nursing 246	Integration of Theoretical and Clinical Aspects of Nursing I	-	4
Nursing 256	Strategies for Improving Self-Care		2
	Semester Total		**14**

Undergraduate degree (B.S. in child development) conferred at the end of the spring semester of the senior year.

SUMMER AFTER THE B.S. DEGREE

		Summer
Nursing 217	Foundations of Professional Nursing II	3
Nursing 227	Health Care Systems II	2
Nursing 237	Human Experience of Health & Illness III	4
Nursing 247	Integration of Theoretical and Clinical Aspects of Nursing II	2
Nursing 247B	Integration of Theoretical and Clinical Aspects of Nursing III	2
	Semester Total	**13**

FALL 15 + SPRING 14 + SUMMER 13 = 42 hours

FIFTH YEAR IN PRE-SPECIALTY
Student is enrolled full time in nursing in the fall, spring, and summer semesters. An additional 39 semester hours are earned in graduate (300-level) courses. Note that Nurse-Midwifery and Nurse-Midwifery Family Practitioner specialties require one or more additional semesters.


SOCIAL RELIGIOUS BUILDING
DEDICATED TO
THE GLORY OF GOD AND THE SERVICE OF MAN
FOR EDUC

Major in Child Studies

CHAIR Kathleen V. Hoover-Dempsey
DIRECTOR OF UNDERGRADUATE STUDIES Craig A. Smith
PROFESSORS Thomas H. Carr, David A. Cole, Bruce E. Compas, David S. Cordray, Elisabeth Dykens, Dale C. Farran, Judy Garber, John J. Rieser, James H. Steiger, Howard M. Sandler, Tedra Ann Walden
ASSOCIATE PROFESSORS Kathleen V. Hoover-Dempsey, Daniel T. Levin, Laura R. Novick, Craig A. Smith, Bahr Weiss
ASSISTANT PROFESSORS Jessica W. Giles, Bethany Rittle-Johnson, Megan Saylor, Georgene L. Troseth
ASSISTANT CLINICAL PROFESSORS Vicki S. Harris, Patti Parkison van Eys
SENIOR LECTURER Steven A. McFadyen-Ketchum

PEABODY has long had great strength in the area of child studies. The 36-hour interdisciplinary major in child studies draws on courses from psychology, education, special education, and human and organizational development. The major is excellent pre-professional preparation for students interested in graduate school in psychology or education, in law (e.g., child and family advocacy), or in various health related areas (e.g., medicine, nursing) involving children. It is also appropriate for students who are interested in gaining a broader understanding of children and families in contemporary society. The major areas covered are: developmental psychology; learning; research methods; language and literacy; and families, community, and diversity. Interested students should discuss the program with Craig Smith, associate professor of psychology and director of undergraduate studies.

Honors Program

The Honors Program in child studies offers qualified majors the opportunity to conduct individual research projects in collaboration with faculty members. This research experience culminates in the writing and public presentation of a senior thesis. Students who major in child studies are eligible to apply for the Honors Program at the end of their sophomore year if they have an overall grade point average of at least 3.2 and a 3.2 in child studies courses. Students who complete the program successfully and who have a final grade point average of at least 3.2 will receive Honors or High Honors in child studies. The program should substantially aid those intending to do graduate work. More specific information concerning admission to and the requirements of the Honors Program is available from the director of the Honors Program, the director of undergraduate studies, or the department education coordinator.

Curriculum

Students take a minimum of 120 hours, distributed as follows. [See explanatory material above and program of studies work sheets (available in the Office of Undergraduate Academic Affairs) for slight variations in programs of study for students pursuing Child Studies as a second major.]

Liberal Education Core Requirements. Minimum 40 hours.

COMMUNICATIONS *(6 hours)* from the following courses:
Communication Studies (All Communication Studies courses count except 280abc and above)
English 102W, 106W, 112W, 115F, 118W, 120W, 122, 123
Humanities 105W, 106W, 107W, 108W, 115F
Theatre 100, 115F

HUMANITIES *(9 hours and two fields required)* to include:
African American and Diaspora Studies 260
Arabic 210b and above
Art History 110, 111, 115F, 130, 200 and above (except 288 and above)
Chinese 202, 214, 216, 241, 242, 251, 252
Classical Studies 115F, 130, 146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
Computer Science 151
English (If the course selected has not been used to satisfy the Communications area) 102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133
French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)
Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and above)
Japanese 202 and above (except 289a and 289b)
Jewish Studies 135
Latin 102 and above (except 289)
Music MUSC 100 and above (except 294 and above); MUSL 103 and above (except 147, 160, 170, 289 and above)
Philosophy 100 and above (except 289a and 289b and above)
Physics 238
Portuguese 102 and above (except 225, 289, and 294)
Religious Studies 100 and above (except 280 and above)
Russian 102 and above (except 171, 172, 280a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 115F, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

MATHEMATICS *(6 hours)* to include:
Statistics (3 hours)
PSY 2101
Mathematics *(3 hours):* SAT II Math Test Score Level I of 620 and above or Level II of 570 and above will exempt a student from the three hour Mathematics requirement. Academic credit is not awarded for SAT II Scores.
Or
One of:
Mathematics 140, 150a, 150b, 155a, 155b
Computer Science 212

NATURAL SCIENCE. *7 hours.* One Biological Sciences or Nursing course is required.
One lab science (4 or 5 hours) from the following courses:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110a and 111a, 110b and 111b, 218, 219
Chemistry 101a, 101b, 102a and 104a, 102b and 104b
Geology 101 and 111, 102, 103 and 113, 225
Nursing 150, 210a, 210b
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b
And
One of the following *(3 hours)* (Must be a Biological Sciences or Nursing course if not taken as the lab science course):
Astronomy 102, 130, 175
Biological Sciences 105, 110a, 110b
Chemistry 102a, 102b
Geology 100, 101, 103, 106, 108, 150
Nursing 231a and 231b (231c is elective credit only)
Physics 105, 110
Psychology 201
Or
Two lab science courses (8-10 hours) will meet the Natural Science requirement.

CULTURAL STUDIES. *(3 hours)*
One course from the following;
African American and Diaspora Studies: 101, 110, 120, 155, 200, 201, 210, 215, 221, 230, 260
American Studies 100, 101, 104
Anthropology 101, 103, 106, 206, 207, 210, 214, 220, 222, 223, 226, 228, 232, 233, 234, 237, 243, 246, 247, 248, 249, 251, 253, 259, 260, 262, 263, 264, 265, 266, 267
Art History 120, 130, 222, 223, 234, 238, 239, 241, 242, 245, 251, 252, 253, 254, 255, 256, 257
Chinese 251, 252
Classics 130, 146, 150, 160, 171, 203, 204, 205, 206, 211, 217, 220, 222, 224, 236, 238
Communication Studies 223, 224, 228, 235, 240, 242
Comparative Literature 237, 240, 278, 285, 286, 287
Economics 224, 267, 288
East Asian Studies 211, 240
Education 2060
English 118W, 246, 260, 263, 267, 268a, 268b, 271, 275, 276, 277, 279g, 282
European Studies 201
Film Studies 133, 235

French 207, 208, 209, 215, 218, 232, 234, 239, 251, 255, 258, 261, 269, 270
Geology 205
German 172, 201, 216, 221, 222, 235, 237, 241, 270, 271, 273, 274, 275
Greek 212
History 140, 152, 154,155, 156, 157, 160, 161, 168, 169, 172, 180, 181, 182, 187, 201, 202, 204, 205, 206, 207, 208, 210, 211, 212, 213, 221, 222, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 246, 247, 248, 249, 250-260, 261, 262, 263, 264, 266, 267, 268, 269, 270, 271, 273, 276-280, 286, 287
Human and Organizational Development 2240, 2400, 2410, 2420, 2430, 2460, 2660
Humanities 107W, 156
Italian 230
Jewish Studies 120, 121, 135, 155, 156, 245, 250, 251, 252, 254, 255
Latin 206, 215
Latin American Studies 201, 235, 260
Medicine, Health, and Society 201
Music Literature 103, 160, 170, 171, 200, 201, 250, 252, 261, 262
Philosophy 103, 211, 235, 238, 252, 258, 261, 262, 263
Political Science 101, 102, 204, 205, 206, 208, 212, 213, 214, 215, 216, 217, 218, 219, 228, 230, 247, 263
Portuguese 225
Psychology—Peabody 2230; A&S 217, 240, 243, 266, 276
Religious Studies 107, 110W, 112, 113, 114, 130, 131, 132, 133, 145, 150, 204, 205, 206, 219, 220, 222, 223, 226, 228, 229, 230, 231, 232, 233, 241, 244, 249, 251, 254
Russian 171, 172, 231, 232, 234
Sociology 101, 102, 103, 104, 203, 215, 218, 224, 226, 227, 228, 229, 230, 234, 237, 239, 242, 244, 246, 248, 249, 250, 251, 254, 255, 256, 257, 258, 260, 261, 267, 268, 269, 272, 275, 276, 277, 278, 279, 291
Spanish 202, 204, 208, 221, 223, 226, 231, 235, 243, 244, 276,
Special Education 2060
Theatre 216
Women's and Gender Studies 150, 201, 210, 212, 226, 239, 240, 243, 244, 245, 261, 264, 265, 267, 268, 269, 270, 271, 272

SOCIAL SCIENCE. *6 hours.* 3 of the 6 hours must be from a subject area other than the Cultural Studies selection.
African American and Diaspora Studies 101, 155, 221, 230
American Studies 100, 101, 104, 226
Anthropology (All regular Anthropology courses except 288a and above)
Art History 130, 245, 255, 256, 257
Classical Studies 207, 208, 209, 212, 213
Economics 100, 101, 226, 245, 266, 271
History (All regular History courses except 131, 293 and above)
Human and Organizational Development 2280, 2670
Jewish Studies 156
Music Literature/History 147, 160, 170, 171
Political Science 100 and above (except 280a and above)
Psychology—A&S (All courses except 209, 222, 225, 231, 242, 280a and above)
Psychology—Peabody (All courses except 2101, 2102, 2810, 2820, 2970, 2980, 2990)
Sociology (All regular Sociology courses except 280a and above)
Women's and Gender Studies 240, 243, 245, 264, 267, 268

LIBERAL CORE ELECTIVE. *3 hours.* Any course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

NOTES. Special topic courses are not ordinarily acceptable to meet liberal education core requirements. These courses require prior approval as substitute courses. Independent study courses are not acceptable to meet Liberal Education Core requirements.

Courses chosen to fulfill an area of the Liberal Education Core can only be used to satisfy that one requirement. You may not use the same course for two requirement areas. Exception: Courses used to fulfill the Writing Requirement may also be used to satisfy the appropriate Liberal Education Core area.

WRITING REQUIREMENT

All Peabody College freshmen who have not earned a combined score of 1220 on the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation all students must successfully complete a second writing-intensive course at the 100 or 200 level.

WRITING-INTENSIVE COURSES. *6 hours.*
English 102W, 106W, 112W, 118W, 120W
Engineering Science 210W
Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open to further enrollment.

Child Studies Major Courses

DEVELOPMENT COURSES. *9 hours.*
Psychology1630. Developmental Psychology
Psychology1500. Cognitive Aspects of Human Development
Psychology1750. Social and Personality Development
Psychology2250. Infancy
Psychology2320. Adolescent Development

LEARNING. *3 hours.*
Mathematics Education 2100 or 2200
Science Education 2200 or Social Studies Education 2100
Psychology 1300. Cognition and Instruction
Psychology 2310. Educational Psychology
Special Education 2110. Managing Academic and Social Behavior
Special Education 2420. Assessment Procedures for Young Children

RESEARCH METHODS. *3 hours.*
Psychology 2510. Experimental Methods
Psychology 2520. Observational Methods
Psychology 2530. Psychometric Methods
HOD 1700. Systematic Inquiry

FAMILIES, COMMUNITY, AND DIVERSITY. *6 hours.*
Special Education 1010. Introduction to Exceptionality
Education 1020. Society, School, and the Teacher
Education 2120. Parents and their Developing Children
Special Education 2020. Family Intervention
Education 2920. Social and Philosophical Aspects of Education
HOD 2510. Health Service Delivery to Diverse Populations
HOD 2600. Social Problems I
Psychology 2470/HOD 2670. Introduction to Community Psychology

LANGUAGE AND LITERACY. *6 hours.*
Special Education 2030. Introduction to Language and Communication
EDUC 2115. Language and Literacy Learning in Young Children
Psychology 2000. Psychology and Language
English Education 2100. Literature and Drama for Young Children
or
English Education 2200. Exploring Literature for Children
Special Education 2640. Manual Communication I

ELECTIVES IN CHILD STUDIES. *9 hours.*
All courses listed above and
Psychology 1150. Freshman Seminar
Psychology 2100. Advanced Topical Seminars (This course is intended for students with junior or senior standing. May be repeated provided no duplication of content.)
Psychology 2102. Statistical Analysis
Psychology 2700. Introduction to Clinical Psychology
Psychology 2810.* Practicum: Child Development
Psychology 2970.* Independent Study
Psychology 2980.* Readings and Research for Undergraduates
Psychology 2990.* Honors Research

Note: Research/experiential courses marked * above may be repeated freely for elective credit toward graduation. However, only a total of 6 hours from among these courses, in any combination, may be used as elective credit within the major.

Major in Cognitive Studies

CHAIR Kathleen V. Hoover-Dempsey
DIRECTOR OF UNDERGRADUATE STUDIES Craig A. Smith
PROFESSORS Thomas H. Carr, Bruce E. Compas, John J. Rieser, Victoria J. Risko, Howard M. Sandler, Tedra Ann Walden
ASSOCIATE PROFESSORS Kathleen V. Hoover-Dempsey, Daniel Levin, Laura R. Novick, Deborah W. Rowe, Robert D. Sherwood, Craig A. Smith
ASSISTANT PROFESSORS Jessica W. Giles, Bethany Rittle-Johnson, Megan M. Saylor, Georgene L. Troseth
RESEARCH ASSISTANT PROFESSOR Julia Noland
SENIOR LECTURER Steven A. McFadyen-Ketchum

THE cognitive studies major is designed for students who wish to become active inquirers into the processes by which people learn to think, solve problems, and reason. The major encourages the development of flexible reasoning and problem-solving skills that are useful in a wide variety of endeavors. The major is excellent preparation for graduate study in the social and behavioral sciences as well as for areas (such as medicine and law) that place importance on inquiry and clear thinking.

The curriculum is planned to ensure that students receive a strong background in both science and the liberal arts, with an emphasis on problem solving and complex decision making. The courses in the core curriculum focus on various aspects of human cognition, including communication, cognitive development, basic cognitive processes, applications of theories of knowledge, and sociocultural aspects of learning. Students are encouraged to consult their advisers about pursuing a second major or developing an area of concentration that is consistent with their career plans. The major also emphasizes an appreciation of the scientific method and the research process; numerous opportunities exist to pursue independent study in close collaboration with faculty members.

Leadership and success in our society will depend increasingly on one's ability to process complex information, solve difficult problems using systematic analysis, and facilitate the learning of others. The knowledge and experience gained by students in cognitive studies will allow them to be full participants in the society of learners who represent the future.

Honors Program

The Honors Program in cognitive studies offers qualified majors the opportunity to conduct individual research projects in collaboration with faculty members. This research experience culminates in the writing and public presentation of a senior thesis. Students who major in cognitive studies are eligible to apply for the Honors Program at the end of their

sophomore year if they have an overall grade point average of at least 3.2 and a 3.2 in cognitive studies courses. Students who complete the program successfully and who have a final grade point average of at least 3.2 will receive Honors or High Honors in cognitive studies. The program should substantially aid those intending to do graduate work. More specific information concerning admission to and the requirements of the Honors Program is available from the director of the Honors Program, the director of undergraduate studies, or the department education coordinator.

Curriculum

Students take a minimum of 120 hours, distributed as follows. [See explanatory material above and program of studies work sheets (available in the Office of Undergraduate Academic Affairs) for slight variations in programs of study for students pursuing cognitive studies as a second major.]

Liberal Education Core Requirements. Minimum 40 hours.

COMMUNICATIONS *(6 hours)* from the following courses:
Communication Studies (All Communication Studies courses count except 280abc and above)
English 102W, 106W, 112W, 115F, 118W, 120W, 122, 123
Humanities 105W, 106W, 107W, 108W, 115F
Theatre 100, 115F

HUMANITIES *(9 hours and two fields required)* to include:
African American and Diaspora Studies 260
Arabic 210b and above
Art History 110, 111, 115F, 130, 200 and above (except 288 and above)
Chinese 202, 214, 216, 241, 242, 251, 252
Classical Studies 115F, 130, 146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
Computer Science 151
English (If the course selected has not been used to satisfy the Communications area) 102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133
French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)
Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and above)
Japanese 202 and above (except 289a and 289b)
Jewish Studies 135
Latin 102 and above (except 289)
Music MUSC 100 and above (except 294 and above); MUSL 103 and above (except 147, 160, 170, 289 and above)
Philosophy 100 and above (except 289a and 289b and above)
Physics 238
Portuguese 102 and above (except 225, 289, and 294)
Religious Studies 100 and above (except 280 and above)

Russian 102 and above (except 171, 172, 280a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 115F, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

MATHEMATICS *(6 hours)* to include:
Statistics (3 hours)
PSY 2101
Mathematics *(3 hours):* SAT II Math Test Score Level I of 620 and above or Level II of 570 and above will exempt a student from the three hour Mathematics requirement. Academic credit is not awarded for SAT II Scores.
Or
One of:
Mathematics 140, 150a, 150b, 155a, 155b
Computer Science 212

NATURAL SCIENCE. *7 hours.*
One lab science (4 or 5 hours) from the following courses:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110a and 111a, 110b and 111b, 218, 219
Chemistry 101a, 101b, 102a and 104a, 102b and 104b
Geology 101 and 111, 102, 103 and 113, 225
Nursing 150, 210a, 210b
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b
And
One of the following *(3 hours)*:
Astronomy 102, 130, 175
Biological Sciences 105, 110a, 110b
Chemistry 102a, 102b
Geology 100, 101, 103, 106, 108, 150
Nursing 231a and 231b (231c is elective credit only)
Physics 105, 110
Psychology 201
Or
Two lab science courses (8-10 hours) will meet the Natural Science requirement,

CULTURAL STUDIES. *(3 hours)*
One course from the following;
African American and Diaspora Studies: 101, 110, 120, 155, 200, 201, 210, 215, 221, 230, 260
American Studies 100, 101, 104
Anthropology 101, 103, 106, 206, 207, 210, 214, 220, 222, 223, 226, 228, 232, 233, 234, 237, 243, 246, 247, 248, 249, 251, 253, 259, 260, 262, 263, 264, 265, 266, 267
Art History 120, 130, 222, 223, 234, 238, 239, 241, 242, 245, 251, 252, 253, 254, 255, 256, 257
Chinese 251, 252
Classics 130, 146, 150, 160, 171, 203, 204, 205, 206, 211, 217, 220, 222, 224, 236, 238
Communication Studies 223, 224, 228, 235, 240, 242
Comparative Literature 237, 240, 278, 285, 286, 287
Economics 224, 267, 288
East Asian Studies 211, 240

Education 2060
English 118W, 246, 260, 263, 267, 268a, 268b, 271, 275, 276, 277, 279g, 282
European Studies 201
Film Studies 133, 235
French 207, 208, 209, 215, 218, 232, 234, 239, 251, 255, 258, 261, 269, 270
Geology 205
German 172, 201, 216, 221, 222, 235, 237, 241, 270, 271, 273, 274, 275
Greek 212
History 140, 152, 154,155, 156, 157, 160, 161, 168, 169, 172, 180, 181, 182, 187, 201, 202, 204, 205, 206, 207, 208, 210, 211, 212, 213, 221, 222, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 246, 247, 248, 249, 250-260, 261, 262, 263, 264, 266, 267, 268, 269, 270, 271, 273, 276-280, 286, 287
Human and Organizational Development 2240, 2400, 2410, 2420, 2430, 2460, 2660
Humanities 107W, 156
Italian 230
Jewish Studies 120, 121, 135, 155, 156, 245, 250, 251, 252, 254, 255
Latin 206, 215
Latin American Studies 201, 235, 260
Medicine, Health, and Society 201
Music Literature 103, 160, 170, 171, 200, 201, 250, 252, 261, 262
Philosophy 103, 211, 235, 238, 252, 258, 261, 262, 263
Political Science 101, 102, 204, 205, 206, 208, 212, 213, 214, 215, 216, 217, 218, 219, 228, 230, 247, 263
Portuguese 225
Psychology—Peabody 2230; A&S 217, 240, 243, 266, 276
Religious Studies 107, 110W, 112, 113, 114, 130, 131, 132, 133, 145, 150, 204, 205, 206, 219, 220, 222, 223, 226, 228, 229, 230, 231, 232, 233, 241, 244, 249, 251, 254
Russian 171, 172, 231, 232, 234
Sociology 101, 102, 103, 104, 203, 215, 218, 224, 226, 227, 228, 229, 230, 234, 237, 239, 242, 244, 246, 248, 249, 250, 251, 254, 255, 256, 257, 258, 260, 261, 267, 268, 269, 272, 275, 276, 277, 278, 279, 291
Spanish 202, 204, 208, 221, 223, 226, 231, 235, 243, 244, 276,
Special Education 2060
Theatre 216
Women's and Gender Studies 150, 201, 210, 212, 226, 239, 240, 243, 244, 245, 261, 264, 265, 267, 268, 269, 270, 271, 272

SOCIAL SCIENCE. *6 hours.* 3 of the 6 hours must be from a subject area other than the Cultural Studies selection.
African American and Diaspora Studies 101, 155, 221, 230
American Studies 100, 101, 104, 226
Anthropology (All regular Anthropology courses except 288a and above)
Art History 130, 245, 255, 256, 257
Classical Studies 207, 208, 209, 212, 213
Economics 100, 101, 226, 245, 266, 271
History (All regular History courses except 131, 293 and above)
Human and Organizational Development 2280, 2670
Jewish Studies 156
Music Literature/History 147, 160, 170, 171
Political Science 100 and above (except 280a and above)
Psychology—A&S (All courses except 209, 222, 225, 231, 242, 280a and above)

Psychology—Peabody (All courses except 2101, 2102, 2810, 2820, 2970, 2980, 2990)
Sociology (All regular Sociology courses except 280a and above)
Women's and Gender Studies 240, 243, 245, 264, 267, 268

LIBERAL CORE ELECTIVE. *3 hours.* Any course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

NOTES. Special topic courses are not ordinarily acceptable to meet liberal education core requirements. These courses require prior approval as substitute courses. Independent study courses are not acceptable to meet Liberal Education Core requirements.

Courses chosen to fulfill an area of the Liberal Education Core can only be used to satisfy that one requirement. You may not use the same course for two requirement areas. Exception: Courses used to fulfill the Writing Requirement may also be used to satisfy the appropriate Liberal Education Core area.

WRITING REQUIREMENT
All Peabody College freshmen who have not earned a combined score of 1220 on the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation all students must successfully complete a second writing-intensive course at the 100 or 200 level.

WRITING-INTENSIVE COURSES. *6 hours.*
English 102W, 106W, 112W, 118W, 120W
Engineering Science 210W
Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open to further enrollment.

Major Requirements. 33 hours.

Students take a minimum of 33 hours in Cognitive Studies. The core consists of four courses (12 hours), a minimum five additional courses (15 hours) in the elective area, and two courses (6 hours) in the Methods of Inquiry area.

Major Core. 12 hours.

Psychology 1200. Minds, Brains, Contexts, and Cultures
Psychology 1600. Psychology of Thinking
Psychology 2100. Advanced Topical Seminar
and Psychology 2510. Experimental Methods
or Psychology 208. Research Methods

Major Elective Area. 15 hours

Psychology 201.. Neuroscience
Psychology 1150. Freshman Seminar
Psychology 1300. Cognition and Instruction
Psychology 1500. Cognitive Aspects of Human Development

Psychology 1700. Social and Emotional Context of Cognition
Psychology 1750. Social and Personality Development
Psychology 2000. Psychology and Language
Psychology 2100. Advanced Topical Seminar (Intended for students with junior or senior standing. May be repeated if no duplication of content.)
Psychology 2310. Educational Psychology
Psychology 2560.. Health Psychology
Psychology 2700. Introduction to Clinical Psychology
Psychology 2970.* Independent Study
Psychology 2980.* Directed Research
Psychology 2990.* Honors Research
Special Education.2030. Introduction to Language and Communication

Note: Research/experiential courses marked * above may be repeated freely for elective credit toward graduation. However, only a total of 6 hours from among these courses, in any combination, may be used as elective credit within the major.

Methods of Inquiry. 6 hours.

May be used to satisfy Liberal Education Core requirements
Anthropology 211
Chemistry 210
Computer Science 101 or 212
Earth and Environmental Sciences 225
HOD 1700
Philosophy 102, 244
Psychology 2102, 2520, 2530
Psychology 2980, 2990 (Only 3 hours from either of these courses can be applied to this requirement)
Sociology 211
Special Education 2110 (with 2111)

Second Major and Electives. 51–52 hours.

The Minor in Cognitive Studies

The minor in cognitive studies consists of 15 hours in the following courses:

REQUIRED COURSES. *6 hours.*
Psychology 1200. Minds, Brains, Contexts, and Cultures
Psychology 1600. Psychology of Thinking

ELECTIVE COURSES. *9 hours.*
Psychology 1150. Freshman Seminar
Psychology 1300. Cognition and Instruction
Psychology 1500. Cognitive Aspects of Human Development
Psychology 1700. Social and Emotional Context of Cognition
Psychology 1750. Social and Personality Development

Psychology 2000. Psychology and Language
Psychology 2100. Advanced Topical Seminar (Intended for students with junior or senior standing. May be repeated if no duplication of content.)
Psychology 2310. Educational Psychology
Psychology 2560. Health Psychology
Psychology 2700. Introduction to Clinical Psychology
Psychology 2980/2990. Directed Research/Honors Research (may *not* be repeated for minor credit)
Special Education 2030. Introduction to Language and Communication

Majors in Early Childhood, Elementary, and Secondary Education

CHAIR, DEPARTMENT OF TEACHING AND LEARNING Leona Schauble
PROFESSORS EMERITI Jerold P. Bauch, Carolyn M. Evertson, Elizabeth Spencer Goldman, Charles B. Myers
PROFESSORS Paul A. Cobb, David Dickinson, Dale C. Farran, Rogers Hall, Robert Jimenez, Richard Lehrer, Victoria J. Risko, Leona Schauble
PROFESSOR OF THE PRACTICE EMERITA Earline D. Kendall
ASSOCIATE PROFESSORS Clifford A. Hofwolt, Deborah W. Rowe, Kay Johnson McClain
ASSOCIATE PROFESSOR OF THE PRACTICE Ann M. Neely
ASSISTANT PROFESSORS Kefyn M. Catley, Kevin M. Leander, Henry Richard Milner, Carin L. Neitzel
ASSISTANT PROFESSORS OF THE PRACTICE Amy B. Palmeri, Marie Hardenbrook
ASSISTANT CLINICAL PROFESSORS Tisha Bennett Sanders, Karon Jean LeCompte
SENIOR LECTURER Camille Holt

Early Childhood Education

THE major in early childhood education (ECE) is a field-oriented program designed to prepare students for work with children in nursery schools, preschool programs, and primary grades (grades PreK-4). Beginning in the freshman year, students observe and participate in local schools and agencies and in experimental classrooms on campus. Most Liberal Education Core courses are taken in the College of Arts and Science.

Students must combine a major in early childhood education with a second major in child studies. Course work beyond the standard 120-hour program may be required for some double majors.

Vanderbilt students seeking teacher licensure must apply through the Office of Teacher Licensure at Vanderbilt and must meet licensure requirements in effect at the time of their graduation, which may be different from licensure requirements in effect at the time they entered Vanderbilt. Licensure requirements are currently undergoing change. Each year, teacher licensure candidates should consult the current Vanderbilt *Undergraduate Catalog,* the *Undergraduate Guide to Teacher Licensure* published by the Vanderbilt Office of Teacher Licensure, and the *Undergraduate Handbook* published by the Office of Undergraduate Student Affairs.

B.S. Degree Requirements
Early Childhood Education (PreK–3 Licensure)

Liberal Education Core Requirements. Minimum 60 hours.

COMMUNICATIONS. *7 hours.* One "W" course *(3 hours)* required.
Six hours from:
English 102W, 106W, 112W, 115F, 118W, 120W
Humanities 105W, 106W, 107W, 108W, 115F
Education 2530
Communication Studies (All Communication Studies courses count except 280abc and above)
Theatre 100, 115F
Plus (1 hour)
Education 2040

HUMANITIES *(9 hours)* to include:
One course *(3 hours)* from the following:
African American and Diaspora Studies 260
Arabic 210b
Chinese 202
Classical Studies 115F, 130, 146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
English (If the course selected has not been used to satisfy the Communications area) 102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133
French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)
Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and 294)
Japanese 202 and above (except 289a and 289b)
Jewish Studies 135
Latin 102 and above (except 289)
Philosophy 100 and above (except 289a and 289b and 294)
Physics 238
Portuguese 102 and above (except 289 and 294)
Religious Studies 100 and above (except 280 and above)
Russian 102 and above (except 171, 172, 289a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

ART OR MUSIC *(3 hours)* from the following courses:
Art History 110 and above (except 288 and above)
Art Studio 101 and above (except 288 and above)
Classical Studies 203, 204, 205, 206, 216, 217
Music Composition 100 and above (except 294 and above)
Music Literature 103 and above (except 147, 160, 170, 289 and above)

Literature and Drama for Young Children *(3 hours)*:
English Education 2100

MATHEMATICS *(9 hours)* to include:
Statistics *(3 hours)*
PSY 2101
Mathematics 127a, 127b
Mathematics *(3 hours):* SAT II Math Test Score Level I of 620 and above or Level II of 570 and above will satisfy the 3 hour Mathematics requirement. Academic credit is not awarded for SAT II Scores.
Or
One of:
Mathematics 140, 150a, 150b, 155a, 155b
Mathematics 127a or 127b may be used here if not used for statistics requirement.
Mathematics Education 2100 *(3 hours)*

NATURAL SCIENCE. *7 hours*. One Biological Sciences or Nursing course is required.
One lab science (4 or 5 hours) from the following courses:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110a and 111a, 110b and 111b, 218, 219
Chemistry 101a, 101b, 102a and 104a, 102b and 104b
Geology 101 and 111, 102, 103 and 113, 225
Nursing 150, 210a, 210b
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b
And
One of the following *(3 hours)* (Must be a Biological Sciences or Nursing course if not taken as the lab science course):
Astronomy 102, 130, 175
Biological Sciences 105, 110a, 110b (105 is recommended)
Chemistry 102a, 102b
Geology 100, 101, 103, 106, 108, 150
Nursing 231a and 231b (231c is elective credit only)
Physics 105, 110
Psychology 201
Or
Two lab science courses (8-10 hours) will meet the Natural Science requirement, as long as one is a Biological Sciences course.

CULTURAL STUDIES. *(3 hours)*
One course from the following;
African American and Diaspora Studies: 101, 110, 120, 155, 200, 201, 210, 215, 221, 230, 260
American Studies 100, 101, 104
Anthropology 101, 103, 106, 206, 207, 210, 214, 220, 222, 223, 226, 228, 232, 233, 234, 237, 243, 246, 247, 248, 249, 251, 253, 259, 260, 262, 263, 264, 265, 266, 267
Art History 120, 130, 222, 223, 234, 238, 239, 241, 242, 245, 251, 252, 253, 254, 255, 256, 257
Chinese 251, 252
Classics 130, 146, 150, 160, 171, 203, 204, 205, 206, 211, 217, 220, 222, 224, 236, 238
Communication Studies 223, 224, 228, 235, 240, 242
Comparative Literature 237, 240, 278, 285, 286, 287
Economics 224, 267, 288
East Asian Studies 211, 240
Education 2060
English 118W, 246, 260, 263, 267, 268a, 268b, 271, 275, 276, 277, 279g, 282
European Studies 201

Film Studies 133, 235
French 207, 208, 209, 215, 218, 232, 234, 239, 251, 255, 258, 261, 269, 270
Geology 205
German 172, 201, 216, 221, 222, 235, 237, 241, 270, 271, 273, 274, 275
Greek 212
History 140, 152, 154,155, 156, 157, 160, 161, 168, 169, 172, 180, 181, 182, 187, 201, 202, 204, 205, 206, 207, 208, 210, 211, 212, 213, 221, 222, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 246, 247, 248, 249, 250-260, 261, 262, 263, 264, 266, 267, 268, 269, 270, 271, 273, 276-280, 286, 287
Human and Organizational Development 2240, 2400, 2410, 2420, 2430, 2460, 2660
Humanities 107W, 156
Italian 230
Jewish Studies 120, 121, 135, 155, 156, 245, 250, 251, 252, 254, 255
Latin 206, 215
Latin American Studies 201, 235, 260
Medicine, Health, and Society 201
Music Literature 103, 160, 170, 171, 200, 201, 250, 252, 261, 262
Philosophy 103, 211, 235, 238, 252, 258, 261, 262, 263
Political Science 101, 102, 204, 205, 206, 208, 212, 213, 214, 215, 216, 217, 218, 219, 228, 230, 247, 263
Portuguese 225
Psychology—Peabody 2230; A&S 217, 240, 243, 266, 276
Religious Studies 107, 110W, 112, 113, 114, 130, 131, 132, 133, 145, 150, 204, 205, 206, 219, 220, 222, 223, 226, 228, 229, 230, 231, 232, 233, 241, 244, 249, 251, 254
Russian 171, 172, 231, 232, 234
Sociology 101, 102, 103, 104, 203, 215, 218, 224, 226, 227, 228, 229, 230, 234, 237, 239, 242, 244, 246, 248, 249, 250, 251, 254, 255, 256, 257, 258, 260, 261, 267, 268, 269, 272, 275, 276, 277, 278, 279, 291
Spanish 202, 204, 208, 221, 223, 226, 231, 235, 243, 244, 276,
Special Education 2060
Theatre 216
Women's and Gender Studies 150, 201, 210, 212, 226, 239, 240, 243, 244, 245, 261, 264, 265, 267, 268, 269, 270, 271, 272

SOCIAL SCIENCE. *9 hours.*
United States History *(3 hours)*
History 170, 171, 172, 173, 176, 177, 271, 272, 274, 275, 276, 277, 278, 279, 280
Required Social Science Courses *(6 hours)*
Psychology 1630 (3)
Social Studies Education 2100 (3)

LIBERAL CORE ELECTIVE. *18 hours.* Any non-education course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

NOTES. Special topic courses are not acceptable to meet liberal education core requirements. Courses chosen to fulfill an area of the Liberal Education Core can only be used to satisfy that one requirement. You may not use the same course for two requirement areas. Exception: Courses used to fulfill the Writing Requirement may also be used to satisfy the appropriate Liberal Education Core area.

WRITING REQUIREMENT
All Peabody College freshmen who have not earned a combined score of 1220 on the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete

one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation all students must successfully complete a second writing-intensive course at the 100 or 200 level. Early childhood education majors can substitute an oral communications course for the second writing course to facilitate meeting licensure requirements.

WRITING-INTENSIVE COURSES. *6 hours.*
Communication Studies 100, 101
English 102W, 106W, 112W, 118W, 120W
Engineering Science 210W
Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W
Theatre 100

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing-intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open to further enrollment.

Professional Education Core. 27 hours.
EDUC 2117, 2130, 2140, 2150, 2180; HMED 2150; MTED 2150; SPED 2010, 2420, 2870

Field Experiences. 14 hours.
EDUC 2116, 2151, 2291, 2702

Interdisciplinary Major: Child Studies 36 hours.

Elementary Education

THE major in elementary education is field-oriented and designed to prepare students to teach children in grades K-8. Beginning in the freshman year, students observe and participate in local schools and experimental classrooms on campus. Most Liberal Education Core courses are taken in the College of Arts and Science.

Students must combine a major in elementary education with a second major in the liberal arts, an interdisciplinary major, or another major offered by Peabody College or the College of Arts and Science. Course work beyond the standard 120-hour program may be required for some double majors.

Vanderbilt students seeking teacher licensure must apply through the Office of Teacher Licensure at Vanderbilt and must meet licensure requirements in effect at the time of their graduation, which may be different from licensure requirements in effect at the time they entered the program. Licensure requirements are currently undergoing change. Each year, teacher licensure candidates should consult the current Vanderbilt *Undergraduate Catalog*, the *Undergraduate Guide to Teacher Licensure* published by the Vanderbilt Office of Teacher Licensure, and the *Undergraduate Handbook* published by the Office of Undergraduate Academic Affairs.

B.S. Degree Requirements
Elementary Education (K–8 Licensure)

Liberal Education Core Requirements. Minimum 60 hours.

COMMUNICATIONS. *7 hours.* One "W" course *(3 hours)* required.
Six hours from:
English 102W, 106W, 112W, 115F, 118W, 120W
Humanities 105W, 106W, 107W, 108W, 115F
Education 2530
Communication Studies (All Communication Studies courses count except 280abc and above)
Theatre 100, 115F
Plus (1 hour):
Education 2040

HUMANITIES *(9 hours)* to include:
One course *(3 hours)* from the following:
African American and Diaspora Studies 260
Arabic 210b
Chinese 202
Classical Studies 115F, 130, 146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
English (If the course selected has not been used to satisfy the Communications area)
102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133
French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)
Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and 294)
Japanese 202 and above (except 289a and 289b)
Jewish Studies 135
Latin 102 and above (except 289)
Philosophy 100 and above (except 289a and 289b and 294)
Physics 238
Portuguese 102 and above (except 289 and 294)
Religious Studies 100 and above (except 280 and above)
Russian 102 and above (except 171, 172, 289a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

ART OR MUSIC *(3 hours)* from the following courses:
Art History 110 and above (except 288 and above)
Art Studio 101 and above (except 288 and above)
Classical Studies 203, 204, 205, 206, 216, 217
Music Composition 100 and above (except 294 and above)
Music Literature 103 and above (except 147, 160, 170, 289 and above)

Exploring Literature for Children *or* Literature for Adolescents *(3 hours)*:
English Education 2200, 2920

MATHEMATICS *(9 hours)* to include:
Mathematics *(6 hours):*
Six hours (two courses) in mathematics or one mathematics course and PSY 2101
SAT II Math Test Score Level I of 620 & up or Level II of 570 & up will satisfy one course of the two mathematics course requirement. Academic credit is not awarded for SAT II test scores.
Mathematics 127a, 127b, 140, 150a, 150b, 155a, 155b, PSY 2101

Mathematics Education 2200 (3 hours)

NATURAL SCIENCE *(11 hours)* to include:
Two* lab sciences *(8-10 hours)* from:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110A and 111A, 110B and 111B, 218, 219
Chemistry 101A, 101B, 102A and 104A, 102B and 104B
Geology 101 and 111,102, 103 and 113, 225
Nursing 150, 210A, 210B
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b

*One lab science from Biological Sciences, Chemistry, Nursing, or Physics is required
Science Education 2200 is required *(3 hours).*

CULTURAL STUDIES. *(3 hours)*
One course from the following;
African American and Diaspora Studies: 101, 110, 120, 155, 200, 201, 210, 215, 221, 230, 260
American Studies 100, 101, 104
Anthropology 101, 103, 106, 206, 207, 210, 214, 220, 222, 223, 226, 228, 232, 233, 234, 237, 243, 246, 247, 248, 249, 251, 253, 259, 260, 262, 263, 264, 265, 266, 267
Art History 120, 130, 222, 223, 234, 238, 239, 241, 242, 245, 251, 252, 253, 254, 255, 256, 257
Chinese 251, 252
Classics 130, 146, 150, 160, 171, 203, 204, 205, 206, 211, 217, 220, 222, 224, 236, 238
Communication Studies 223, 224, 228, 235, 240, 242
Comparative Literature 237, 240, 278, 285, 286, 287
Economics 224, 267, 288
East Asian Studies 211, 240
Education 2060
English 118W, 246, 260, 263, 267, 268a, 268b, 271, 275, 276, 277, 279g, 282
European Studies 201
Film Studies 133, 235
French 207, 208, 209, 215, 218, 232, 234, 239, 251, 255, 258, 261, 269, 270
Geology 205
German 172, 201, 216, 221, 222, 235, 237, 241, 270, 271, 273, 274, 275
Greek 212
History 140, 152, 154,155, 156, 157, 160, 161, 168, 169, 172, 180, 181, 182, 187, 201, 202, 204, 205, 206, 207, 208, 210, 211, 212, 213, 221, 222, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 246, 247, 248, 249, 250-260, 261, 262, 263, 264, 266, 267, 268, 269, 270, 271, 273, 276-280, 286, 287
Human and Organizational Development 2240, 2400, 2410, 2420, 2430, 2460, 2660
Humanities 107W, 156
Italian 230
Jewish Studies 120, 121, 135, 155, 156, 245, 250, 251, 252, 254, 255
Latin 206, 215
Latin American Studies 201, 235, 260

Medicine, Health, and Society 201
Music Literature 103, 160, 170, 171, 200, 201, 250, 252, 261, 262
Philosophy 103, 211, 235, 238, 252, 258, 261, 262, 263
Political Science 101, 102, 204, 205, 206, 208, 212, 213, 214, 215, 216, 217, 218, 219, 228, 230, 247, 263
Portuguese 225
Psychology—Peabody 2230; A&S 217, 240, 243, 266, 276
Religious Studies 107, 110W, 112, 113, 114, 130, 131, 132, 133, 145, 150, 204, 205, 206, 219, 220, 222, 223, 226, 228, 229, 230, 231, 232, 233, 241, 244, 249, 251, 254
Russian 171, 172, 231, 232, 234
Sociology 101, 102, 103, 104, 203, 215, 218, 224, 226, 227, 228, 229, 230, 234, 237, 239, 242, 244, 246, 248, 249, 250, 251, 254, 255, 256, 257, 258, 260, 261, 267, 268, 269, 272, 275, 276, 277, 278, 279, 291
Spanish 202, 204, 208, 221, 223, 226, 231, 235, 243, 244, 276,
Special Education 2060
Theatre 216
Women's and Gender Studies 150, 201, 210, 212, 226, 239, 240, 243, 244, 245, 261, 264, 265, 267, 268, 269, 270, 271, 272

SOCIAL SCIENCE. *6 hours.*
United States History *(3 hours)*
History 170, 171, 172, 173, 176, 177, 271, 272, 274, 275, 276, 277, 278, 279, 280
Required Social Science Course *(3 hours)*
Psychology 1630

LIBERAL CORE ELECTIVE. *15 hours.* Any non-education course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

NOTES. Special topic courses are not acceptable to meet liberal education core requirements. Courses chosen to fulfill an area of the Liberal Education Core can only be used to satisfy that one requirement. You may not use the same course for two requirement areas. Exception: Courses used to fulfill the Writing Requirement may also be used to satisfy the appropriate Liberal Education Core area.

WRITING REQUIREMENT
All Peabody College freshmen who have not earned a combined score of 1220 on the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation all students must successfully complete a second writing-intensive course at the 100 or 200 level. Elementary education majors can substitute an oral communications course for the second writing course to facilitate meeting licensure requirements.

WRITING-INTENSIVE COURSES. *6 hours.*
Communication Studies 100, 101
English 102W, 106W, 112W, 118W, 120W
Engineering Science 210W
Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W
Theatre 100

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing-intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open to further enrollment.

Professional Education Core. 28 hours.

EDUC 1020, 2215, 2217, 2270, 2430; MTED 2250; SCED 2250; SSED 2210; HMED 2250; SPED 1010; PSY 2310

Field Experiences. 15 hours.

EDUC 2210, 2216, 2250, 2290, 2701

Additional hours toward major or electives. 17 hours.

Teacher Placement in Cambridge

Students who major in early childhood or elementary education are required to complete a semester-long teacher placement. Students may apply to fulfill part of this requirement in Cambridge, England, during the summer before their senior year

Information about teacher placement in Cambridge is available from the Department of Teaching and Learning.

Secondary Education

THE major in secondary education is designed to prepare the student to teach one or more subjects at the secondary level (grades 7–12). Students must complete Liberal Education Core requirements, Professional Education requirements, and a primary area of emphasis in at least one endorsement field, which involves 27 to 36 hours of course work in the discipline and results in a major in that area as defined by the College of Arts and Science. Specific requirements for a second area of endorsement may be obtained from the Office of Teacher Licensure in the Peabody Administration Building. Students must take the appropriate methods course for each area of endorsement.

Vanderbilt students seeking teacher licensure must apply through the Peabody Office of Teacher Licensure and must meet licensure requirements in effect at the time of their graduation, which may be different from licensure requirements in effect at the time they entered Vanderbilt. Licensure requirements are currently undergoing change. Each year, teacher licensure candidates should consult the current Vanderbilt *Undergraduate Catalog,* the *Undergraduate Guide to Teacher Licensure* published by the Vanderbilt Office of Teacher Licensure, and the *Undergraduate Handbook* published by the Office of Undergraduate Academic Affairs.

B.S. Degree Requirements
Secondary Education (7–12 Licensure)

Liberal Education Core Requirements. Minimum 60 hours.

COMMUNICATIONS. *7 hours.* One "W" course *(3 hours)* required.
Six hours from:
English 102W, 106W, 112W, 115F, 118W, 120W
Humanities 105W, 106W, 107W, 108W, 115F
Education 2530
Communication Studies (All Communication Studies courses count except 280abc and above)
Theatre 100, 115F
Plus (1 hour):
Education 2040

HUMANITIES *(9 hours)* to include:
Two fields required from:
African American and Diaspora Studies 260
Arabic 210b
Art History 110 and above (except 288 and above)
Art Studio 101 and above (except 288 and above)
Chinese 202
Classical Studies 115F, 130, 146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
English (If the course selected has not been used to satisfy the Communications area) 102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133
French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)
Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and 294)
Japanese 202 and above (except 289a and 289b)
Jewish Studies 135
Latin 102 and above (except 289)
Music Composition 100 and above (except 294 and above)
Music Literature 103 and above (except 147, 160, 170, 289 and above)
Philosophy 100 and above (except 289a and 289b and 294)
Physics 238
Portuguese 102 and above (except 289 and 294)
Religious Studies 100 and above (except 280 and above)
Russian 102 and above (except 171, 172, 289a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

MATHEMATICS *(6 hours)* (two courses):
SAT II Math Test Score Level I of 620 and above or Level II of 570 and above will satisfy one of the two course mathematics requirement. Academic credit is not awarded for SAT II test scores. Students with SAT II Math course exemption should take three additional elective Liberal Education Core hours.
Mathematics 127a, 127b, 140, 150a, 150b, 155a, 155b, PSY 2101

NATURAL SCIENCE *(7 hours)* to include:
One lab science (4 or 5 hours) from:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110a and 111a, 110b and 111b, 218, 219
Chemistry 101a, 101b, 102a and 104a, 102b and 104b
Geology 101 and 111,102, 103 and 113, 225
Nursing 150, 210a, 210b
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b

And one of the following (three hours):
Astronomy 102, 130, 175
Biological Sciences 105, 110a, 110b (105 is recommended)
Chemistry 102a, 102b
Geology 100, 101, 103, 106, 108, 150
Nursing 231a and 231b (231c is elective credit only)
Psychology 201
Physics 105, 110
Or two lab science courses (8-10 hours) will meet the Natural Science requirement

CULTURAL STUDIES. *(3 hours)*
One course from the following;
African American and Diaspora Studies: 101, 110, 120, 155, 200, 201, 210, 215, 221, 230, 260
American Studies 100, 101, 104
Anthropology 101, 103, 106, 206, 207, 210, 214, 220, 222, 223, 226, 228, 232, 233, 234, 237, 243, 246, 247, 248, 249, 251, 253, 259, 260, 262, 263, 264, 265, 266, 267
Art History 120, 130, 222, 223, 234, 238, 239, 241, 242, 245, 251, 252, 253, 254, 255, 256, 257
Chinese 251, 252
Classics 130, 146, 150, 160, 171, 203, 204, 205, 206, 211, 217, 220, 222, 224, 236, 238
Communication Studies 223, 224, 228, 235, 240, 242
Comparative Literature 237, 240, 278, 285, 286, 287
Economics 224, 267, 288
Education 2060
English 118W, 246, 260, 263, 267, 268a, 268b, 271, 275, 276, 277, 279g, 282
European Studies 201
Film Studies 133, 235
French 207, 208, 209, 215, 218, 232, 234, 239, 251, 255, 258, 261, 269, 270
Geology 205
German 172, 201, 216, 221, 222, 235, 237, 241, 270, 271, 273, 274, 275
Greek 212
History 140, 152, 154,155, 156, 157, 160, 161, 168, 169, 172, 180, 181, 182, 187, 201, 202, 204, 205, 206, 207, 208, 210, 211, 212, 213, 221, 222, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 246, 247, 248, 249, 250-260, 261, 262, 263, 264, 266, 267, 268, 269, 270, 271, 273, 276-280, 286, 287

Human and Organizational Development 2240, 2400, 2410, 2420, 2430, 2460, 2660
Humanities 107W, 156
Italian 230
Jewish Studies 120, 121, 135, 155, 156, 245, 250, 251, 252, 254, 255
Latin 206, 215
Latin American Studies 201, 235, 260
Medicine, Health, and Society 201
Music Literature 103, 160, 170, 171, 200, 201, 250, 252, 261, 262
Philosophy 103, 211, 235, 238, 252, 258, 261, 262, 263
Political Science 101, 102, 204, 205, 206, 208, 212, 213, 214, 215, 216, 217, 218, 219, 228, 230, 247, 263
Portuguese 225
Psychology—Peabody 2230; A&S 217, 240, 243, 266, 276
Religious Studies 107, 110W, 112, 113, 114, 130, 131, 132, 133, 145, 150, 204, 205, 206, 219, 220, 222, 223, 226, 228, 229, 230, 231, 232, 233, 241, 244, 249, 251, 254
Russian 171, 172, 231, 232, 234
Sociology 101, 102, 103, 104, 203, 215, 218, 224, 226, 227, 228, 229, 230, 234, 237, 239, 242, 244, 246, 248, 249, 250, 251, 254, 255, 256, 257, 258, 260, 261, 267, 268, 269, 272, 275, 276, 277, 278, 279, 291
Spanish 202, 204, 208, 221, 223, 226, 231, 235, 243, 244, 276,
Special Education 2060
Theatre 216
Women's and Gender Studies 150, 201, 210, 212, 226, 239, 240, 243, 244, 245, 261, 264, 265, 267, 268, 269, 270, 271, 272

SOCIAL SCIENCE. *6 hours.*
United States History *(3 hours)*
History 170, 171, 172, 173, 176, 177, 271, 272, 274, 275, 276, 277, 278, 279, 280
Required Social Science Course *(3 hours)*
Psychology 2320

LIBERAL CORE ELECTIVE. *22 hours.* Any non-education course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

NOTES. Special topic courses are not acceptable to meet liberal education core requirements. Courses chosen to fulfill an area of the Liberal Education Core can only be used to satisfy that one requirement. You may not use the same course for two requirement areas. Exception: Courses used to fulfill the Writing Requirement may also be used to satisfy the appropriate Liberal Education Core area.

WRITING REQUIREMENT
All Peabody College freshmen who have not earned a combined score of 1220 on the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation all students must successfully complete a second writing-intensive course at the 100 or 200 level. Secondary education majors can substitute an oral communications course for the second writing course to facilitate meeting licensure requirements.

WRITING-INTENSIVE COURSES. *6 hours.*
Communication Studies 100, 101
English 102W, 106W, 112W, 118W, 120W

Engineering Science 210W
Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W
Theatre 100

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing-intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open to further enrollment.

Professional Education Core. 20 hours.

EDUC 1020, 2310, 2530, 2920; SPED 1010; Literacy course; Teaching Methods course

Field Experiences. 15 hours.

EDUC 2340, 2350, 2360; EDUC 2292, 2703

Additional hours toward second major or electives. 25 hours minimum.

Major in Human and Organizational Development

CHAIR Joseph J. Cunningham
DIRECTOR OF UNDERGRADUATE STUDIES Robert B. Innes
PROFESSOR EMERITUS J. Robert Newbrough
PROFESSORS Leonard Bickman, John M. Braxton, Robert L. Crowson, Jr., Paul R. Dokecki, Ellen B. Goldring, James W. Guthrie, Stephen P. Heyneman, Carolyn Hughes, Joseph F. Murphy, William L. Partridge, Andrew C. Porter, Isaac Prilleltensky, Kenneth A. Wallston
PROFESSORS OF THE PRACTICE Vera A. Stevens Chatman, Janet S. Eyler, Sharon L. Shields
ASSOCIATE PROFESSOR EMERITUS Richard L. Percy
ASSOCIATE PROFESSORS Dale Ballou, Mark Berends, R. Wilburn Clouse, Joseph J. Cunningham, Craig Anne Heflinger, Robert B. Innes, Douglas D. Perkins, Paul W. Speer
ASSISTANT PROFESSORS Mark D. Cannon, Laura Desimone, William Doyle, Michael K. McClendon, Maury Nation, Thomas M. Smith
ASSISTANT CLINICAL PROFESSORS Victoria Davis, Brian A. Griffith, H. Lorraine Schnieders
ASSISTANT PROFESSOR OF THE PRACTICE Gina L. Frieden
SENIOR LECTURERS John Bachmann, Trish Kelly
LECTURERS Leonard Bradley, Michael Gavlick, Susan K. Friedman, Linda Isaacs, Ora Prilleltensky, Dayle Savage
CLINICAL INSTRUCTOR Kristen Tompkins

THE Human and Organizational Development major is designed for students interested in careers that involve finding solutions to human problems in organizations and communities. Graduates are prepared to assume positions in corporations and businesses, government agencies, and nonprofit organizations. Many students in the program enter graduate programs or professional programs in business, counseling, divinity, education, health promotion, human resource development, law, or medicine.

The curriculum is planned to ensure that students obtain a strong foundation in science and liberal arts, with emphasis on developing writing, oral presentation, and quantitative skills. Courses in the program's core curriculum concentrate on building basic skills in interpersonal communication, group leadership, organizational development, administration, and training. Students acquire an understanding of human behavior in groups, organizations, and larger systems.

In addition to the core curriculum, students select one of five areas of concentration that provide a focus for their study during the junior and senior years: Community Leadership and Development, Health and Human Services, International Leadership and Development, Leadership and Organizational Effectiveness, and Public Policy.

The program makes use of the active learning approach. Students learn new ideas and methods through seminars, simulation, role playing, case

studies, field experiences, and interaction with professionals in the field. Students majoring in Human and Organizational Development are required to complete a semester-long internship that incorporates practicum experience with the completion of a specific project that enhances the effectiveness of the organization. The internship provides an opportunity for students to integrate the theories and concepts learned in prior courses with experience in an organizational setting. Students can apply for internships in Nashville, Atlanta, New York, San Francisco, Washington, D. C., and London, England.

Honors Program

The HOD Honors Program is designed for highly motivated students who are looking for an opportunity to pursue intensive study in personal areas of interest. The Honors Program offers outstanding undergraduate HOD majors an opportunity to undertake advanced reading and become involved in research teams with professors and graduate students. The program also offers special opportunities for individual supervision that will help students develop writing and presentation skills to compete successfully in the world's best graduate programs.

The program is open to students who have completed the freshman year with a 3.5 cumulative (overall) GPA. Students with a 3.5 average in HOD courses are eligible to participate in topical honors seminars scheduled each semester. Honors students are expected to take one or two honors seminars and are encouraged to take at least one graduate course in their area of interest. Continuation in the Honors Program requires the maintenance of a cumulative GPA of 3.5 or better. Interested students should contact the HOD Program Director for more information.

Curriculum

Students take a minimum of 120 hours, distributed as follows. [See explanatory material above and program of studies work sheets (available in the Office of Undergraduate Academic Affairs) for slight variations.]

Liberal Education Core Requirements. 40 hours.

COMMUNICATIONS. *6 hours.*
Communication Studies (All Communication Studies courses count except 280abc and above)
English 102W, 106W, 112W, 115F, 118W, 120W, 122, 123
Humanities 105W, 106W, 107W, 108W, 115F
Theatre 100, 115F

HUMANITIES. *(9 hours and two fields)* to include:
Philosophy *(3 hours):*
All Philosophy courses (except 289ab and above) (105 is recommended)
Political Science 203
Other Humanities courses *(6 hours)*

African American and Diaspora Studies 260
Arabic 210b and above
Art History 110, 111, 115F, 130, 210 and above (except 288 and above)
Chinese 202, 214, 216, 241, 242, 251, 252
Classical Studies 115F, 130, 146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
Computer Science 151
English (The same course may not count for both Communications and Humanities) 102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133
French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)
Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and above)
Japanese 202 and above (except 289ab)
Jewish Studies 135
Latin 102 and above (except 289)
Music MUSC 100 and above (except 294 and above); MUSL 103 and above (except 147, 160, 170, 289 and above)
Philosophy 100 and above (except 289ab and above)
Physics 238
Portuguese 102 and above (except 225, 289 and 294)
Religious Studies 100 and above (except 280 and above)
Russian 102 and above (except 171, 172, 280a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 115F, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

The Humanities Area cannot be met with three philosophy courses.Two different fields are required.

MATHEMATICS *(6 hours)*
Statistics (3 hours):
Economics 150
or
Psychology 209, 2101
Mathematics (3 hours):
SAT II Math Test Score Level I of 620 and above or Level II of 570 and above will exempt a student from the three hour Mathematics requirement. Academic credit is not awarded for SAT II Scores.
or
One of Mathematics 140, 150a, 150b, 155a, 155b (140 is recommended)

NATURAL SCIENCE *(7 hours)*
One lab science (4 or 5 hours) from:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110a and 111a, 110b and 111b, 218, 219
Chemistry 101a, 101b, 102a and 104a, 102b and 104b
Geology 101 and 111, 102, 103 and 113, 225

Nursing 150, 210a, 210b
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b

And one of the following (3 hours):
Astronomy 102, 130, 175
Biological Sciences 105, 110a, 110b
Chemistry 102a, 102b
Geology 100, 101, 103, 106, 108, 150
Nursing 231a and 231b
Physics 105, 110
Psychology 201

Or two lab science courses (8-10 hours) will meet the Natural Science requirement

SOCIAL SCIENCE *(9 hours and two fields required)* to include:
Economics (3 hours):
One course from Economics 100, 101, HOD 2260 (Economics 115F does not count in this area)
Other Social Science courses (6 hours):
African American Studies 101, 155, 221, 230
American Studies 100, 101, 104, 226
Anthropology (All regular Anthropology courses except 288a and above)
Art History 130, 245, 255, 256, 257
Classical Studies 207, 208, 209, 212, 213
Economics 100, 101, 226, 266, 271 (if not used for required Economics course)
History (All regular History courses except 131, 293 and above)
Human and Organizational Development 2280, 2670
Jewish Studies 156
Music Literature/History MUSL 147, 160, 170, 171
Political Science 100 and above (except 280a and above)
Psychology—A&S (All regular courses except 209, 222, 225, 231, 280 and above)
Psychology—Peabody (All regular courses except 2101, 2102, 2810, 2820, 2970 and above)
Sociology (All regular Sociology courses except 280a and above)
Women's and Gender Studies 226, 240, 243, 245, 264, 267, 268

LIBERAL CORE ELECTIVE. *3 hours.* Any course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

NOTE: Special topic courses and independent study courses are not acceptable to meet liberal education core requirements.

WRITING REQUIREMENT
All Peabody College freshmen who have not earned a combined score of 1220 in the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation, all students must successfully complete a second writing course at the 100 or 200 level.

WRITING INTENSIVE COURSES. *6 hours.*
English 102W, 106W, 112W, 118W, 120W
Engineering Science 210W

Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open.

Human and Organizational Development Professional Core. 17–22 hours.

These courses are listed in the Courses of Study section under Human and Organizational Development and will include the following topics:

Communication and leadership skills
Developing human and organizational talent
Ethics for human development professionals
Human service and private sector organizations
Leadership and organizational effectiveness
Life-span human development
Organizational and human resource development
Public policy analysis
Small group behavior
Systematic inquiry

Practicum and Internship. 12–18 hours.

The program includes a full-time internship (12–15 hours) and an optional 3-hour practicum experience.

Track. 15 hours. (Students in the Community Leadership and Development track and the Health and Human Services track with a second major are required to take 9 track hours. Students in the International Leadership and Development, the Leadership and Organizational Effectiveness, and the Public Policy tracks with a second major are required to take 15 track hours.)

A block of courses within the student's area of concentration: (1) Community Leadership and Development, (2) Health and Human Services, (3) Health and Human Services, (4) Leadership and Organizational Effectiveness, and (5) Public Policy.

Electives. 25-42 hours.

The Minor in Human and Organizational Development

The minor in human and organizational development consists of 18 hours in the following courses:

REQUIRED COURSES. *9 hours*
HOD 1000. Applied Human Development (3)
HOD 1100. Small Group Behavior (3)
HOD 1200. Understanding Organizations (3)

ELECTIVE COURSES. *9 hours*

9 hours at the 2000-level with either

All 9 hours in a given track:

Community Leadership and Development Track
The 9-hour CLD track core includes the following required courses:
HOD 2600 Community Development Theory
HOD 2670 Introduction to Community Psychology
One course chosen from the following two options:
HOD 2610 Community Development Organizations and Policies
HOD 2620 Action Research and Program Evaluation

Health and Human Services Track
The 9-hour HHS track core includes the following courses:
HOD 2510 Health Service Delivery to Diverse Populations
Two courses chosen from the following three options:
HOD 2500 Introduction to Human Services
HOD 2505 Introduction to Counseling
HOD 2525 Introduction to Health Services

International Leadership and Development Track
The 9-hour ILD track core has the following required courses:
HOD 2400 Global Dimensions of Community Development
HOD 2410 Leadership and Change in International Organizations
HOD 2420 International Organizations and Economic Development

Leadership and Organizational Effectiveness Track
The 9-hour LOE track core includes the following required courses:
HOD 2700 Leadership Theory and Practice
HOD 2720 Advanced Organizational Theory
One course chosen from the following three options:
HOD 2730 Introduction to Human Resource Development
HOD 2740 Human Resource Management
HOD 2750 Managing Organizational Change

Public Policy Track
The 9-hour PP track core has the following required courses:
HOD 2800 Policy Analysis Methods
HOD 2810 Politics of Public Policy
HOD 2820 Introduction to Public Finance

or
Two of the five introductory track courses:
HOD 2500. Introduction to Human Services *or* HOD 2525. Introduction to Health Services
HOD 2600. Community Development Theory *or* HOD 2670. Introduction to Community Psychology
HOD 2400. Global Dimensions of Community Development
HOD 2700. Leadership Theory and Practice
HOD 2800. Policy Analysis Methods
and
One additional 3-hour HOD course

Major in Special Education

CHAIR Daniel J. Reschly
PROFESSORS Anne L. Corn, Steve Elliott, Donna Ford, Douglas Fuchs, Lynn S. Fuchs, Steve Graham, Karen Harris, Robert Hodapp, Carolyn Hughes, Ann P. Kaiser, Craig H. Kennedy. Daniel J. Reschly, Mark Wolery, Paul J. Yoder
RESEARCH PROFESSOR Teris K. Schery
ASSOCIATE PROFESSORS Donald L. Compton, Joseph J. Cunningham, Mary Louise Hemmeter, Joseph H. Wehby
ASSOCIATE PROFESSOR OF THE PRACTICE Kimberly J. Paulsen
ASSISTANT PROFESSOR Kathleen Lynne Lane
ASSISTANT PROFESSOR OF THE PRACTICE Ruth A. Wolery
RESEARCH ASSISTANT PROFESSORS Terry B. Hancock, P. J. McWilliam
INSTRUCTOR Gail H. Zika

THE undergraduate program in special education prepares students to work with persons with disabilities and leads to licensure in special education. Students pursue an interdisciplinary major in exceptional learning with emphasis in one of the four specialty areas: mild and moderate disabilities (modified program), multiple and severe disabilities (comprehensive program), visual impairment, or hearing impairment. This major can be combined with other majors in education, human and organizational development, cognitive studies, child development, or Arts and Science. The program is field oriented and problem centered, with most professional courses requiring direct involvement with individuals with disabilities. Beginning in the freshman year, students observe and work in a variety of educational settings in local schools and in classrooms on campus.

Vanderbilt students seeking teacher licensure must apply through the Office of Teacher Licensure at Vanderbilt and must meet licensure requirements in effect at the time of their graduation, which may be different from licensure requirements in effect at the time they entered the program. Each year, teacher licensure candidates should consult the current Vanderbilt *Undergraduate Catalog,* the *Undergraduate Guide to Teacher Licensure* published by the Vanderbilt Office of Teacher Licensure, and the *Undergraduate Handbook* published by the Office of Administration and Records.

The Special Education Honors Program

The Special Education Honors Program offers students the opportunity to gain more intensive experience conducting scientific research with a faculty mentor than is usually possible within the major. Participation in this program affords students the opportunity to collaborate on cutting-edge

research in their major area, and to gain research skills and experiences that are of considerable value not only in preparation for graduate training, but also in a variety of work settings. Students apply to participate in this program in the spring of their sophomore year, and the program is open to all students taking special education as a first or second major who maintain at least a 3.0 overall GPA and a 3.5 GPA in their major. Participants in this program take special sections of research-oriented courses while working collaboratively with their research mentor for at least three of the four semesters of their junior and senior years. Participation in the program culminates in the completion of an Honors Thesis and a public presentation of the research conducted as a part of this thesis. The program is flexible enough to accommodate students who need to student teach during one semester of their senior year, and students who want to spend a semester abroad. Students who successfully complete the Honors Program and maintain the required GPAs graduate with the special designation of "Honors" in their special education major.

B.S. Degree Requirements
Special Education

Specializations are available in mild to moderate disabilities (grades K–12 modified program), multiple and severe disabilities (grades K–12 comprehensive program), visual impairment (grades PreK–12), and hearing impairment (grades PreK–12). Total hours will vary depending on the area of specialization.

Liberal Education Core Requirements. Minimum 60 hours.

COMMUNICATIONS. *10 hours.*
6 hours—One "W" Course required
English 102W, 106W, 112W, 115F, 118W, 120W
Humanities 105W, 106W, 107W, 108W, 115F
Communication Studies (All Communication Studies courses except 280abc and above)
Theatre 100, 115F
and
Education 2040 (1 hour)
and
Special Education 2030 (3 hours)

HUMANITIES *(9 hours)* to include:
Two courses (6 hours) from the following courses:
African American and Diaspora Studies 260
Arabic 201b and above
Chinese 202
Classical Studies 115F, 130,146, 150, 203, 204, 205, 206, 216, 217, 224
Comparative Literature 202, 203, 215, 224, 240, 278, 285, 286, 287
English (If the course selected has not been used to satisfy the Communications Area) 102W, 106W, 112W, 115F, 118W, 208a and above (except 269, 288 and above)
Film Studies 125, 133

French 102 and above (except 287a and above)
German 102 and above (except 289a and above)
Greek 202 and above (except 289)
Hebrew 111b and above (except 289a and above)
History 180, 244
Humanities 105W, 106W, 107W, 108W, 140, 141, 150, 151, 156, 175
Italian 101b and above (except 289 and 294)
Japanese 202 and above (except 289ab)
Jewish Studies 135
Latin 102 and above (except 289)
Philosophy 100 and above (except 289ab and 294)
Physics 238
Portuguese 102 and above (except 289 and 294)
Religious Studies 100 and above (except 280 and above)
Russian 102 and above (except 171, 172, 289a and above)
Sociology 217
Spanish 102 and above (except 280, 289, 294 and above)
Theatre 100, 170, 201, 202, 203, 204, 232, 271
Women's and Gender Studies 150, 239, 271

ART OR MUSIC *(3 hours)* from the following courses:
Art History 110 and above (except 288 and above)
Art Studio 101 and above (except 288 and above)
Classical Studies 203, 204, 205, 206, 216, 217
Music Composition 100 and above (except 294 and above)
Music Literature 103 and above (except 147, 160, 170, 289 and above)

MATHEMATICS *(6 hours)* to include:
Statistics (3 hours):
Psychology 2101
Mathematics 127a, 127b
Mathematics (3 hours):
SAT II Math Test Score Level I of 620 & up or Level II of 570 & up satisfy the 3 hour Math requirement; academic credit is not awarded for SAT II scores
or
One course from:
Mathematics 140,150ab, 155ab; 127a or 127b may be used here if not used for statistics requirement

NATURAL SCIENCE. 7-8 hours.
One lab science (4 or 5 hours) required from:
Astronomy 102 and 103, 175 and 103
Biological Sciences 100, 110a and 111a, 110b and 111b, 218, 219
Chemistry 101a, 101b, 102a and 104a, 102b and 104b
Geology 101 and 111,102, 103 and 113, 225
Nursing 150, 210a, 210b
Physics 105 and 106, 110 and 111, 117a and 119a, 117b and 119b, 121a, 121b
and
One of the following (3 hours):
Astronomy 102, 130, 175
Biological Sciences 105, 110a, 110b (105 is recommended)
Chemistry 102a, 102b
Geology 100, 101, 103, 106, 108, 150

Nursing 231a and 231b (231c is elective credit only)
Physics 105, 110
Psychology 201

or

Two lab science courses (8-10 hours) will meet the Natural Science requirement

CULTURAL STUDIES. *3 hours.*
One course from the following:
African American and Diaspora Studies 101, 110, 120, 155, 200, 201, 210, 215, 221, 230, 260
American Studies 100, 101, 104
Anthropology 101, 103, 106, 206, 207, 210, 214, 220, 222, 223, 226, 228, 232, 233, 234, 237, 243, 246, 247, 248, 249, 251, 253, 259, 260, 262, 263, 265, 266, 267, 264
Art History 120, 130, 222, 223, 234, 238, 239, 241, 242, 245, 251, 252, 253, 254, 255, 256, 257
Chinese 251, 252
Classics 130, 146, 150, 160, 171, 203, 204, 205, 206, 211, 217, 220, 222, 224, 236, 238
Communication Studies 223, 224, 228, 235, 240, 242
Comparative Literature 237, 240, 278, 285, 286, 287
Economics 224, 267, 288
East Asian Studies 211, 240
Education 2060
English 118W, 246, 260, 263, 267, 268a, 268b, 271, 275, 276, 277, 279g, 282
European Studies 201
Film Studies 133, 235
French 207, 208, 209, 215, 218, 232, 234, 239, 251, 255, 258, 261, 269, 270
Geology 205
German 172, 201,216, 221, 222, 235, 237, 241, 270, 271, 273, 274, 275
Greek 212
History 140, 152, 154, 155, 156, 157, 160, 161, 168, 169, 172, 180, 181, 182, 187, 201, 202, 204, 205, 206, 207, 208, 210, 211, 212, 213, 221, 222, 233, 234, 235, 237, 238, 239, 240, 242, 243, 245, 246, 247, 248, 249, 250-260, 261, 263, 262, 264, 266, 267, 268, 269, 270, 271, 273, 276-280, 286, 287
Human and Organizational Development 2240, 2400, 2410, 2420, 2430, 2460, 2660
Humanities 107W, 156
Italian 230
Jewish Studies 120, 121, 135, 155, 156, 245, 250, 251, 252, 254, 255
Latin 206, 215
Latin American Studies 201, 235, 260
Medicine, Health, and Society 201
Music Literature 103, 160, 170, 171, 200, 201, 250, 252, 261, 262
Philosophy 103, 211, 235, 238, 252, 258, 261, 262, 263
Political Science 101, 102, 204, 205, 206, 208, 212, 213, 214, 215, 216, 217, 218, 219, 228, 230, 247, 263
Portuguese 225
Psychology—Peabody 2230
Psychology—A&S 217,240, 243, 266, 276
Religious Studies 107, 110W, 112, 113, 114, 130, 131, 132, 133, 145, 150, 204, 205, 206, 219, 220, 222, 223, 226, 228, 229, 230, 231, 232, 233, 241, 244, 249, 251, 254
Russian 171, 172, 231, 232, 234
Sociology 101, 102, 103, 104, 203, 215, 218, 224, 226, 227, 228, 229, 230, 234, 237, 239, 242, 244, 246, 248, 249, 250, 251, 254, 255, 256, 257, 258, 260, 261, 267, 268, 269, 272, 275, 276, 277, 278, 279, 291

Spanish 202, 2024, 208, 221, 223, 226, 231, 235, 243, 244, 276
Special Education 2060
Theatre 216
Women's and Gender Studies 150, 201, 210, 212, 226, 239, 240, 243, 244, 245, 261, 264, 265, 267, 268, 269, 270, 271, 272

SOCIAL SCIENCE *(18 hours)* to include:
United States History (3 hours) from the following courses
History 170, 171, 172, 173, 176, 177, 271, 272, 274, 275, 276, 277, 278, 279, 280
Other Required Social Science Courses (15 hours):
Education 1020
Psychology 1630, 2310
Special Education 1010, 2020

LIBERAL CORE ELECTIVE. 6-10 hours.
Any non-education course listed to satisfy any area of the Liberal Education Core that is not already being used to fulfill a core area.

Note: Special topic and independent study courses are not acceptable to meet liberal education core. Courses chosen to fulfill an area of the Liberal Education Core can only be used to satisfy that one requirement. You may not use the same course for two requirement areas. *Exception:* Courses used to fulfill the Writing requirement may also be used to satisfy the appropriate Liberal Education Core area.

WRITING REQUIREMENT.
All Peabody College freshmen who have not earned a combined score of 1220 in the Writing and Critical Reading components of the SAT with a minimum score of 500 in each component, or AP or IB English scores above 4 and 6 respectively, are required to successfully complete English 100. Regardless of AP or IB credits, all freshmen must successfully complete one writing-intensive course at the 100 level before their fourth semester. Writing-intensive courses have a "W" after the course number. In addition, before graduation, all students must successfully complete a second writing course at the 100 or 200 level. Special Education majors can substitute an oral communications course for the second writing course to facilitate meeting licensure requirements.

WRITING INTENSIVE COURSES. *6 hours.*
Communication Studies 100, 101
English 102W, 106W, 112W, 118W, 120W
Engineering Science 210W
Honors 181W
Humanities 105W, 106W, 107W, 108W
Philosophy 100W
Religious Studies 110W
Theatre 100

Note: First-Year Seminars (courses labeled 115F) offered through the College of Arts and Science and the Blair School of Music may count as writing intensive courses. Peabody freshmen may only register for First-Year Seminars during the first week of the fall and spring semesters if the courses are open.

SPECIALIZATIONS.
The following SPED courses are taken as part of the Liberal Education Core, but are also requirements in each area of specialization.

SPED 1010. Introduction to Exceptionality
SPED 2020. Family Intervention
SPED 2030. Introduction to Language and Communication

The following courses are required in each area of specialization.

SPED 1000. Practicum: Observation
SPED 2010. Introduction to Instructional Models
SPED 2110. Managing Academic and Social Behavior
SPED 2111. Practicum: Management
SPED 2870. Accommodating Academic Diversity in the Classroom
SPED 2871. Practicum: Accommodating Academic Diversity in the Classroom
SPED 2900. Professional Seminar
SPED 2901 or 2911. Student Teaching

MODIFIED PROGRAM CORE.
SPED 2800. Characteristics of Students with High-Incidence Disabilities
SPED 2810. Assessment Strategies for Students with Disabilities
SPED 2811. Practicum: Assessment Strategies
SPED 2820. Teaching Math to Students with Disabilities
SPED 2821. Practicum: Teaching Math to Students with Disabilities
SPED 2830. Teaching Reading to Students with Disabilities
SPED 2831. Practicum: Reading
SPED 2860. Procedures in Classroom Management and Collaboration with Families for Students with Mild/Moderate Disabilities

COMPREHENSIVE PROGRAM CORE.
SPED 2050. Augmentative and Alternative Communication
SPED 2300. Procedures for Students with Severe Disabilities
SPED 2301. Practicum: Procedures for Students with Severe Disabilities
SPED 2330. Procedures for Multiple Disabilities
SPED 2331. Practicum: Multiple Disabilities
SPED 2340. Procedures for Transition to Adult Life
SPED 2341. Practicum: Transition to Adult Life
SPED 2350. Advanced Procedures for Students with Severe Disabilities
SPED 2820. Teaching Math to Students with Disabilities

VISUAL IMPAIRMENT PROGRAM CORE.
SPED 2500. Sensory Perception, Anatomy, Physiology, and Hygiene of Eye
SPED 2510. Educational Procedures for Students with Visual Impairment
SPED 2530. Braille Reading and Writing
SPED 2540. Communication Skills for Students with Visual Impairment
SPED 2550. Orientation and Mobility for Teachers of Visually Impaired
SPED 2810. Assessment Strategies for Students with Disabilities
SPED 2811. Practicum: Assessment Strategies
SPED 2820. Teaching Math to Students with Disabilities

HEARING IMPAIRMENT PROGRAM CORE.
SPED 2600. Audiology in Education
SPED 2601. Laboratory: Audiology in Education
SPED 2610. Speech Development and Improvement for Children with Hearing Impairment
SPED 2620. Language and Literacy in the Deaf or Hard of Hearing Child
SPED 2621. Practicum: Language and Speech Development of Children with Hearing Impairment
SPED 2630. Educational Programming for Children with Hearing Impairment
SPED 2631. Practicum: Educational Programming for Children with Hearing Impairment

SPED 2640. Beginning Manual Communication
SPED 2650. Advanced Manual Communication
SPED 2820. Teaching Math to Students with Disabilities

Minor in Special Education

The minor in special education provides students with an opportunity to develop familiarity and expertise in working with children who have learning and social behavior problems. The first three courses are required for all minors. Then students choose an additional cluster that matches their area of interest. Individual course clusters can be arranged with special education faculty to match student interest. The minor requires 17-18 hours.

REQUIRED:
SPED 1010. Introduction to Exceptionality
SPED 2110. Managing Academic and Social Behavior
SPED 2111. Practicum: Managing Academic and Social Behavior

Option 1: Clinical and School Services Cluster
SPED 2810. Assessment Strategies for Students with Disabilities
SPED 2010. Introduction to Instructional Models
SPED 2811. Practicum: Assessment
SPED 2870. Accommodating Academic Diversity in the Classroom

This option provides students with an opportunity to develop familiarity and expertise in working with children who have learning disabilities, behavior disorders, or mild mental retardation.

Option 2: Community Involvement Cluster
SPED 2340. Transition to Adult Life
SPED 2341. Practicum: Transition to Adult Life
SPED 2300. Procedures for Students with Severe Disabilities
SPED 2301. Practicum: Procedures for Students with Severe Disabilities

This option provides students with an opportunity to develop familiarity and expertise in working with individuals who have multiple or severe disabilities. The focus is on basic communication, social, motor, academic, adaptive behavior, vocational, and community living skills.

Option 3: Hearing Impaired Cluster
SPED 2600. Audiology
SPED 2601. Audiology Lab
SPED 2610. Speech for the Hearing Impaired Child
SPED 2640. Manual Communications

This option provides students with an opportunity to develop familiarity and expertise in working with children and young adults who have a hearing disability which may range from a mild to a profound hearing loss.


ΓΒΦ

Honors

Founder's Medal

The Founder's Medal, signifying first honors, was endowed by Commodore Cornelius Vanderbilt as one of his gifts to the University. The recipient is named by the Dean after consideration of faculty recommendation and overall academic achievements, as well as grade point averages of the year's highest ranking *summa cum laude* graduates.

Latin Honors Designation

Honors noted on diplomas and published in the Commencement program are earned as follows:

Students who earn grade point averages of 3.250 or higher will graduate *cum laude*; 3.500 or better, *magna cum laude*; 3.750 or better, *summa cum laude*.

For students graduating in August 2009, December 2009, and May 2010, Latin Honors noted on diplomas and published in the Commencement program will be earned as follows. *Summa cum laude* will be awarded to students whose grade point average equals or exceeds that of the top 7 percent of the previous year's Vanderbilt graduating seniors. *Magna cum laude* will be awarded to students whose grade point average equals or exceeds that of the next 11 percent of the previous year's Vanderbilt graduating seniors. *Cum laude* will be awarded to students whose grade point average equals or exceeds that of the next 27 percent of the previous year's Vanderbilt graduating seniors. All students whose grade point averages equal or exceed the above percentages within their own school or college will also earn the designated honors.

The Dean's List

The Dean's List provides a means of recognizing outstanding academic performance in a semester. Students are named to the Dean's List if they achieve a grade point average of at least 3.500 while enrolled for 12 or more graded hours with no temporary or missing grades.

2006 Founder's Medalist Emily Webb Clark and Dean Camilla P. Benbow

Kappa Delta Epsilon

Kappa Delta Epsilon is an honorary professional education society established in 1935 in Georgia. Kappa Delta Epsilon recognizes outstanding students preparing to enter teaching or related professions. The professional qualifications of members include appreciation of subject matter, ability to provide important contributions to selected professions, and scholarship. Membership is limited to sophomores, juniors, and seniors with a 3.000 or better grade point average.

Kappa Delta Pi

Kappa Delta Pi is an education honor society organized in 1911 at the University of Illinois to foster excellence in scholarship, high personal standards, improvement in teacher preparation, distinction in achievement, and contributions to education. Membership is limited to juniors and seniors with a grade point average of 3.500 or better, and graduate students with a grade point average of 3.750 or better. Candidates for membership must have completed at least 9 hours in education or psychology.

Honor Societies for Freshmen

Freshmen who earn grade point averages of 3.500 or better for their first semester are eligible for membership in the Vanderbilt chapters of Phi Eta Sigma and Alpha Lambda Delta.

Awards

KEVIN LONGINOTTI AWARD. Awarded annually to a graduating senior in the Department of Teaching and Learning who shows exceptional promise as a future teacher at the secondary school level.

DOROTHY J. SKEEL AWARD FOR OUTSTANDING PROFESSIONAL PROMISE (ELEMENTARY/EARLY CHILDHOOD EDUCATION). Presented annually to the graduating senior in the Department of Teaching and Learning who has shown exceptional promise as a future teacher at the elementary school or early childhood level.

SENIOR THESIS AWARD. Awarded to the graduating senior in the Human and Organizational Development Program who has submitted the most outstanding senior thesis. The winner is selected from a group of five finalists who make an oral presentation of their theses to a panel of five professors.

THE DEPARTMENT OF SPECIAL EDUCATION DISTINGUISHED ACADEMIC ACHIEVEMENT AWARD. Awarded annually to the graduating senior in the Department of Special Education who exemplifies the highest level of academic achievement.

THE DISTINGUISHED SERVICE IN SPECIAL EDUCATION AWARD. Presented annually to the graduating senior in the Department of Special Education who exemplifies the highest commitment to professional service in special education.

THE PEABODY ALUMNI AWARD. Awarded by the Peabody Alumni Association to a member of the graduating class who has demonstrated outstanding qualities of scholarship and leadership.

THE WILLIS D. HAWLEY AWARD. Awarded by students of Peabody College to a senior who exemplifies Peabody's commitment of service to others.

DEAN'S AWARD FOR OUTSTANDING SCHOLARSHIP. Awarded to each *summa cum laude* graduate.

YOUNG ALUMNI BOARD AWARD. Awarded by Peabody students to a senior who has demonstrated outstanding qualities of scholarship, leadership, and commitment of service to others. The recipient of this award represents the graduating class as a member of the alumni board for a two-year term.

PSYCHOLOGY AND HUMAN DEVELOPMENT UNDERGRADUA TE HONORS A WARD. Awarded to the graduating senior who has successfully completed the Undergraduate Honors program in Cognitive Studies, or Child Development, or Child Studies and who has produced the best overall honor project.

EXCELLENCE IN CHILD DEVELOPMENT A WARD. Awarded to the graduating senior majoring in Child Development whose work in the opinion of the faculty of the Depar tment of Psychology and Human Development exemplifies academic excellence.

EXCELLENCE IN COGNITIVE STUDIES AWARD. Presented annually by the Depar tment of Psychology and Human Development to the graduating senior who most clearly exem - plifies the goals of the Cognitive Studies Department.

HUMAN AND ORGANIZATIONAL DEVELOPMENT AWARDS. Established in 1999 and presented to the graduating seniors who exemplify the highest levels of scholarship and leadership in the Human and Organizational Development Pr ogram. The awards are given in these areas: Community Service, Outstanding Community Development and Social Poli - cy, Outstanding Health and Human Services, and Outstanding Leadership and Or ganiza- tional Effectiveness.

SPECIAL EDUCATION TEACHER OF EXCELLENCE AWARD. Established in 1999. Awarded annually by the Department of Special Education to the graduating senior who has demon- strated the highest level of excellence in teaching in the area of special education.

Post-Baccalaureate Programs

PEABODY offers professional degree programs in the following areas. Details of the post-baccalaureate programs are published in the *Peabody College Catalog,* available on request from the Office of Admissions and Records at Peabody College.

Major	*Degree*	*Department*
Child Studies	M.Ed.	Psychology and Human Development
Community Development Action	M.Ed.	Human and Organizational Development
Curriculum and Instructional Leadership	M.Ed.	Teaching and Learning
Early Childhood Education	M.Ed.	Teaching and Learning
Education Policy	M.P.P.	Leadership, Policy, and Organizations
Educational Leadership and Policy	Ed.D.	Leadership, Policy, and Organizations
Elementary Education	M.Ed.	Teaching and Learning
English Education	M.Ed.	Teaching and Learning
English Language Learners	M.Ed.	Teaching and Learning
Higher Education Administration	M.Ed.	Leadership, Policy, and Organizations
Higher Education Leadership and Policy	Ed.D.	Leadership, Policy, and Organizations
Human Development Counseling	M.Ed.	Human and Organizational Development
Human Resource Development	M.Ed.	Leadership, Policy, and Organizations
International Education Management and Policy	M.Ed.	Leadership, Policy, and Organizations
Mathematics Education	M.Ed.	Teaching and Learning
Organizational Leadership	M.Ed.	Leadership, Policy, and Organizations
Reading Education	M.Ed.	Teaching and Learning
Science Education	M.Ed.	Teaching and Learning
School Administration	M.Ed.	Leadership, Policy, and Organizations
Secondary Education	M.Ed.	Teaching and Learning
Special Education	M.Ed.	Special Education

Five-Year Programs at Peabody

The five-year programs offered by Peabody College are designed to blend the undergraduate program with the master's level program. Students who successfully complete one of these combined programs will earn their undergraduate B.S. degrees and also earn their M.Ed. degrees by the end of their fifth year at Peabody.

Under the combined five-year plan, undergraduates take 6 credit hours of professional courses during the senior year as part of the 120 hours required for the B.S. degree. A fifth year (including summer) follows, during which students complete the additional 30 professional hours necessary for the master's degree. Each of the master's programs listed below requires 36 hours in total. Students in these five-year programs may take 6 hours during the senior year. Students who plan to pursue a five-year program are required to abide by the following guidelines; admission is competitive, and meeting minimum requirements does not guarantee admission.

- Students should make application to the program by the end of the junior year at Vanderbilt.
- Applicants must have earned a minimum 3.00 grade point average.
- Applicants are required to score a minimum of 1000 on the GRE (verbal + quantitative).
- Courses may not be transferred from another university as a part of the master's degree.

Organizational Leadership

The master's program in Organizational Leadership [OL] prepares leaders for private sector positions and leadership roles in non-profit and government agencies. Students in this program build knowledge and skills focused on understanding the social and political context of organizational decision making; use theories and techniques from the social sciences to analyze organizational problems; develop skills to facilitate development of learning organizations; develop skills to manage organizational change and development; and develop skills for conducting research or evaluation within organizations. Students also participate in at least one practicum where they apply what they are learning in an appropriate organizational setting.

Human Resource Development

The HRD program prepares professionals to design, implement, and evaluate learning programs within businesses and other organizations. Graduates are corporate trainers, directors of HRD, and organizational consultants. In addition to delivering effective instruction, HRD professionals also are prepared to design ways to improve the quality of work life, facilitate change, and develop programs to increase productivity and satisfaction for all organization employees.

Higher Education Administration.

HEA programs prepare professionals to work in a variety of college and university administrative and student affairs positions. Three of the specializations in this program are particularly suitable for HOD students seeking a fifth-year master's degree.

Student Affairs

Student Affairs graduates are prepared for positions in student housing, Greek life, multicultural affairs, international student services, dean of students offices, or admissions.

Service-Learning

The program specialization in Service-Learning in Higher Education is designed for students with a strong interest in combining their commitment to service with a career in higher education. The degree is designed to prepare students for roles as directors of service-learning centers on campuses, to fill student services positions which include responsibilities for community service, or to act as liaison between faculty and community in academic service-learning programs.

Institutional Advancement

The Institutional Advancement specialization prepares students for careers in fund raising, public relations, and alumni relations. While the primary focus of this program is higher education, students seeking careers in nonprofit organizations or other settings which involve direct contact with the public will find the coursework useful.

Five-Year Master's Degree Program in Behavior Analysis

A program of studies designed to prepare an individual to take examinations for certification as a behavior analyst at both the state and national level. Graduates work in schools, clinics, hospitals, or as consultants for individuals with behavior problems. Focus is on behavior analysis, single-subject methodology, consultations, and working with families. Students follow the Liberal Arts Core for their major(s). Students interested in this degree should contact Joe Wehby or Craig Kennedy at 322-8150.

Courses of Study

Human and Organizational Development

1000. Applied Human Development. Introduction to the processes of human development and how such development can be influenced. Emphasis is placed on social development and implications for solving personal and professional problems. The course focuses on late adolescent and young adult development. Corequisite for freshmen: HOD 1001. [3]

1001. Intrapersonal Communication. The course is designed for first semester freshmen. It includes exploration and clarification of values, setting personal objectives, and preliminary skill building in active listening, assertiveness, and conflict resolution. Corequisite: HOD 1000. [1]

1100. Small Group Behavior. Designed to improve the student's ability to analyze behavioral patterns in groups such as leadership, conflict, and decision making and group roles. The student is expected to improve his/her abilities by effective participation in the group as well as in written analyses. Problems for analysis are drawn from events in the group and from theoretical readings. Corequisite for freshmen: HOD 1101. [3]

1101. Interpersonal Communication. (Formerly HOD 1024) This course is designated for second-semester freshmen. It provides skill development in interpersonal communication and group dynamics. Corequisite: HOD 1100. [1]

1150. Freshman Seminar. [3]

1200. Understanding Organizations. Introduction to theory and research on human behavior in organizations. Aimed at providing a framework for understanding the dynamics of organizations around the basic issues that confront all organizations (e.g., goal setting, work performance, leadership, decision making, managing change). [3]

1210. Perspectives of Organizational Fit. This course examines the critical process of blending the individual members into an organization's social system and aligning them in such a way that individual potential is maximized and their interests are served in the pursuit of the organization's goals. Prerequisite or corequisite: HOD 1210. [1]

1410. Developing Human and Organizational Talent. Survey of basic skills of career development focusing on job search strategies, résumé development, and interviewing skills. Students will search for and select an internship to be completed in the semester following this course. [1]

1700. Systematic Inquiry. Focuses on ways of knowing and gathering information to improve understanding and solve problems. Topics include focusing on a research question, research design, program evaluation techniques, and quantitative and qualitative methodologies. [3]

1800. Public Policy. (Formerly HOD 2100) An exploration of the foundations of public policy, the policy process, and the factors that influence policy making at the national and state levels, with particular attention to the development of student analytic and writing skills. [3]

2000-2080. Human and Organizational Development Practicums. An intensive practicum experience. Three contact hours per week required for each credit hour. Students will participate in a weekly seminar. [1-3]

2000. Practicum in Human and Organizational Development.
2040. Practicum in International Leadership and Development.
2050. Practicum in Health and Human Services.
2060. Practicum in Community Leadership and Development.
2070. Practicum in Leadership and Organizational Effectiveness.
2080. Practicum in Public Policy.

2240. Multicultural Issues in Contemporary Society. This course broadly examines multiracial and multicultural issues so that students from a variety of disciplines will be able to benefit from the contents. The intent of the course, which draws on anthropological, educational, and organizational literature from a variety of popular readings, is to provide approaches, procedures, and techniques for gaining insight and understanding into different racial and cultural groups in order to promote acceptance of diversity in various environments, such as the classroom, or profit-making or nonprofit organizations. [3] (Not offered 2006/2007)

2260. Economics of Human Resources. An introduction to economics, with heavy emphasis on microeconomics of the family, household, consumer, and business firm. Applications to the economics of government, poverty, discrimination, labor markets, the environment, education, and other human resource and human development topics will be included. The class will be primarily lecture format with some small group interactions and discussions. [3]

2280. Ethics for Human Development Professionals. (Formerly HOD 2890; also listed as PSY 2890) Normative evaluation of ethical issues in serving human need. Conflicting values within moral dilemmas will be examined from a variety of theoretical perspectives and practical criteria. Case studies of moral issues confronting the individual, the family, service organizations, and the general public will be reviewed. [3]

2290. Special Topics in Human and Organizational Development. Exploration of special issues on topics related to human and organizational development. May be repeated for credit with change of topic. [1-3]

International Leadership and Development Courses (2400–2499)

2400. Global Dimensions of Community Development. (Formerly HOD 2640) The globalization process induces new forms of human organization and transforms existing organizations at the community, national, and international levels. This course provides an understanding of the nature, functioning, and development of organizations affected by globalization in societies different from our own and as they relate to multilateral or global institutions that span different social and cultural settings. To do this, the course explores organizations from a comparative perspective, using the analytical framework of human ecology, in terms of differential access to economic and other productive assets, education and information, security and the rule of law, social capital and cultural identity. [3]

2410. Leadership and Change in International Organizations. This course uses an interdisciplinary case study approach to investigate organizational challenges associated with today's international environment. Students examine the impact of culture, politics, and policy, and other international phenomena such as exchange rates, trade, and capital markets on organizational leadership, structure, and performance. Students also explore various dilemmas that confront decision-makers in international organizations as they attempt to reconcile institutional objectives, individual preferences, and varying cultural norms.[3]

2420. International Organizations and Economic Development. (Formerly HOD 2775) The number of international organizations has proliferated since World War II, and their functions have diversified. Some are altruistic. Others are regulatory. Some serve as forums for debate, others as instruments for military action or enforcement of international agreements in such diverse fields as health, labor, agriculture, human rights, environment, culture, and trade. This course addresses how these organizations are financed, how they are governed, and how they create and manage political controversy. It covers their legal mandates and structure, seeks to develop awareness of issues of human capital and the World Bank, addresses the controversies and debates over globalization and the role of international organizations in the international regulatory environment, and assesses the future of such organizations in an increasingly interdependent world. [3]

2430. Education and Economic Development. This course reviews the history and application of human capital theory. It provides students with examples of applications in economic development policy. It gives students practice in applying common statistical models. It exposes students to current debates in education policy in the World Bank and other international organizations which result from those models. [3]

2440. International Innovations in K-12 Policy Reforms. Schooling is now compulsory throughout the world, but rarely are the resources sufficient to fund it adequately. Schooling in democracies takes on similar characteristics in the effort to respond to the public's open demands. This course reviews the policy changes of school systems in meeting these two challenges. The course concentrates on Western Europe, but expands to Asia, Africa, Latin America, the Middle East and North Africa, and Europe and Central Asia depending on student interest. [3]

2460. Fieldschool in Intercultural Education. This course takes place in a Latin American community over a 10-week period in the summer session. It provides training in community field research and analysis techniques directed to human, social, and civic development issues.[3]

2480. International Leadership and Development Seminar. Exploration of selected topics related to the international leadership and development track of the Human and Organizational Development Program. May be repeated for credit with change of topic. [3]

2490. Special Topics in International Leadership and Development. Exploration of special issues on topics related to international leadership and development. May be repeated for credit with change of topic. [1-3]

Health and Human Services Courses (2500–2599)

2500. Introduction to Human Services. This course is a comprehensive and realistic survey of the diverse and dynamic field of human services. Students will examine: 1) significant historical developments; 2) populations served; 3) social welfare/poverty theories; 4) career opportunities; and 5) controversial and ethical issues. The course will emphasize special tasks and activities that are performed by the contemporary human service worker. [3]

2505. Introduction to Counseling. An overview of the counseling profession: theories, techniques, settings, and specialty areas. In addition to lectures and class discussions, the course includes an experiential component designed to increase students' listening and responding skills. By the end of the course, students will have a clear understanding of what is entailed in being a counselor. [3]

2510. Health Service Delivery to Diverse Populations. This course focuses on the study of value systems of diverse groups, as well as variables related to gender, age, lifestyle,

religion, social class, race, geography, and developmental state, and how these relate to health status and health service needs. This course provides students with a basic knowledge and understanding of diversity so that they may be more effective in serving the needs of all people. [3]

2520. Communications Skills for Health and Human Service Professions. This course focuses on a conceptual model for interpersonal effectiveness. Topics include training in listening skills, assertiveness skills, and conflict resolution. The course material will be presented in a manner that facilitates personal growth and also provides tools which contribute to professional growth. The format will be highly experiential. [3] (Not offered 2006/2007)

2525. Introduction to Health Services. This course will focus on the evolution of the U.S. health care system, as well as on the evolution of health care systems in diverse environments from around the globe. The content of the course focuses on the nature and dynamics of the macro health system environments and the design and function of organizational models in those environments. Particular attention will be paid to contemporary health service organizational models, such as managed care, integrated delivery systems, and physician-hospital organizations. Topics include education and training of health care professionals, the role of health care providers, public, private, and voluntary agencies, and the interests of major stake holders. [3]

2530. Introduction to Health Promotion. This course is designed to enhance the students understanding of health promotion concepts that relate directly to improved lifestyle behavior change and disease risk reduction. In addition, health promotion program development, program management, and program initiatives in a variety of settings will be addressed. [3] (Not offered 2006/2007)

2535. Health Policy. This course presents broad perspectives for understanding health policy within historical, political, and economic contexts. Lectures and assignments will primarily focus on health policy in the United States with a particular emphasis on the Tennessee State Legislature and Metropolitan Davidson County. Opportunities are available for application to national and international issues. Learners will be provided with a foundation from which to base their work, including an overview of the U. S. health care system and public health infrastructure, as well as a framework for conducting policy analyses. [3]

2540. Introduction to Sports Medicine. Current topics in sports medicine, with an emphasis on prevention, management, and rehabilitation, and administrative aspects of sports medicine. [3]

2550. Managing Health Care Organizations. This is an applied course which combines theoretical knowledge with professional learning experiences, such as case studies, guest lectures, films, management development exercises, and group projects. This course provides a conceptual review of basic managerial functions such as 1) planning, 2) organizing, 3) controlling, 4) staffing, and 5) influencing. The course addresses related managerial activities such as communication, decision making, and legal and legislative issues. [3]

2580. Health and Human Services Seminar. Exploration of selected topics related to the health and human services track of the Human and Organizational Development Program. May be repeated for credit with change of topic. [3]

2590. Special Topics in Health and Human Services. Exploration of special issues on topics related to health and human services. May be repeated for credit with change of topic. [1-3]

Community Leadership and Development Courses (2600–2699)

2600. Community Development Theory. This is a core course in the Community Leadership and Development (CLD) track of the HOD undergraduate program. It is designed to provide a general introduction to the field of community development (CD) by examining appropriate theoretical perspectives. Ecological theory, critical theory, and theories of democracy will be studied for their application to community development issues. The theoretical perspectives examined in the course will also be linked to the diverse fields which inform community development, such as community psychology, sociology, geography, anthropology, education, and planning. Additionally, the course will provide students a more in-depth understanding of particular community development issues by exploring how alternative theoretical perspectives interpret several important community development phenomena. The course will prepare students to understand the theoretical orientations that underlie the dynamics of community development. [3]

2610. Community Development Organizations and Policies. Introduction to the practice of community development (CD), including analysis of, and experience with, CD issues, organizations, and policies. Prepares students to work with public or community agency staff, administrators, planners, policy-makers, or community organizers and leaders, who require analysis and recommendations on particular community issues. Students may also develop experience as part of a research, intervention, or policy development team. The course also focuses on ways ordinary people can become involved in improving their own neighborhoods, communities, and city. [3]

2620. Action Research and Program Evaluation. This is a specialty core requirement for the Community Leadership and Development (CLD) track in the Human and Organizational Development program. Course teaches policy-relevant field research methods in the context of action science. Students do an actual research project for a client organization and prepare a report with recommendations for policy and action. Students get experience in the conduct of the research as a team of a fictitious consulting organization. [3]

2630. Proposal Preparation. Writing grants involves the application of skills in communication, program planning, evaluation, analytic methods, finance, and management. This course will focus on building upon those skills to prepare and critique grant applications, with a primary emphasis on prospective federal, state, local, and foundation support. [3]

2640. Procedures in Transition to Adult Life. (Also listed as SPED 2340) Overview of history, legislations, and practice in the areas of community and employment integration for person with disabilities. Emphasis on various strategies for promoting a successful transition within the community. Students will apply their skills in community or classroom settings. Corequisite: HOD 2641. [3]

2641. Practicum: Transition to Adult Life. (Also listed as SPED 2341) Field-based application of correlated course content to instructional strategies. Assessing, planning, implementing, and evaluating instructional procedures for community and employment integration. [1]

2660. Latin America, Latinos, and the United States. (Also listed as LAS 260) Immigration of Latin American and Caribbean peoples to the United States and their experiences in this country. Required service work and a research project in the Nashville Latino community. [3]

2665. High Poverty Youth: Improving Outcomes. Youth from high poverty backgrounds may be at risk for outcomes that include academic failure, school dropout, drug abuse, unemployment, or incarceration. Students will be working with schools and community agencies in Nashville to improve outcomes for youth living in high poverty neighborhoods.

There will be class meetings as well as ongoing service-learning field experiences. Fieldwork will include mentoring, tutoring, or providing job readiness training to youth in neighborhood community centers or students' high schools. [3]

2670. Introduction to Community Psychology. (Formerly HOD 2470) Theory, research, and action in community psychology. History of mental health care; ecological theories of community, stress, coping, and social support; deviance labeling; community assessment strategies; prevention, empowerment, and community and organizational change programs; societal-level intervention policies. [3]

2680. Community Leadership and Development Seminar. Exploration of selected topics related to the community leadership and development track of the Human and Organizational Development Program. May be repeated for credit with change of topic. [3]

2690. Special Topics in Community Leadership and Development. Exploration of special issues on topics related to community leadership and development. May be repeated for credit with change of topic. [1-3]

Leadership and Organizational Effectiveness Courses (2700–2799)

2700. Leadership Theory and Practice. A systematic study of the formal theories and models of the leadership process and the research supporting and challenging them. Students will complete a wide range of leadership self-assessments; design a leadership self-development plan; and participate in individual and group problem solving, decision making, conflict resolution, and performance appraisal simulations and case studies focusing on personal and organizational effectiveness. Prerequisite: HOD 1200 and 1700. [3]

2710. Challenges of Leadership. This course is designed as an extension of the study of leadership theory and practices begun in HOD 2700. Provides opportunities to investigate leadership concepts introduced in HOD 2700 in more depth. Prerequisite: HOD 2700. [3]

2720. Advanced Organizational Theory. A comprehensive study of current theories and applied research in organizational effectiveness. Emphasis is on the principles and practices of organizational restructuring, organizational development and planned changes, systems and processes, self-managed teams, and Total Quality. Experiential learning through simulations and field work will reinforce systematic inquiry, strategic planning, and applied organizational assessment skills. Prerequisite: HOD 1200 and 1700. [3]

2730. Introduction to Human Resource Development. An introduction to the theory and practice of human resource development (design and implementation of training in corporate or human service organizations). Special emphasis on roles played by HRD professionals and concepts and skills needed for entry into the profession. Prerequisite: Either HOD 2700 or 2720. [3]

2740. Human Resource Management. A comprehensive survey of human resource management theory, procedures, and practices, with emphasis on the organizational leader's role and responsibilities for recruiting and selection, placement and career development, employee relations, labor relations, performance appraisal, compensation and benefits, workplace ethics, equal employment opportunity, safety and health, legislation and workplace regulations, development of personnel policies and practices, and the techniques of strategic human resource planning. Prerequisite: HOD 2700 and 2720. [3]

2750. Managing Organizational Change. This course focuses on organizational development philosophy and practices of planned change, and the theory and techniques of organizational consulting. Students will participate in simulations and actual organizational development interventions. Prerequisite: HOD 2700 and 2720. [3]

2755. Strategic Planning and Project Management. This advanced seminar and workshop-based course focuses on the key organizational processes of strategic planning and project management. Building on prior instruction in leadership and organizational theory and practices, students will complete a critical analysis of strategic leadership theory and models of organizational planning. Activities include evaluation of internal and external factors impacting on planning; participation in strategic planning and project management simulations; evaluation of the performance of selected strategic leaders as planners; and practice with key planning tools and technologies. Prerequisite: HOD 2700 and 2720. [3]

2760. Creativity and Entrepreneurship. This course provides advanced students of organizations with an understanding of entrepreneurship by encouraging thinking "outside the box." It is designed to teach students how to create their own businesses, to live and work outside the "bureaucracy," to think creatively, to dream about new ideas and new ventures, and to appreciate the challenges to entrepreneurial thinking and acting. Prerequisite: HOD 2700 and 2720. [3]

2770. Executive Leadership. This course introduces students to concepts of leadership involved in various social, political, and corporate domains. Course content relies on biographies of renowned leaders to illustrate principles of executive leadership. [3]

2780. Leadership and Organizational Effectiveness Seminar. Exploration of selected topics related to the leadership and organizational effectiveness track of the Human and Organizational Development Program. May be repeated for credit with change of topic. [3]

2790. Special Topics in Leadership and Organizational Effectiveness. Exploration of selected topics related to the leadership and or ganizational effectiveness track of the Human and Organizational Development Program. May be repeated for credit with change of topic. Prerequisite: HOD 2700 and 2720. [3]

Public Policy Courses (2800–2899)

2800. Policy Analysis Methods. How should the government choose among options to address the country's education, health, welfare, environmental, safety, etc., problems? The main goal of this course is to introduce students to the concepts, methods, and tools useful in performing a policy analysis, and to give students practice applying the policy analysis methods to real-world policy issues.[3]

2810. Politics of Public Policy. [3]

2820. Public Finance. An introduction to the purpose and means of various practices of public finance. In addition to introducing public finance students to theories of government financial functions, a collaborative project will provide students with a practical overview of public finance, economic, and public policy methodologies. [3]

2830. Reforming America's Schools. (Formerly HOD 2650) An in-depth examination of the challenges facing public education in the United States and the reforms that are reconfiguring the nation's elementary and secondary schools. Students explore the status and problems of American education, contexts of school reform, recent federal and state policy initiatives, and school restructuring. [3] (Not offered 2005/2006)

2880. Seminars in Public Policy. Exploration of selected topics related to the public policy track of the Human and Organizational Development Program. May be repeated for credit with change of topic. [3]

2890. Special Topics in Public Policy. Exploration of special issues on topics related to public policy. May be repeated for credit with change of topic. [1-3]

Internship Courses (2900–2930)

2900. Human Development Internship. An intensive work experience that involves working four days per week for one semester. Students will work in internship settings four days per week. The internship includes completion of a specific project for the organization. Corequisite: HOD 2910, 2930. [3-6]

2910. Advanced Seminar in Human and Organizational Development. Provides an opportunity to integrate human development theory, knowledge, and skills by applying them to the solution of problems in internship settings. Corequisite: HOD 2900, 2930. [3]

2920. Theoretical Applications of Human and Organizational Development. Students complete assignments and structured activities that demonstrate their ability to apply theories and skills acquired in seven Human Development Program core courses to understanding situations and solving pr oblems that naturally occur during their inter nship experience. Must be taken in conjunction with the Human Development Program internship. Prerequisite: HOD 1000, 1100, 1200, 1210, 1410, 1700. [3]

2930. Senior Project. Students complete a specific project or assemble a portfolio that demonstrates their professional competence in their area of specialization. The portfolio includes written products and a videotape oral presentation on a topic appropriate to the student's area of specialization. Corequisite: HOD 2900, 2910. [3]

2960. Senior Thesis. [3]

2980-2988. Readings and Research for Undergraduates. Individual programs of reading or the conduct of research studies in human and organizational development. Consent of faculty adviser required. May be repeated. [1-3]

2980. Readings and Research in Human and Organizational Development.
2984. Readings and Research in International Leadership and Development.
2985. Readings and Research in Health and Human Services.
2986. Readings and Research in Community Leadership and Development.
2987. Readings and Research in Leadership and Organizational Effectiveness.
2988. Readings and Research in Public Policy.

2989. Directed Research. [1-3]

2990. Human and Organizational Development Honors Seminar. [3]

Psychology and Human Development

1150. Freshman Seminar. [3]

1200. Minds, Brains, Contexts, and Cultures. An introduction to the cognitive studies major. Readings, lectures, and discussions are focused on thinking and understanding, especially as related to the brain, immediate context, and culture. These topics are considered from a variety of perspectives, including those taken fr om philosophy; literature; cognitive, social, and developmental psychology; sociology; psychiatry; and cultural anthropology. [3]

1300. Cognition and Instruction. The nature of human cognition, par ticularly the implications for the design and facilitation of the teaching and lear ning process. Major theories and research on thinking, learning, and cognitive development with illustrations of how they relate to teaching and the acquisition of expertise in content areas such as reading, mathematics, and science. Students will have an oppor tunity to explore innovative instructional technologies and the process of translating cognitive theory into instructional practice. [3]

1500. Cognitive Aspects of Human Development. Introduction to research and theory in cognitive development throughout the life span. Emphasis on early and middle childhood. Topics include development of language, memory, sensation and perception, problem solving, reading and writing, and logical-mathematical reasoning. Will consider applications of theory to developmental disorders and education. Prerequisite: PSY 1200 or 1630. [3]

1600. Psychology of Thinking. An in-depth exploration of theories and basic research concerning how young adults (i.e., college students) think, reason, and solve problems. Major topics include memory, categorization, reasoning, decision making, problem solving, and expertise. Prerequisite: one previous course in cognitive studies (i.e., PSY 1200, 1300, or 1500). [3]

1630. Developmental Psychology. An overview of human development emphasizing the period from conception through adolescence. Course content includes research methods as well as in-depth coverage of selected topics in cognitive, social, emotional, and physical development. [3]

1700. Social and Emotional Context of Cognition. An exploration of such social factors as the individual's values, beliefs, and emotions and their contributions to the basic cognitive processes involved in social perception, complex decision making, and problem solving. Topics include the social construction of perceived reality, attitude formation and change, heuristics and biases in social inference, and the role of emotion in coping and problem solving. [3]

1750. Social and Personality Development. An overview of basic concepts and current research in social and personality development. Specific topics include research methods, development of self, social cognition, achievement motivation, prosocial behavior, moral development, aggression, gender role development, family and cultural influences. Prerequisite: PSY 1630 or 1200. [3]

2000. Psychology and Language. In this course, we will cover material from linguistics, philosophy, and psychology to examine how language works. We will focus on the commonalities underlying languages to understand the mechanisms and processes guiding the impressive language abilities of adult and child speakers. The first half of the course will be devoted to the phenomenon of language itself. We will discuss how we perceive, understand, and use language at the phonological, semantic, and syntactic levels. The second half of the course will be devoted to a more focused discussion of special topics including language and thought, first and second language acquisition, brain and language, and animal communication. [3]

2100. Advanced Topical Seminar. An advanced seminar intended for juniors and seniors in which a particular topic within cognitive studies is considered in depth. Topics vary. May be repeated for credit. Prerequisite: Junior or senior standing and either PSY 1200 or 1630. [3]

2101. Introduction to Statistical Analysis. Introductory course emphasizes selection, application, and interpretation of measures of relative frequency, location, dispersion, and association. Approaches to statistical inferences are emphasized. Prerequisite: proficiency in high school algebra. [3]

2102. Statistical Analysis. Second course in statistics for undergraduates. Multifactor analysis of variance designs (including repeated measures), and goodness of fit and contingency analyses. Prerequisite: PSY 2101. [3]

2230. Family, Career, and Gender. Examines theory, research, and policy literature pertinent to family development, career development and intersections between the two, particularly as they are influenced by gender. Focus on child and adolescent socialization, family and career decision making, work commitment and values, parent-child relations, family role sharing and conflict, and workplace policies related to employees' career and family commitments. [3]

2250. Infancy. The behavior and physiological development of infants reflect a complex interaction between evolutionary history and genetics, prenatal environmental influences, and early post-natal experience. An overview of each of these topics is provided through classroom discussions and reading assignments focusing on recent empirical studies and major theoretical issues. Prerequisite: PSY 1630. [3]

2310. Educational Psychology. Applications of psychological theories and research to classroom settings. Cognitive development, problem solving and critical thinking, learning theories, motivation, social contexts, individual differences, classroom issues, evaluation issues. Prerequisite: PSY 1630 or PSY 101 or PSY 1200. [3]

2320. Adolescent Development. Examines theory, research, and other literature pertinent to the development and education of adolescents (ages 12–19). Specific topics include cognitive and social development; issues in identity, intimacy, autonomy, and sexuality; family-adolescent relationships; peer relationships; and school achievement and organization. [3]

2470. Introduction to Community Psychology . (Also listed as HOD 2670) Literature and research in community psychology. History of the specialty, theories of community, models of intervention, community research strategies, ethnopsychology, and community development. [3]

2510. Experimental Research Methods in Child Development. Focuses on how experimental methods are used to understand processes of child development. Through readings, class discussion, writing, and research experiences, the class considers excellent examples of classic and contemporary experimental studies of child development. Prerequisite: PSY 1630 or 1200 and PSY 2101.[3]

2520. Observational Research Methods. An introduction to the theoretical and methodical issues concerning observational/descriptive studies of behavior. Students conduct a research project using observational methods. Prerequisite: PSY 1630 or 1200 and PSY 2101. [3]

2530. Psychometric Methods. Covers the fundamental concepts of psychological measurement and testing, examines a sample of most important psychometric instruments in current use, provides observation of testing, and considers knowledge essential to making wise use of testing information in research and applied child development settings. Prerequisite: PSY 1630 or 1200 and PSY 2101. [3]

2560. Health Psychology. In this undergraduate course, we will explore the relationship between psychology and health. We will use a framework that incorporates biological, psychological, and social factors to elucidate how these aspects of the person and environment contribute to a person's health and how they may be harnessed in the attempt to improve health. We will cover several conditions that threaten health, such as smoking, drinking, cardiovascular disease, diabetes, and cancer, and see how psychologists are helping with the prevention and treatment of these conditions. Students will learn what they can do as future professionals and as individuals to improve the health of others and themselves. [3]

2610. Ethical and Moral Development. Examines research on the development of ethics and moral behavior in children and youth. Current theoretical approaches will be discussed as well as the role of the family, peers, church, and school. Prerequisite: PSY 1630 or PSY 101. [3]

2690. Special Topics in Psychology. Advanced exploration of a psychological orientation to current issues. May be repeated. [1-4]

2691. Developmental Neuroscience. (Also listed as A&S PSY 269a) An introduction to normal brain development with examples of abnormal development. Topics include cell division, migration, cell death, synapse formation, plasticity, and developmental disability syndromes. Prerequisite: PSY 201 for undergraduates; instructor's permission for graduate students. [3]

2692. Developmental Psychobiology. (Also listed as A&S PSY 269b) Description, causes, and consequences of disorders in neurobehavioral development. Basic concepts of psychology and neuroscience are used to explore the nature of developmental disabilities, their prevention, and management of disabling conditions. [3]

2700. Introduction to Clinical Psychology. This course will provide an overview of the science and practice of clinical psychology. Clinical research, assessment, psychotherapy, prevention, and selected issues will be examined. Students examine the techniques used by clinical psychologists to assess, treat, and prevent psychopathology, and research investigating the efficacy of these techniques. Students will examine the science of clinical psychology by reviewing research from scientific journals on the effects of a specific type of psychotherapy in the treatment of a specific psychological disorder. Previous courses in abnormal psychology and psychological research methods/statistics are recommended. [3]

2810. Practicum in Child Development. The course offers students opportunities to observe and interact with children in community settings (e.g., preschool and day care programs). Students engage in systematic observation of child behavior, regular discussions about observations with the course instructor, and weekly course meetings focused on relating observations to theoretical and empirical readings. Prerequisite: PSY 1630 and at least two other courses in Child Development; permission of instructor. [2-3]

2820. Field Work in Psychology for Undergraduates. Offered to provide field experience appropriate to the student's interests. Open only to students majoring in child development, child studies, or cognitive studies. May be repeated. Consent of instructor required. [1-3]

2890. Ethics for Human Development Professionals. (Also listed as HOD 2280) Normative evaluation of ethical issues in serving human needs. Conflicting values within moral dilemmas will be examined from a variety of theoretical perspectives and practical criteria. Case studies of moral issues confronting the individual, the family, service organizations, and the general public. [3]

2970. Independent Study. Development of an independent study project by the individual student under the direction of a faculty sponsor. Intended primarily for juniors and seniors. Consent of both the faculty sponsor and the director of undergraduate studies is required. May be repeated for credit. [1-3]

2980. Directed Research. Participation in an empirical research project under the direction of a faculty sponsor. Consent of both the faculty sponsor and the director of undergraduate studies is required. May be repeated for credit. [1-3]

2990. Honors Research.

Special Education

1000. Practicum: Observation. Field experience with discussion of a variety of special education programs and teaching strategies. Classroom observations which focus on a wide range of disabilities and service delivery models. Required for special education majors. [1]

1010. Introduction to Exceptionality. Examines issues and trends in special education and overviews the characteristics of persons with disabilities. Essential issues and theories relating to special education and the development of exceptional persons with special attention to normal and atypical human development. Multi-cultural, humanistic, and legal issues are addressed. [3]

2010. Introduction to Instructional Models. An overview of instructional models that can be used with difficult-to-teach and disabled students. Emphasis is placed on instructional models that have empirical support for their effectiveness, facilitate continuous monitoring of student progress, and are amenable to the use of technology. Prerequisite: SPED 1010. [3]

2020. Family Intervention. An overview of different approaches, current issues, and problems involved in working with and supporting families. Emphasis is placed on how a child with disabilities affects and is affected by parents, siblings, the extended family, and the community. Strategies for effective communication for the purpose of information sharing and collaborative planning with families are provided. [3]

2030. Introduction to Language and Communication. (Also listed as ENED 2030) Overview of normal language development, psycholinguistic terminology and research, speech and language disorders and their remediation, and specific intervention procedures for the development of speech and language skills in children and youth. [3]

2050. Augmentative and Alternative Communication This course is designed to provide an overview of the field of augmentative and alternative communication (AAC) for use with young children and school-age children with severe disabilities. Specifically, the course will provide an overview of the theories that are important to the understanding of appropriate uses of AAC systems, and the course will provide information about the efficacy of these systems with students with severe disabilities. Topics will include guidelines for selecting, implementing, using, and monitoring the use of AAC systems. [3]

2060. Cultural Diversity in American Education. Focuses on cultural diversity and the ways in which it has been defined and treated in the American educational system. An interdisciplinary perspective informs the course, with particular attention to history, sociology, psychology, anthropology, and educational literatures. [3] Fall.

2110. Managing Academic and Social Behavior. This course is designed to prepare students to manage classroom behavior using behavioral principles. Definition and measurement of behavior, reinforcement strategies, systematic program development, basic formats for classroom instruction, and techniques for monitoring student progress are presented. Emphasizes procedures for increasing academic and socially appropriate behavior through classroom activities. Students apply their skills in classroom settings. Prerequisite: SPED 1010. Corequisite: 1 hour of SPED 2111. [3]

2111. Practicum: Management. Application of behavioral principles to classroom strategies. Planning, implementing, and evaluating instructional procedures for academic and social behavior. Corequisite: SPED 2110. [1]

2300. Introduction to Students with Severe Disabilities. Provides information on the nature and needs of individuals with severe/profound disabilities and the roles of federal, state, and local agencies in providing services to this population. Emphasis is placed on strategies for the acquisition and generalized use of age appropriate functional skills in natural community-based settings. Methods for developing and implementing individualized programming across specialized curricular areas such as communicative, cognitive, functional academic, motor, domestic living/self-help, recreation/leisure, vocational and general community living skills. [3]

2301. Practicum: Procedures for Students with Severe Disabilities. Field-based application of correlated course content to assessing, planning, implementing, and evaluating instructional procedures for students with severe disabilities. Corequisite: SPED 2300. [1]

2330. Procedures for Students with Multiple Disabilities. Overview of the causes, treatment, education, and management of individuals with multiple disabilities; including neurological impairments resulting in physical disabilities, sensory impairments, and the combination of

these. Emphasis is placed on environmental adaptations and direct training needed to maximize independence as determined through systematic ecological inventories for individual students. Information is provided on physical and medical management of these students in educational settings. Corequisite: SPED 2331. [3]

2331. Practicum: Multiple Disabilities. Field-based application of correlated course content to placement of students with multiple disabilities. Adaptations and dir ect procedures of assessing, planning, implementing, and evaluating instructional procedures for students with multiple disabilities. Corequisite: SPED 2330. [1]

2340. Procedures in Transition to Adult Life. Overview of history, legislation, and practice in the areas of community and employment integration for persons with disabilities. Emphasis on various strategies for promoting a successful transition from school to life. Students are required to develop instructional plans for integration within the community. Students will apply their skills in community or classroom settings. Prerequisite: SPED 2110. Corequisite: SPED 2341. [3]

2341. Practicum: Transition to Adult Life. Field-based application of correlated course content to instructional strategies. Assessing, planning, implementing, and evaluating instr uctional procedures for community and employment integration. Corequisite: SPED 2340. [1]

2350. Advanced Procedures for Students with Severe Disabilities. Provides in-depth information on teaching students with severe disabilities. Emphasis is on strategies for the acquisition and generalized use of age-appropriate functional skills in natural community-based settings. Methods for developing and implementing individualized programming across specialized curricular areas such as communicative, cognitive, functional academic, motor, domestic living/self-help, recreation/leisure, and general community living skills. Current research evidence to support effective practices is stressed. [3]

2400. Early Education for Children with Disabilities. Overview of issues related to early intervention for preschool-aged children with disabilities; typical and atypical development in the preschool years; methods of designing individualized, functional instruction appr opriate for a range of service delivery options; consultation models for early intervention; and transitions to next environment. Corequisite: SPED 2401. [3] (Not currently offered)

2401. Practicum: Early Education for Children with Disabilities. Field-based application of correlated course content to classroom strategies. Assessing, planning, implementing, and evaluating instructional procedures for young children with disabilities. Corequisite: SPED 2400. [1] (Not currently offered)

2410. Early Intervention for Infants with Disabilities. Typical and atypical development in infancy; methods for designing individualized family service plans; method of service coor dination; strategies for working with team members from other disciplines; program evaluation. Corequisite: SPED 2411. [3] (Not currently offered)

2411. Practicum: Infants and Toddlers. Field base application of correlated course content in early intervention programs for infants and children with disabilities. Assessing , planning, implementing, and evaluating early intervention programs for infants, young children, and their families. Corequisite: SPED 2410. [1].(Not currently offered)

2420. Assessment Procedures for Young Children. Overview of measurement, theory, and practice in the assessment of early developmental problems. Course will address strategies for selecting appropriate and valid instruments and methods for the purpose of initial screening, evaluation to determine eligibility for services, and assessment to support program planning for infants, toddlers, and young children. Interpretation and synthesis of evaluation and assessment information for dissemination to families and other professionals is demonstrated. Students apply skills in early intervention, preschool, and/or early childhood education settings. Corequisite: SPED 2421. [3]

2500. Sensory Perception, Anatomy, Physiology, and Hygiene of Eye. Medical lectures and laboratory demonstrations by an ophthalmologist, with educational implications presented by an educator. Demonstrations and practice in vision screening. Guided observations in clinics and educational settings. Visual perception and perceptual development. [3]

2510. Educational Procedures for Students with Visual Impairment. Introduction to the literature, history, principles, programs, practices, and problems in the field. Administration, curricular, and methodological adaptations for various educational programs. The education of individuals with visual impairment and other accompanying disabilities. [3]

2530. Braille Reading and Writing. Basic communication skills for individuals with visual impairment. Basic mastery of braille for teaching. [2]

2540. Communication Skills for Students with Visual Impairment. Emphasis on research on methods of teaching communication skills and communication technology. Preparation of materials for the visually impaired. Prerequisite: working knowledge of braille. Consent of instructor required. [3]

2550. Orientation and Mobility for Teachers of the Visually Impaired. Lectures, discussions, and simulated activities in teaching orientation, mobility concepts, and skills to visually impaired individuals. Offered by a mobility specialist. [3]

2600. Audiology in Education. Introduction to the current issues and trends concerning the role of the audiologist in the public school setting. Review of the anatomy and physiology of the ear and common pathologies. Emphasis on early identification and intervention, inservice education, amplification, and the roles of federal, state, and local agencies in providing services to the learning-disabled, hearing-impaired students. [3]

2601. Laboratory: Audiology in Education. Demonstration and hands-on experience with personal and classroom amplification systems. Operation and troubleshooting of amplification systems commonly used in a classroom setting. Specifically, hearing aids, FM systems, assistive listening devices, vibrotactile devices, and cochlear implant will be demonstrated. Co- or prerequisite: 2600. [1]

2610. Speech Development and Improvement for the Deaf or Hard of Hearing. Anatomy, physiology, and acoustic features of speech, normal development of speech sound production, phonological processes, and system of orthography of speech sounds. Acquisition of basic speech teaching skills for development of effective oral communication in children who are deaf or hard of hearing (Ling's Seven-Stage Model, speech reading, and auditory enhancement techniques). [3]

2620. Language and Literacy for the Deaf or Hard of Hearing. Maximizing the language and literacy development of the child with mild to profound hearing loss. Language, reading, and writing assessment and intervention methods. Co- or prerequisite: 2030. [3]

2621. Practicum: Language and Literacy for the Deaf or Hard of Hearing. Assessment, planning, and implementing procedures for speech and language acquisition for children with hearing impairment. Application of theoretical concepts to classroom strategies. [1]

2630. Educational Programming for the Deaf or Hard of Hearing. Instructional methods and strategies for adapting classroom learning environments for the deaf or hard of hearing Behavior management, auditory management, curriculum assessment, and lesson planning. [3]

2631. Practicum: Educational Programming for the Deaf or Hard of Hearing. Application of theoretical information on classroom management, planning, and instruction, including academic curricula, amplification use, environmental assessment, and communication facilitation within a classroom setting. [1]

2640. Manual Communication (Beginning). Develops minimum competence in manual communication modes, both finger spelling and signing. Preservice experience for majors in special education who intend to work with the deaf or hard of hearing. Laboratory experience included. [3]

2650. Advanced Manual Communication. Second course in manual communication which includes sign vocabulary, grammatical structures, and idioms of American Sign Language. A comparative study of the use of signs in English order is included. Provides opportunities to become fluent signer of both English and American Sign Language. Prerequisite: SPED 2640. [3]

2680. Introduction to Speech Pathology and Audiology. This seminar will provide an introduction to and overview of the field of communication sciences and disorders. It will present behavioral characteristics, etiological considerations, and intervention approaches for individuals with a range of communication disabilities who are served by speech-language pathologists and audiologists. Presentations from practicing communication disorders professionals and guided observations of diagnostic and intervention services will be incorporated. Research in communication skills and intervention paradigms that underlie the practice of speech-language pathology and audiology will be reviewed. Professional issues, including ethics of clinical practice, will be discussed. Students will have the opportunity to explore possible career paths and options for graduate education, as well as learn about resources for related course work at Vanderbilt. [3]

2690. Special Topics in Special Education. Study of selected topics or issues related to special education such as teaching culturally or linguistically diverse learners, accommodating academic diversity in classrooms, or augmentative communication techniques. [3]

2800. Characteristics of Students with High-Incidence Disabilities. Focus on issues related to high-incidence disabilities: mild mental retardation, learning disabilities, ADHD, and behavioral disorders. A consideration of the cognitive, perceptual, language, academic, and social/emotional characteristics and needs of these students will be examined. Emphasis will be on understanding concerns related to identification, assessment, and instructional planning. Legal and ethical implications associated with service delivery will also be explored. [3]

2810. Assessment Strategies for Students with Disabilities. Overview of educational measurement, theory, and practice in the assessment of learning problems. Assessment and monitoring of student progress using both standardized and non-standardized instruments. Interpretation and incorporation of curriculum-based assessment methodology for the development of instructional programs is required. Synthesis of assessment data for dissemination to professionals and parents is demonstrated. Students apply skills in classroom settings. Prerequisite: SPED 1010 and PSY 2310 or 2320. Corequisite: 1 hour of SPED 2811. [3]

2811. Practicum: Assessment Strategies for Students with Disabilities. Experience in measuring student performance in classroom settings. Prerequisite: SPED 1010, 1011, 2010, consent of instructor. Corequisite: SPED 2810. [1]

2820. Instructional Procedures Mild/Moderate DIsabilities. Emphasis on assessment, teaching, monitoring, and evaluation of individual educational programs within group instructional settings. Focuses on explicit teaching procedures, direct instruction, and instructional design principles that apply to a range of academic domains. Prerequisite: SPED 1010, 2010, 2110, 2810, 2820. Corequisite: SPED 2831. [3]

2821. Practicum: Instructional Procedures. Field-based application of correlated course content to assessing, planning, implementing, and evaluating instructional procedures for procedures which integrate individualized educational plans in group instructional environments. Corequisite: SPED 2830. [1]

2830. Advanced Instructional Procedures Mild/Moderate Disabilities. Presents empirically validated instructional procedures to address the academic deficits of students with disabilities. Integration of explicit teaching procedures, direct instruction, and instructional design principles that apply to a range of academic domains. Proficiency in the development of assessment profiles, instructional lessons, monitoring of progress through curriculum-based measures and data-based decision making is required. Students will apply their skills in classroom settings. Prerequisite: SPED 1010, 2010, 2110, 2810. Corequisite: 1 hour of SPED 2821. [3]

2831. Practicum: Advanced Instructional Procedures. Field-based application of correlated course content to classroom strategies. Planning, implementation, and evaluating instructional procedures for students with mild to moderate disabilities. Corequisite: SPED 2820. [1]

2860. Procedures in Classroom Management and Collaboration with Families for Students with Mild/Moderate Disabilities. This course focuses on current teaching practices in the field of education and special education, with an emphasis on examination of the research bases of effective classroom management for students at risk for and with behavior problems. An additional emphasis is addressing problem behavior within the family contexts. Students are expected to synthesize and analyze research on effective teaching and management practices and to apply the knowledge to classroom situations for students with behavior problems. [3]

2870. Accommodating Academic Diversity in the Classroom. Explores the importance and difficulty of teaching heterogeneously grouped students in mainstream classrooms and offers specific instructional strategies for doing so effectively. Focuses explicitly and exclusively on methods to help classroom teachers instruct and manage the behavior of a broad range of students—students with and without disabilities at multiple points along the achievement continuum. [3]

2871. Practicum: Accommodating Academic Diversity in the Classroom. This practicum is designed to allow students to work with both special educators and general educators regarding the needs of students with disabilities. Emphasis is placed on accessing the general education curriculum. Corequisite: SPED 2870. [5] (Pass/Fail/Grade)

2900. Professional Seminar. Students complete assignments and structured activities that demonstrate their ability to apply theories and skills acquired during the core courses of the exceptional learning major. Emphasis is placed on understanding situations and solving problems that naturally occur during the student teaching experience. Students assemble a portfolio that demonstrates their professional competence in their area of specialization. Must be taken during the student teaching semester. Corequisite: SPED 2901, 2911. [3]

2901. Student Teaching in Special Education and Education. (Also listed as EDUC2704) Observation, participation, and classroom teaching for undergraduate students in any area of education combined with any area of exceptionality. Placements are dependent on license and endorsement areas. Prerequisite: Admission to student teaching. Corequisite: SPED 2900. [9-10] (*Pass/Fail* grade)

2911. Student Teaching in Special Education. Observation, participation, and classroom teaching for undergraduate students in any area of exceptionality. Placements are dependent on license areas. Prerequisite: Admission to student teaching. Corequisite: SPED 2900. [9-10] (*Pass/Fail* grade)

2960. Individual Study in Special Education. Semi-independent study of selected topics in special education. May be repeated. Consent of instructor required. [1-3]

Teaching and Learning

Education

1020. Society, the School, and the Teacher. Introduces the relationship between society's goals and those of the school. Studies the community setting and the school, the social, political, and instructional organization of a school, and the roles and values of a teacher. Field experience. [3]

2040. Introduction to Classroom Technologies. An introduction to various technologies used in classrooms with emphasis on microcomputer-based systems. Meets licensure requirements for preservice teachers. [1]

2115. Language and Literacy Learning in Young Children. Examines sociocultural and cognitive theories of language learning, theoretical models of the reading and writing processes, and interconnections between reading, writing, speaking, listening, and alternate communications systems such as art, drama, and dramatic play. Emphasizes patterns of reading and writing for children from birth to age 8 and relates these to features of learning environments. Observation and assessment strategies are introduced. [3]

2116. Practicum in Teaching Early Childhood Reading and Language Arts. Field experiences in a variety of early childhood centers or classroom settings designed to provide practical experience and reflection on the teaching of reading and the language arts. Corequisite: EDUC 2117. [1]

2117. Methods of Language and Literacy Instruction in Early Childhood. This course introduces methods for structuring classrooms to teach and assess reading, writing, speaking, and listening as part of an integrated language arts program for children from birth through grade 4, with special emphasis on children from birth to age 8. Corequisite: EDUC 2116 [3]

2120. Parents and Their Developing Children. Examines the needs and characteristics of young children, birth through age eight, and the needs of parents and ways that parents can address their children's needs. Emphasis on parental involvement and strategies for working with parents in educational settings. [3]

2130. Curriculum Programming: Birth–Age 3. Focus on programs for and the teaching of infants and toddlers. Students will learn how to support the physical, social, emotional, language, and cognitive development of infants and toddlers in out of home settings and to understand individual differences in development and to support those differences through appropriate planning. A 20-hour practicum enables students to interact with very young children in a group environment. [3]

2140. Curriculum Programming: Ages 3–Kindergarten. Students become familiar with a variety of program models for young children and engage in curriculum development and instructional planning for young children with a variety of developmental needs. Focus is on preschool education and transition to formal school schooling. A 20-hour practicum enables students to interact with very preschool children in a group environment. [3]

2150. Science and Social Studies Instruction in Early Grades This course is designed to prepare prospective early childhood teachers to provide instruction in science, and social studies. The course builds on the core content course in science and social studies in the early childhood program as well as the curriculum courses for ages 0-3 and age 3-kindergarten. Prerequisite: SSED 2100; corequisite: MTED 2150 and EDUC 2151. [3]

2151. Practicum in Mathematics, Science, and Social Studies Instruction in Early Grades. Field experiences in an early grades classroom are designed to provide practical experience and reflection on the teaching of mathematics, science, and social studies. Corequisite: EDUC 2150 and MTED 2150. [1]

2170. Teaching Diverse Learners in the Early Childhood Classroom. This course is designed to prepare prospective early childhood teachers to provide instruction that addresses the needs of diverse learners, particularly those in preschool through second grade. The course builds on EDUC 2130, EDUC 2140, and EDUC 2150 and is intended to provide a more in-depth study of appropriate instruction for individual students' particular needs than do those courses. [3]

2180. Managing Instructional Settings for Young Children. The purpose of this course is to introduce students to the social and emotional characteristics of young children that affect the ways they function in groups, and to acquaint students with planning and management philosophies and a variety of practices to use in guiding the behaviors of young children, from infancy through age 8. [2]

2210. Practicum in Elementary Education. Field experiences in a variety of school, grade level, and instructional settings, designed to integrate and apply teaching skills developed in the elementary social studies methods course. Corequisite: SSED 2210. [1]

2215. Theory and Methods of Reading Instruction in Elementary Schools. Examines approaches, strategies, and methods for teaching reading in elementary classrooms. Discusses underlying concepts and theories pertaining to literacy instruction and relates these to classroom practice. Although grounded in the philosophy that reading and writing are not discrete entities, the course focuses on reading. Corequisite: EDUC 2217 and EDUC 2216. [3]

2216. Practicum in Teaching Elementary Reading and Language Arts. Field experiences in a variety of elementary classroom settings designed to provide practical experience and reflection on the teaching of reading and the language arts. Corequisite: EDUC 2215 and EDUC 2217. [1]

2217. Language Arts in Elementary Schools. The nature of language development in the elementary school years, and principles and practices for teaching the English language arts. Corequisite: EDUC 2215 and EDUC 2216. [3]

2250. Practicum in Elementary Sciences. Field experiences providing students an opportunity to integrate and apply teaching skills developed in the elementary mathematics and science methods courses. Students are placed in a local elementary school classroom and are given opportunities to engage in classroom observations, curriculum planning and implementation, and guided reflective practice. Corequisite: MTED 2250 and SCED 2250 [1]

2270. Managing Instructional Settings. Examines several planning and management philosophies and a variety of practices for use with early childhood and/or elementary school students. [2]

2290. Student Teaching Seminar: Elementary. Seminar to accompany EDUC 2701. [3]

2291. Student Teaching Seminar: Early Childhood. Seminar to accompany EDUC 2702. [3]

2292. Student Teaching Seminar: Secondary. Seminar to accompany EDUC 2703. [3]

2310. Teaching in Secondary Schools. Exploration of general skills and principles of teaching and learning in secondary schools, including curriculum organization and patterns, teaching methods, and professionalism of the secondary school teacher. A practicum in secondary schools is included. [3]

2320. Teaching for Understanding and Academic Literacy. Designed to assist secondary content teachers in developing multiple teaching strategies, including use of technology, to enhance students' learning opportunities in diverse classrooms. Includes an emphasis on all teachers as teachers of reading and writing. Pre- or corequisite: EDUC 2040 [2]

2340. Practicum in Secondary Education I. Field experience in middle and secondary school settings. Designed for secondary education majors in their sophomore year. [1]

2350. Practicum in Secondary Education II. Field experience in middle and secondary school settings. Designed for secondary education majors in their junior year. [1]

2360. Practicum in Secondary Education III. Observation, participation, and teaching in middle school and secondary school settings. Corequisite: secondary methods course. [1]

2430. Addressing Problems in Literacy Learning. An analysis of multiple factors contributing to literacy problems students experience, and philosophies and principles of instructional practice designed to individualize instruction and support literacy development. Provides teaching experience within a school setting. Prerequisite: EDUC 2115, 2215, or equivalent. [3]

2450. Reading in Secondary Schools. (Also listed as ENED 2450) Survey of diagnostic instruments, reading skills, materials, and methods of teaching reading and study skills in content areas. [3-4]

2530. Foundations for Teaching Linguistically Diverse Students. This course examines the theoretical, historical, political, legal, and research bases for the education of students from linguistically and culturally diverse populations. Program models and the theoretical bases for these models are covered in this course. [3]

2540. Methods and Materials for Teaching Linguistically Diverse Students. This course focuses on bilingual (native language and ESL) curriculum development and instruction for students (preK-12) in a variety of language and program settings. Second-language instructional theory and practice, materials selection and development for LEP children, and bilingual and ESL literacy and content area instruction (mathematics, science, social studies, English education) are covered. [3]

2550. Teaching Linguistically and Culturally Diverse Students. This course reviews many of the social and cultural factors that affect the learning and teaching of culturally and linguistically diverse students, including Limited-English-Proficient students. This course introduces students to the fields of educational anthropology and multicultural education and to the application of cultural information to curriculum development and classroom practice. [3]

2560. English as a Second Language Assessment for Teachers. This course focuses on understanding the processes of second language acquisition/learning/development of the individual, cognitive, and social factors that influence second language learning in North America (particularly in the United States). In addition, theoretical and practical aspects of language testing for second-language learners is covered. Instruments used by educators to assess the language proficiency and academic achievement of linguistically diverse students are presented and demonstrated. The course examines the purposes and types of language tests in relation to theories of language use and language teaching goals; discusses testing practices and procedures related to language teaching and language research; and includes the planning, writing, and administration of tests, basic descriptive statistics, and test analysis. [3]

2570. Practicum for Teaching Linguistically Diverse Students. A field-based practicum working with students who are English language learners. Experience will include use of students' native languages and/or ESL instructional components. [3]

2600. Curriculum Foundations and Design. An introduction to theoretical and practical dimensions of curriculum thought and development. Exploration and critical analysis of some of the major ways in which educational programs have been conceptualized, with special attention to basic assumptions about the purposes of education and the nature of knowledge and learning; students will trace the evolution and echoes of these conceptions of the curriculum within the context of American education in the twentieth century. [3]

2690. Special Topics in Education. Exploration of special issues on topics related to education. May be repeated for credit with change of topic. [1–3]

2701. Student Teaching in the Elementary School. Observation and teaching experience in elementary schools. Undergraduate credit only. Prerequisite: admission to student teaching. [8]

2702. Student Teaching in Early Childhood. Observation and teaching experience for students seeking PreK–3 licensure. Undergraduate credit only. Prerequisite: admission to student teaching. [4-9]

2703. Student Teaching in the Secondary School. Observation and teaching experience in secondary schools. Undergraduate credit only. Prerequisite: admission to student teaching. [4-9]

2704. Student Teaching in Education and Special Education. (Also listed as SPED 2901) Observation, participation, and classroom teaching for undergraduate students in any area of education combined with any area of exceptionality. Placements are dependent on license and endorsement areas. Prerequisite: Admission to student teaching. [9]

2920. Social and Philosophical Aspects of Education. Exploration of the interaction between contemporary social problems and various philosophies in relation to educational theory, policy, and practice. [3]

2960. Individual Study in Education. Semi-independent study on selected topics in education. Consent of instructor required. May be repeated. [1-3]

2980. Readings and Research for Undergraduates. Individual programs of reading on the conduct of research studies in education. May be repeated. Consent of instructor required. [1-3]

English Education

2100. Literature and Drama for Young Children. Explores characteristics of good literature (with a particular focus on picture books and poetry) for children ages birth to ten, authors and illustrators of the genre, and issues in the area of literature for young children. Also explored is the study of drama as it impacts the development of young children. [3]

2200. Exploring Literature for Children. Explores characteristics of good literature for children ages birth to 12, authors and illustrators of the genre, and issues in the area of children's literature. [3]

2280. Language Study in the Elementary and Secondary Classroom. Investigates various methods of approaching grammar, usage, semantics, and bi-dialectism in the English classroom. [3]

2292. Student Teaching Seminar: Secondary. Seminar to accompany EDUC 2703. [3]

2360. Practicum in Secondary Education III. Observation, participation, and teaching in middle school and secondary school settings. [1]

2370. Teaching English in the Secondary School. Principles of teaching applied to language and literature in secondary schools. Required for secondary school licensure in English. Prerequisite: EDUC 2310 or consent of instructor. Corequisite: ENED 2360. [3]

2380. Seminar in English Education. Explores methods of teaching the English language arts in secondary schools with an emphasis on student assessment, reflective practice, and teaching the English language arts to diverse classroom population. [3]

2450. Reading in Secondary Schools. (Also listed as EDUC 2450) Survey of diagnostic instruments, reading skills, materials, and methods of teaching reading and study skills in content areas. [3-4]

2690. Special Topics in English Education. Exploration of special topics related to English education. May be repeated with change of topics. [3]

2920. Literature for Adolescents. Examines a wide range of literary works appropriate to readers of middle school and high school age. Materials for readers of varying abilities. [3]

2960. Individual Study in English Education. Semi-independent study on selected topics in English education. Consent of supervising instructor required. May be repeated. [1-3]

Foreign Language Education

2292. Student Teaching Seminar: Secondary. Seminar to accompany EDUC 2703. [3]

2360. Practicum in Secondary Education III. Observation, participation, and teaching in middle school and secondary school settings. [1]

2370. Teaching Foreign Language in Secondary Schools. Fundamentals of language learning and techniques of teaching foreign language in the secondary school. Required for secondary school licensure in a foreign language. Prerequisite: EDUC 2310 or consent of instructor. Corequisite: FLED 2360. [3]

2690. Special Topics in Foreign Language Education. Exploration of special issues or topics related to foreign language education. May be repeated for credit. [1-3]

2960. Individual Study in Foreign Language Education. Semi-independent study on selected topics in foreign language education. May be repeated. Consent of instructor required. [1-3]

Humanities Education

2150. Arts Education for Young Children. This course is designed to acquaint the early childhood teacher with concepts, techniques, and materials for creating opportunities for young children to learn about the visual arts and music. Strategies for incorporating art activities into group settings will be explored, as well as accommodating individual differences in young children's interest in and responsiveness to the arts. [2]

2250. Introduction to Arts Education. Acquaints the student with the philosophical and pedagogical base with which to develop competence in teaching the arts. [2]

2690. Special Topics in Humanities Education. Explores special topics related to humanities education. May be repeated. [1-3]

2960. Individual Study in Humanities Education. Semi-independent study on selected topics in humanities education. May be repeated. Consent of faculty supervisor required. [1-3]

Mathematics Education

2100. Young Children's Mathematical Thinking and Learning. The focus of the course is on ways in which young children develop increasingly sophisticated additive structures,

including pre-number and early number concepts, place value, strategies for single-and double-digit computation, and measurement. Children's mathematical thinking and learning as well as ways to support that learning are investigated. This course is prerequisite to or corequisite with EDUC 2150. This course is not recommended for freshmen. [3]

2150. Mathematics Instruction in the Early Grades. This course is designed to prepare prospective early childhood teachers to provide instruction in mathematics. The course builds on the core content course in mathematics in the early childhood program as well as the curriculum courses for ages 0-3 and age 3-kindergarten. Prerequisite: MTED 2100; corequisite: EDUC 2150 and EDUC 2151. [2]

2200. Mathematics for Elementary Teachers. This course is for students seeking elementary school licensure with an emphasis on grades two through six. This course will cover issues of both content and pedagogy that are relevant to these grades. Not recommended for freshmen. This course is prerequisite to MTED 2250. [3]

2250. Teaching Mathematics in Elementary Schools. This course is the second in a sequence of courses designed for those students seeking elementary licensure with an emphasis on grades two through six. This course deals with issues of both content and pedagogy that are relevant to these grades. Corequisite: SCED 2250 and one credit of EDUC 2250. Prerequisite: MTED 2200. [2]

2292. Student Teaching Seminar: Secondary. Seminar to accompany EDUC 2703. [3]

2360. Practicum in Secondary Education III. Observation, participation, and teaching in middle school and secondary school settings. [1]

2370. Teaching Mathematics in Secondary Schools. Study of conceptual structure, curriculum, objectives, instructional approaches, materials, learning theory, and philosophies of assessment as they relate to teaching mathematics in middle and secondary schools. Prerequisite: EDUC 2310 or consent of instructor. Corequisite: MTED 2360. [3]

2690. Special Topics in Mathematics Education. Exploration of special topics related to mathematics education. May be repeated. [1-3]

2800. Computers, Teaching, and Mathematical Visualization. Examining the 7-14 mathematics curriculum as a body of ideas that students can develop over time and the use of computer environments to support teaching and learning them. [3]

2960. Individual Study in Mathematics Education. Semi-independent study on selected topics in mathematics education. May be repeated. Consent of supervising instructor. [1-3]

Science Education

2200. Science for Elementary Teachers. This course is designed to examine the relationship between science, technology, and society. Emphasis will be on relating science concepts to real world applications, to societal influences and the changing nature of science. The role of inquiry in science will be examined and experienced. A knowledge of introductory earth, biological, and physical science is presumed and will be utilized to present of view of science as an integrated discipline. [3]

2250. Teaching Science in Elementary Schools. Study of the nature of science, discovery (inquiry) teaching and learning, curriculum approaches, goals and standards, trends, instructional and assessment strategies, and resources and materials for teaching science in grades K-8, with emphasis on grades 2-6. Corequisite: MTED 2250 and EDUC 2250. [2]

2292. Student Teaching Seminar: Secondary. Seminar to accompany EDUC 2703. [3]

2360. Practicum in Secondary Education III. Observation, participation, and teaching in middle school and secondary school settings. [1]

2370. Teaching Science in Secondary Schools. Study of instructional approaches, materials, curriculum resources, trends, inquiry teaching and learning, for teaching in secondary schools. Required for secondary school licensure in the sciences. Prerequisite: EDUC 2310 or consent of instructor. Corequisite: SCED 2360. [3]

2380. Laboratory in Secondary Science Education. Laboratory Experience in secondary science, microteaching, and examination of secondary science materials. Corequisite: 2370 or 3370. [1]

2690. Special Topics in Science Education. Exploration of a special topic related to science education. May be repeated. [1-3]

2960. Individual Study in Science Education. Semi-independent study on selected topics in science education. May be repeated. Consent of supervising instructor required. [1-3]

Social Studies Education

2100. Scientific and Historical Reasoning in Young Children. This course focuses on issues of the development of subject matter reasoning and understanding in young children. The course will examine the interplay between informal and formal experiences that influence the development of scientific and historical reasoning as children transition from their intuitive theories to a more formal study of subject matter disciplines. [3]

2210. Teaching Social Studies in Elementary Schools. Study of conceptual structure of social studies curricula with emphasis on curricular objectives, instructional approaches, teaching materials, and evaluative strategies focusing on teaching social studies in grades K-8, with emphasis on grades 2-6. Corequisite: EDUC 2210. [2]

2292. Student Teaching Seminar: Secondary. Seminar to accompany EDUC 2703. [3]

2360. Practicum in Secondary Education III. Observation, participation, and teaching in middle school and secondary school settings. [1]

2370. Teaching Social Studies in Secondary Schools. Instructional principles and techniques of teaching social studies. Required of students seeking secondary school licensure in social studies, a social science field, or history. Prerequisite: EDUC 2310 or consent of instructor. Corequisite: SSED 2360. [3]

2400. Human Geography. An examination of the human and cultural aspects of various regions of the world including the spatial manifestations of culture, population distribution and movements, language, religion, ethnicity, political geography, and resource issues. The course examines human geography themes at local, national, and international levels and probes the nature of geographical thinking and the characteristics of geography as a social science. [3]

2690. Special Topics in Social Studies Education. Exploration of special topics related to social studies education. May be repeated. [1-3]

2960. Individual Study in Social Studies Education. Semi-independent study on selected topics in social studies education. May be repeated. Consent of supervising instructor required. [1-3]

Vanderbilt University Board of Trust

MARTHA R. INGRAM, Chairman of the Board, Nashville
DENNIS C. BOTTORFF, Vice Chairman, Nashville
DARRYL D. BERGER, Vice Chairman, New Orleans
WILLIAM W. BAIN, JR., Secretary, Boston
GORDON GEE, Chancellor of the University, Nashville

MARY BETH ADDERLEY
La Jolla, CA

MICHAEL L. AINSLIE
Palm Beach, FL

NELSON C. ANDREWS [E]
Nashville, TN

ANDREW B. BENEDICT, JR. [E]
Nashville, TN

CAMILLA DIETZ BERGERON
New York, NY

LEWIS M. BRANSCOMB [E]
La Jolla, CA

MONROE J. CARELL, JR.
Nashville, TN

SHERYLL D. CASHIN
Washington, DC

CARRIE A. COLVIN
West Hollywood, CA

THOMAS F. CONE
Nashville, TN

CECIL D. CONLEE
Atlanta, GA

MIRIAM MCGAW COWDEN [E]
Nashville, TN

BROWNLEE O. CURREY, JR. [E]
Nashville, TN

MARK F. DALTON
Greenwich, CT

WILLIAM W. FEATHERINGILL
Birmingham, AL

RON D. FORD
Los Angeles, CA

FRANK A. GODCHAUX III [E]
Houston, TX

JOHN R. HALL
Lexington, KY

L. HALL HARDAWAY, JR.
Nashville, TN

H. RODES HART
Nashville, TN

JOANNE F. HAYES
Nashville, TN

JOHN R. INGRAM
Nashville, TN

ORRIN H. INGRAM
Nashville, TN

ALICE JI
Reston, VA

J. HICKS LANIER
Atlanta, GA

EDWARD A. MALLOY, C.S.C.
Notre Dame, IN

DELBERT MANN [E]
Los Angeles, CA

ALYNE QUEENER MASSEY [E]
Nashville, TN

JACKSON W. MOORE
Birmingham, AL

NANCY P. MULFORD
Dallas, TX

SHARON M. MUNGER
Dallas, TX

EDWARD G. NELSON
Nashville, TN

JUDSON G. RANDOLPH, M.D. [E]
Nashville, TN

FREDERICK B. RENTSCHLER
Scottsdale, AZ

CATHERINE B. REYNOLDS
McLean, VA

JOHN W. RICH [E]
Nashville, TN

KENNETH L. ROBERTS
Nashville, TN

JOE L. ROBY
New York, NY

EUGENE B. SHANKS, JR.
Greenwich, CT

MARISSA N. SHRUM
New York, NY

RICHARD H. SINKFIELD
Atlanta, GA

HEATHER M. SOUDER
Cambridge, MA

CAL TURNER
Nashville, TN

EUGENE H. VAUGHAN
Houston, TX

THOMAS B. WALKER, JR. [E]
Dallas, TX

LEVI WATKINS, JR., M.D.
Baltimore, MD

JAMES A. WEBB, JR. [E]
Nashville, TN

DUDLEY BROWN WHITE [E]
Nashville, TN

W. RIDLEY WILLS II
Franklin, TN

DAVID K. WILSON [E]
Nashville, TN

J. LAWRENCE WILSON
Rosemont, PA

REBECCA WEBB WILSON
Memphis, TN

WILLIAM M. WILSON
Nashville, TN

E Emerita/Emeritus Trustee

MARIBETH GERACIOTI, B.A., Assistant Secretary of the University

Vanderbilt University Administration

GORDON GEE, J.D., Ed.D., Chancellor
NICHOLAS S. ZEPPOS, J.D., Provost; Vice Chancellor for Academic Affairs
LAUREN J. BRISKY, M.B.A., Vice Chancellor for Administration and Chief Financial Officer
HARRY R. JACOBSON, M.D., Vice Chancellor for Health Affairs
MICHAEL J. SCHOENFELD, M.S., Vice Chancellor for Public Affairs
WILLIAM T. SPITZ, M.B.A., Vice Chancellor for Investments; Treasurer
DAVID WILLIAMS II, J.D., LL.M., M.B.A., Vice Chancellor for Student Life and University Affairs; General Counsel; Secretary of the University

CAMILLA PERSSON BENBOW, Ed.D., Dean of Peabody College
JAMES W. BRADFORD, JR., J.D., Dean of Owen Graduate School of Management
COLLEEN CONWAY-WELCH, Ph.D., Dean of the School of Nursing
STEVEN G. GABBE, M.D., Dean of the School of Medicine
KENNETH F. GALLOWAY, Ph.D., Dean of the School of Engineering
DENNIS G. HALL, Ph.D., Associate Provost for Research and Graduate Education
JAMES HUDNUT-BEUMLER, Ph.D., Dean of the Divinity School
RICHARD C. MCCARTY, Ph.D., Dean of the College of Arts and Science
EDWARD L. RUBIN, J.D., Dean of the Law School
MARK WAIT, D.M.A., Dean of Blair School of Music

College of Arts and Science

RICHARD C. MCCARTY, Ph.D., Dean
EDWARD B. SAFF, Ph.D., Executive Dean
M. FRÄNCILLE BERGQUIST, Ph.D., Associate Dean
KATE DANIELS, M.F.A., Associate Dean
YOLLETTE T. JONES, Ph.D., Associate Dean
HOLLY J. MCCAMMON, Ph.D., Associate Dean
RUSSELL M. MCINTIRE, JR., Ph.D., Associate Dean
MARTIN RAPISARDA, Ph.D., Associate Dean
GEORGE H. SWEENEY, Ph.D., Associate Dean
JONATHAN PETTY, B.A., Associate Dean for A&S Development
ELIZABETH ROGERS, M.B.A., Director of Records and Institutional Research
MELISSA WOCHER, B.A., Assistant to the Dean
HANK KEELING, B.A., Administrative Officer

A&S

Named and Distinguished Professorships

HOUSTON A. BAKER, JR., University Distinguished Professor of English
RICHARD BLACKETT, Andrew Jackson Professor of American History
RANDOLPH BLAKE, Centennial Professor of Psychology
ERIC W. BOND, Joe L. Roby Professor of Economics
KENDAL SCOT BROADIE, Stevenson Professor of Neurobiology
JAY CLAYTON, William R. Kenan Jr. Professor of English
ALAIN CONNES, Distinguished Professor of Mathematics
COLIN DAYAN, Robert Penn Warren Professor in the Humanities
ARTHUR A. DEMAREST, Ingram Professor of Anthropology
EMMANUELE DIBENEDETTO, Centennial Professor of Mathematics
TOM DILLEHAY, Distinguished Professor of Anthropology
TONY LEE EARLEY, Samuel Milton Fleming Associate Professor of English
ELLEN H. FANNING, Stevenson Professor of Biological Sciences
LEONARD C. FELDMAN, Stevenson Professor of Physics
LENN E. GOODMAN, Andrew W. Mellon Professor in the Humanities
JOHN C. GORE, Chancellor's University Professor of Physics
BARBARA HAHN, Distinguished Professor of German
JOHN HALPERIN, Centennial Professor of English
JOSEPH H. HAMILTON, Landon C. Garland Distinguished Professor of Physics
DAVID M. HERCULES, Centennial Professor of Chemistry
CHRISTOPHER M. S. JOHNS, Norman L. and Roselea J. Goldberg Professor of Art History
JON H. KAAS, Distinguished Professor of Psychology
VERA M. KUTZINSKI, Martha Rivers Ingram Professor of English
JOHN LACHS, Centennial Professor of Philosophy
JONATHAN LAMB, Andrew W. Mellon Professor in the Humanities
GORDON D. LOGAN, Centennial Professor of Psychology
ELIZABETH LUNBECK, Nelson Tyrone Jr. Professor of American History

LEAH S. MARCUS, Edwin Mims Professor of English
RALPH MCKENZIE, Distinguished Professor of Mathematics
DANA NELSON, Gertrude Conaway Vanderbilt Professor of English
KELLY OLIVER, W. Alton Jones Professor of Philosophy
ALEXANDER OL'SHANSKIY, Centennial Professor of Mathematics
SOKRATES T. PANTELIDES, William A. and Nancy F. McMinn Professor of Physics
NED ALLEN PORTER, Stevenson Professor of Chemistry
JENNIFER F. REINGANUM, E. Bronson Ingram Professor of Economics
MARK SAPIR, Centennial Professor of Mathematics
JEFFREY D. SCHALL, E. Bronson Ingram Professor of Neuroscience
LARRY L. SCHUMAKER, Stevenson Professor of Mathematics
CHARLES E. SCOTT, Distinguished Professor of Philosophy
MITCHELL A. SELIGSON, Centennial Professor of Political Science
HELMUT W. SMITH, Martha Rivers Ingram Professor of History
HORTENSE J. SPILLERS, Gertrude Conaway Vanderbilt Professor of English
JOHN J. STUHR, W. Alton Jones Professor of Philosophy
CECELIA TICHI, William R. Kenan Jr. Professor of English
DANIEL H. USNER, JR., Holland M. McTyeire Professor of History
W. KIP VISCUSI, University Distinguished Professor of Economics
JOHN P. WIKSWO, JR., Gordon A. Cain University Professor of Physics; A. B. Learned Professor in Living State Physics

Faculty Council

John M. Sloop, Chair. William Caferro, Secretary. *Ex Officio*: Dean of the College.

DIVISIONAL MEMBERS.

Terms expiring 2007: William Caferro, Gerald Stubbs, Mark Wollaeger
Terms expiring 2008: Clint Carter, Monica Casper, Lynn Ramey

AT-LARGE MEMBERS.

Terms expiring 2007: Virginia Scott, Arleen Tuchman, David Wood
Terms expiring 2007: Gregg Horowitz, Jane Landers, John M. Sloop

COMMITTEE ON ACADEMIC STANDARDS AND PROCEDURES. Kathy Gaca (Classical Studies), Chair. Richard McCarty (Dean of the College), *ex officio*. Kate Daniels (Associate Dean), *ex officio*. Martin Rapisarda (Associate Dean), *ex officio*. Emmanuelle DiBenedetto (Mathematics), Jose Medina (Philosophy), Edward Wright-Rios (Spanish & Portuguese).

ADMINISTRATIVE COMMITTEE. M. Frâncille Bergquist (Associate Dean), Chair. Yollette T. Jones (Associate Dean), *ex officio*. Richard McCarty (Dean of the College), *ex officio*. William W. Damon (Economics), Jon W. Hallquist (Theatre), John Plummer (English).

COMMITTEE ON ADMISSIONS. Dennis C. Dickerson (History), Chair. Russell M. McIntire (Associate Dean), *ex officio*. George H. Sweeney (Associate Dean), *ex officio*. Richard McCarty (Dean of the College), *ex officio*. Douglas L. Christiansen (Dean of Undergraduate Admissions), *ex officio*. David D. Mohning (Director of Financial Aid), *ex officio*. Dennis C. Dickerson (History), Mark Jarman (English), Kelly Oliver (Philosophy), Ruth Rogaski (History), Joel Tellinghuisen (Chemistry).

COLLEGE PROGRAM COMMITTEE. Phillip Franck (Theatre), Chair. Yollette T. Jones (Associate Dean), *ex officio*. Isabel Gauthier (Psychology).

AXLE IMPLEMENTATION COMMITTEE. Kate Daniels (Associate Dean), Chair . M. Frăncille Bergquist (Associate Dean), *ex officio*. Roy K. Gottfried (English), T odd Graham (Biological Sciences), Anna A. Roe (Psychology), John M. Sloop (Communication Studies), David A. Weintraub (Physics and Astronomy).

COMMITTEE ON CURRICULUM. Y ollette T. Jones (Associate Dean), Chair . Kate Daniels (Associate Dean), Assistant Chair . Elizabeth Rogers (Registrar of the College of Ar ts and Science), *ex officio*. Malcolm Getz (Economics), Michael Kr eyling (English), Calvin F . Miller (Earth and Environmental Sciences), Kathryn Schwarz (English).

COMMITTEE ON EDUCA TIONAL PROGRAMS. Terryl W . Hallquist (Theatr e), Chair . Kate Daniels (Associate Dean), *ex officio*. Martin Rapisarda (Associate Dean), *ex officio*. Jo-Anne Bachorowski (Psychology), William P. Caferro (History), Clint E. Carter (Biological Sciences).

COMMITTEE ON GRADUATE PROGRAMS. Beth Ann Conklin (Anthr opology), Chair. Holly McCammon (Associate Dean), *ex of ficio*. Bruce Appel (Biological Sciences), Mark Ellingham (Mathematics), Gr egg Hor owitz (Philosophy), Christina Karageorgou-Bastea (Spanish & Portuguese).

COMMITTEE ON INDIVIDUAL PROGRAMS. M. Frăncille Bergquist (Associate Dean), Chair. Yollette T . Jones (Associate Dean), *ex of ficio*. V ivien G. Fr yd (Histor y of Ar t), Andr ea Maneschi (Economics), David E. McCauley (Biological Sciences).

COMMITTEE ON STUDENT-FACULTY RELATIONS. M. Frăncille Bergquist (Associate Dean), *ex of ficio*. James J. Lang (Sociology), Elena Olazagasti-Segovia (Spanish & Por tuguese), Tracy Sharpley-Whiting (African American and Diaspora Studies). Students to be announced.

Faculty

D. KILPATRICK ABBOT, Assistant Professor of Biological Sciences
B.Sc. (Georgia 1989); M.Sc. (Simon Fraser 1994); Ph.D. (Arizona 2002) [2003]
BROOKE ANN ACKERLY, Assistant Professor of Political Science
B.A. (Williams 1988); M.A., Ph.D. (Stanford 1993, 1997) [2001]
CHRISTIAN ROBERT AHLIN, Assistant Professor of Economics
B.S. (Duke 1995); M.A., Ph.D. (Chicago 1997, 2001) [2001]
JOHN F. AHNER, Professor of Mathematics
B.A., Ph.D. (Delaware 1967, 1972) [1974]
WILLIAM M. AKERS, Senior Lecturer in Theatre
B.S. (Vanderbilt 1978); M.F.A. (Southern California 1983) [1995]
LEONARD P. ALBERSTADT, Professor of Geology, Emeritus
B.S., M.S. (Tulane 1959, 1962); Ph.D. (Oklahoma 1967) [1967]
ROYAL G. ALBRIDGE, Professor of Physics
B.S. (Ohio State 1955); Ph.D. (California, Berkeley 1960) [1961]
AKRAM ALDROUBI, Professor of Mathematics
M.S. (Swiss Federal Institute of Technology 1982); Ph.D. (Carnegie-Mellon 1987) [1997]
BRIAN M. ALLEN (Commander, U.S. Navy), Executive Officer, Naval Officer Training Corps
B.S. (Ohio State 1986); M.P.A. (Auburn 1998) [2006]
FRANCES ALPREN, Senior Lecturer in Spanish
B.A., M.A. (Louisiana State 1983) [2002]
KATHRYN H. ANDERSON, Professor of Economics
B.A. (Kentucky 1972); M.Econ., Ph.D. (North Carolina State 1974, 1978) [1980]

VICTOR ANDERSON, Associate Professor of Christian Ethics; Associate Professor of African American and Diaspora Studies; Associate Professor of Religious Studies (On leave spring 2007)
A.B. (Trinity Christian 1982); M.Div., Th.M. (Calvin Theological Seminary 1986, 1990); M.A., Ph.D. (Princeton 1991, 1992) [1992]

J. RICHARD ANDREWS, Professor of Spanish and Portuguese, Emeritus
B.A. (Rollins 1949); M.A., Ph.D. (Princeton 1951, 1953) [1966]

BRUCE HANS APPEL, Associate Professor of Biological Sciences; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (McPherson 1983); Ph.D. (Utah 1993) [1998]

RICHARD F. ARENSTORF, Professor of Mathematics, Emeritus
B.S., M.S. (Georg-August-Universität Göttingen 1952, 1954); Ph.D. (Mainz 1956) [1969]

RICHARD N. ARMSTRONG, Professor of Biochemistry; Professor of Chemistry
B.S. (Western Illinois 1970); Ph.D. (Marquette 1975) [1995]

MICHAEL ARMSTRONG-JAMES, Adjoint Professor of Psychology
B.Sc., Ph.D. (Bristol [England] 1960, 1964) [2000]

LINDA GAYLE ASHFORD, Assistant Professor of Pediatrics; Assistant Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S., M.S. (Tennessee 1971, 1973); Ph.D. (Vanderbilt 1988) [1995]

DANIEL H. ASHMEAD, Associate Professor of Hearing and Speech Sciences; Associate Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
Sc.B. (Brown 1976); Ph.D. (Minnesota 1983) [1992]

JEREMY ATACK, Professor of Economics; Professor of History
B.A. (Cambridge 1971); Ph.D. (Indiana 1976) [1993]

PAMELA M. AUBLE, Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A. (Vanderbilt 1977); M.A. (Toronto 1978); Ph.D. (Vanderbilt 1984) [1986]

JAMES E. AUER, Director, Center for U.S.–Japan Studies and Cooperation, Institute for Public Policy Studies; Lecturer in East Asian Studies; Lecturer in History
B.A. (Marquette 1963); A.M., M.A.L.D., Ph.D. (Tufts 1969, 1970, 1972) [1988]

MICHAEL L. AURBACH, Professor of Art
B.A., B.S.J., M.A., B.F.A. (Kansas 1974, 1976, 1979, 1981); M.F.A. (Southern Methodist 1983) [1986]

JOHN C. AYERS, Professor of Earth and Environmental Sciences
B.S. (SUNY, College at Fredonia 1985); M.S. (Pennsylvania State 1988); Ph.D. (Rensselaer Polytechnic Institute 1991) [1991]

BRIAN O. BACHMAN, Assistant Professor of Chemistry
B.S. (Virginia Polytechnic Institute 1992); M.S. (Southern Methodist 1994); M.A., Ph.D. (Johns Hopkins 1997, 2000) [2003]

JO-ANNE BACHOROWSKI, Associate Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Holy Cross 1980); M.S., Ph.D. (Wisconsin 1986, 1991) [1995]

HOUSTON A. BAKER, JR., University Distinguished Professor of English; Professor of English
B.A. (Howard 1965); M.A., Ph.D. (California, Los Angeles 1966, 1968) [2006]

LEWIS V. BALDWIN, Professor of Religious Studies
B.A. (Talladega 1971); M.A., M.Div. (Rochester 1973, 1975); Ph.D. (Northwestern 1980) [1984]

ROBERT A. BALDWIN, Professor of Theatre, Emeritus; Professor of Fine Arts, Emeritus
A.B. (Oberlin 1952); M.F.A. (Yale 1955) [1957]

JOHN PAUL BARACH, Professor of Physics, Emeritus
A.B. (Princeton 1957); Ph.D. (Maryland 1961) [1961]
ROBERT J. BARRETT, Associate Professor of Psychology, College of Arts and Science
B.A. (Lycoming 1963); M.A., Ph.D. (Southern Illinois 1966, 1967) [1970]
TRACY BARRETT, Senior Lecturer in Italian
A.B. (Brown 1976); M.A., Ph.D. (California, Berkeley 1979, 1988) [1984]
ROBERT F. BARSKY, Professor of French and Comparative Literature; Professor of English
B.A. (Brandeis 1984); M.A., Ph.D. (McGill 1987, 1992) [2003]
GREGORY F. BARZ, Assistant Professor of Musicology (Ethnomusicology); Assistant Professor of Anthropology; Associate Professor of Religion
B.M. (North Carolina School of the Arts 1982); M.A. (Chicago 1992); Ph.D. (Brown 1997) [1998]
STEVEN BASKAUF, Senior Lecturer in Biological Sciences
B.A. (Blufton 1982); Ph.D. (Vanderbilt 1999) [1999]
FRANZ JOSEF BAUDENBACHER, Assistant Professor of Biomedical Engineering; Assistant Professor of Physics
B.Sc. (Tübingen [Germany] 1985); Ph.D. (Technical University of Munich 1994) [1997]
ROBERT BAUM, Assistant Professor of Orthopaedics and Rehabilitation; Health Professions Adviser
B.S., M.S. (SUNY, Buffalo 1970, 1972); M.D. (Cincinnati 1988) [1996]
GEORGE BECKER, Associate Professor of Sociology
B.A. (SUNY, College at New Paltz 1964); M.A. (Columbia 1968); M.S., Ph.D. (SUNY, Stony Brook 1972, 1976) [1977]
VEREEN M. BELL, Professor of English
B.A. (Davidson 1955); Ph.D. (Duke 1959) [1961]
STEPHEN D. BENNING, Instructor in Psychology
B.A. (Rice 2000); M.A. (Minnesota 2004) [2006]
AMANDA R. BENSON, Senior Lecturer in Biological Sciences
B.A. (Oberlin 1984); Ph.D. (Harvard 1995) [2005]
BRETT V. BENSON, Assistant Professor of Political Science
B.A. (Brigham Young 1998); M.A., Ph.D. (Duke 2006, 2006) [2006]
M. FRÄNCILLE BERGQUIST, Associate Dean of the College of Arts and Science; Associate Professor of Spanish
B.A., M.A., Ph.D. (Texas Tech 1968, 1970, 1977) [1977]
SUSAN BERK-SELIGSON, Associate Professor of Latin American Studies and Spanish
B.A. (City University of New York 1967); M.A. (Pittsburgh 1971); Ph.D. (Arizona 1978) [2004]
MICHAEL D. BESS, Professor of History
B.A. (Reed 1979); M.A., Ph.D. (California, Berkeley 1983, 1989) [1989]
JOHN L. BINGHAM, Professor of Spanish, Emeritus
B.A., M.A. (Vanderbilt 1941, 1947) [1950]
ROBERT H. BIRKBY, Professor of Political Science, Emeritus
B.S., M.A. (Colorado 1952, 1960); M.A., Ph.D. (Princeton 1962, 1963) [1963]
DIETMAR BISCH, Professor of Mathematics and Chair of the Department
Hauptdiplom (Universität Karlsruhe [Germany] 1987); Ph.D. (California, Los Angeles 1991) [2002]
RICHARD BLACKETT, Andrew Jackson Professor of American History; Professor of History
B.A. (Keele [England] 1969); M.A. (Manchester [England] 1973) [2002]
RANDOLPH BLAKE, Centennial Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Texas 1967); M.A., Ph.D. (Vanderbilt 1969, 1972) [1988]

MARK J. BLITON, Associate Professor of Medicine; Associate Professor of Obstetrics and Gynecology; Assistant Professor of Philosophy; Chief, Clinical Ethics Consultation Service, VUMC
B.A. (Allegheny 1984); Ph.D. (Vanderbilt 1993) [1993]

JAMES J. BLOOM, Mellon Assistant Professor of Art History
B.A. (Dartmouth 1993); M.A., Ph.D. (Duke 1999, 2002) [2005]

BURTON J. BOGITSH, Professor of Biology, Emeritus
A.B. (New York 1949); M.A. (Baylor 1954); Ph.D. (Virginia 1957) [1964]

ERIC W. BOND, Joe L. Roby Professor of Economics; Professor of Economics and Chair of the Department
B.S. (Lehigh 1974); M.A., Ph.D. (Rochester 1977, 1979) [2003]

HOWARD L. BOORMAN, Professor of History, Emeritus
B.A. (Wisconsin 1941) [1967]

WILLIAM JAMES BOOTH, Professor of Political Science; Professor of Philosophy
B.A., M.A. (McGill 1975, 1978); Ph.D. (Harvard 1982) [1996]

JASON BORGE, Assistant Professor of Spanish
B.A. (Pomona 1987); M.A. (Columbia 1991); M.A. (California, Santa Barbara 1997); Ph.D. (California, Berkeley 2002) [2002]

DARRYL J. BORNHOP, Professor of Chemistry
B.S., M.A. (Missouri 1980, 1982); Ph.D. (Wyoming 1987) [2003]

TATIANA BOTERO, Senior Lecturer in Spanish
B.A., M.A. (West Virginia 1996, 1997) [2001]

BARBARA C. BOWEN, Professor of French, Emerita
B.A. (Oxford 1958); Doctorat de l'Université (Paris 1962); M.A. (Oxford 1962) [1987]

LEONARD ALAN BRADSHAW, Research Assistant Professor of Surgery; Research Assistant Professor of Physics; Adjunct Assistant Professor of Biomedical Engineering
B.S. (Abilene Christian 1990); M.S., Ph.D. (Vanderbilt 1992, 1995) [1996]

MARK E. BRANDON, FedEx Research Professor of Law; Professor of Political Science
B.A. (Montevallo 1975); J.D. (Alabama 1975); M.A. (Michigan 1986); Ph.D. (Princeton 1992) [2000]

CHARLES A. BRAU, Professor of Physics
B.S. (Cornell 1961); A.M., Ph.D. (Harvard 1962, 1965) [1988]

BRENDAN R. BREAM, Senior Lecturer in Earth and Environmental Sciences
B.A., B.S. (California, Santa Barbara 1995, 1995); M.S., Ph.D. (Tennessee 1999, 2003) [2004]

A. BERTRAND BRILL, Research Professor of Radiology and Radiological Sciences; Adjunct Professor of Biomedical Engineering; Research Professor of Physics
M.D. (Utah 1956); Ph.D. (California 1961) [1997]

BRANDI CLAY BRIMMER, Instructor in History
B.A. (Spelman 1995); M.A. (California, Los Angeles 1999) [2006]

KENDAL SCOT BROADIE, Stevenson Professor of Neurobiology; Professor of Biological Sciences; Professor of Pharmacology; Director for Research Program on Developmental Neurobiology and Plasticity, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Oregon 1989); Ph.D. (Cambridge [England] 1994) [2002]

H. ALEX BROWN, Associate Professor of Pharmacology; Ingram Associate Professor of Cancer Research; Associate Professor of Chemistry
B.S. (Florida Institute of Technology 1983); M.S. (Syracuse 1986); Ph.D. (North Carolina 1992) [2002]

TONY N. BROWN, Assistant Professor of Sociology; Fellow, Institute of Public Policy Studies
B.S. (Maryland, Eastern Shore 1991); M.A., Ph.D. (Michigan 1993, 1998) [2001]

THOMAS B. BRUMBAUGH, Professor of Fine Arts, Emeritus
B.S. (Indiana University of Pennsylvania 1943); M.A. (Iowa 1947); Ph.D. (Ohio State 1955) [1964]
BILLY F. BRYANT, Professor of Mathematics, Emeritus
B.S. (South Carolina 1945); M.A. (Peabody 1948); Ph.D. (Vanderbilt 1954) [1948]
STEPHEN GARY BUCKLES, Senior Lecturer in Economics
B.A. (Grinnell 1965); Ph.D. (Vanderbilt 1975) [1994]
THOMAS G. BURISH, Provost, Emeritus; Professor of Psychology, Emeritus, College of Arts and Science; Professor of Medicine, Emeritus
B.A. (Notre Dame 1972); M.A., Ph.D. (Kansas 1975, 1976) [1976]
J. PATOUT BURNS, Edward A. Malloy Professor of Catholic Studies; Professor of Religious Studies
B.A., M.A. (Spring Hill 1963, 1964); M.Div. (Regis [Canada] 1970); M.Th. (University of St. Michael's College [Canada] 1971); Ph.D. (Yale 1974) [1999]
VICTORIA A. BURRUS, Associate Professor of Spanish
B.S., M.A., Ph.D. (Wisconsin 1974, 1976, 1985) [1986]
WILLIAM CAFERRO, Associate Professor of History
B.A. (Haverford 1984); Ph.D. (Yale 1992) [1998]
ERNEST Q. CAMPBELL, Professor of Sociology, Emeritus; Dean of the Graduate School, Emeritus
B.A. (Furman 1945); M.A. (Pennsylvania 1946); Ph.D. (Vanderbilt 1956) [1963]
KAREN E. CAMPBELL, Associate Professor of Sociology
A.B. (Randolph-Macon Woman's 1977); M.A., Ph.D. (North Carolina 1982, 1985) [1985]
RICHARD M. CAPRIOLI, Stanley Cohen Professor of Biochemistry; Professor of Pharmacology; Professor of Chemistry; Director, Center in Mass Spectrometry
B.S., Ph.D. (Columbia 1965, 1969) [1998]
DAVID LEE CARLTON, Associate Professor of History
B.A. (Amherst 1970); M.A., M.Phil., Ph.D. (Yale 1974, 1974, 1977) [1983]
LAURA M. CARPENTER, Assistant Professor of Sociology
B.S., B.A. (Boston University 1991); M.A., Ph.D. (Pennsylvania 1995, 1999) [2002]
FRANK E. CARROLL, JR., Professor of Radiology and Radiological Sciences, Emeritus; Professor of Physics, Emeritus
B.S. (Saint Joseph's [Pennsylvania] 1963); M.D. (Hahnemann Medical College 1967) [1983]
KATHERINE BLUE CARROLL, Assistant Professor of Political Science
B.A. (Indiana 1992); M.A., Ph.D. (Virginia 1996, 2001) [2006]
CLINT E. CARTER, Professor of Biological Sciences
B.A., M.A. (Loma Linda 1965, 1967); Ph.D. (California, Los Angeles 1971) [1973]
VIVIEN A. CASAGRANDE, Professor of Cell and Developmental Biology; Professor of Psychology, College of Arts and Science; Professor of Ophthalmology and Visual Sciences; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Colorado 1964); Ph.D. (Duke 1973) [1976]
MONICA J. CASPER, Associate Professor of Sociology; Director, Women's and Gender Studies Program
B.A. (Chicago 1988); Ph.D. (California, San Francisco 1995) [2004]
KENNETH C. CATANIA, Associate Professor of Biological Sciences
B.S. (Maryland 1989); M.S., Ph.D. (California, San Diego 1992, 1994) [1997]
KEFYN M. CATLEY, Assistant Professor of Science Education; Assistant Professor of Biological Sciences
Hons. (University College of Wales 1989); M.S. (Western Carolina 1991); Ph.D. (Cornell 1996) [2003]

WILLIAM F. CAUL, Professor of Psychology, Emeritus, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Bucknell 1960); M.S., Ph.D. (Carnegie Institute of Technology 1962, 1965) [1970]
CHARLES RICHARD CHAPPELL, Research Professor of Physics; Director, Science and Research Communications; Executive Director, Dyer Observatory
B.A. (Vanderbilt 1965); Ph.D. (Rice 1968) [1997]
WALTER J. CHAZIN, Professor of Biochemistry; Professor of Physics; Director, Center for Structural Biology
B.Sc. (McGill 1975); Ph.D. (Concordia 1983) [1999]
TINA YIH-TING CHEN, Associate Professor of English
B.A., M.A. (Georgetown 1992, 1993); Ph.D. (California, Berkeley 1998) [1998]
DAN M. CHURCH, Professor of French, Emeritus
B.A. (Wake Forest 1961); M.A. (Middlebury 1962); Ph.D. (Wisconsin 1967) [1967]
LARRY R. CHURCHILL, Ann Geddes Stahlman Professor of Medical Ethics; Professor of Medicine; Professor of Religion; Professor of Philosophy
B.A. (Rhodes 1967); M.Div., Ph.D. (Duke 1970, 1973) [2002]
CHERRIE CLARK, Senior Lecturer in Managerial Studies
B.A. (Vanderbilt 1978); M.B.A. (Dartmouth 1981) [2006]
KEVIN CLARK, Senior Lecturer in Managerial Studies
B.A. (Amherst 1978); M.S. (Dartmouth 1982) [2002]
CHRISTOPHER T. CLARK (Captain, U.S. Marine Corps), Marine Officer Instructor, Naval Officer Training Corps
B.A. (Miami University 1998) [2005]
JAMES H. CLARKE, Professor of the Practice of Civil and Environmental Engineering; Professor of Earth and Environmental Sciences
B.A. (Rockford 1967); Ph.D. (Johns Hopkins 1973) [1989]
LYNN E. CLARKE, Assistant Professor of Communication Studies
B.S. (Carnegie Mellon 1993); M.A. (North Carolina 1998); Ph.D. (Northwestern 2003) [2002]
JAY CLAYTON, William R. Kenan Jr. Professor of English; Professor of English and Chair of the Department
B.A. (Yale 1974); Ph.D. (Virginia 1979) [1988]
KEITH N. CLAYTON, Professor of Psychology, Emeritus, College of Arts and Science
B.A., M.A. (Southern Methodist 1956, 1957); Ph.D. (Northwestern 1960) [1960]
DAVID E. CLIFFEL, Assistant Professor of Chemistry
B.S./B.E.E. (Dayton 1992); Ph.D. (Texas 1998) [2000]
DALE COCKRELL, Professor of Musicology; Professor of American Studies
B.M., M.M., Ph.D. (Illinois 1971, 1973, 1978) [1996]
CHARLES W. COFFEY II, Professor of Radiation Oncology; Associate Professor of Physics
B.S., M.S. (Kentucky 1971, 1972); Ph.D. (Purdue 1975) [2004]
PIERRE ROBERT COLAS, Assistant Professor of Anthropology
Bachelors (Hamburg [Germany] 1999); Ph.D. (Bonn [Germany] and Cologne [Germany] 2004) [2006]
WILLIAM J. COLLINS, Associate Professor of Economics
B.A., M.A., Ph.D. (Harvard 1993, 1995, 1998) [1998]
JOHN J. COMPTON, Professor of Philosophy, Emeritus
B.A. (Wooster 1949); M.A., Ph.D. (Yale 1951, 1953) [1952]
PAUL K. CONKIN, Distinguished Professor of History, Emeritus; Distinguished Research Professor of History
B.A. (Milligan 1951); M.A., Ph.D. (Vanderbilt 1953, 1957) [1979]
BETH ANN CONKLIN, Associate Professor of Anthropology
A.B. (Colorado College 1976); Ph.D. (California, San Francisco 1980) [1991]

JOHN P. CONLEY, Professor of Economics
B.A. (Chicago 1984); M.A., Ph.D. (Rochester 1987, 1990) [2002]
ALAIN CONNES, Distinguished Professor of Mathematics
B.S., Ph.D. (École Normale Supérieure [Paris] 1970, 1973) [2003]
ANN JENNALIE COOK, Professor of English, Emerita
B.A., M.A. (Oklahoma 1956, 1959); Ph.D. (Vanderbilt 1972) [1976]
PAMELA C. CORLEY, Assistant Professor of Political Science
B.S. (Georgia Institute of Technology 1989); J.D., M.A., Ph.D. (Georgia State 1995, 2003, 2005) [2005]
DANIEL B. CORNFIELD, Professor of Sociology
A.B., A.M., Ph.D. (Chicago 1974, 1977, 1980) [1980]
PAULA ANNE COVINGTON, Librarian, Central Library; Lecturer in Latin American Studies
B.A. (Syracuse 1969); M.L.S. (Peabody 1971); M.A. (Vanderbilt 1994) [1973]
KATHERINE B. CRAWFORD, Associate Professor of History
B.A. (Columbia College 1988); M.S., Ph.D. (Chicago 1991, 1997) [1999]
JOHN CRISPIN, Professor of Spanish, Emeritus
B.A. (University of St. Thomas 1960); M.A., Ph.D. (Wisconsin 1962, 1967) [1965]
LARRY S. CRIST, Professor of French, Emeritus
B.A. (Western Maryland 1955); M.A., Ph.D. (Princeton 1959, 1963) [1963]
PHILIP S. CROOKE III, Professor of Mathematics; Professor of Education
B.S. (Stevens Institute of Technology 1966); Ph.D. (Cornell 1970) [1970]
MARIO CRUCINI, Associate Professor of Economics
B.A. (Western Ontario 1985); M.A., Ph.D. (Rochester 1989, 1991) [1999]
STEVEN E. CSORNA, Associate Professor of Physics
B.S. (New York 1968); M.A., Ph.D. (Columbia 1970, 1974) [1978]
ANASTASIA C. CURWOOD, Assistant Professor of African American and Diaspora Studies; Assistant Professor of History
A.B. (Bryn Mawr 1996); M.A., Ph.D. (Princeton 1999, 2003) [2005]
WILLIAM W. DAMON, Professor of Economics and Business Administration; Professor of Management; Director, Managerial Studies
B.S. (Purdue 1965); M.B.A., Ph.D. (Cornell 1967, 1970) [1976]
KATE DANIELS, Associate Professor of English; Associate Dean, College of Arts and Science
B.A., M.A. (Virginia 1975, 1977); M.F.A. (Columbia 1980) [1995]
ANDREW F. DAUGHETY, Professor of Economics; Professor of Law
B.S. (Case Institute of Technology 1969); M.S., Ph.D. (Case Western Reserve 1971, 1972); M.A. (Southern California 1975) [1995]
DENISE D. DAVIS, Assistant Professor of Psychology, College of Arts and Science
B.S. (Florida State 1977); Ph.D. (South Carolina 1982) [1988]
COLIN DAYAN, Robert Penn Warren Professor in the Humanities; Professor of English
B.A. (Smith 1971); Ph.D. (City University Graduate Center 1980) [2004]
NATHALIE A. DEBRAUWERE-MILLER, Assistant Professor of French
Ph.D. (Emory 2000) [2001]
SARAH DELASSUS, Senior Lecturer in Spanish
B.A. (Albright 1997); M.A. (Virginia 1999) [2001]
CHARLES F. DELZELL, Professor of History, Emeritus
B.S. (Oregon 1941); M.A., Ph.D. (Stanford 1943, 1951) [1952]
ARTHUR A. DEMAREST, Ingram Professor of Anthropology
B.A. (Tulane 1974); A.M., Ph.D. (Harvard 1977, 1981) [1983]
SUSAN A. DEMAY, Senior Lecturer in Art
B.A. (Eckerd 1977); M.S. (Peabody 1979); M.A. (Tennessee Technological 1989) [1986]
ANNE T. DEMO, Assistant Professor of Communication Studies
B.A. (George Mason 1991); M.A., Ph.D. (Pennsylvania State 1995, 1999) [1999]

CAROLYN DEVER, Professor of English; Associate Dean, College of Arts and Science
A.B. (Boston College 1988); A.M., Ph.D. (Harvard 1990, 1993) [1999]
EMMANUELE DIBENEDETTO, Centennial Professor of Mathematics; Professor of Molecular Physiology and Biophysics
B.A. (Università di Firenze 1975); Ph.D. (Texas 1979) [2000]
RORY C. DICKER, Senior Lecturer in English; Senior Lecturer in Women's and Gender Studies
B.A. (Johns Hopkins 1991); M.A., Ph.D. (Vanderbilt 1994, 1998) [2003]
DENNIS C. DICKERSON, Professor of History
B.A. (Lincoln 1971); M.A., Ph.D. (Washington University 1974, 1978) [1999]
JAMES H. DICKERSON II, Assistant Professor of Physics
B.A. (Amherst 1994); M.A., Ph.D. (SUNY, Stony Brook 1999, 2002) [2004]
NATHALIE DIEU-PORTER, Senior Lecturer in French
B.A., M.A. (Université de Mons-Hainaut [Belgium] 1989, 1996) [1997]
TOM D. DILLEHAY, Distinguished Professor of Anthropology; Professor of Anthropology and Chair of the Department
B.A. (North Texas 1970); Ph.D. (Texas 1976) [2004]
ROBERT V. DILTS, Professor of Chemistry, Emeritus
B.A. (Wesleyan 1951); M.A., Ph.D. (Princeton 1953, 1954) [1960]
IDIT DOBBS-WEINSTEIN, Associate Professor of Philosophy
B.A., M.A. (York [Canada] 1981, 1982); M.A., Ph.D. (Toronto 1983, 1987) [1987]
KATHARINE M. DONATO, Professor of Sociology
B.S. (New York Institute of Technology 1978); M.S.W. (Wisconsin, Milwaukee 1981); M.A., Ph.D. (SUNY, Stony Brook 1984, 1988) [2006]
CLEMENT DORE, Professor of Philosophy, Emeritus
A.B., A.M., Ph.D. (Harvard 1953, 1954, 1961) [1960]
BONNIE J. DOW, Associate Professor of Communication Studies
B.A. (Baylor 1985); M.A. (Kansas 1987); Ph.D. (Minnesota 1990) [2006]
ALEX N. DRAGNICH, Professor of Political Science, Emeritus
B.A. (University of Washington 1938); M.A., Ph.D. (California, Berkeley 1939, 1945) [1950]
ROBERT DREWS, Professor of Classics, Emeritus
B.A. (Northwestern College 1956); M.A. (Missouri 1957); Ph.D. (Johns Hopkins 1960) [1961]
ROBERT A. DRISKILL, Professor of Economics
B.S. (Michigan State 1973); Ph.D. (Johns Hopkins 1978) [1992]
AVA DENISE DUE, Senior Lecturer in Biological Sciences
B.S. (Middle Tennessee State 1980); M.S., Ph.D. (Vanderbilt 1984, 1992) [2000]
DENNIS M. DUGGAN, Associate Professor of Radiation Oncology; Associate Professor of Physics
B.A. (California State 1979); M.A., Ph.D. (Southern California 1982, 1986) [2004]
MARSHALL C. EAKIN, Professor of History
B.A., M.A. (Kansas 1975, 1977); Ph.D. (California, Los Angeles 1981) [1983]
TONY LEE EARLEY, Samuel Milton Fleming Associate Professor of English; Associate Professor of English
B.A. (Warren Wilson 1983); M.F.A. (Alabama 1992) [1997]
FORD F. EBNER, Professor of Psychology, College of Arts and Science; Professor of Cell and Developmental Biology; Investigator, Vanderbilt Kennedy Center for Research on Human Development
D.V.M. (Washington State 1958); Ph.D. (Maryland 1965) [1991]
PAUL H. EDELMAN, Professor of Mathematics; Professor of Law
B.A. (Swarthmore 1976); Ph.D. (Massachusetts Institute of Technology 1980) [2000]

BENJAMIN EDEN, Professor of Economics
B.S. (Hebrew 1971); Ph.D. (Chicago 1975) [2002]
SUSAN H. EDWARDS, Adjunct Associate Professor of Art History
B.A., M.A. (South Carolina 1979, 1983); M.Ph., Ph.D. (CUNY 1990, 1995) [2006]
ROBERT R. EHMAN, Professor of Philosophy, Emeritus
B.A. (Pomona 1957); M.A., Ph.D. (Yale 1959, 1961) [1967]
BRANDT F. EICHMAN, Assistant Professor of Biological Sciences
B.S. (Mississippi 1993); Ph.D. (Oregon State 2000) [2004]
SARA PAULSON EIGEN, Assistant Professor of German
B.A. (Yale 1987); A.M., Ph.D. (Harvard 1995, 2001) [2001]
PEGGY ELAM, Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A. (Mississippi University for Women 1977); M.S., Ph.D. (Vanderbilt 1986, 1990) [1998]
PAUL ELLEDGE, Professor of English, Emeritus
B.A. (Missouri 1960); M.A., Ph.D. (Tulane 1962, 1965) [1964]
MARK N. ELLINGHAM, Professor of Mathematics
B.S., M.S. (Melbourne 1981, 1983); Ph.D. (Waterloo 1986) [1986]
WALBURGA VON RAFFLER ENGEL, Professor of Linguistics, Emerita
D.Litt. (Turin 1947); M.S. (Columbia 1951); Ph.D. (Indiana 1953) [1965]
JOHN H. ENGLISH, Senior Lecturer in Communication Studies
B.A., M.A. (California State, Northridge 1976, 1977) [1988]
LYNN E. ENTERLINE, Professor of English
B.A. (Vanderbilt 1978); B.A. (Oxford 1981); M.A., Ph.D. (Cornell 1986, 1989) [1998]
JAMES A. EPSTEIN, Professor of History
B.A. (Sussex 1970); Ph.D. (Birmingham [England] 1977) [1986]
DAVID J. ERNST, Professor of Physics
S.B., Ph.D. (Massachusetts Institute of Technology 1965, 1970) [1992]
FRANCISCO ESTRADA-BELLI, Assistant Professor of Anthropology
Laurea (Università di Roma 1991); Ph.D. (Boston University 1998) [2000]
DONALD H. EVANS, Professor of Art and Art History, Emeritus
B.F.A. (Tennessee 1962); M.F.A. (North Carolina 1968) [1969]
MICHAEL E. EZELL, Assistant Professor of Sociology
B.A. (California, Davis 1996); M.A., Ph.D. (Duke 1999, 2002) [2002]
YANQIN FAN, Professor of Economics; Professor of Mathematics
B.Sc. (Jilin [China] 1985); M.A., Ph.D. (Western Ontario 1987, 1990) [2001]
ELLEN H. FANNING, Stevenson Professor of Biological Sciences
B.S. (Wisconsin 1968); Dr.rer.nat. (Cologne 1977) [1995]
LEONARD C. FELDMAN, Stevenson Professor of Physics; Professor of Materials Science and Engineering
B.A. (Drew 1961); M.S., Ph.D. (Rutgers 1963, 1967) [1996]
RENDIGS T. FELS, Professor of Economics, Emeritus
A.B. (Harvard 1939); M.A. (Columbia 1940); Ph.D. (Harvard 1948) [1948]
DEVIN FERGUS, Assistant Professor of History
B.A., M.A. (North Carolina State 1992, 1994); M.A., M.Phil., Ph.D. (Columbia 1997, 1997, 2002) [2002]
JULIA ANN FESMIRE, Senior Lecturer in Comparative Literature
B.A. (Vanderbilt 1978); J.D. (Tennessee 1981); M.A., Ph.D. (Vanderbilt 1989, 1994) [2003]
ELLIOT M. FIELSTEIN, Assistant Professor of Psychiatry; Adjunct Assistant Professor of Psychology
B.A. (SUNY, Buffalo 1976); Ph.D. (Vermont 1984) [1996]
GERALD FIGAL, Associate Professor of East Asian Studies; Associate Professor of History
B.A. (California, Santa Barbara 1985); M.A., Ph.D. (Chicago 1987, 1992) [2003]

STUART G. FINDER, Assistant Professor of Medicine; Assistant Professor of Philosophy; Director, Center for Clinical and Research Ethics
B.S. (Allegheny 1983); M.A. (Colorado 1985); M.A. (Wisconsin 1988); Ph.D. (Utah 1991) [1991]

T. ALDRICH FINEGAN, Professor of Economics, Emeritus
B.A. (Claremont 1951); M.A., Ph.D. (Chicago 1953, 1960) [1964]

EDWARD F. FISCHER, Associate Professor of Anthropology; Director, Center for Latin American and Iberian Studies
B.A. (Alabama, Birmingham 1989); M.A., Ph.D. (Tulane 1995, 1995) [1996]

RANDALL M. FISHER, Professor of Communication Studies, Emeritus
B.S. (Northern State [South Dakota] 1951); M.A. (Northwestern 1957); Ph.D. (Missouri 1964) [1964]

EARL E. FITZ, Professor of Portuguese, Spanish, and Comparative Literature
B.A., M.A. (Iowa 1968, 1970); M.A. (CUNY, Queens 1973); Ph.D. (CUNY 1977) [1998]

DANIEL M. FLEETWOOD, Professor of Electrical Engineering and Chair of the Department of Electrical Engineering and Computer Science; Professor of Physics
B.S., M.S., Ph.D. (Purdue 1980, 1981, 1984) [1999]

SIDNEY FLEISCHER, Professor of Biological Sciences, Emeritus
B.S. (City University of New York 1952); Ph.D. (Indiana 1957) [1964]

LEONARD FOLGARAIT, Professor of Art History
B.A., M.A., Ph.D. (California, Los Angeles 1972, 1975, 1980) [1981]

JAMES E. FOSTER, Professor of Economics; Senior Fellow, Institute for Public Policy Studies
B.A. (New College [Florida] 1977); M.A., Ph.D. (Cornell 1980, 1982) [1990]

SIMON FOUCART, Assistant Professor of Mathematics
Baccalauréat (Lycée Kléber [France] 1995); Licence de mathématiques (Université de Paris VI [France] 1999); Diplôme d'Ingénieur des Arts et Manufactures (Ecole Centrale Paris [France] 2001); Ph.D. (Cambridge [United Kingdom] 2005) [2006]

WILLIAM R. FOWLER, JR., Associate Professor of Anthropology
B.A. (University of the Americas 1972); M.A., Ph.D. (Calgary 1977, 1982) [1987]

ROBERT FOX, Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A., Ph.D. (Cincinnati 1957, 1963) [1963]

PHILLIP FRANCK, Associate Professor of Theatre and Chair of the Department
B.A. (Puget Sound 1990); M.F.A. (Northwestern 1998) [1998]

WILLIAM FRANKE, Associate Professor of Comparative Literature and Italian
B.A. (Williams 1978); M.A. (Oxford 1980); M.A. (California, Berkeley 1988); Ph.D. (Stanford 1991) [1991]

JIMMIE L. FRANKLIN, Professor of History, Emeritus
B.A. (Jackson State 1961); M.A., Ph.D. (Oklahoma 1964, 1968) [1986]

JEFFERY J. FRANKS, Professor of Psychology, College of Arts and Science
B.S. (Michigan State 1966); Ph.D. (Minnesota 1970) [1970]

JAMES J. FRIAUF, Professor of Biology, Emeritus
B.S. (Toledo 1936); M.S. (Michigan 1937); Ph.D. (Florida 1942) [1946]

EDWARD H. FRIEDMAN, Professor of Spanish; Professor of Comparative Literature
B.A. (Virginia 1970); M.A., Ph.D. (Johns Hopkins 1971, 1974) [2000]

GREG FRIEDMAN, Assistant Professor of Mathematics
Sc.B. (Brown 1996); Ph.D. (New York 1998) [2005]

KATHERINE L. FRIEDMAN, Assistant Professor of Biological Sciences
B.A. (Carleton 1990); Ph.D. (University of Washington 1996) [2001]

MARC FROMENT-MEURICE, Professor of French
M.A. (Paris X 1975); Ph.D. (Paris VIII 1979); Doctorat d'Etat (Nice, Sophia-Antipolis 1992) [1996]

VIVIEN GREEN FRYD, Professor of Art History; Professor of American Studies
B.A., M.A. (Ohio State 1974, 1977); Ph.D. (Wisconsin 1984) [1985]
DANIEL J. FUNK, Assistant Professor of Biological Sciences
B.S. (Notre Dame 1989); Ph.D. (SUNY, Stony Brook 1996) [1999]
DAVID JON FURBISH, Professor of Earth and Environmental Sciences and Chair of the Department; Professor of Civil and Environmental Engineering
B.S. (North Carolina 1978); M.S. (California State 1981); Ph.D. (Colorado 1985) [2003]
DAVID H. FURSE, Adjunct Assistant Professor of Managerial Studies; Adjunct Professor of Management
A.B. (Georgia 1965); M.S (Illinois 1967); Ph.D. (Georgia State 1974) [2002]
WILLIAM GABELLA, Research Assistant Professor of Physics
B.S. (Colorado School of Mines 1984); M.S., Ph.D. (Colorado 1987, 1991) [1994]
KATHY L. GACA, Associate Professor of Classics; Associate Professor of Religion
B.A., M.A. (Illinois 1982, 1984); Ph.D. (Toronto 1996) [1997]
JOSHUA T. GAMSE, Assistant Professor of Biological Sciences
B.A. (Rice 1994); Ph.D. (Massachusetts Institute of Technology 2000) [2005]
JUDY GARBER, Professor of Psychology, Peabody College; Professor of Psychiatry; Associate Professor of Psychology, College of Arts and Science; Senior Fellow, Institute for Public Policy Studies; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (SUNY, Buffalo 1973); Ph.D. (Minnesota 1987) [1985]
ISABEL GAUTHIER, Associate Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Université du Québec à Montréal 1993); M.S., Ph.D. (Yale 1995, 1998) [1999]
VOLNEY P. GAY, Professor of Religious Studies and Chair of the Department; Professor of Psychiatry; Professor of Anthropology
B.A. (Reed 1970); M.A., Ph.D. (Chicago 1973, 1976) [1979]
JOHN G. GEER, Professor of Political Science
B.A. (Franklin and Marshall 1980); M.A., Ph.D. (Princeton 1982, 1986) [1995]
GARY GERSTLE, Professor of History
B.A. (Brown 1976); M.A., Ph.D. (Harvard 1978, 1982) [2006]
MALCOLM GETZ, Associate Professor of Economics; Assistant to the Dean, College of Arts and Science
B.A. (Williams 1967); Ph.D. (Yale 1973) [1973]
SHAMINDRA KUMAR GHOSH, Assistant Professor of Mathematics
B.S. (St. Xavier's College, Calcutta [India] 1996); M.S., Ph.D. (Indian Statistical Institute, Bangalore [India] 1998, 2004) [2006]
JONATHA GIBAUD, Clinical and Consulting Psychologist, Psychological and Counseling Center; Adjoint Associate Professor of Psychology, Peabody College; Adjunct Associate Professor of Psychology, College of Arts and Science
B.A. (Wells 1958); M.A.T. (Johns Hopkins 1959); M.A. (Rhode Island 1972); Ph.D. (Peabody 1977) [1979]
JACK P. GIBBS, Centennial Professor of Sociology, Emeritus
B.A., M.A. (Texas Christian 1950, 1952); Ph.D. (Oregon 1957) [1978]
JONATHAN M. GILLIGAN, Senior Lecturer in Earth and Environmental Sciences
B.A. (Swarthmore 1982); Ph.D. (Yale 1991) [1995]
KATHRYN T. GINES, Assistant Professor of African American and Diaspora Studies; Assistant Professor of Philosophy
B.A. (Spelman 1999); M.A., Ph.D. (Memphis 2001, 2003) [2005]
SAM B. GIRGUS, Professor of English
A.B. (Syracuse 1962); M.A. (Iowa 1963); Ph.D. (New Mexico 1972) [1990]

SUZANNE GLOBETTI, Assistant Professor of Political Science
B.A. (Virginia 1991); Ph.D. (Texas 2002) [2004]
DANIEL FRANK GOCHBERG, Assistant Professor of Radiology and Radiological Sciences; Assistant Professor of Physics
B.S. (Massachusetts Institute of Technology 1991); M.S., Ph.D. (Yale 1994, 1998) [2002]
TERESA A. GODDU, Associate Professor of English; Director, American Studies Program
B.A. (Yale 1986); M.A., Ph.D. (Pennsylvania 1988, 1991) [1991]
RICHARD R. GOLDBERG, Professor of Mathematics, Emeritus
B.S. (Northwestern 1951); A.M., Ph.D. (Harvard 1952, 1956) [1976]
STEVEN L. GOODBRED, JR., Assistant Professor of Earth and Environmental Sciences
B.A. (Boston University 1991); M.S. (South Florida 1994); Ph.D. (William and Mary 1999) [2005]
LENN E. GOODMAN, Andrew W. Mellon Professor of Humanities; Professor of Philosophy
A.B. (Harvard 1965); D.Phil. (Oxford 1968) [1994]
JOHN C. GORE, Chancellor's University Professor of Radiology and Radiological Sciences and Biomedical Engineering; Professor of Molecular Physiology and Biophysics; Professor of Physics; Director, Institute of Imaging Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.Sc. (Manchester 1972); Ph.D. (London 1976); B.A. (Ealing 1983) [2002]
ROY K. GOTTFRIED, Professor of English
B.A., M.A. (Brown 1970, 1970); Ph.D. (Yale 1976) [1975]
SEAN X. GOUDIE, Assistant Professor of English
B.A. (Davidson 1986); M.A. (North Carolina State 1993); Ph.D. (California, Berkeley 1999) [1998]
MATTHEW GOULD, Professor of Mathematics
B.S. (City University of New York, Brooklyn College 1963); M.A., Ph.D. (Pennsylvania State 1965, 1967) [1966]
ANTONINA FILONOV GOVE, Professor of Slavic Languages and Literatures, Emerita
B.A., M.A. (University of Washington 1959, 1961); Ph.D. (Harvard 1967) [1969]
WALTER R. GOVE, Professor of Sociology, Emeritus
B.S. (SUNY, College of Environmental Science and Forestry 1960); M.A., Ph.D. (University of Washington 1967, 1968) [1968]
HERSCHEL GOWER, Professor of English, Emeritus
B.A. (Cumberland 1942); M.A., Ph.D. (Vanderbilt 1952, 1957) [1956]
GEORGE J. GRAHAM, JR., Professor of Political Science
A.B. (Wabash 1960); Ph.D. (Indiana 1965) [1965]
TODD R. GRAHAM, Professor of Biological Sciences
B.S. (Maryville 1984); Ph.D. (Saint Louis 1988) [1992]
SENTA VICTORIA GREENE, Professor of Physics
A.B. (Tennessee 1984); M.Phil., M.S., Ph.D. (Yale 1987, 1987, 1993) [1994]
THOMAS A. GREGOR, Professor of Anthropology
B.A. (Chicago 1962); Ph.D. (Columbia 1969) [1975]
CHRISTIAN R. GROSE, Assistant Professor of Political Science
B.A. (Duke 1996); Ph.D. (Rochester 2003) [2005]
PINHAS GROSSMAN, Instructor in Mathematics
B.A. (Yeshiva 2000) [2006]
HENNING EDMUND GRUNWALD, Visiting Assistant Professor of History
B.A., M.Phil. (Clare College [United Kingdom] 1997, 1998); Ph.D. (Cambridge [United Kingdom] 2003) [2006]
DAN GURALNIK, Assistant Professor of Mathematics
B.A., M.Sc., Ph.D. (Technion-Israel Institute of Technology 1994, 1998, 2005) [2006]

DAVID L. HACHEY, Professor of Pharmacology; Professor of Biochemistry; Professor of Chemistry
B.A. (Oakland 1967); Ph.D. (California, Santa Barbara 1972) [1998]

RICHARD F. HAGLUND, JR., Professor of Physics
B.A. (Wesleyan 1967); M.A. (SUNY, Stony Brook 1968); Ph.D. (North Carolina 1975) [1984]

BARBARA HAHN, Distinguished Professor of German; Professor of German
Staatsexamen für den Höheren Schuldienst (Marburg 1976); Dr.phil (Free University of Berlin 1989); Habilitation (Hamburg 1993) [2004]

MIRIAM HALACHMI, Lecturer in Hebrew
B.A. (Hebrew University 1968); B.A. (SUNY, Buffalo 1973) [1985]

DENNIS G. HALL, Associate Provost for Research and Graduate Education; Professor of Physics; Professor of Electrical Engineering
B.S. (Illinois 1970); M.S. (Southern Illinois 1972); Ph.D. (Tennessee 1976) [2000]

DOUGLAS S. HALL, Professor of Physics and Astronomy, Emeritus
B.A. (Swarthmore 1962); M.A., Ph.D. (Indiana 1964, 1967) [1967]

LARRY C. HALL, Professor of Chemistry, Emeritus
B.A. (Bowling Green State 1952); Ph.D. (Illinois 1956) [1956]

JON W. HALLQUIST, Associate Professor of Theatre; Co-Director of the Vanderbilt University Theatre
B.S. (Nebraska Wesleyan 1977); A.M., Ph.D. (Michigan 1979, 1985) [1985]

TERRYL W. HALLQUIST, Associate Professor of Theatre; Co-Director of the Vanderbilt University Theatre
B.S. (Nebraska Wesleyan 1977); A.M., Ph.D. (Michigan 1979, 1985) [1985]

JOHN HALPERIN, Centennial Professor of English
A.B. (Bowdoin 1963); M.A. (New Hampshire 1966); M.A., Ph.D. (Johns Hopkins 1968, 1969) [1983]

BUSHRA J. HAMAD, Senior Lecturer in Religious Studies and Arabic Language and Literature
B.A. (Khartoum [Sudan] 1974); M.A., Ph.D. (Texas, Austin 1986, 1992) [2006]

CHARLES H. HAMBRICK, Professor of Religious Studies, Emeritus
B.A. (Vanderbilt 1952); B.D. (Drew 1959); M.A., Ph.D. (Chicago 1967, 1971) [1968]

AMY HODGES HAMILTON, Assistant Professor of English; Director of Undergraduate Writing
B.A. (Florida State 1997); M.A. (Austin Peay State 1999); Ph.D. (Florida State 2005) [2005]

JOSEPH H. HAMILTON, Landon C. Garland Distinguished Professor of Physics; Director, Joint Institute for Heavy Ion Research
B.S. (Mississippi College 1954); M.S., Ph.D. (Indiana 1956, 1958); D.Sc. (hon., Mississippi College 1982); Dr.Phil.Nat.Hon.Causa (hon., Johann Wolfgang Goethe Universität 1992); Dr.Phil.Nat.Hon.Causa (Bucharest [Romania] 1999); Dr.Phil.Nat.Hon.Causa (St. Petersburg State 2001) [1958]

RUSSELL G. HAMILTON, Professor of Spanish and Portuguese, Emeritus; Dean of the Graduate School, Emeritus
B.A. (Connecticut 1956); M.A. (Wisconsin 1957); Ph.D. (Yale 1965) [1984]

M. DONALD HANCOCK, Professor of Political Science
B.A. (Texas 1961); M.A., Ph.D. (Columbia 1962, 1966) [1979]

TIMOTHY P. HANUSA, Associate Professor of Chemistry
A.B. (Cornell College 1978); Ph.D. (Indiana 1983) [1985]

PAUL H. HARDACRE, Professor of History, Emeritus
B.A. (Stanford 1937); M.A., Ph.D. (California, Los Angeles 1940, 1947) [1947]

DOUGLAS P. HARDIN, Professor of Mathematics; Professor of Biomedical Informatics
B.E.E. (Georgia Institute of Technology 1980); M.E.E. (Stanford 1982); Ph.D. (Georgia Institute of Technology 1985) [1986]

ERWIN C. HARGROVE, Professor of Political Science, Emeritus
B.A., M.A., Ph.D. (Yale 1953, 1954, 1963) [1976]
JOEL F. HARRINGTON, Associate Professor of History; Assistant Provost for International Affairs
B.A. (Notre Dame 1981); M.A., Ph.D. (Michigan 1983, 1989) [1989]
CONSTANCE M. HARRIS, Research Associate Professor of Chemistry
B.S., Ph.D. (Duke 1958, 1965) [1965]
THOMAS M. HARRIS, Centennial Professor of Chemistry, Emeritus
B.S. (Rochester 1955); Ph.D. (Duke 1959) [1964]
EVA HARTH, Assistant Professor of Chemistry
Bachelor (Friedrich-Wilhelms-Universität [Bonn] 1990); B.S., M.S. (Zurich 1994); Ph.D. (Mainz [Germany] 1998) [2004]
R. CHRIS HASSEL, JR., Professor of English, Emeritus
B.A. (Richmond 1961); M.A. (North Carolina 1962); Ph.D. (Emory 1968) [1968]
WILLIAM C. HAVARD, JR., Professor of Political Science, Emeritus
B.A., M.A. (Louisiana State 1943, 1947); Ph.D. (London 1956) [1977]
F. HAMILTON HAZLEHURST, Professor of Fine Arts, Emeritus
B.A., M.F.A., Ph.D. (Princeton 1949, 1952, 1956) [1963]
ANNABETH HEADRICK, Assistant Professor of Art History
B.A. (Colorado College 1985); M.A., Ph.D. (Texas 1991, 1996) [1997]
ALEXANDER HEARD, Chancellor, Emeritus
B.A. (North Carolina 1938); M.A., Ph.D. (Columbia 1948, 1951); LL.D. (hon., Columbia 1965); L.H.D. (hon., Pepperdine 1968); LL.D. (hon., North Carolina 1968); D.Sc. (hon., Chattanooga 1969); LL.D. (hon., Johns Hopkins 1971); LL.D. (hon., Indiana State 1971); D.Med.Sci. (hon., Thomas Jefferson 1972); LL.D. (hon., Maryland 1972); LL.D. (hon., Kenyon 1972); LL.D. (hon., Florida Atlantic 1972); L.H.D. (hon., Our Lady of the Lake 1973); L.H.D. (hon., Duke 1975); LL.D. (hon., Wooster 1975); Litt.D. (hon., Southwestern at Memphis 1975); Litt.D. (hon., Lambuth 1976); L.H.D. (hon., West Virginia Wesleyan 1977); LL.D. (hon., Bard 1979); L.H.D. (hon., Austin 1979); LL.D. (hon., Tusculum 1979); LL.D. (hon., Hampton-Sydney 1981); L.H.D. (hon., Southern Methodist 1983); Litt.D. (hon., Kentucky 1983); L.H.D. (hon., Brandeis 1985); LL.D. (hon., Tulane 1985) [1963]
WILLIAM H. HEDGES (Lieutenant Colonel, U.S. Army), Director, Army Officer Education Program
B.S. (U.S. Military Academy, West Point 1982); M.A. (Webster 1995) [2003]
ARNOLD M. HEISER, Professor of Physics and Astronomy, Emeritus
B.A., M.A. (Indiana 1954, 1957); Ph.D. (Chicago 1961) [1961]
J. LEÓN HELGUERA, Professor of History, Emeritus
B.A. (Mexico City 1948); M.A., Ph.D. (North Carolina 1951, 1958) [1962]
CHALENE HELMUTH, Senior Lecturer in Spanish
B.A. (Asbury 1986); M.A., Ph.D. (Kentucky 1988, 1991) [2003]
ROBERT L. HEMMINGER, Professor of Mathematics, Emeritus
B.S. (Greenville 1957); M.S. (California State, San Diego 1959); Ph.D. (Michigan State 1963) [1963]
DAVID M. HERCULES, Centennial Professor of Chemistry
B.S. (Juniata 1954); Ph.D. (Massachusetts Institute of Technology 1957) [1994]
JONI HERSCH, Professor of Law; Professor of Economics
B.A. (South Florida 1977); Ph.D. (Northwestern 1981) [2006]
TOBIAS HERTEL, Associate Professor of Physics
B.S., Ph.D. (Free University [Germany] 1992, 1995) [2003]
B. ANDES HESS, JR., Professor of Chemistry
B.A. (Williams 1962); M.S., Ph.D. (Yale 1963, 1966) [1968]

MARC J. HETHERINGTON, Associate Professor of Political Science
B.A. (Pittsburgh 1990); Ph.D. (Texas 1997) [2004]
RICK HILES, Senior Lecturer in English
B.A. (Kent State 1991); M.F.A.. (Columbia 1995) [2005]
C. ELTON HINSHAW, Professor of Economics, Emeritus
B.B.A. (Baylor 1958); Ph.D. (Vanderbilt 1967) [1966]
JONATHAN T. HISKEY, Associate Professor of Political Science
B.A. (North Carolina 1989); M.A. (Florida International 1993); M.A., Ph.D. (Pittsburgh 1995, 1999) [2005]
ANTHONY B. HMELO, Research Associate Professor of Physics and Astronomy
B.E., B.S., M.S., Ph.D. (SUNY, Stony Brook 1982, 1982, 1982, 1987) [1988]
MICHAEL P. HODGES, Professor of Philosophy and Chair of the Department
B.A. (William and Mary 1963); M.A., Ph.D. (Virginia 1966, 1967) [1970]
STEVEN D. HOLLON, Professor of Psychology, College of Arts and Science; Professor of Psychology, Peabody College; Associate Professor of Psychiatry; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (George Washington 1971); M.S., Ph.D. (Florida State 1974, 1977) [1985]
HANS-WILLI HONEGGER, Research Professor of Biological Sciences
Dr.rer.nat (Eberhard-Karls-Universität Tübingen 1967) [1995]
MARY ANN HORN, Associate Professor of Mathematics
B.S. (Pennsylvania State 1987); M.S., Ph.D. (Virginia 1989, 1992) [1994]
GREGG M. HOROWITZ, Associate Professor of Philosophy
B.A. (Sarah Lawrence 1980); A.M. (Boston University 1983); Ph.D. (Rutgers 1992) [1993]
MARK HOSFORD, Assistant Professor of Art
B.F.A. (Kansas 1998); M.F.A. (Tennessee 2001) [2001]
CLIFF J. HUANG, Professor of Economics, Emeritus; Professor of Economics
B.A. (Tunghai 1961); M.A. (National Taiwan 1964); Ph.D. (North Carolina 1968) [1969]
KEVIN X. D. HUANG, Associate Professor of Economics
Ph.D. (Minnesota 1998) [2006]
GREGORY W. HUFFMAN, Professor of Economics
Bachelor of Commerce (Saskatchewan 1979); Ph.D. (Minnesota 1983) [2001]
C. BRUCE HUGHES, Professor of Mathematics
A.B. (Guilford 1976); M.A., Ph.D. (Kentucky 1979, 1981) [1985]
KIRK B. HURME (Lieutenant, U.S. Navy), Naval Instructor, Naval Officer Training Corps
B.S. (Virginia 2001) [2006]
WILLIAM K. HUTCHINSON, Visiting Professor of Economics
B.A. (SUNY, Geneseo 1967); M.A., Ph.D. (Iowa 1969, 1975) [2001]
LINDA BUFORD HUTCHISON, Senior Lecturer in Mathematics
B.A. (David Lipscomb 1969); M.S. (Middle Tennessee State 1972) [1982]
M. SHANE HUTSON, Assistant Professor of Physics; Assistant Professor of Biological Sciences
B.A., M.S. (Wake Forest 1992, 1993); Ph.D. (Virginia 2000) [2003]
SUSAN E. HYLEN, Mellon Assistant Professor of Religious Studies
B.A. (California, San Diego 1990); M.Div. (Princeton Theological Seminary 1995); Ph.D. (Emory 2004) [2005]
YOSHIKUNI IGARASHI, Associate Professor of History; Director, East Asian Studies Program
B.A. (International Christian University [Tokyo] 1985); M.A. (California, Berkeley 1989); Ph.D. (Chicago 1993) [1993]
ETTORE F. INFANTE, Professor of Mathematics, Emeritus; Dean of the College of Arts and Science, Emeritus
B.A., B.S., Ph.D. (Texas 1958, 1959, 1962) [1997]

PATRICK J. INGMAN (Lieutenant, U.S. Navy), Naval Instructor, Naval Officer Training Corps
B.A. (Colorado 1997) [2005]
LARRY W. ISAAC, Professor of Sociology
B.S., M.A. (Akron 1971, 1974); Ph.D. (Indiana 1979) [2004]
ROBERT M. ISHERWOOD, Professor of History, Emeritus
B.A. (Allegheny 1957); M.A., Ph.D. (Chicago 1959, 1964) [1967]
CHRISTOPHER J. JANETOPOULOS, Assistant Professor of Biological Sciences
B.A. (Augustana 1990); Ph.D. (Texas A & M 1999) [2005]
JOHN WAYNE JANUSEK, Associate Professor of Anthropology
B.A., M.A. (Illinois, Chicago 1986, 1987); Ph.D. (Chicago 1994) [1998]
MARK JARMAN, Professor of English; Director, Creative Writing Program
A.B. (California, Santa Cruz 1974); M.F.A. (Iowa 1976) [1983]
CARLOS JÁUREGUI, Assistant Professor of Spanish; Assistant Professor of Anthropology
Licenciado en Leyes (Universidad Externado de Colombia 1993); M.A. (West Virginia 1997); Ph.D. (Pittsburgh 2001) [2001]
GARY F. JENSEN, Professor of Sociology and Chair of the Department; Professor of Religious Studies
B.S. (Portland State 1966); M.A., Ph.D. (University of Washington 1968, 1972) [1989]
MELVIN D. JOESTEN, Professor of Chemistry, Emeritus
B.S. (Northern Illinois 1954); M.S., Ph.D. (Illinois 1959, 1962) [1966]
CHRISTOPHER M. S. JOHNS, Norman L. and Roselea J. Goldberg Professor of Art History; Professor of Art History; Chair, Department of History of Art
B.A. (Florida State 1977); M.A., Ph.D. (Delaware 1980, 1985) [2003]
WILL E. JOHNS, Associate Professor of Physics
B.S. (Illinois 1987); Ph.D. (Colorado 1995) [1999]
CARL H. JOHNSON, Professor of Biological Sciences; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Texas 1976); Ph.D. (Stanford 1982) [1987]
JOSEPH A. JOHNSON (Captain, U.S. Navy), Commanding Officer, Naval Officer Training Corps
B.S. (Vanderbilt 1980); M.B.A. (Naval Post Graduate School 1991) [2003]
JEFFREY N. JOHNSTON, Professor of Chemistry
B.S. (Xavier 1992); Ph.D. (Ohio State 1997) [2006]
CECIL D. JONES, JR., Professor of Theatre, Emeritus
B.A. (Vanderbilt 1951); M.A. (Northwestern 1952); Ph.D. (Illinois 1959) [1965]
ERNEST A. JONES, Professor of Physics, Emeritus
B.S. (Western Kentucky 1942); M.S. (Vanderbilt 1943); Ph.D. (Ohio State 1948) [1950]
MARK M. JONES, Professor of Chemistry, Emeritus
B.S., M.S. (Lehigh 1948, 1949); Ph.D. (Kansas 1952) [1957]
OWEN D. JONES, Professor of Law; Professor of Biological Sciences
B.A. (Amherst 1985); J.D. (Yale 1991) [2003]
YOLLETTE TRIGG JONES, Associate Dean, College of Arts and Science; Senior Lecturer in History
A.B., A.M., Ph.D. (Duke 1977, 1978, 1985) [1989]
BJARNI JÓNSSON, Distinguished Professor of Mathematics, Emeritus
B.A., Ph.D. (California, Berkeley 1943, 1946) [1966]
CATHY LOGIN JRADE, Professor of Spanish and Chair of the Department of Spanish and Portuguese
B.A. (City University of New York, Queens 1969); A.M., Ph.D. (Brown 1971, 1974) [1987]
RAMÓN JRADE, Research Instructor in Sociology
B.A. (Providence 1968); A.M., Ph.D. (Brown 1970, 1980) [1987]

JON H. KAAS, Distinguished Professor of Psychology, College of Arts and Science; Professor of Cell and Developmental Biology; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Northland 1959); Ph.D. (Duke 1965) [1972]
CHARLES S. KAHANE, Professor of Mathematics, Emeritus
B.A., Ph.D. (New York 1955, 1962) [1969]
DANIEL L. KAPLAN, Assistant Professor of Biological Sciences
B.A. (Virginia 1998); Ph.D. (Yale 2000) [2005]
CHRISTINA KARAGEORGOU-BASTEA, Assistant Professor of Spanish
B.A. (Athens 1988); M.A. (Universidad Veracruzana 1994); M.A., Ph.D. (El Colegio de México 1996, 1998) [2002]
MARYALTANI KARPOS, Senior Lecturer in Sociology
B.S., M.S. (California State 1974, 1976); M.A., Ph.D. (Vanderbilt 1991, 2003) [2003]
JAYA N. KASIBHATLA, Assistant Professor of English
B.A. (Yale 1998); Ph.D. (Duke 2005) [2005]
GENNADI KASPAROV, Professor of Mathematics
Ph.D. (Moscow State 1974); Doctor of Physics and Mathematics Sciences (Academy of Sciences [Kiev] 1984) [2002]
PIOTR KASZYNSKI, Associate Professor of Chemistry
M.Sc. (Technical University of Warsaw 1985); Ph.D. (Texas 1991) [1993]
MARTIN KATAHN, Professor of Psychology, Emeritus, College of Arts and Science
Mus.B. (Hartford 1958); M.A., Ph.D. (Syracuse 1960, 1962) [1962]
SHAUL KELNER, Assistant Professor of Sociology and Jewish Studies
B.A. (George Washington 1992); M.Phil., Ph.D. (City University of New York 2000, 2002) [2005]
CAROLE FREEMAN KENNER, Senior Lecturer in Communication Studies
B.A. (Lambuth 1967); M.A. (Memphis State 1969) [1982]
THOMAS W. KEPHART, Associate Professor of Physics
B.S. (Virginia Polytechnic 1971); M.S. (North Texas State 1975); Ph.D. (Northeastern 1981) [1985]
SUSAN KATHERINE KEVRA, Senior Lecturer in French
B.A. (Oberlin 1985); M.A. (Michigan 1988); Ph.D. (Massachusetts 1998) [2001]
DENNIS DEAN KEZAR, JR., Associate Professor of English
B.A. (University of the South 1990); M.A., Ph.D. (Virginia 1993, 1997) [1997]
QAYUM KHAN, Instructor in Mathematics
B.S., M.S. (Illinois, Chicago 1998, 1998) [2006]
JINAH KIM, Instructor in Art History
B.A., M.A. (Seoul National [Korea] 1998, 1999) [2006]
RICHARD KING, Associate Professor of Religious Studies; Associate Professor of Religion and Culture
B.A. (Hull [United Kingdom] 1987); Ph.D. (Lancaster [United Kingdom] 1992) [2005]
LESLIE D. KIRBY, Senior Lecturer in Psychology, College of Arts and Science; Research Assistant Professor of Nursing
B.A., M.S., Ph.D. (Vanderbilt 1992, 1996, 1999) [2001]
ROBERT A. KNOP, JR., Assistant Professor of Physics and Astronomy
B.S. (Harvey Mudd 1990); M.S., Ph.D. (California Institute of Technology 1992, 1997) [2001]
DAVID S. KOSSON, Professor of Civil and Environmental Engineering and Chair of the Department; Professor of Chemical Engineering; Professor of Earth and Environmental Sciences
B.S., M.S., Ph.D. (Rutgers 1983, 1984, 1986) [2000]

KASSIAN A. KOVALCHECK, JR., Associate Professor of Communication Studies; Director of Forensics
B.A. (Wabash 1965); M.A., Ph.D. (Indiana 1967, 1972) [1969]
ROBERT KRAL, Professor of Biology, Emeritus
B.S. (North Carolina State 1952); Ph.D. (Florida State 1959) [1965]
MICHAEL KREYLING, Professor of English
B.A. (Thomas More 1970); M.A., Ph.D. (Cornell 1974, 1975) [1985]
ANDRZEJ M. KREZEL, Assistant Professor of Biological Sciences
M.Sc. (Warsaw 1986); Ph.D. (Wisconsin 1991) [1996]
KONSTANTIN V. KUSTANOVICH, Associate Professor of Slavic Languages and Literatures
Engineering Diploma (Leningrad Polytechnical Institute 1969); M.A. (New York 1977); M.Phil., Ph.D. (Columbia 1983, 1986) [1987]
VERA M. KUTZINSKI, Martha Rivers Ingram Professor of English; Professor of English; Director, Center for the Americas
Diploma (Smith 1979); M.A., M.A., Ph.D. (Yale 1981, 1982, 1985) [2004]
JOHN LACHS, Centennial Professor of Philosophy; Senior Fellow, Institute for Public Policy Studies
B.A., M.A. (McGill 1956, 1957); Ph.D. (Yale 1961) [1967]
JONATHAN LAMB, Andrew W. Mellon Professor in the Humanities; Professor of English
B.A., D.Phil. (York [Canada] 1966, 1971) [2002]
JANE GILMER LANDERS, Associate Professor of History
A.B., M.A. (Miami [Florida] 1968, 1974); Ph.D. (Florida 1988) [1992]
JAMES J. LANG, Associate Professor of Sociology
B.A. (Canisius 1966); M.A., Ph.D. (Michigan 1969, 1974) [1974]
JOSEPH S. LAPPIN, Professor of Psychology, College of Arts and Science, Emeritus; Research Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Cincinnati 1962); Ph.D. (Illinois 1966) [1968]
RICHARD J. LARSEN, Professor of Mathematics, Emeritus
B.S. (Case Institute of Technology 1964); M.S., Ph.D. (Rutgers 1966, 1970) [1970]
MARK S. LAUGHTON (Captain, U.S. Navy), Commanding Officer, Naval Officer Training Corps
B.S. (Arizona State 1979); M.A. (Naval War College 1996) [2006]
JENNIFER C. LENA, Assistant Professor of Sociology
A.B. (Colgate 1996); M.A., M.Phil. (Columbia 1999, 1999) [2003]
P. GALEN LENHERT, Professor of Physics, Emeritus
B.A. (Wittenberg 1955); Ph.D. (Johns Hopkins 1960) [1964]
LAURENCE D. LERNER, Edwin Mims Professor of English, Emeritus
B.A., M.A. (Cape Town 1944, 1945); B.A. (Cambridge 1949) [1985]
WALLACE M. LESTOURGEON, Professor of Biological Sciences
B.S., Ph.D. (Texas 1966, 1970) [1974]
ELLEN LEVY, Assistant Professor of English
B.A. (Princeton 1979); M.A. (Columbia 1982); Ph.D. (Vanderbilt 2004) [2004]
TONG LI, Professor of Economics
B.S. (University of Science and Technology [China] 1988); Ph.D. (California, San Diego 1993); Ph.D. (Southern California 1997) [2005]
ANGELA H. LIN, Assistant Professor of German
B.A. (Pennsylvania 1991); Ph.D. (Princeton 1999) [2000]
STEFANIE A. LINDQUIST, Associate Professor of Political Science; Associate Professor of Law
B.A. (Ursinus 1985); J.D. (Temple 1988); Ph.D. (South Carolina 1996) [2004]

ADAM LIST, Senior Lecturer in Chemistry
B.S. (Valparaiso 1986); Ph.D. (Chicago 1991) [1999]
RICHARD DOUGLAS LLOYD, Assistant Professor of Sociology
B.A. (California, Berkeley 1991); M.A., Ph.D. (Chicago 1995, 2002) [2003]
GORDON DENNIS LOGAN, Centennial Professor of Psychology, College of Arts and Science
B.A., M.Sc. (Alberta 1969, 1972); Ph.D. (McGill 1975) [2000]
WILLIAM S. LONGWELL, Director of Microcomputer Laboratories; Senior Lecturer in History
B.S. (Ohio State 1967); M.A. (Northwestern 1971) [1992]
LORRAINE M. LOPEZ, Assistant Professor of English
B.A. (California State 1989); M.A., Ph.D. (Georgia 1997, 2000) [2002]
ALICIA LORENZO, Lecturer in Spanish
B.A., M.A. (Universidad de Valladolid 1985, 1993) [2003]
PETER LORGE, Senior Lecturer in History
B.A. (Texas 1989); M.A. (Oxford 1990); Ph.D. (Pennsylvania 1996) [2001]
DAVID A. LOWE, Associate Professor of Slavic Languages and Literatures
B.A. (Macalester 1969); A.M., Ph.D. (Indiana 1972, 1977) [1979]
JAMES N. LOWE, Adjunct Professor of Chemistry
B.S. (Antioch 1959); Ph.D. (Stanford 1964) [2002]
WILLIAM LUIS, Professor of Spanish
B.A. (SUNY, Binghamton 1971); M.A. (Wisconsin 1973); M.A., Ph.D. (Cornell 1979, 1980) [1991]
CHARLES M. LUKEHART, Professor of Chemistry
B.S. (Pennsylvania State 1968); Ph.D. (Massachusetts Institute of Technology 1972) [1973]
ELIZABETH LUNBECK, Nelson Tyrone Jr. Professor of American History; Professor of History
B.A. (Duke 1975); Ph.D. (Harvard 1984) [2006]
TERRY P. LYBRAND, Professor of Chemistry; Professor of Pharmacology
B.S. (South Carolina 1980); Ph.D. (California, Berkeley 1984) [2000]
CHARLES F. MAGUIRE, Professor of Physics
B.S. (Iona 1966); Ph.D. (Yale 1973) [1975]
ANDREA MANESCHI, Professor of Economics; Director, Graduate Program in Economic Development
B.A. (Oxford 1958); Ph.D. (Johns Hopkins 1964) [1969]
LINDA G. MANNING, Director of the Margaret Cuninggim Women's Center; Lecturer in Women's and Gender Studies
B.S., Ph.D. (Texas 1977, 1988) [1998]
DAPHNE MANOUSSAKI, Assistant Professor of Mathematics
B.A. (Oxford 1991); M.Sc., Ph.D. (University of Washington 1995, 1996) [2004]
LEAH S. MARCUS, Edwin Mims Professor of English; Acting Chair of the Department
B.A. (Carleton 1967); M.A., Ph.D. (Columbia 1968, 1971) [1998]
LAWRENCE J. MARNETT, Mary Geddes Stahlman Professor of Cancer Research; Professor of Biochemistry; Professor of Chemistry; Director, Vanderbilt Institute of Chemical Biology
B.S. (Rockhurst 1969); Ph.D. (Duke 1973) [1989]
RENÉ MAROIS, Associate Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.Sc. (McGill 1986); M.Sc. (Dalhousie 1989); Ph.D. (Yale 1996) [1999]
MICHAELA MATTES, Instructor in Political Science
Bachelors (Rheinische Friedrich-Wilhelms-Universität [Germany] 1999); M.A. (Essex [United Kingdon] 2001) [2006]
JONATHAN E. MAY, Adjunct Assistant Professor of Psychology, College of Arts and Science; Adjunct Assistant Professor of Psychology, Peabody College
A.B. (Mercer 1971); Ph.D. (Vanderbilt 1978) [1979]

HOLLY J. MCCAMMON, Professor of Sociology; Associate Dean for Graduate Studies, College of Arts and Science
B.A. (Purdue 1982); A.M., Ph.D. (Indiana 1986, 1990) [1990]
JOHN A. MCCARTHY, Professor of German; Professor of Comparative Literature; Director, Max Kade Center for European and German Studies
B.A. (Oakland 1964); M.A., Ph.D. (SUNY, Buffalo 1967, 1972) [1991]
RICHARD C. MCCARTY, Dean of the College of Arts and Science; Professor of Psychology, College of Arts and Science; Professor of Pharmacology
B.S., M.S. (Old Dominion 1970, 1972); Ph.D. (Johns Hopkins 1976) [2001]
DAVID E. MCCAULEY, Professor of Biological Sciences
B.S. (Maryland 1972); Ph.D. (SUNY, Stony Brook 1976) [1980]
THOMAS A. J. MCGINN, Professor of Classics
A.B. (Harvard 1978); M.A. (Cambridge 1980); Ph.D. (Michigan 1986) [1986]
RICHARD MCGREGOR, Assistant Professor of Religious Studies
B.A. (Toronto 1990); M.A., Ph.D. (McGill 1993, 2001) [2003]
RUSSELL M. MCINTIRE, JR., Associate Dean of the College of Arts and Science; Senior Lecturer in Philosophy
B.A. (Mississippi College 1967); M.A., Ph.D. (Vanderbilt 1970, 1972) [1990]
RALPH MCKENZIE, Distinguished Professor of Mathematics
B.A., Ph.D. (Colorado 1963, 1966) [1994]
JOHN A. MCLEAN, Assistant Professor of Chemistry
B.S. (Michigan 1995); M.Phil., Ph.D. (George Washington 1998, 2001) [2006]
DOUGLAS G. MCMAHON, Professor of Biological Sciences; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A., Ph.D. (Virginia 1980, 1986) [2002]
TIMOTHY P. MCNAMARA, Professor of Psychology, College of Arts and Science; Associate Provost for Faculty
B.G.S. (Kansas 1979); M.S., M.Phil., Ph.D. (Yale 1981, 1982, 1984) [1983]
DENNIS MCNAMEE, Senior Lecturer in Business Administration
B.A., M.P.A. (Ohio State 1974, 1983); L.D. (Capital 1989) [1998]
SAMUEL T. MCSEVENEY, Professor of History, Emeritus
B.A. (City University of New York, Brooklyn College 1951); M.A. (Connecticut 1953); Ph.D. (Iowa 1965) [1972]
JOSÉ MEDINA, Associate Professor of Philosophy
B.A. (Universidad de Sevilla 1991); M.A., Ph.D. (Northwestern 1995, 1998) [1999]
CHARLES K. MEGIBBEN, Professor of Mathematics, Emeritus
B.S. (Southern Methodist 1959); Ph.D. (Auburn 1963) [1967]
JENS MELLER, Assistant Professor of Chemistry
Vordiplom, Diplom (Leipzig [Germany] 1995); Ph.D. (Frankfurt [Germany] 2001) [2005]
HANS PETER MELZER, Research Assistant Professor of Psychology, College of Arts and Science
Ph.D. (Johann Wolfgang Goethe Universität Frankfurt 1986) [1994]
MARCUS H. MENDENHALL, Research Associate Professor of Physics
A.B. (Washington University 1979); M.S., Ph.D. (California Institute of Technology 1981, 1983) [1986]
RONALD A. MESSIER, Senior Lecturer in History
B.A. (Rhode Island 1966); A.M., Ph.D. (Michigan 1968, 1971) [1992]
GEORGE E. METCALFE, Assistant Professor of Mathematics
B.A. (St. Anne's College [United Kingdom] 1996); M.Sc. (Edinburgh [United Kingdom] 1998); Ph.D. (King's College [United Kingdom] 2003) [2006]
MILAN MIHAL, Professor of Fine Arts, Emeritus
B.S.Ed., M.S.Ed. (Ohio 1952, 1954); Ph.D. (Michigan 1974) [1968]

MICHAEL L. MIHALIK, Professor of Mathematics
B.S. (California State College [Pennsylvania] 1973); M.A., Ph.D. (SUNY, Binghamton 1977, 1979) [1982]
CALVIN F. MILLER, Professor of Earth and Environmental Sciences
B.A. (Pomona 1969); M.S. (George Washington 1973); Ph.D. (California, Los Angeles 1977) [1977]
MOLLY FRITZ MILLER, Professor of Earth and Environmental Sciences
B.A. (Wooster 1969); M.S. (George Washington 1971); Ph.D. (California, Los Angeles 1977) [1977]
PAUL BENJAMIN MILLER, Senior Lecturer in Spanish
B.A., M.A. (Maryland 1987, 1991); Ph.D. (Emory 1999) [2001]
TRACY G. MILLER, Assistant Professor of Art History
B.A. (Arizona State 1991); M.A., Ph.D. (Pennsylvania 1996, 2000) [2000]
ANA MIRAMONTES, Lecturer in Spanish
Licenciatura (Buenos Aires 1994); M.A. (Oregon 1999) [2003]
ROBERT L. MODE, Associate Professor of Art History
B.A. (Rochester 1962); M.A., Ph.D. (Michigan 1964, 1970) [1967]
CATHERINE MOLINEUX, Assistant Professor of History
B.A., B.S. (Texas 1999, 1999); M.A., Ph.D. (Johns Hopkins 2002, 2005) [2005]
ROGER E. MOORE, Senior Lecturer in English
B.A. (Samford 1990); M.A., Ph.D. (Vanderbilt 1991, 1995) [1995]
BEVERLY I. MORAN, Professor of Law; Professor of Sociology
A.B. (Vassar 1977); J.D. (Pennsylvania 1981); LL.M. (New York 1986) [2001]
MARILYN L. MURPHY, Professor of Art and Chair of the Department
B.F.A. (Oklahoma State 1972); M.F.A. (Oklahoma 1978) [1980]
KEIKO ROSE NAKAJIMA, Senior Lecturer in Japanese
B.A. (Oregon 1995); M.A., Ph.D. (Mississippi 1998, 2002) [2002]
LEONARD NATHANSON, Professor of English, Emeritus
B.A. (City University of New York, Brooklyn College 1954); M.A. (Duke 1955); Ph.D. (Wisconsin 1959) [1966]
MARIAN NEAMTU, Associate Professor of Mathematics
C.Sc. (Slovak Technical University of Bratislava 1988); Drs. (Twente University of Technology 1991) [1992]
ROBERT J. NEFF, Professor of Molecular Biology, Emeritus
B.A., M.A., Ph.D. (Missouri 1942, 1948, 1951) [1952]
DANA D. NELSON, Gertrude Conaway Vanderbilt Professor of English; Professor of English
B.A. (Indiana [Pennsylvania] 1984); M.A., Ph.D. (Michigan State 1987, 1989) [2004]
JONATHAN NEUFELD, Assistant Professor of Philosophy
B.A. (Minnesota 1993); M.A. (King's College [London] 1994); Ph.D. (Columbia 2005) [2005]
REMUS IONUT NICOARA, Assistant Professor of Mathematics
B.S. (Bucharest [Romania] 1999); M.A., Ph.D. (California, Los Angeles 2001, 2004) [2004]
JEANETTE J. NORDEN, Professor of Cell and Developmental Biology; Professor of Neuroscience
B.A. (California, Los Angeles 1970); Ph.D. (Vanderbilt 1975) [1978]
LAURA R. NOVICK, Associate Professor of Psychology, Peabody College; Associate Professor of Psychology, College of Arts and Science
B.S. (Iowa 1981); Ph.D. (Indiana 1986) [1988]
DAVID A. NUNNALLY, Professor of Biology, Emeritus
B.S. (University of the South 1956); Ph.D. (Washington University 1961) [1960]

IFEOMA C. K. NWANKWO, Associate Professor of English
B.A. (Rutgers 1994); Ph.D. (Duke 1999) [2006]
ANTHÈRE NZABATSINDA, Associate Professor of French
B.A. (Université nationale du Rwanda, Butare 1978); M.A., Ph.D. (Montréal 1986, 1993) [1996]
C. ROBERT O'DELL, Distinguished Research Professor of Astrophysics
B.S.Ed. (Illinois State 1959); Ph.D. (Wisconsin 1962) [2000]
VOLKER E. OBERACKER, Professor of Physics
Ph.D. (Johann Wolfgang Goethe Universität Frankfurt 1977) [1980]
MOSES E. OCHONU, Assistant Professor of History
B.A. (Bayero [Nigeria] 1997); M.A., Ph.D. (Michigan 1999, 2004) [2004]
RICHARD D. ODOM, Professor of Psychology, College of Arts and Science, Emeritus
B.A., M.A. (Texas 1956, 1960); Ph.D. (Minnesota 1963) [1964]
THOMAS N. OELTMANN, Associate Professor of Medicine; Associate Professor of Biochemistry; Associate Professor of Biological Sciences
B.S. (Georgia State 1963); Ph.D. (Georgia 1967) [1979]
ALEXANDER OL'SHANSKIY, Centennial Professor of Mathematics
B.S., Ph.D., D.Sc. (Moscow State 1968, 1971, 1979) [1998]
BUNMI O. OLATUNJI, Assistant Professor of Psychology
B.S. (Wisconsin, Stevens Point 2000); M.A., Ph.D. (Arkansas 2002, 2006) [2006]
ELENA OLAZAGASTI-SEGOVIA, Senior Lecturer in Spanish
B.A., M.A., Ph.D. (Puerto Rico 1972, 1975, 1981) [1984]
ROWENA OLEGARIO, Assistant Professor of History
B.A. (Yale 1983); Ph.D. (Harvard 1998) [2001]
EMANUELLE K. F. OLIVEIRA, Assistant Professor of Portuguese
B.A. (Pontificia Universidade Católica [Brazil] 1988); B.A. (Universidade do Estado do Rio de Janeiro 1989); M.A., Ph.D. (California, Los Angeles 1994, 2001) [2002]
KELLY OLIVER, W. Alton Jones Professor of Philosophy; Professor of Philosophy
B.A. (Gonzaga 1979); M.A., Ph.D. (Northwestern 1980, 1987) [2004]
BRUCE I. OPPENHEIMER, Professor of Political Science; Professor of Public Policy and Education
A.B. (Tufts 1967); M.A., Ph.D. (Wisconsin 1968, 1973) [1993]
BRIDGET ORR, Associate Professor of English
B.A. (Victoria University of Wellington [New Zealand] 1979); Ph.D. (Cornell 1995) [2002]
NATHANAEL R. OTTO, Lecturer in Theatre
B.A. (Gustavus Adolphus 1999); M.F.A. (Virginia 2002) [2002]
LUCIUS TURNER OUTLAW, JR., Professor of Philosophy; Associate Provost for Undergraduate Education
B.A. (Fisk 1967); Ph.D. (Boston College 1972) [2000]
TERRY L. PAGE, Professor of Biological Sciences; Director of the Neuroscience Studies Program; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A., M.A., Ph.D. (Texas 1970, 1971, 1974) [1980]
RUPERT E. PALMER, JR., Professor of English, Emeritus
B.A., M.A. (Tennessee 1950, 1952); Ph.D. (Yale 1957) [1960]
THOMAS J. PALMERI, Associate Professor of Psychology, College of Arts and Science
B.S. (Carnegie Mellon 1987); Ph.D. (Indiana 1995) [1995]
SOKRATES THEODORE PANTELIDES, William A. and Nancy F. McMinn Professor of Physics
B.S. (Northern Illinois 1969); M.S., Ph.D. (Illinois 1970, 1973) [1994]
MICHELLE M. PANUCCI, Adjunct Assistant Professor of Psychology
B.A. (Wisconsin, Eau Claire 1975); M.S.S.W., Ph.D. (Wisconsin 1979, 1992) [1997]

SOHEE PARK, Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Cambridge 1982); M.A. (Columbia 1985); Ph.D. (Harvard 1991) [2000]

WILLIAM L. PARTRIDGE, Professor of Human and Organizational Development; Professor of Anthropology
B.A., M.A., Ph.D. (Florida 1966, 1969, 1974) [2001]

DANIEL M. PATTE, Professor of Religious Studies; Professor of New Testament and Early Christianity
B.A. (Grenoble 1958); B.D. (Montpellier 1960); Th.M. (Geneva 1964); Th.D. (Chicago Theological Seminary 1971) [1971]

JAMES A. PATTON, Professor of Radiology and Radiological Sciences; Professor of Physics
B.S., Ph.D. (Western Kentucky 1966, 1972) [1973]

JAMES G. PATTON, Professor of Biological Sciences; Associate Professor of Biochemistry
B.A. (College of Saint Thomas 1980); Ph.D. (Mayo Graduate 1988) [1993]

JAMES S. PATTY, Professor of French, Emeritus
B.A., M.A., Ph.D. (North Carolina 1945, 1947, 1953) [1964]

MIKHAIL PEREPELITSA, Assistant Professor of Mathematics
B.S., M.S. (Novosibirsk State [Russia] 1996, 1998); Ph.D. (Northwestern 2004) [2006]

RICHARD A. PETERSON, Professor of Sociology, Emeritus
A.B. (Oberlin 1955); M.A., Ph.D. (Illinois 1958, 1961) [1964]

TODD E. PETERSON, Assistant Professor of Radiology and Radiological Sciences; Director of Nuclear Imaging; Assistant Professor of Physics
B.A. (Gustavus Adolphus 1991); B.A. (Oxford 1993); M.S., Ph.D. (Indiana 1994, 2002) [2003]

DAVID PETRAIN, Instructor in Classics
B.A. (Harvard 1998) [2006]

HELMUT F. PFANNER, Professor of German, Emeritus
M.A., Ph.D. (Stanford 1961, 1965) [1990]

F. CARTER PHILIPS, Associate Professor of Classics
B.A. (Vanderbilt 1965); A.M., Ph.D. (Pennsylvania 1966, 1969) [1969]

LESLIE PHILLIPS, Professor of Psychology, Emeritus, College of Arts and Science
B.A. (Purdue 1941); M.A., Ph.D. (Chicago 1944, 1949) [1971]

SHAWN T. PHILLIPS, Senior Lecturer in Chemistry
B.S. (Union University 1988); M.S., Ph.D. (Vanderbilt 1992, 1994) [1994]

CHARLOTTE PIERCE-BAKER, Professor of Women's and Gender Studies; Professor of English
B.A. (Howard 1965); M.A. (Ohio State 1966); Ph.D. (Temple 1985) [2006]

PAMELA K. PIGG, Senior Lecturer in Mathematics
B.S. (Belmont 1974); M.S. (Middle Tennessee State 1995) [2000]

ALLISON PINGREE, Director, Center for Teaching; Lecturer in English; Assistant Professor of Medical Education and Administration
B.A. (Brigham Young 1985); M.A., Ph.D. (Harvard 1988, 1992) [2000]

DAVID W. PISTON, Professor of Molecular Physiology and Biophysics; Professor of Physics; Director, W. M. Keck Free-Electron Laser Center; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Grinnell 1984); M.S., Ph.D. (Illinois 1986, 1989) [1992]

RICHARD N. PITT, JR., Assistant Professor of Sociology
B.S., M.Ed. (Pennsylvania State 1991, 1994); M.A., Ph.D. (Arizona 1999, 2003) [2003]

JOHN F. PLUMMER III, Professor of English
B.A. (Northern Illinois 1966); M.A. (Indiana 1968); Ph.D. (Washington University 1971) [1971]

MICHAEL D. PLUMMER, Professor of Mathematics
B.A. (Wabash 1959); M.S., Ph.D. (Michigan 1961, 1966) [1970]
PRASAD L. POLAVARAPU, Professor of Chemistry
B.Sc. (Andhra 1970); M.Sc. (Birla Institute of Technology and Science 1972); Ph.D. (Indian Institute of Technology 1977) [1980]
LJUBICA D. POPOVICH, Professor of Art History, Emerita
Diploma of Philosophy (Belgrade 1955); Ph.D. (Bryn Mawr 1963) [1966]
KATHERINE R. PORTER, Librarian, Sarah Shannon Stevenson Science and Engineering Library; Lecturer in Chemistry
B.S. (Denison 1966); M.S.L.S. (North Carolina 1973) [1998]
NED ALLEN PORTER, Stevenson Professor of Chemistry and Chair of the Department; Professor of Biochemistry
B.S.Ch.E. (Princeton 1965); Ph.D. (Harvard 1970) [1998]
RICHARD N. PORTER, Professor of Slavic Languages and Literatures, Emeritus
B.A., M.A. (Vanderbilt 1954, 1958); Ph.D. (Indiana 1968) [1959]
RONALD R. PORTER, Senior Lecturer in Art
B.F.A. (Middle Tennessee State 1987); M.F.A. (Ohio 1989) [1998]
JOHN F. POST, Professor of Philosophy, Emeritus
A.B. (Harvard 1958); M.A. (Wisconsin 1959); Ph.D. (California, Berkeley 1968) [1965]
ALEXANDER M. POWELL, Assistant Professor of Mathematics
B.S. (Rutgers 1997); M.A., Ph.D. (Maryland 1999, 2003) [2005]
RONALD R. PRICE, Hounsfield Professor of Radiology and Radiological Sciences and Director of the Division of Radiological Sciences; Hounsfield Chair in Radiology; Professor of Physics; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Western Kentucky 1964); Ph.D. (Vanderbilt 1971) [1973]
RICHARD A. PRIDE, Associate Professor of Political Science, Emeritus
B.A. (Stanford 1964); M.A. (California, Santa Barbara 1965); Ph.D. (Minnesota 1970) [1968]
MARTINE DALICIEUX PRIETO, Senior Lecturer in French; Senior Lecturer in Comparative Literature
B.A. (Besançon [France] 1970); M.A., M.A., Diplôme d'Etudes Approfondies, Doctorate (Paris 1974, 1977, 1978, 1984) [2002]
RENÉ PRIETO, Professor of Spanish
B.A., M.A. (Sorbonne 1973, 1974); B.A. (Institut des Langues Orientales 1974); Ph.D. (Stanford 1980) [2002]
C. ENRIQUE PUPO-WALKER, Centennial Professor of Spanish, Emeritus
B.C.L. (Havana 1954); M.A. (Peabody 1962); Ph.D. (North Carolina 1966) [1969]
ELSIE QUARTERMAN, Professor of Biology, Emerita
B.A. (Georgia State 1932); M.A., Ph.D. (Duke 1941, 1949) [1943]
JOHN A. RAFTER, JR., Senior Lecturer in Mathematics
B.S. (Georgia Institute of Technology 1989); M.S., Ph.D. (Vanderbilt 1994, 1994) [2004]
LORI HENSLEE RAFTER, Senior Lecturer in Mathematics
B.S. (Tennessee 1992); M.S., Ph.D. (Vanderbilt 1993, 1996) [2001]
AKUNURI V. RAMAYYA, Professor of Physics
B.Sc. hons., M.Sc. (Andhra 1957, 1958); Ph.D. (Indiana 1964); Dr.Phil.Nat.Hon.Causa (Bucharest [Romania] 1999) [1964]
LYNN TARTE RAMEY, Associate Professor of French
B.A.S., B.A. (Pennsylvania 1986); M.A. (Indiana 1991); Ph.D. (Harvard 1997) [2001]
MATTHEW RAMSEY, Associate Professor of History
A.B., A.M., Ph.D. (Harvard 1969, 1971, 1978) [1984]
ALICE RANDALL, Writer in Residence in English
A.B. (Harvard 1981) [2006]

HARRY HOWE RANSOM, Professor of Political Science, Emeritus
B.A. (Vanderbilt 1943); M.A., Ph.D. (Princeton 1949, 1954) [1961]
SERGEY N. RASHKEEV, Research Professor of Physics
M.Sc., Ph.D. (Moscow Institute of Physics and Technology 1981, 1985) [1999]
PHILIP D. RASICO, Professor of Spanish and Portuguese
A.B. (Xavier 1974); A.M., Ph.D. (Indiana 1975, 1981) [1984]
JOHN G. RATCLIFFE, Professor of Mathematics
B.S., A.M., Ph.D. (Michigan 1970, 1973, 1977) [1985]
LAWRENCE T. RATNER, Associate Professor of Mathematics, Emeritus
B.A., M.A., Ph.D. (California, Los Angeles 1944, 1945, 1949) [1949]
JAMES LEE RAY, Professor of Political Science
B.A., M.A. (Ohio State 1966, 1968); Ph.D. (Michigan 1974) [1996]
OAKLEY S. RAY, Professor of Psychology, Emeritus, College of Arts and Science; Professor of Psychiatry
B.A. (Cornell 1952); M.Ed., Ph.D. (Pittsburgh 1954, 1958) [1969]
MARY BETH RAYCRAFT, Senior Lecturer in French
B.A. (Brown 1982); M.A., Ph.D. (New York 1985, 1993) [1997]
ARTHUR L. REESMAN, Professor of Geology, Emeritus
B.S. (Eureka 1955); M.A., Ph.D. (Missouri 1961, 1966) [1968]
JENNIFER F. REINGANUM, E. Bronson Ingram Professor of Economics; Professor of Law
B.A. (Oberlin 1976); M.A., Ph.D. (Northwestern 1978, 1979) [1995]
NANCY B. REISMAN, Assistant Professor of English
B.A. (Tufts 1984); M.F.A. (Massachusetts 1991) [2005]
RAQUEL RINCON, Senior Lecturer in Spanish
B.A. (Universidad Cooperativa de Colombia 1980); M.A. (Oregon 1998) [1998]
CARMELO JOSEPH RIZZO, Professor of Chemistry
B.S. (Temple 1984); Ph.D. (Pennsylvania 1990) [1992]
HOWARD B. ROBACK, Professor of Psychiatry (Clinical Psychology); Professor of Psychology, College of Arts and Science
B.A. (Case Western Reserve 1962); M.A. (Ohio 1964); Ph.D. (York [Canada] 1970) [1972]
WILLIAM FRANCIS ROBINSON, Assistant Professor of History; Associate Director, Center for Latin American and Iberian Studies
B.A. (Johns Hopkins 1984); M.A. (Florida 1988); Ph.D. (Auburn 1999) [2002]
ANNA WANG ROE, Associate Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Harvard 1984); Ph.D. (Massachusetts Institute of Technology 1991) [2003]
RUTH ROGASKI, Associate Professor of History
B.A. (Pennsylvania 1984); M.A., Ph.D. (Yale 1990, 1996) [2003]
SERGIO ROMERO, Assistant Professor of Anthropology
B.A. (Universidad del Valle de Guatemala 1996); M.A. (Tulane 2001); Ph.D. (Pennsylvania 2006) [2006]
CHARLES E. ROOS, Professor of Physics, Emeritus
B.A. (Texas 1948); Ph.D. (Johns Hopkins 1953) [1959]
SANDRA J. ROSENTHAL, Associate Professor of Chemistry; Associate Professor of Physics
B.S. (Valparaiso 1987); Ph.D. (Chicago 1992) [1996]
NORBERT ROSS, Assistant Professor of Anthropology
M.A., Ph.D., Habilitation (Freiburg[Germany] 1995, 1998, 2002) [2003]
PETER L. ROUSSEAU, Associate Professor of Economics; Vice Chair of the Department
B.A., M.S. (Iona 1983, 1986); Ph.D. (New York 1995) [1995]
ELIZABETH ROWE, Senior Lecturer in Art
B.F.A. (Northern Iowa 1993); M.F.A. (Syracuse 1996) [2003]

FRANCISCO RUIZ-RAMÓN, Centennial Professor of Spanish, Emeritus
Licenciado en Filosofía y Letras, Doctorado en Filosofía y Letras (Universidad Complutense de Madrid 1953, 1962) [1987]
CLIFFORD S. RUSSELL, Professor of Economics, Emeritus
A.B. (Dartmouth 1960); Ph.D. (Harvard 1968) [1986]
EDWARD B. SAFF, Professor of Mathematics; Executive Dean, College of Arts and Science
B.S. (Georgia Institute of Technology 1964); Ph.D. (Maryland 1968) [2001]
GIAN S. SAHOTA, Professor of Economics, Emeritus
B.A. hons., M.A. (Panjab 1950, 1952); M.A. (Leeds 1957); Ph.D. (Chicago 1965) [1964]
MICHELE S. SALISBURY, Assistant Professor of Nursing; Lecturer in Women's and Gender Studies
M.S.N. (Vanderbilt 1985); Ph.D. (Texas 1993); R.N., W.H.N.P. [1994]
SHAWN SALVANT, Assistant Professor of English
B.A. (Duke 1996); Ph.D. (California, Berkeley 2003) [2003]
M. L. SANDOZ, Senior Lecturer in Communication Studies
B.A., M.S. (Mississippi State 1983, 1985) [1991]
MARK V. SAPIR, Centennial Professor of Mathematics; Professor of Mathematics
Diploma (Ural State 1978); Ph.D. (Moscow Pedagogical Institute 1983) [1997]
ALEXANDRA A. SARGENT, Senior Lecturer in Theatre
B.A. (Middlebury 1989); M.F.A. (Northwestern 1995) [2001]
JACK M. SASSON, Mary Jane Werthan Professor of Jewish Studies and Hebrew Bible; Professor of Classics
B.A. (Brooklyn 1962); Ph.D. (Brandeis 1966) [1999]
DIDIER SAUMON, Research Assistant Professor of Physics and Astronomy
B.Sc. (Montreal 1983); M.S. (Illinois 1985); Ph.D. (Rochester 1990) [1996]
KAYE SAWYER SAVAGE, Assistant Professor of Earth and Environmental Sciences; Assistant Professor of Civil and Environmental Engineering
B.A. (Pomona 1989); B.S. (Portland State 1993); Ph.D. (Stanford 2001) [2001]
LAWRENCE J. SCHAAD, Professor of Chemistry, Emeritus
A.B. (Harvard 1952); Ph.D. (Massachusetts Institute of Technology 1957) [1961]
ALLISON SCHACHTER, Assistant Professor of Jewish Studies
B.A. (Stanford 1996); Ph.D. (California, Berkeley 2006) [2006]
JEFFREY D. SCHALL, E. Bronson Ingram Professor of Neuroscience; Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Denver 1982); Ph.D. (Utah 1986) [1989]
ERIC SCHECHTER, Associate Professor of Mathematics
B.S. (Maryland 1973); M.S., Ph.D. (Chicago 1975, 1978) [1980]
ROBERT J. SCHERRER, Professor of Physics and Chair of the Department of Physics and Astronomy
A.B. (Princeton 1981); M.A. (Cambridge 1983); Ph.D. (Chicago 1986) [2003]
DAVID G. SCHLUNDT, Associate Professor of Psychology, College of Arts and Science; Assistant Professor of Medicine
A.B. (Indiana 1976); M.S. (Wisconsin 1979); Ph.D. (Indiana 1982) [1985]
FREDERICK D. SCHNEIDER, Professor of History, Emeritus
B.A. (California, Berkeley 1942); M.A., Ph.D. (Stanford 1947, 1950) [1955]
SUSAN M. SCHOENBOHM, Senior Lecturer in Philosophy
B.A. (St. Olaf 1977); M.A., Ph.D. (Vanderbilt 1989, 1992) [2005]
MARK L. SCHOENFIELD, Associate Professor of English
B.A. (Yale 1981); A.M., M.P.W., Ph.D. (Southern California 1986, 1986, 1989) [1990]
KENNETH E. SCHRIVER, Senior Lecturer in Physics
B.A. (Reed 1985); Ph.D. (California, Los Angeles 1990) [2001]

LARRY L. SCHUMAKER, Stevenson Professor of Mathematics
B.S. (South Dakota School of Mines 1961); M.S., Ph.D. (Stanford 1962, 1966) [1988]
THOMAS ALAN SCHWARTZ, Professor of History
A.B. (Columbia 1976); M.A. (Oxford 1978); A.M., Ph.D. (Harvard 1979, 1985) [1990]
KATHRYN SCHWARZ, Associate Professor of English
A.B., M.A., Ph.D. (Harvard 1988, 1990, 1994) [1996]
LORRAINE SCIADINI, Senior Lecturer in Spanish
B.A. (Mary Washington 1981); M.A. (Florida 1986) [2006]
CHARLES E. SCOTT, Distinguished Professor of Philosophy
B.D. (Southern Methodist 1957); B.D., M.A., Ph.D. (Yale 1961, 1962, 1965) [2005]
VIRGINIA M. SCOTT, Associate Professor of French; Chair, Department of French and Italian
B.A. (Eckerd 1973); M.A. (Florida State 1975); Ph.D. (Emory 1987) [1988]
LARRY SEEMAN, Adjoint Associate Professor of Psychology, Peabody College; Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A., M.A., Ph.D. (Peabody 1970, 1971, 1977) [1979]
ANDRIANE E. SEIFFERT, Assistant Professor of Psychology
B.S. (Waterloo 1995); M.A., Ph.D. (Harvard 1998, 2000) [2004]
MITCHELL A. SELIGSON, Centennial Professor of Political Science; Professor of Political Science
B.A. (City University of New York 1967); M.A. (Florida 1968); Ph.D. (Pittsburgh 1974) [2004]
WALDIR SEPULVEDA, Senior Lecturer in Spanish
B.S. (Vanderbilt 1996); M.A. (Pontificia Universidad Javeriana [Colombia] 2000) [2001]
MARGARET ELEANOR SETJE-EILERS, Mellon Assistant Professor of German
B.A. (Sarah Lawrence 1968); M.A. (Friedrich-Alexander-Universität Erlangen-Nürnberg 1983); M.A. (Indiana 1997); Ph.D. (Virginia 2003) [2003]
DIETER H. O. SEVIN, Professor of Germanic Languages and Literatures and Chair of the Department
B.A. (San Jose State 1963); M.A., Ph.D. (University of Washington 1964, 1967) [1968]
SHUBHRA SHARMA, Senior Lecturer in Women's and Gender Studies; Associate Director of the Program
B.A. (Delhi [India] 1990); M.A., M.Phil. (Jawaharlal Nehru [India] 1992, 1994); Ph.D. (Texas, Austin 2005) [2006]
TRACY DENEAN SHARPLEY-WHITING, Professor of African American and Diaspora Studies; Professor of French; Director, African American and Diaspora Studies Program; Director, William T. Bandy Center for Baudelaire and Modern French Studies
B.A. (Rochester 1989); M.A. (Miami [Ohio] 1990); Ph.D. (Brown 1994) [2004]
PAUL D. SHELDON, Professor of Physics
A.B., Ph.D. (California, Berkeley 1980, 1986) [1991]
DONALD W. SHERBURNE, Professor of Philosophy, Emeritus
B.A. (Middlebury 1951); B.A. (Oxford 1953); M.A., Ph.D. (Yale 1958, 1960) [1960]
MOTOTSUGU SHINTANI, Assistant Professor of Economics
B.A., M.A. (Osaka 1991, 1993); M.Phil., Ph.D. (Yale 1998, 2000) [2000]
JOHN J. SIEGFRIED, Professor of Economics
B.S. (Rensselaer Polytechnic Institute 1967); M.A. (Pennsylvania State 1968); M.S., Ph.D. (Wisconsin 1971, 1972) [1972]
WILLIAM G. SIESSER, Professor of Geology, Emeritus
B.S. (Kansas 1962); M.S. (Louisiana State 1967); Ph.D. (Cape Town 1971) [1979]
GIERI SIMONETT, Associate Professor of Mathematics
M.S., Ph.D. (Universität Zürich 1988, 1992) [1995]
CHARLES K. SINGLETON, Professor of Biological Sciences and Chair of the Department; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Georgia 1976); Ph.D. (Purdue 1980) [1984]

JOHN M. SLOOP, Professor of Communication Studies and Chair of the Department
B.S. (Appalachian State 1985); M.A. (Georgia 1988); Ph.D. (Iowa 1992) [1995]
LIDIA SMENTEK, Adjoint Professor of Chemistry
M.S., Ph.D. (Copernicus [Torun] 1971, 1979) [1994]
HELMUT WALSER SMITH, Martha Rivers Ingram Professor of History; Professor of History; Director, Robert Penn Warren Center for the Humanities
A.B. (Cornell 1984); M.Phil., Ph.D. (Yale 1988, 1992) [1991]
HOWARD E. SMITH, Professor of Chemistry, Emeritus
B.S. (California, Berkeley 1951); M.S., Ph.D. (Stanford 1954, 1957) [1959]
LESLIE M. SMITH, Senior Lecturer in Psychology, College of Arts and Science
A.B., Ph.D. (Brown 1976, 1980) [1991]
WILLIAM P. SMITH, Professor of Psychology, College of Arts and Science
B.A. (Duke 1958); M.A., Ph.D. (North Carolina 1962, 1963) [1965]
STEPHANIE A. SO, Senior Lecturer in Economics; Research Assistant Professor of Economics; Research Assistant Professor of Pediatrics; Research Associate, Institute for Public Policy Studies; Member, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Princeton 1986); M.S., M.A., Ph.D. (Rochester 1996) [2002]
LILIANNA SOLNICA-KREZEL, Professor of Biological Sciences
Magister (Warsaw 1985); Ph.D. (Wisconsin 1991) [1996]
DANIEL P. SOLOMAN, Senior Lecturer in Classics
B.A. (Oxford 1991); Ph.D. (Yale 1998) [1998]
ANDRE PORTELA SOUZA, Adjoint Assistant Professor of Economics
B.A. (Federal University of Bahia [Brazil] 1990); M.A. (São Paulo 1995); M.A., Ph.D. (Cornell 1999, 2001) [2001]
HORTENSE J. SPILLERS, Gertrude Conaway Vanderbilt Professor of English; Professor of English
B.A., M.A. (Memphis 1964, 1966); Ph.D. (Brandeis 1974) [2006]
RONALD SPORES, Professor of Anthropology, Emeritus
B.S. (Oregon 1953); M.A. (University of the Americas 1960); M.A., Ph.D. (Harvard 1963, 1964) [1965]
SANDRA G. STAHL, Assistant Vice Chancellor for Leadership Development; Lecturer in Women's and Gender Studies
B.A. (Vanderbilt 1970); M.A., Ph.D. (Northwestern 1972, 1978) [2000]
JO ANN W. STAPLES, Senior Lecturer in Mathematics
A.B. (Western Kentucky 1969); M.S., Ph.D. (Vanderbilt 1973, 1975) [1988]
JAMES V. STAROS, Adjoint Professor of Biological Sciences
A.B. (Dartmouth 1969); Ph.D. (Yale 1974) [1978]
KEIVAN GUADALUPE STASSUN, Assistant Professor of Astronomy
A.B. (California, Berkeley 1994); Ph.D. (Wisconsin 2000) [2003]
RICHARD G. STEARNS, Professor of Geology, Emeritus
B.A., M.S. (Vanderbilt 1948, 1949); Ph.D. (Northwestern 1953) [1961]
RONNIE J. STEINBERG, Professor of Sociology
B.A. (Bennington 1969); M.A., Ph.D. (New York 1973, 1977) [1997]
NORMAN L. STEPHENSON, Adjunct Associate Professor of Psychology, Peabody College; Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A. (Missouri 1963); Ph.D. (Minnesota 1970) [1974]
IWONA STEPNIEWSKI, Research Assistant Professor of Psychology, College of Arts and Science
M.Sc. (Warsaw 1976); Ph.D. (Nencki Institute of Experimental Biology 1985) [1989]

SUSANNE JOHANNA STERBING-D'ANGELO, Research Assistant Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
Diplom-Biologe (Rheinisch Friedrich-Wilhelms Universität [Germany] 1990); Dr. rer. nat. (Ruhr-Universität [Germany] 1995) [2003]

MICHAEL P. STONE, Professor of Chemistry
B.S. (California, Davis 1977); Ph.D. (California, Irvine 1981) [1984]

H. LLOYD STOW, Professor of Classics, Emeritus
B.A., Ph.D. (Chicago 1930, 1936) [1952]

HANS H. STRUPP, Distinguished Professor of Psychology, Emeritus, College of Arts and Science
B.A., M.A., Ph.D. (George Washington 1945, 1947, 1954) [1966]

GERALD J. STUBBS, Professor of Biological Sciences; Professor of Molecular Biology
B.Sc. (Australian National 1968); D.Phil. (Oxford 1972) [1983]

JOHN J. STUHR, W. Alton Jones Professor of Philosophy; Professor of Philosophy; Professor of American Studies
B.A. (Carleton 1973); M.A., Ph.D. (Vanderbilt 1975, 1976) [2003]

GARY ALLEN SULIKOWSKI, Professor of Chemistry
B.S. (Wayne State 1983); Ph.D. (Pennsylvania 1989) [2004]

MICHELLE MILLER SULIKOWSKI, Senior Lecturer in Chemistry
B.A. (Rosemont 1986); Ph.D. (Pennsylvania 1991) [2004]

WALTER L. SULLIVAN, Professor of English, Emeritus
B.A. (Vanderbilt 1947); M.F.A. (Iowa 1949); Litt.D. (hon., Episcopal Theological Seminary [Kentucky] 1973) [1949]

EDWIN W. SUMMEY (Lieutenant Colonel, U.S. Army), Military Instructor
B.S. (Tennessee Technological 1971); M.S. (Troy State 1984); Ed.S. (Columbus State 1999) [2002]

CAROL M. SWAIN, Professor of Political Science; Professor of Law; Senior Fellow, Institute for Public Policy Studies
B.A. (Roanoke 1983); M.A. (Virginia Polytechnic and State 1984); Ph.D. (North Carolina 1989) [1999]

GEORGE H. SWEENEY, Associate Dean of the College of Arts and Science; Associate Professor of Economics
B.S. (Massachusetts Institute of Technology 1972); M.A., Ph.D. (Northwestern 1973, 1977) [1976]

ALAN R. TACKETT, Research Assistant Professor of Physics and Astronomy
B.S. (Henderson State 1990); M.S., Ph.D. (Wake Forest 1998) [2002]

ROBERT BASIL TALISSE, Associate Professor of Philosophy
B.A. (WIlliam Paterson 1993); M.A. (New York 1995); M.Phil., Ph.D. (City University of New York 1998, 2000) [2001]

ANTHONY M. TANG, Professor of Economics, Emeritus
B.B.A. (Loyola University of the South 1949); Ph.D. (Vanderbilt 1955) [1955]

C. NEAL TATE, Professor of Political Science and Chair of the Department
B.A. (Wake Forest 1965); M.A., Ph.D. (Tulane 1968, 1971) [2003]

JOEL TELLINGHUISEN, Professor of Chemistry
B.A. (Cornell 1965); Ph.D. (California, Berkeley 1969) [1975]

HENRY A. TELOH, Professor of Philosophy; Professor of Classics
B.A. (Illinois 1967); M.A., Ph.D. (Wisconsin 1971, 1972) [1972]

STEVEN J. TEPPER, Assistant Professor of Sociology; Associate Director, Curb Center for Art, Enterprise, and Public Policy
B.A. (North Carolina 1989); M.P.P. (Harvard 1996); Ph.D. (Princeton 2001) [2004]

ROMAIN TESSERA, Instructor in Mathematics
Masters (Ecole Normale Supérieure de Paris [France] 2003) [2006]
C. WARREN THOMPSON, Adjoint Associate Professor of Psychology, Peabody College; Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A. (Southwestern at Memphis 1962); Ph.D. (Vanderbilt 1973) [1987]
WILLIAM O. THWEATT, Professor of Economics, Emeritus
B.S., M.A. (California, Los Angeles 1946, 1949); B.Phil. (Oxford 1955) [1963]
CECELIA TICHI, William R. Kenan Jr. Professor of English
B.A. (Pennsylvania State 1964); M.A. (Johns Hopkins 1965); Ph.D. (California, Davis 1968) [1987]
JEFFREY S. TLUMAK, Associate Professor of Philosophy
B.A. (City University of New York, Brooklyn College 1969); M.A., Ph.D. (Massachusetts 1972, 1975) [1973]
NORMAN H. TOLK, Professor of Physics; Director, Center for Molecular and Atomic Studies at Surfaces; Professor of Radiology and Radiological Sciences
A.B. (Harvard 1960); Ph.D. (Columbia 1966) [1984]
ANDREW J. TOMARKEN, Associate Professor of Psychology and Chair of the Department, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Harvard 1977); M.S., Ph.D. (Wisconsin 1982, 1988) [1989]
FRANK TONG, Assistant Professor of Psychology
B.S. (Queen's 1995); M.A., Ph.D. (Harvard 1998, 1999) [2004]
OSCAR TOUSTER, Professor of Molecular Biology, Emeritus; Professor of Biochemistry, Emeritus
B.S. (City University of New York 1941); M.A. (Oberlin 1942); Ph.D. (Illinois 1947) [1947]
BENIGNO TRIGO, Associate Professor of Spanish
B.A. (Amherst 1984); Ph.D. (Yale 1992) [2004]
BARBARA TSAKIRGIS, Associate Professor of Classics; Chair of the Department of Classical Studies; Associate Professor of Art History
B.A. (Yale 1976); M.A., Ph.D. (Princeton 1979, 1984) [1984]
STEVEN T. TSCHANTZ, Associate Professor of Mathematics
A.B., Ph.D. (California, Berkeley 1979, 1983) [1984]
CONSTANTINE TSINAKIS, Professor of Mathematics
B.S. (Thessalonika 1970); M.S. (Houston 1975); Ph.D. (California, Berkeley 1979) [1980]
ARLEEN M. TUCHMAN, Associate Professor of History; Director, Center for Medicine, Health, and Society
B.S. (Marlboro 1977); M.A., Ph.D. (Wisconsin 1980, 1984) [1986]
HOLLY A. TUCKER, Associate Professor of French
B.A. (Indiana 1989); M.A., Ph.D. (Wisconsin 1991, 1995) [1995]
DAVID L. TULEEN, Professor of Chemistry, Emeritus
B.S. (Wittenberg 1958); Ph.D. (Illinois 1962) [1963]
TIFFINY A. TUNG, Assistant Professor of Anthropology
B.A. (California, Santa Barbara 1995); M.A., Ph.D. (North Carolina 1998, 2004) [2003]
ROBERT J. ULLOM, Assistant Professor of Theatre
B.A. (Vanderbilt 1994); M.A., Ph.D. (Illinois 1995, 2000) [2000]
SAIT A. UMAR, Professor of Physics
B.S. (Bogazici [Turkey] 1979); M.Phil., M.S., Ph.D. (Yale 1985, 1985, 1985) [1986]
MARTINA URBAN, Assistant Professor of Religious Studies and Jewish Studies
M.A. (Freie Universität Berlin 1993); Ph.D. (Hebrew University of Jerusalem 2003) [2003]
DANIEL H. USNER, JR., Holland M. McTyeire Professor of History; Professor of History and Chair of the Department
B.A. (Johns Hopkins 1975); M.A., Ph.D. (Duke 1976, 1981) [2002]

MANUEL S. VALENZUELA, Adjoint Associate Professor of Biological Sciences
B.S. (Universidad Peruana 'Cayetano Heredia' [Peru] 1969); Ph.D. (Brandeis 1975) [1998]
JOHN R. VAN WAZER, Professor of Chemistry, Emeritus
B.S. (Northwestern 1940); M.S., Ph.D. (Harvard 1941, 1942) [1968]
KÁLMÁN VARGA, Assistant Professor of Physics
Diploma, Ph.D. (Debrecen [Hungary] 1989, 1996) [2005]
JULIA APOSTOLOVA VELKOVSKA, Assistant Professor of Physics
M.S. (Sofia University [Bulgaria] 1988); Ph.D. (SUNY, Stony Brook 1997) [2003]
JOHN H. VENABLE, Professor of Biological Sciences, Emeritus; Dean of the College of Arts and Science, Emeritus
B.S. (Duke 1960); M.S., Ph.D. (Yale 1963, 1965) [1967]
RHONDA R. VENABLE, Adjunct Assistant Professor of Psychology, College of Arts and Science; Assistant Clinical Professor of Psychiatry; Director, Psychological and Counseling Center
B.A., B.S. (Louisiana State 1980, 1982); M.A., Ph.D. (Georgia State 1986, 1993) [1998]
ANA REGINA VIDES DE ANDRADE, Senior Lecturer in Economics
B.A. (Universidad Centroamericana 'José Simeón Cañas' [El Salvador] 1983); M.A., Ph.D. (Vanderbilt 1990, 1998) [1998]
W. KIP VISCUSI, University Distinguished Professor; Professor of Law; Professor of Economics; Professor of Management
A.B., M.P.P., A.M., Ph.D. (Harvard 1971, 1973, 1974, 1976) [2006]
BRADFORD VIVIAN, Assistant Professor of Communication Studies
B.A. (George Mason 1996); M.A., Ph.D. (Pennsylvania State 1998, 2001) [2001]
V. JACQUE VOEGELI, Professor of History, Emeritus; Dean of the College of Arts and Science, Emeritus
B.S. (Murray State 1956); M.A., Ph.D. (Tulane 1961, 1965) [1967]
JOHN VROOMAN, Senior Lecturer in Economics
B.A., M.A., Ph.D. (Texas 1969, 1972, 1976) [1999]
SHAWN A. WALDRIP (Lieutenant Colonel, U.S. Army), Assistant Professor of Military Science
B.S. (Jackson State 1984); M.S. (Troy State 1992) [2004]
CHRISTOPH WALKER, Assistant Professor of Mathematics
Dr.Sc.nat (Zürich 2003) [2004]
LYNN S. WALKER, Professor of Pediatrics; Director, Division of Adolescent Medicine; Professor of Psychology, Peabody College; Associate Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Oberlin 1973); M.S., Ph.D. (Peabody 1978, 1981) [1982]
DEREK J. WALLER, Professor of Political Science, Emeritus
B.S. (London 1962); M.A. (Indiana 1964); Ph.D. (London 1968) [1968]
KENNETH A. WALLSTON, Professor of Psychology in Nursing; Professor of Psychology, Peabody College; Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Cornell 1964); M.A., Ph.D. (Connecticut 1965, 1968) [1971]
BENJAMIN WALTER, Professor of Political Science, Emeritus
B.A. (Yale 1952); M.P.A. (Syracuse 1953); Ph.D. (Northwestern 1960) [1961]
PATRICIA A. WARD, Professor of French; Professor of Comparative Literature
A.B. (Eastern Nazarene 1962); M.A., Ph.D. (Wisconsin 1964, 1968) [1993]
CYNTHIA M. WASICK, Senior Lecturer in Spanish
B.A., M.A. (Wisconsin 1983, 1985) [1993]
DAVID J. WASSERSTEIN, Professor of History and Jewish Studies; Director of Jewish Studies
B.A., M.A., Ph.D. (Oxford 1974, 1977, 1982) [2004]

FRANCIS W. WCISLO, Associate Professor of History
A.B. (Michigan 1974); M.A., Ph.D. (Columbia 1977, 1984) [1984]
HAROLD LEROW WEATHERBY, JR., Professor of English, Emeritus
B.A. (Vanderbilt 1956); M.A., Ph.D. (Yale 1957, 1962); Litt.D. (hon., Episcopal Theological Seminary [Kentucky] 1973) [1962]
DAVID L. WEATHERFORD, Adjunct Assistant Professor of Psychology, College of Arts and Science
B.S. (Kentucky 1974); M.S., Ph.D. (Memphis State 1977, 1980) [1998]
DONNA JANE WEBB, Assistant Professor of Biological Sciences; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (James Madison 1989); Ph.D. (Virginia 1995) [2005]
GLENN F. WEBB, Professor of Mathematics
B.S. (Georgia Institute of Technology 1965); M.S., Ph.D. (Emory 1966, 1968) [1968]
MEDFORD S. WEBSTER, Professor of Physics, Emeritus
B.S. (Union College [New York] 1953); Ph.D. (Washington University 1959) [1967]
QING WEI, Lecturer in Chinese
B.A. (Fudan [China] 1988); M.A. (Colorado 1999) [2003]
THOMAS JOSEPH WEILER, Professor of Physics
B.S. (Stanford 1971); Ph.D. (Wisconsin 1976) [1984]
DAVID A. WEINTRAUB, Professor of Astronomy; Director, Science, Humanities, and Technology
B.S. (Yale 1980); M.S., Ph.D. (California, Los Angeles 1982, 1989) [1991]
SHARON M. WEISS, Assistant Professor of Electrical Engineering; Assistant Professor of Physics
B.S., M.S., Ph.D. (Rochester 1999, 2001, 2005) [2005]
GAY HOUSE WELCH, University Chaplain; Assistant Professor of Religious Studies
B.A. (Southwestern at Memphis 1970); M.A., Ph.D. (Vanderbilt 1976, 1980) [1990]
ROBERT A. WELLER, Professor of Electrical Engineering; Professor of Physics; Professor of Materials Science and Engineering
B.S. (Tennessee 1971); Ph.D. (California Institute of Technology 1978) [1987]
QUAN WEN, Professor of Economics
B.Sc. (Jilin [China] 1985); M.A., Ph.D. (Western Ontario 1988, 1991) [2001]
MEIKE G. J. WERNER, Associate Professor of German
M.A. (Washington University 1980); Staatsexamen (Tübingen [Germany] 1984); M.Phil., Ph.D. (Yale 1991, 1995) [1997]
STEVEN A. WERNKE, Assistant Professor of Anthropology
B.A. (Iowa 1992); M.A., Ph.D. (Wisconsin 1996, 2003) [2005]
JAMES R. WESSON, Professor of Mathematics, Emeritus
B.S. (Birmingham-Southern 1949); M.A., Ph.D. (Vanderbilt 1949, 1953) [1957]
FRED M. WESTFIELD, Professor of Economics, Emeritus
B.A. (Vanderbilt 1950); Ph.D. (Massachusetts Institute of Technology 1957) [1965]
DIANA N. WEYMARK, Assistant Professor of Economics
B.A., M.A. (Dalhousie 1978, 1980); Ph.D. (British Columbia 1990) [1999]
JOHN WEYMARK, Professor of Economics
B.A. (British Columbia 1972); M.A., Ph.D. (Pennsylvania 1973, 1977) [1999]
GILMAN W. WHITING, Senior Lecturer in African American and Diaspora Studies
B.A. (Rhode Island 1985); M.A. (Rhode Island College 1994); Ph.D. (Purdue 2004) [2004]
DEAN P. WHITTIER, Professor of Biological Sciences, Emeritus
B.S. (Massachusetts 1957); A.M., Ph.D. (Harvard 1959, 1961) [1965]
HERBERT WIESMEYER, Professor of Molecular Biology, Emeritus
B.S. (Illinois 1954); Ph.D. (Washington University 1959) [1962]

JOHN P. WIKSWO, JR., Gordon A. Cain University Professor; A. B. Learned Professor in Living State Physics; Professor of Physics; Professor of Biomedical Engineering; Professor of Molecular Physiology and Biophysics
B.A. (Virginia 1970); M.S., Ph.D. (Stanford 1973, 1975) [1977]
CARLTON F. WILKINSON, Senior Lecturer in Art
B.F.A. (Washington University 1981); M.F.A. (California, Los Angeles 1985) [1988]
GEORGE T. WILLARD (Lieutenant, U.S. Navy), Naval Instructor, Naval Officer Training Corps
B.S. (Old Dominion 1999) [2005]
DAVID H. WILLIAMS II, Vice Chancellor for Student Life and University Affairs, General Counsel, and Secretary of the University; Professor of Law; Adjunct Professor of American and Southern Studies
B.S., M.A. (Northern Michigan 1969, 1970); M.B.A., J.D. (Detroit 1979, 1982); LL.M. (New York 1984) [2000]
HORACE E. WILLIAMS, Professor of Mathematics, Emeritus
B.A., M.A. (Vanderbilt 1953, 1957); M.S., Ph.D. (Peabody 1957, 1962) [1958]
ROBLEY C. WILLIAMS, JR., Professor of Biological Sciences, Emeritus
A.B. (Cornell 1962); Ph.D. (Rockefeller 1967) [1976]
DAVID J. WILSON, Professor of Chemistry, Emeritus
B.S. (Stanford 1952); Ph.D. (California Institute of Technology 1958) [1969]
SUSAN FORD WILTSHIRE, Professor of Classics
B.A. (Texas 1963); M.A., Ph.D. (Columbia 1964, 1967) [1971]
DONALD L. WINTERS, Professor of History, Emeritus
B.A., M.A. (Northern Iowa 1957, 1963); Ph.D. (Wisconsin 1966) [1970]
MARK ALLEN WOELFLE, Senior Lecturer in Biological Sciences
B.S. (Texas A & M 1983); Ph.D. (Vanderbilt 1993) [1995]
MARK A. WOLLAEGER, Associate Professor of English
A.B. (Stanford 1979); M.Phil., Ph.D. (Yale 1984, 1986) [1994]
KENNETH K. WONG, Professor of Public Policy and Education; Associate Director, Peabody Center for Education Policy; Professor of Political Science
B.A., M.A., Ph.D. (Chicago 1977, 1980, 1993) [2001]
DAVID CHARLES WOOD, Professor of Philosophy
B.A. (Manchester [England] 1968); Ph.D. (Warwick 1985) [1994]
MYRNA HOLTZ WOODERS, Professor of Economics
B.A. (Alberta 1969); Ph.D. (Minnesota 1976) [2004]
DAVID W. WRIGHT, Assistant Professor of Chemistry
B.A., B.S. (Tulane 1988); Ph.D. (Massachusetts Institute of Technology 1993) [2001]
JOSEPH E. WRIGHT, Professor of Drama and Speech, Emeritus (Died 28 March 2006)
B.S. (Memphis State 1938); M.A. (Northwestern 1946) [1946]
NICHOLAS JOHN WRIGHT, Assistant Professor of Mathematics
Ph.D. (Pennsylvania State 2002) [2002]
EDWARD WRIGHT-RIOS, Assistant Professor of History
B.S. (Illinois 1987); M.A. (Vanderbilt 1998); Ph.D. (California, San Diego 2004) [2004]
DAOXING XIA, Professor of Mathematics
Undergraduate (Sangton 1950); Graduate (Jijian 1952) [1984]
THOMAS E. YANKEELOV, Assistant Professor of Radiology and Radiological Sciences; Assistant Professor of Biomedical Engineering; Assistant Professor of Physics
B.A. (Louisville 1996); M.A., M.S. (Indiana University 1998, 2000); Ph.D. (SUNY, Stony Brook 2003) [2005]
JU-YI J. YEN, Assistant Professor of Mathematics
B.S. (Pacific Union 1995); M.A., Ph.D. (Maryland 2000, 2004) [2006]
PAUL YOUNG, Assistant Professor of English; Director, Film Studies
B.A. (Iowa 1990); M.A., Ph.D. (Chicago 1992, 1998) [2003]

GEXIN YU, Instructor in Mathematics
B.S., M.S. (South China Normal 1997, 2000) [2006]
GUOLIANG YU, Professor of Mathematics
Ph.D. (SUNY, Stony Brook 1991) [2000]
DAVID H. ZALD, Assistant Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Michigan 1989); Ph.D. (Minnesota 1997) [2000]
ANDRES ZAMORA, Associate Professor of Spanish
B.A. (Universidad Complutense de Madrid 1984); M.A. (Auburn 1986); Ph.D. (Southern California 1994) [1998]
N. JANE ZBRODOFF, Senior Lecturer in Psychology, College of Arts and Science
B.Ed. (Alberta 1972); M.A., Ph.D. (Toronto 1979, 1984) [2000]
CHRISTOPH ZELLER, Assistant Professor of German
M.A., Dr. phil. (Stuttgart 1995, 1998) [2004]
DECHAO ZHENG, Associate Professor of Mathematics
B.S. (Chongqing [China] 1982); M.S. (Sichuan [China] 1985); Ph.D. (SUNY, Stony Brook 1992) [1996]
RUTH GRACE ZIBART, Professor of French, Emerita
B.S. (Tennessee Technological 1941); M.A. (Vanderbilt 1942); Ph.D. (Michigan 1964) [1964]
BENJAMIN C. ZISSIMOS, Assistant Professor of Economics
B.Sc. (London School of Economics and Political Science 1992); M.Sc., Ph.D. (Warwick [England] 1993, 2003) [2003]
GRACE K. ZOOROB, Senior Lecturer in Chemistry
B.S. (American University of Beirut 1986); M.S. (Clemson 1992); Ph.D. (Cincinnati 1995) [2006]
LAURENCE J. ZWIEBEL, Professor of Biological Sciences
B.S. (SUNY, Stony Brook 1980); M.S. (Michigan 1982); Ph.D. (Brandeis 1992) [1997]

Blair School of Music

MARK WAIT, D.M.A., Dean
CYNTHIA CYRUS, Ph.D., Associate Dean
AMY JARMAN, A.R.C.M., Assistant Dean
DWAYNE SAGEN, Ph.D., Assistant Dean
PAMELLA SCHNELLER, Assistant Dean
JOE REA PHILLIPS, M.S., Assistant to the Dean
ROBERT HALLIBURTON, B.S., C.P.A., Administrative Officer
TRISHA JOHNS, B.M., Registrar
CAROL DUNNE, M.M., Associate Registrar
RUDI ALDRIDGE, Director of Technical Operations
VIRGINIA PAYNE, B.A., Associate Dean for Blair Development and Alumni Relations
CINDY STEINE, B.A., Director of External Relations

Music Library Staff

HOLLING SMITH-BORNE, M.L.S., Director
SARA J. BEUTTER, M.L.S., Music Librarian for Public Services
CATHERINE GICK, M.L.I.S., Music Librarian/Cataloging

Department Chairs

ALLAN COX, Brass and Percussion
CYNTHIA CYRUS, Music Literature/History
CYNTHIA ESTILL, Woodwinds
CONNIE HEARD, Strings
JOHN JOHNS, Guitar
MICHAEL KUREK, Composition/Theory
JONATHAN A. RETZLAFF, Voice
MELISSA ROSE and ROLAND SCHNELLER, Keyboard Co-Chairs

Faculty Coordinators

DAVID CHILDS, Ensembles
PAUL DEAKIN, JIM LOVENSHEIMER, and JOE REA PHILLIPS, Music Minors
CHI HEE HWANG, Group Piano
JOHN KOCHANOWSKI, String Chamber Music
CASSANDRA LEE, Woodwind Chamber Music
PAMELA SCHNELLER, Pre-College and Adult Program
ROLAND SCHNELLER, Pre-College Scholarships
CARL F. SMITH, JR., Music as a Second Major
CAROL F. SMITH, Suzuki Program
THOMAS E. VERRIER, Teacher Education Program

Committees of the School

ADMISSIONS: Dwayne Sagen, Chair. Carolyn Huebl, Amy Jarman, John Johns, Leslie Norton, Jonathan Retzlaff, Melissa Rose, Michael Rose, Pam Schneller, Michael Slayton, Sarah Summar, Bobby Taylor, Tom Verrier.

AWARDS. Greg Barz, Chair. Cynthia Cyrus, Cynthia Estill, Carolyn Huebl, Karen Kreiger, Leslie Norton.

BMI COMPOSER-IN-RESIDENCE. Michael Kurek, Chair. Robin Fountain, Gayle Shay.

CALENDAR. Rudi Aldridge, Amy Jarman and Mark Wait, Co-Chairs. Rowena Aldridge, Pam Schneller, Gayle Shay, Carol Smith, Cindy Steine, Robert Thompson.

CERTIFICATE PROGRAM. Jama Reagan, Chair. Paul Deakin, Cynthia Estill, Kathryn Plummer, Roland Schneller.

CONCERTO COMPETITION. James Lovensheimer, Chair. Lawrence Borden, Charlene Harb, Bobby Taylor, Felix Wang.

CONCERTS. Cindy Steine, Chair. Rudi Aldridge, Emelyne Bingham, Dale Cockrell, Allan Cox, Charlene Harb, John Johns, Cassie Lee, Melissa Rose, Gayle Shay, Christian Teal, Robert Thompson.

CURRICULUM. Emelyne Bingham, Chair. Joy Calico, Allan Cox, Cynthia Cyrus, Jane Kirchner, Cassie Lee, Kathryn Plummer.

DEPARTMENT CHAIRS. Mark Wait, Chair. Allan Cox, Brass and Percussion; Cynthia Cyrus, Music Literature/History; Cynthia Estill, Woodwind; Cornelia Heard, Strings; John Johns, Guitar; Michael Kurek, Composition/Theory; Jonathan Retzlaff, Voice; Melissa Rose, Co-Chair, Keyboard; David Childs, Ensemble Coordinator; Pam Schneller, Pre-College Program, Roland Schneller, Co-Chair, Keyboard.

ENSEMBLE DIRECTORS. David Childs, Chair. Billy Adair, Kwame Ahima, Mat Britain, Robin Fountain, Carol Nies, Pam Schneller, Gayle Shay, Carol Smith, Hazel Somerville, Tom Verrier, Bill Wiggins.

FACULTY ADVISORY COUNCIL. David Childs, Jen Gunderman, Gayle Shay, Michael Slayton.

FACULTY REVIEW. John Johns, Chair. Amy Dorfman, Kathryn Plummer, Jonathan Retzlaff, Gayle Shay, Carol Smith, Chris Teal.

FACULTY SENATE. Stan Link, Jonathan Retzlaff. *Ex Officio:* Mark Wait.

FACULTY/STAFF CAMPAIGN. Joe Rea Phillips, Coordinator.

MARTIN WILLIAMS/MARSDEN AWARDS. Michael Rose, Chair. Jen Gunderman, Melanie Lowe.

MA5 ADVISORY. Thomas Verrier, Chair. Amy Alley, Emelyne Bingham, David Childs, Frank Kirchner, Jonathan Retzlaff.

MUSIC LIBRARY. Melanie Lowe, Chair. Jen Gunderman, Jim Lovensheimer, Jama Reagan, Michael Rose, Gayle Shay, Holling Smith-Borne.

PLANNING. Mark Wait, Chair. Gregory Barz, Cynthia Cyrus, Amy Dorfman, Carol Dunne, Robin Fountain, Jen Gunderman, Connie Heard, Frank Kirchner, Leslie Norton, Jonathan Retzlaff, Michael Slayton, Cindy Steine, Tom Verrier, Felix Wang.

PRE-COLLEGE AND ADULT PROGRAM. Pam Schneller, Chair. Paul Deakin, Carol Dunne, Carol Nies, Jama Reagan, David Schnaufer, Roland Schneller, Carol Smith, Hazel Somerville.

SPACE ISSUES. Amy Jarman, Chair. Darlene Bethke, Cynthia Cyrus, Jane Kirchner, Kathryn Plummer, Roland Schneller.

STUDENT SHOWCASE. Melissa Rose, Chair. David Childs, Robin Fountain, John Kochanowski, Leslie Norton, Jonathan Retzlaff, Bobby Taylor.

TECHNOLOGY. Michael Hime, Chair. Rudi Aldridge, Emelyne Bingham, Jen Gunderman, Frank Kirchner, Dan Landes, Kathryn Plummer, Holling Smith-Borne.

TENURE REVIEW. Allan Cox, Chair. Dale Cockrell, Robin Fountain, Connie Heard, Douglas Lee, Christian Teal.

Faculty

BEEGIE ADAIR, Lecturer in Jazz Improvisation
B.S. (Western Kentucky 1958) [1993]

WILLIAM D. ADAIR, Adjunct Associate Professor of Jazz Studies
B.S. (Peabody 1970) [2002]

OKYEREMA GYANE-KWAME AHIMA, Adjunct Instructor in Music
[2000]

SALLY RHODES AHNER, Lecturer in Music
B.A. (Salem [North Carolina] 1970); M.A. (Eastman 1974) [2002]

AMY ALLEY, Adjunct Artist Teacher of Kindermusik; Adjunct Lecturer in Teacher Education
B.S. (Tennessee, Martin 1977); M.M.E. (Peabody 1978) [2001]

JEFF BAILEY, Adjunct Assistant Professor of Trumpet
B.M.E. (Peabody 1981) [2002]

DENISE BAKER, Adjunct Artist Teacher of Violin
B.M., M.M. (North Carolina School of the Arts 1992, 1995) [1997]

JEROME (BUTCH) BALDASSARI, Adjunct Associate Professor of Mandolin
[1996]

MARTHA BARTLES, Adjunct Senior Artist Teacher of Piano
B.M. (Mississippi 1953); M.F.A. (Ohio 1954) [1997]

GREGORY F. BARZ, Associate Professor of Musicology (Ethnomusicology); Associate Professor of Anthropology; Associate Professor of Religion
B.A. (North Carolina School of the Arts 1982); M.A. (Chicago 1992); Ph.D. (Brown 1997) [1998]

EMELYNE M. BINGHAM, Senior Lecturer in Aural Studies
B.S. (Tennessee Technological 1983); M.M. (Indiana 1986) [1986]

LAWRENCE BORDEN, Associate Professor of Trombone
B.M. (Northwestern 1982); M.S. (Vanderbilt 2003) [1988]

MATTHEW BRITAIN, Adjunct Instructor in Music
B.M.E. (Wichita State 1985) [2004]

ALISON H. BROWN, Adjunct Artist Teacher of Banjo
A.B. (Harvard 1984); M.B.A. (California, Los Angeles 1986) [2005]

JOY CALICO, Assistant Professor of Musicology
B.M. (Baylor 1988); M.M. (Illinois 1992); Ph.D. (Duke 1999) [2003]

KIRSTEN M. CASSEL, Adjunct Artist Teacher of Cello
B.M. (South Carolina 2002); M.M. (Eastman 2005) [2005]

DAVID N. CHILDS, Assistant Professor of Choral Studies; Director of the Vanderbilt Symphonic Choir
B.M. (Canterbury [New Zealand] 1991); M.M. (Florida State 1995); D.M.A. (Louisiana State 2003) [2000]

DALE COCKRELL, Professor of Musicology
B.M., M.M., Ph.D. (Illinois 1971, 1973, 1978) [1996]

MATT COMBS, Adjunct Instructor in Fiddle
B.Mus. (Michigan 1997) [2004]

ELIZABETH CORMIER, Senior Artist Teacher of Piano, Emerita
A.B. (Smith 1947); B.M. (New England Conservatory 1950); M.A. (Columbia 1955) [1967]

ALLAN COX, Professor of Trumpet and Chair of the Brass and Percussion Department
B.M.E. (Nebraska 1968); M.M. (Wichita State 1970) [1998]

CYNTHIA CYRUS, Associate Dean; Associate Professor of Musicology and Chair of the Music Literature/History Department; Affiliated Faculty in European Studies; Affiliated Faculty in Women's and Gender Studies
B.A. (Pomona 1984); M.A., Ph.D. (North Carolina 1987, 1990) [1994]

GARNETT R. DAVIS, Adjunct Assistant Professor of Tuba
B.S. (North Alabama 1968); M.M. (Indiana 1974) [1992]
PAUL DEAKIN, Lecturer in Music
B.A., Ph.D. (Birmingham [England] 1990, 2002) [2004]
BRAD DIAMOND, Lecturer in Voice
B.M. (Rider 1991); M.M. (Cincinnati 1993) [2004]
AMY DORFMAN, Associate Professor of Piano
B.M., Performer's Certificate, M.M. (Indiana 1977, 1978, 1981) [1984]
BRUCE J. DUDLEY, Adjunct Instructor of Jazz Piano
B.S. (New York 1984); M.M. (Eastman 1986) [2005]
ELIZABETH ECKERT, Adjunct Artist Teacher of Piano
B.M. (Indiana 2003) [2004]
CONSTANCE N. ELY, Adjunct Artist Teacher of Chorus
B.S. (Vanderbilt 1998) [2000]
JANET EPSTEIN, Adjunct Artist Teacher of Recorder
B.M.E. (Indiana 1971); M.M. (Peabody 1976) [2004]
CYNTHIA ESTILL, Associate Professor of Bassoon and Chair of the Woodwind Department
B.M. (Indiana 1971); M.M. (Peabody 1975) [1972]
JAMES FOGLESONG, Adjunct Professor of Music Business
B.M. (Eastman 1950) [1991]
EDWARD FOOTE, Adjunct Instructor in Music
B.F.A. (Louisiana Tech 1975); Certificate (New England Institute for Stringed Keyboard Technology 1976) [1997]
ROBIN P. FOUNTAIN, Professor of Conducting; Director of the Vanderbilt Orchestra
B.A., M.A. (Oxford 1981, 1982); M.F.A. (Carnegie-Mellon 1986) [1994]
THOMAS L. GIAMPIETRO, Adjunct Artist Teacher of Percussion
B.M. (Miami (Florida) 1992); M.M. (Northern Iowa 2005) [2005]
GERALD GREER, Adjunct Artist Teacher of Violin
Diploma in Music (North Carolina School of the Arts 1987) [1996]
JENNIFER GUNDERMAN, Senior Lecturer in Music History and Literature
B.A. (Vassar 1992); M.A. (University of Washington 1996) [2004]
ERIN HALL, Adjunct Artist Teacher of Violin
B.M. (Juilliard 1996); M.M. (Cleveland Institute of Music 1998) [2003]
CHARLENE HARB, Senior Lecturer in Music Theory
B.Mus. (Tennessee 1966); M.Mus., D.Mus. (Indiana 1968, 1978) [2003]
CORNELIA HEARD, Professor of Violin and Chair of the Strings Department
B.M., M.M. (Juilliard 1978, 1979); B.A. (Sarah Lawrence 1980) [1982]
MICHAEL S. HIME, Lecturer in Music Literature; Technology Liaison
B.A., M.M. (Peabody 1973, 1977) [1985]
PRENTISS A. HOBBS, Adjunct Senior Artist Teacher of Trombone
[2005]
CAROLYN HUEBL, Assistant Professor of Violin
B.M., M.M. (Cleveland Institute 1994, 1994); D.M.A. (Michigan 1998) [2001]
CHI HEE HWANG, Artist Teacher of Piano
B.M. (Hangang [Seoul] 2000); M.M. (Tennessee 2004) [2004]
AMY KANE JARMAN, Assistant Dean, Blair School of Music; Senior Lecturer in Voice
B.A. (Evansville 1978); Performance Diploma (Royal College of Music [London] 1990) [1986]
JOHN JOHNS, Associate Professor of Guitar and Chair of the Department
B.M. (Peabody Conservatory 1970); M.S. (Peabody 1979) [1980]
ELIZABETH C. JOHNSON, Adjunct Artist Teacher of Jazz Studies
B.S. (Illinois 1997) [2005]

SARA JOHNSON, Adjunct Artist Teacher of Suzuki Violin
B.S. (North Carolina, Greensboro 1974); M.F.A. (Iowa 1977) [1997]
JOE C. JONES, Adjunct Assistant Professor of Music
B.M. (Northeast Louisiana 1964) [1999]
ENID KATAHN, Professor of Piano, Emerita
B.M. (Hartt 1955); M.M. (Peabody 1970) [1966]
FRANK M. KIRCHNER, Adjunct Associate Professor of Saxophone
B.M.E., M.A. (Peabody 1967, 1970) [1989]
JANE KIRCHNER, Associate Professor of Flute
B.M.E, M.M.E., Ed.S. (Peabody 1966, 1967, 1968) [1966]
JOHN KOCHANOWSKI, Associate Professor of Viola; Coordinator of String Chamber Music [1987]
SHEREE KOUTSOUKOS, Adjunct Artist Teacher of Piano
B.A. (Wartburg 1996); M.M. (Notre Dame 1998) [2002]
KAREN ANN KRIEGER, Assistant Professor of Piano
B.A. (Western Illinois 1976); M.Mus. (Illinois 1978) [1988]
MICHAEL KUREK, Associate Professor of Composition and Chair of the Composition/Theory Department
B.Mus. (Tennessee 1977); M.Mus., A.Mus.D. (Michigan 1981, 1985) [1988]
W. DANIEL LANDES, Adjunct Associate Professor of Music
B.M. (Shenandoah Conservatory 1972); M.M. (Maryland 1977); D.M.A. (Southern Baptist Seminary 1983) [1996]
CASSANDRA LEE, Associate Professor of Clarinet; Coordinator of Woodwind Chamber Music
B.S. (Tennessee 1975); M.M. (Northwestern 1979) [1981]
DOUGLAS LEE, Professor of Musicology, Emeritus
B.Mus. (DePauw 1954); M.Mus., Ph.D. (Michigan 1958, 1968) [1986]
STANLEY B. LINK, Assistant Professor of the Philosophy and Analysis of Music
B.M. (Oberlin 1986); M.F.A., Ph.D. (Princeton 1992, 1995) [1999]
ERIN MCGINNIS LONG, Adjunct Instructor in Violin
B.M. (Juilliard 1992); M.M. (Manhattan 1994) [1999]
GILBERT A. LONG, Adjunct Associate Professor of Tuba
B.M.A. (Louisville 1975) [1995]
JAMES LOVENSHEIMER, Assistant Professor of Musicology
B.A. (Tennessee 1994); M.A., Ph.D. (Ohio State 1997, 2003) [2002]
MELANIE LOWE, Assistant Professor of Music Literature and History; Assistant Professor of American and Southern Studies
B.A. (Smith 1990); M.F.A., Ph.D. (Princeton 1992, 1998) [1998]
BRADLEY MANSELL, Adjunct Artist Teacher of Cello
Mus.B. (Youngstown State 1982); M.M. (Cincinnati 1984) [1990]
KATHERINE MANSOURI, Adjunct Artist Teacher of Suzuki Violin
B.Mus. (West Virginia 1981); M.Mus. (Southern Illinois 1983) [1997]
SALLY E. MCFADDEN, Adjunct Senior Artist Teacher of Orchestra
B.M.E. (Mount Union 1975) [1995]
WILLIAM MCMINN, Adjunct Associate Professor of Teacher Education
B.M.E. (Tennessee Technological 1966) [2003]
ELLEN MENKING, Adjunct Artist Teacher of Oboe
B.Mus. (Vanderbilt 1992); M.M. (Indiana 1996) [1997]
EDGAR MEYER, Adjunct Associate Professor of Bass
B.M. (Indiana 1983) [1984]
DAVID MITCHELL, Adjunct Artist Teacher of Clarinet
B.M. (DePaul 1996) [1997]

CHERI MONTGOMERY, Lecturer in Voice
B.M., M.M. (Tennessee 1987, 1990) [2002]
CRAIG E. NELSON, Adjunct Assistant Professor of Bass
B.M. (Michigan 1978) [2000]
CAROL REINER NIES, Adjunct Senior Artist Teacher of Conducting; Director of the Nashville Youth Orchestra Program
B.M. (Miami [Florida] 1979); M.M. (Yale 1981); D.M.A. (Cincinnati 2001) [1996]
CRAIG NIES, Associate Professor of Piano
B.M. (Curtis 1974); M.M., M.M.A. (Yale 1979, 1980); D.Mus.A. (SUNY, Stony Brook 1991) [1991]
LESLIE NORTON, Assistant Professor of Horn
B.M., Performer's Certificate (Eastman 1984, 1984) [1989]
GIL PEREL, Adjunct Artist Teacher of Bassoon
B.A. (Boston University 1999) [2005]
JOE REA PHILLIPS, Senior Artist Teacher of Guitar; Assistant to the Dean
B.S., M.S. (Peabody 1977, 1977) [1985]
CRYSTAL D. PLOHMAN, Senior Artist Teacher of Fiddle and Director of the Fiddling Program
B.Sc. (Waterloo) [1994]
KATHRYN PLUMMER, Associate Professor of Viola
B.M. (Indiana 1970) [1974]
TRACY PRENTICE, Adjunct Assistant Professor of Voice
B.M. (Alabama 1978); M.M. (Yale 1981) [1983]
JAMA A. REAGAN, Artist Teacher of Piano
B.M. (North Carolina School of the Arts 1987); Associate Diploma (Royal College of Music 1992); Licentiate Diploma (Guildhall School of Music 1995); M.M. (Austin Peay State 2004) [1997]
DANIEL REINKER, Adjunct Associate Professor of Viola
B.M. (Cincinnati 1979); M.M. (Yale 1981) [2002]
JOEL REIST, Adjunct Assistant Professor of Double Bass
B.F.A. (Carnegie Mellon 1993); M.M. (Rice 1996) [2004]
JONATHAN A. RETZLAFF, Associate Professor of Voice and Chair of the Department
B.M. (Millikin 1979); M.M. (Wichita State 1981); D.M.A. (Arizona State 1990) [1997]
KAYE KYUNGHEE RHEE, Adjunct Artist Teacher of Piano
B.M. (Seoul National 1990); M.M. (Manhattan School of Music 1993) [2001]
NORMA GROBMAN ROGERS, Adjunct Senior Artist Teacher of Flute and Piccolo
B.M.E., M.S. (Indiana 1969, 1971) [1972]
MELISSA K. ROSE, Assistant Professor of Piano and Co-Chair of the Keyboard Department
B.M. (West Chester 1983); M.M. (Yale 1985); D.M.A. (Michigan 1988) [1996]
MICHAEL ALEC ROSE, Associate Professor of Composition
B.A., M.A. (Pennsylvania 1981, 1982); Ph.D. (Eastman 1985) [1986]
RIVERS RUTHERFORD, Lecturer in Music
B.S. (Mississippi 1978) [2002]
DWAYNE SAGEN, Assistant Dean for Admissions, Blair School of Music; Adjunct Professor of Music
B.M., M.M. (Northwestern 1968, 1969); Ph.D. (Iowa 1978) [1995]
JOHN F. SAWYER, Professor of Music Performance, Emeritus; Dean of Blair School of Music, Emeritus
B.M. (Mississippi 1953); M.M. (Peabody 1954) [1964]
DAVID SCHNAUFER, Artist Teacher of Dulcimer
[1995]

PAMELA SCHNELLER, Assistant Dean of the Blair School of Music; Senior Lecturer in Choral Music; Director of the Vanderbilt Concert Choir; Director of the Vanderbilt Community Chorus
B.S. (Illinois 1972); M.C.M. (Scarritt 1987) [1999]
ROLAND SCHNELLER, Senior Artist Teacher of Piano and Co-Chair of the Keyboard Department; Coordinator of Pre-College Scholarships
B.M. (Mount Union 1961); M.M. (Indiana 1963) [1964]
JOHN W. SEMINGSON, Adjunct Associate Professor of Teacher Education
B.M. (Southern Illinois 1985); M.C.M. (Scarritt 1987); D.M.A. (Alabama 2003) [2003]
MARIAN J. SHAFFER, Adjunct Professor of Harp
B.A. (Stephens 1972); M.A. (Memphis 1974) [1996]
GAYLE SHAY, Associate Professor of Voice; Director of the Vanderbilt Opera Theatre
B.A. (Luther 1986); M.M. (Maryland 1990); D.M.A. (Colorado 1998) [1998]
TRACY SILVERMAN, Adjunct Assistant Professor of Fiddle
B.M. (Juilliard 1980) [2004]
HELENA SIMONETT, Adjunct Assistant Professor of Music History and Literature
Lic.Phil. I (Zurich [Switzerland] 1992); Ph.D. (California, Los Angeles 1997) [1999]
MICHAEL SLAYTON, Assistant Professor of Music Theory
B.A. (David Lipscomb 1994); M.M., D.M.A. (Houston 1996, 2000) [1999]
CARL F. SMITH, JR., Senior Lecturer in Music Composition and Theory; Coordinator of Music as a Second Major
B.M. (Baldwin Wallace 1971); M.M. (Washington University 1975) [1998]
CAROL F. SMITH, Senior Artist Teacher of Violin; Director of the Suzuki Program
M.A.T. (Washington University 1975) [1997]
HAZEL SOMERVILLE, Adjunct Artist Teacher of Chorus; Director of the Blair Children's Chorus Program
B.S. (Winthrop 1969); M.S.M. (Union Theological Seminary [New York] 1971) [2003]
ROGER SPENCER, Adjunct Artist Teacher of Jazz Studies
B.M.E. (Indiana State 1974) [2002]
CHRISTOPHER STENSTROM, Adjunct Instructor in Viola da Gamba
B.Mus. (Oberlin 1995); M.Mus. (Bowling Green State 1996) [2004]
SARAH PAGE SUMMAR, Lecturer in Aural Studies
B.Mus. (Vanderbilt 1995); M.Mus. (Georgia 2000) [2000]
ALAN M. SUSKA, Adjunct Artist Teacher of Trumpet
B.S.M.E., M.M. (Duquesne 1978, 2000) [2005]
JULIA TANNER, Adjunct Artist Teacher of Cello
B.Mus. (Oberlin 1970) [2003]
BOBBY G. TAYLOR, Associate Professor of Oboe
B.M.E. (Louisville 1962) [1969]
CHRISTIAN TEAL, Professor of Violin
B.M. (Indiana 1969); M.M. (Catholic 1971) [1972]
CELESTE HALBROOK TUTEN, Senior Artist Teacher of Suzuki Violin
B.M.E. (Peabody 1974); M.Ed. (Memphis State 1976) [1990]
MARY KATHRYN VANOSDALE, Adjunct Assistant Professor of Violin
Performer's Certificate (Banff School of Fine Arts 1982); M.M. (Northern Illinois 1984) [1985]
THOMAS E. VERRIER, Associate Professor and Director of Wind Studies, Blair School of Music; Director of Teacher Education
B.M. (Ithaca 1987); M.M. (California State, Long Beach 1994); D.M.A. (Colorado 1998) [2002]
PATSY B. WADE, Adjunct Artist Teacher of Music
B.M. (Birmingham Southern 1971); M.M. (Peabody 1972) [2004]

MARK WAIT, Dean of the Blair School of Music; Professor of Music
B.M. (Wichita State 1971); M.M. (Kansas State 1973); D.M.A. (Johns Hopkins 1976) [1993]
DEANNA WALKER, Adjunct Artist Teacher of Piano
B.M. (Eastern New Mexico 1986); M.M. (Johns Hopkins 1988) [1998]
FELIX WANG, Associate Professor of Cello
B.M. (Peabody Conservatory 1991); M.M. (New England Conservatory 1993); D.M.A. (Michigan 1998) [1999]
GLEN WANNER, Adjunct Assistant Professor of Bass
B.M. (Southern California 1986); M.M. (New England Conservatory 1988) [1993]
CHRIS WARREN, Lecturer in Music
B.Mus. (Vanderbilt 1996); M.M. (Michigan 1998) [2001]
ROGER WIESMEYER, Adjunct Associate Professor of Oboe
B.M. (Curtis 1987) [2002]
WILLIAM G. WIGGINS, Associate Professor of Percussion
B.S. (Peabody 1968); M.M. (Northwestern 1989) [1973]
MATT WILDER, Lecturer in Music
[2004]
ANNE HALL WILLIAMS, Senior Artist Teacher of Suzuki Violin and Cello
B.M. (Kentucky 1965); M.A. (Indiana University of Pennsylvania 1972) [1986]
DAVID WILLIAMS, Lecturer in Aural Studies
B.M., M.M. (Indiana 1993, 1995); M.M. (Cincinnati 2000) [2006]

School of Engineering

KENNETH F. GALLOWAY, Ph.D., Dean
K. ARTHUR OVERHOLSER, Ph.D., P.E., Senior Associate Dean
DAVID M. BASS, M.Ed., Associate Dean for Development and Alumni Relations
KATY BRANDT, M.B.A., Associate Dean for Administration
GEORGE E. COOK, Ph.D., Associate Dean for Research and Graduate Studies
JOHN R. VEILLETTE, Ph.D., Associate Dean for Preparatory Academics
MARY LOU O'KELLY, B.A., Executive Secretary to the Dean
BRENDA S. JORDAN, Registrar
BURGESS MITCHELL, B.S., Assistant Dean for Student Services
CHRISTOPHER J. ROWE, M.E., Director of the Freshman Year
STEPHEN H. WADLEY, M.A., Academic Counselor

Named and Distinguished Professorships

JAMES A. CADZOW, Centennial Professor of Electrical Engineering, Emeritus
PETER T. CUMMINGS, John R. Hall Professor of Chemical Engineering
W. WESLEY ECKENFELDER, JR., Adjunct Distinguished Professor of Environmental and Water Resources Engineering, Emeritus
TOMLINSON FORT, Centennial Professor of Chemical Engineering, Emeritus
JOHN C. GORE, Chancellor's University Professor of Radiology and Radiological Sciences and Biomedical Engineering
THOMAS R. HARRIS, Orrin Henry Ingram Distinguished Professor of Engineering
ROBERT W. HOUSE, Orrin Henry Ingram Distinguished Professor of Engineering Management, Emeritus
M. DOUGLAS LEVAN, Centennial Professor of Chemical Engineering, J. Lawrence Wilson Professor of Engineering
ARTHUR M. MELLOR, Centennial Professor of Mechanical Engineering, Emeritus
FRANK L. PARKER, Distinguished Professor of Environmental and Water Resources Engineering
RICHARD E. SPEECE, Centennial Professor of Civil and Environmental Engineering, Emeritus
JANOS SZTIPANOVITS, E. Bronson Ingram Distinguished Professor of Engineering
TAYLOR G. WANG, Centennial Professor of Materials Science and Engineering
JOHN P. WIKSWO, JR., Gordon A. Cain University Professor of Biomedical Engineering

Department Chairs

THOMAS R. HARRIS, Biomedical Engineering
M. DOUGLAS LEVAN, Chemical Engineering
DAVID S. KOSSON, Civil and Environmental Engineering
DANIEL M. FLEETWOOD, Electrical Engineering and Computer Science
ROBERT W. PITZ, Mechanical Engineering

Standing Committees and Councils

ADMINISTRATIVE. Kenneth F. Galloway, Chair. Katy Brandt, George E. Cook, Daniel M. Fleetwood, Thomas R. Harris, David S. Kosson, M. Douglas LeVan, K. Arthur Overholser, Robert W. Pitz.

ADMISSIONS AND SCHOLARSHIPS. Cynthia B. Paschal, Chair. Bharat L. Bhuva, Gautam Biswas, G. Kane Jennings, Florence Sanchez, Alvin N. Strauss. Ex Officio: K. Arthur Overholser.

RESEARCH COUNCIL. J. L. Davidson, Chair. Frederick R. Haselton, G. Kane Jennings, Michael Goldfarb, Sankaran Mahadevan. Ex Officio: Kenneth F. Galloway.

CURRICULUM COMMITTEE. Robert G. Shiavi, Chair. Robert R. Balcarcel, A. B. Bonds, Lawrence W. Dowdy, Eugene J. LeBoeuf, Carol Rubin. Ex Officio: K. Arthur Overholser.

LIBRARY. Stephen R. Schach, Chair. Paul H. King, Clare McCabe, Mark A. Stremler, Luoyo Roy Xu.

DIRECTORS OF GRADUATE STUDIES/MASTER OF ENGINEERING. George E. Cook, Chair. Prodyot K. Basu, James H. Clarke, Benoit M. Dawant, G. Kane Jennings, Bridget R. Rogers, Robert J. Roselli, Nilanjan Sarkar, Jeremy P. Spinrad, James E. Witting.

SAFETY. James H. Clarke, Chair. George E. Cook. Kenneth F. Galloway, E. Duco Jansen, Weng Poo Kang, Deyu Li, Karl B. Schnelle, Jr.

REPRESENTATIVES TO THE GRADUATE FACULTY COUNCIL. Bharat L. Bhuva, Sankaran Mahadevan, Bridget R. Rogers, Mark A. Stremler. Ex Officio: Kenneth F. Galloway.

REPRESENTATIVES TO THE FACULTY SENATE. Lawrence W. Dowdy, G. Kane Jennings, Douglas C. Schmidt, Richard G. Shiavi, Robert A. Weller. Ex Officio: Kenneth F. Galloway.

Faculty

SHERIF ABDELWAHED, Research Assistant Professor of Electrical Engineering and Computer Science
B.Sc., M.Sc. (Cairo 1989, 1993); Ph.D. (Toronto 2002) [2002]

MARK DAVID ABKOWITZ, Professor of Civil and Environmental Engineering; Professor of Management of Technology
B.S., M.S., Ph.D. (Massachusetts Institute of Technology 1974, 1976, 1980) [1987]

JULIE A. ADAMS, Assistant Professor of Computer Science
B.S., B.B.A. (Siena 1989, 1990); M.S.E., Ph.D. (Pennsylvania 1993, 1995) [2002]

ADAM W. ANDERSON, Associate Professor of Biomedical Engineering; Associate Professor of Radiology and Radiological Sciences; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Williams 1982); M.S., M.Phil., Ph.D. (Yale 1984, 1986, 1990) [2002]

A. V. ANILKUMAR, Research Associate Professor of Mechanical Engineering
B.Tech. (Indian Institute of Technology, Madras 1982); M.S., Ph.D. (California Institute of Technology 1983, 1988) [1990]

TONG AOU, Research Associate in Civil and Environmental Engineering
B.E. (Tsinghua [China] 1996); M.S., Ph.D. (Vanderbilt 2000, 2004) [2004]

MALCOLM E. BAIRD, Research Professor of Civil and Environmental Engineering
B.E. (Vanderbilt 1969); M.Sc., Master of City Planning (Georgia Institute of Technology 1971, 1971); Ph.D. (Vanderbilt 1999); P.E. [2001]

R. ROBERT BALCARCEL, Assistant Professor of Chemical Engineering
B.S. (California, Berkeley 1993); Ph.D. (Massachusetts Institute of Technology 1999) [1999]

THEODORE BAPTY, Research Assistant Professor of Electrical Engineering
B.S. (Pennsylvania 1985); M.S., Ph.D. (Vanderbilt 1995, 1995) [1992]

ROBERT JOEL BARNETT, Senior Lecturer in Mechanical Engineering
B.E., M.S., Ph.D. (Vanderbilt 1970, 1978, 1993) [1993]

ERIC J. BARTH, Assistant Professor of Mechanical Engineering
B.S. (California, Berkeley 1994); M.S., Ph.D. (Georgia Institute of Technology 1996, 2000) [2002]

PRODYOT K. BASU, Professor of Civil and Environmental Engineering
B.S. (Lucknow 1957); B.S. (Jadavpur 1961); M.S. (Calcutta 1963); D.S. (Washington University 1977); P.E. [1984]

FRANZ JOSEF BAUDENBACHER, Assistant Professor of Biomedical Engineering; Assistant Professor of Physics
B.Sc. (Tübingen [Germany] 1985); Ph.D. (Technical University of Munich 1994) [1997]

ROBERT J. BAYUZICK, Professor of Chemical Engineering, Emeritus; Professor of Materials Science and Engineering, Emeritus
B.S. (Pittsburgh 1961); M.S. (Denver 1963); Ph.D. (Vanderbilt 1969) [1968]

ROBERT J. BEIL, Professor of Engineering Mechanics, Emeritus
B.S. (East Tennessee State 1947); M.S. (Oklahoma A. & M. 1949); B.E. (Vanderbilt 1960); Ph.D. (Purdue 1966) [1952]

DAVID A. BEREZOV, Adjunct Professor of Electrical Engineering; Adjunct Professor of Management of Technology
B.S. (Syracuse 1974); M.B.A. (Vanderbilt 1980) [2002]

JOHN BERS, Associate Professor of the Practice of Management of Technology
B.S. (Yale 1968); Ed.D. (Harvard 1975); M.B.A. (Chicago 1984); Ph.D. (Vanderbilt 1998) [1998]

BHARAT L. BHUVA, Associate Professor of Electrical Engineering; Associate Professor of Computer Engineering
B.Sc. (Maharaja Sayajirao University of Baroda 1982); M.S., Ph.D. (North Carolina State 1984, 1987) [1987]

GAUTAM BISWAS, Professor of Computer Science; Professor of Computer Engineering; Professor of Management of Technology
B.Tech. (Indian Institute of Technology, Bombay 1977); M.S., Ph.D. (Michigan State 1980, 1983) [1987]

ROBERT E. BODENHEIMER, JR., Assistant Professor of Computer Science
B.S., B.A., M.S. (Tennessee 1986, 1987); Ph.D. (California Institute of Technology 1995) [2000]

A. B. BONDS, Professor of Electrical Engineering and Associate Department Chair, Department of Electrical Engineering and Computer Science; Professor of Computer Engineering and Director of the Program; Professor of Biomedical Engineering
A.B. (Cornell 1968); M.S., Ph.D. (Northwestern 1972, 1974) [1980]

ALAN RAY BOWERS, Associate Professor of Civil and Environmental Engineering
B.C.E., M.C.E., Ph.D. (Delaware 1976, 1978, 1982); P.E. [1982]

LEONARD ALAN BRADSHAW, Research Assistant Professor of Surgery; Research Assistant Professor of Physics; Adjunct Assistant Professor of Biomedical Engineering
B.S. (Abilene Christian 1990); M.S., Ph.D. (Vanderbilt 1992, 1995) [1996]

A. BERTRAND BRILL, Research Professor of Radiology and Radiological Sciences; Adjunct Professor of Biomedical Engineering; Research Professor of Physics
M.D. (Utah 1956); Ph.D. (California 1961) [1997]

ARTHUR J. BRODERSEN, Professor of Electrical Engineering, Emeritus; Professor of Computer Engineering, Emeritus
B.S., M.S., Ph.D. (California, Berkeley 1961, 1963, 1966) [1974]
CURTIS D. BYERS, Adjunct Professor of Civil and Environmental Engineering
B.E., M.S. (Vanderbilt 1976, 1979); Ph.D. (South Florida 1989) [2004]
JAMES A. CADZOW, Centennial Professor of Electrical Engineering, Emeritus; Professor of Computer Engineering, Emeritus
B.S. (Buffalo 1958); M.S. (SUNY, Buffalo 1963); Ph.D. (Cornell 1964) [1988]
ELMER B. CARNES, Professor of Engineering Mechanics, Emeritus
B.A. (Western Kentucky 1937); M.A. (Vanderbilt 1948) [1945]
GREGORY L. CASHION, Adjunct Professor of Construction Management in Civil and Environmental Engineering
B.S., J.D. (Tennessee 1979, 1983) [2003]
ANN N. CLARKE, Adjunct Professor of Civil and Environmental Engineering
B.S. (Drexel Institute of Technology 1968); M.A., M.A. (Johns Hopkins 1970, 1971); Ph.D. (Vanderbilt 1975) [2002]
JAMES H. CLARKE, Professor of the Practice of Civil and Environmental Engineering
B.A. (Rockford 1967); Ph.D. (Johns Hopkins 1973) [1989]
JERRY C. COLLINS, Research Associate Professor of Biomedical Engineering
B.E. (Vanderbilt 1962); M.S.E.E. (Purdue 1965); Ph.D. (Duke 1970) [1977]
GEORGE E. COOK, Associate Dean for Research and Graduate Studies, School of Engineering; Professor of Electrical Engineering, Emeritus
B.E. (Vanderbilt 1960); M.S. (Tennessee 1961); Ph.D. (Vanderbilt 1965); P.E. [1963]
THOMAS A. CRUSE, Professor of Mechanical Engineering
B.S., M.S. (Stanford 1963, 1964); Ph.D. (University of Washington 1967) [1990]
YI CUI, Assistant Professor of Computer Science; Assistant Professor of Computer Engineering
B.S., M.S. (Tsinghua [China] 1997, 1999); Ph.D. (Illinois 2005) [2005]
PETER T. CUMMINGS, John R. Hall Professor of Chemical Engineering
B. Math. (Newcastle 1976); Ph.D. (Melbourne 1980) [2002]
BRUCE M. DAMON, Assistant Professor of Radiology and Radiological Sciences; Assistant Professor of Molecular Physiology and Biophysics; Assistant Professor of Biomedical Engineering
B.S. (Massachusetts 1987); M.S., Ph.D. (Illinois 1993, 2000) [2002]
EDSEL B. DANIEL, Research Associate in Civil and Environmental Engineering
B.Sc. (Florida State 1991); M.Sc. (Hull 1996); Ph.D. (Vanderbilt 2001) [2002]
JIMMY L. DAVIDSON, Professor of Electrical Engineering; Professor of Materials Science and Engineering; Professor of Management of Technology
B.A. (Hendrix 1962); M.S., Ph.D. (Columbia 1965, 1967) [1989]
BENOIT M. DAWANT, Professor of Electrical Engineering; Professor of Computer Engineering; Professor of Radiology and Radiological Sciences
M.S. (Université catholique de Louvain 1982); Ph.D. (Houston 1987) [1988]
KENNETH A. DEBELAK, Associate Professor of Chemical Engineering
B.S. (Dayton 1969); M.S., Ph.D. (Kentucky 1973, 1977) [1977]
ANDRE MICHAEL DIEDRICH, Research Assistant Professor of Medicine; Research Assistant Professor of Biomedical Engineering
M.D. (Second Medical Institute [Moscow] 1985); Ph.D. (Humboldt [Germany] 1991) [2000]
DAVID M. DILTS, Professor of Management of Technology and Director of the Program; Professor of Management
B.S. (California Polytechnic State 1972); M.B.A., Ph.D. (Oregon 1973, 1983) [2000]
JAMES P. DOBBINS IV, Research Assistant in Civil and Environmental Engineering
B.S. (U.S. Merchant Marine Academy 1995); M.S., Ph.D. (Vanderbilt 1997, 2001) [2001]

MARK D. DOES, Assistant Professor of Biomedical Engineering; Assistant Professor of Radiology and Radiological Sciences
B.S., M.S., Ph.D. (Alberta 1991, 1993, 1997) [2002]

LAWRENCE W. DOWDY, Professor of Computer Science; Professor of Computer Engineering
B.S. (Florida State 1974); A.M., Ph.D. (Duke 1976, 1977) [1981]

ANDREW W. DOZIER, Professor of the Practice of Electrical Engineering
B.S., M.S., Ph.D. (Vanderbilt 1969, 1972, 1974) [1996]

JOHN H. DUNLAP, Professor of Nuclear Engineering, Emeritus
B.E., M.S. (Vanderbilt 1953, 1956); Ph.D. (Florida 1967) [1955]

W. WESLEY ECKENFELDER, JR., Adjunct Distinguished Professor of Environmental and Water Resources Engineering, Emeritus
B.C.E. (Manhattan 1946); M.S. (Pennsylvania State 1948); M.C.E. (New York 1954); P.E. [1969]

LEONARD C. FELDMAN, Stevenson Professor of Physics; Professor of Materials Science and Engineering
B.A. (Drew 1961); M.S., Ph.D. (Rutgers 1963, 1967) [1996]

CHARLOTTE F. FISCHER, Professor of Computer Science, Emerita; Research Professor of Computer Science
B.A., M.A. (British Columbia 1952, 1954); Ph.D. (Cambridge 1957) [1980]

PATRICK C. FISCHER, Professor of Computer Science, Emeritus
B.S., M.B.A. (Michigan 1957, 1958); Ph.D. (Massachusetts Institute of Technology 1962) [1980]

DOUGLAS H. FISHER, Associate Professor of Computer Science; Associate Professor of Computer Engineering
B.S., M.S., Ph.D. (California, Irvine 1980, 1983, 1987) [1987]

KEVIN FITE, Research Associate in Mechanical Engineering
B.S., M.S., Ph.D. (Vanderbilt 1997, 1999, 2002) [2003]

J. MICHAEL FITZPATRICK, Professor of Computer Science; Professor of Computer Engineering; Professor of Radiology and Radiological Sciences; Professor of Neurological Surgery
B.S. (North Carolina 1967); Ph.D. (Florida State 1972); M.S. (North Carolina 1982) [1982]

WILLIAM F. FLANAGAN, Professor of Mechanical Engineering, Emeritus; Professor of Materials Science, Emeritus
S.B., S.M., Sc.D. (Massachusetts Institute of Technology 1951, 1953, 1959) [1968]

DANIEL M. FLEETWOOD, Professor of Electrical Engineering and Chair of the Department of Electrical Engineering and Computer Science; Professor of Physics
B.S., M.S., Ph.D. (Purdue 1980, 1981, 1984) [1999]

TOMLINSON FORT, Centennial Professor of Chemical Engineering, Emeritus
B.S. (Georgia 1952); M.S., Ph.D. (Tennessee 1957, 1957) [1989]

KENNETH D. FRAMPTON, Adjoint Assistant Professor of Mechanical Engineering
B.S., M.S. (Virginia Polytechnic Institute 1988, 1991); Ph.D. (Duke 1996) [1998]

DANIEL J. FRANCE, Research Assistant Professor of Anesthesiology; Research Assistant Professor of Medicine; Assistant Professor of Biomedical Engineering
B.S.E., M.S.E. (Louisville 1990, 1991); Ph.D. (Vanderbilt 1997); M.P.H. (Utah 2000) [2003]

ERNEST G. FREUDENTHAL, Adjunct Associate Professor of Management of Technology
B.A., M.A. (Vanderbilt 1948, 1971) [1971]

DAVID JON FURBISH, Professor of Earth and Environmental Sciences and Chair of the Department; Professor of Civil and Environmental Engineering
B.S. (North Carolina 1978); M.S. (California State 1981); Ph.D. (Colorado 1985) [2003]

KENNETH F. GALLOWAY, Dean of the School of Engineering; Professor of Electrical Engineering
B.A. (Vanderbilt 1962); Ph.D. (South Carolina 1966) [1996]

ROBERT L. GALLOWAY, JR., Professor of Biomedical Engineering; Professor of Surgery; Professor of Neurological Surgery
B.S.E. (Duke 1977); M.E. (Virginia 1979); Ph.D. (Duke 1983) [1987]

ANDREW C. GARRABRANTS, Research Assistant Professor of Civil and Environmental Engineering
B.S., M.S., Ph.D. (Rutgers 1994, 1998, 2001) [2002]

GERGELY GATI, Research Instructor in Electrical Engineering and Computer Science
M.Sc. (University of Miskolc [Hungary] 2001) [2002]

TODD D. GIORGIO, Professor of Biomedical Engineering; Professor of Chemical Engineering
B.S. (Lehigh 1982); Ph.D. (Rice 1986); P.E. [1987]

THOMAS M. GODBOLD, Professor of Chemical Engineering, Emeritus
B.S., M.S. (South Carolina 1953, 1961); Ph.D. (North Carolina State 1966) [1964]

ANIRUDDHA S. GOKHALE, Assistant Professor of Computer Science; Assistant Professor of Computer Engineering
B.E. (Poona 1989); M.S. (Arizona State 1992); D.Sc. (Washington University 1998) [2002]

SANJIV GOKHALE, Professor of the Practice of Civil and Environmental Engineering
B.S. (Indian Institute of Technology, Bombay 1981); M.S. (Vanderbilt 1984); M.Phil., Ph.D. (Columbia 1990, 1991) [2000]

MICHAEL GOLDFARB, Professor of Mechanical Engineering
B.S. (Arizona 1988); S.M., Ph.D. (Massachusetts Institute of Technology 1992, 1994) [1994]

JOHN C. GORE, University Professor of Radiology and Radiological Sciences and Biomedical Engineering; Professor of Molecular Physiology and Biophysics; Professor of Physics; Director, Institute of Imaging Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.Sc. (Manchester 1972); Ph.D. (London 1976); B.A. (Ealing 1983) [2002]

RICHARD A. GRAY, Adjoint Associate Professor of Biomedical Engineering
B.S. (Bucknell 1986); M.S., Ph.D. (Virginia 1990, 1993) [2005]

SCOTT A. GUELCHER, Assistant Professor of Chemical Engineering
B.S. (Virginia Tech 1992); M.S. (Pittsburgh 1996); Ph.D. (Carnegie-Mellon 1999) [2005]

GEORGE T. HAHN, Professor of Mechanical Engineering, Emeritus; Professor of Materials Science and Engineering, Emeritus
B.E. (New York 1952); M.S. (Columbia 1955); Sc.D. (Massachusetts Institute of Technology 1959) [1979]

DENNIS G. HALL, Associate Provost for Research and Graduate Education; Professor of Physics; Professor of Electrical Engineering
B.S. (Illinois 1970); M.S. (Southern Illinois 1972); Ph.D. (Tennessee 1976) [2000]

DENNIS E. HALLAHAN, Professor of Radiation Oncology and Chair of the Department; Professor of Biomedical Engineering; Professor of Cancer Biology
B.S. (Illinois 1980); M.D. (Rush 1984) [1998]

PAUL HARRAWOOD, Professor of Civil Engineering, Emeritus; Dean of the School of Engineering, Emeritus
B.S. in C.E., M.S. in C.E. (Missouri, Rolla 1951, 1956); Ph.D. (North Carolina State 1967) [1967]

PAUL A. HARRIS, Research Assistant Professor of Biomedical Engineering
B.S. (Tennessee Technological 1987); M.S., Ph.D. (Vanderbilt 1993, 1996) [1999]

THOMAS R. HARRIS, Orrin H. Ingram Distinguished Professor of Engineering; Professor of Biomedical Engineering and Chair of the Department; Professor of Chemical Engineering; Professor of Medicine
B.S., M.S. (Texas A & M 1958, 1962); Ph.D. (Tulane 1964); M.D. (Vanderbilt 1974) [1964]

FREDERICK R. HASELTON, Professor of Biomedical Engineering
A.B. (Haverford 1969); Ph.D. (Pennsylvania 1981) [1989]

ALAN JOSEPH HERLINE, Assistant Professor of Surgery; Assistant Professor of Biomedical Engineering
B.E. (Vanderbilt 1987); M.D. (Medical College of Georgia 1994) [2002]

PETER G. HOADLEY, Professor of Civil and Environmental Engineering, Emeritus
B.S. (Duke 1957); M.S., Ph.D. (Illinois 1960, 1961); P.E. [1961]

W. TIMOTHY HOLMAN, Research Associate Professor of Electrical Engineering
B.S. (Tennessee 1986); M.S., Ph.D. (Georgia Institute of Technology 1988, 1994) [2000]

ROBERT W. HOUSE, Orrin Henry Ingram Distinguished Professor of Engineering Management, Emeritus; Professor of Electrical Engineering, Emeritus
B.S., M.S. (Ohio 1949, 1952); Ph.D. (Pennsylvania State 1959) [1975]

E. DUCO JANSEN, Associate Professor of Biomedical Engineering; Associate Professor of Neurological Surgery
Drs. (M.Sc.) (Utrecht 1990); M.S., Ph.D. (Texas 1992, 1994) [1997]

G. KANE JENNINGS, Associate Professor of Chemical Engineering
B.S. (Auburn 1993); M.S., Ph.D. (Massachusetts Institute of Technology 1996, 1998) [1998]

JULIE L. JOHNSON, Lecturer in Computer Science
B.S. (Dickinson 1985); M.S. (Auburn 1997); Ph.D. (Vanderbilt 2003) [2003]

L. ENSIGN JOHNSON, Professor of Electrical Engineering and Biomedical Engineering, Emeritus
B.E., B.D. (Vanderbilt 1953, 1959); M.S., Ph.D. (Case Institute of Technology 1963, 1964) [1959]

BENJAMIN T. JORDAN, Associate Professor of the Practice of Management of Technology
B.A. (Mercer 1965); M.Div. (Yale 1968); Ph.D. (Emory 1974) [1998]

ZSOLT KALMAR, Research Associate in Electrical Engineering and Computer Science
M.S., Ph.D. (József Attila 1995, 1998) [2002]

WENG POO KANG, Professor of Electrical Engineering; Professor of Computer Engineering; Professor of Materials Science and Engineering
B.S. (Texas 1981); M.S., Ph.D. (Rutgers 1983, 1988) [1988]

GÁBOR KARSAI, Professor of Electrical Engineering; Professor of Computer Engineering
B.E.E., M.E.E., University Doctorate (Technical University of Budapest 1982, 1984, 1988); Ph.D. (Vanderbilt 1988) [1990]

KAZUHIKO KAWAMURA, Professor of Electrical Engineering; Professor of Computer Engineering; Professor of Management of Technology; Director, Center for Intelligent Systems
B.E. (Waseda 1963); M.S. (California, Berkeley 1966); Ph.D. (Michigan 1972) [1981]

HUGH F. KEEDY, Professor of Engineering Science, Emeritus
B.S., M.A. (Peabody 1951, 1952); M.S.E., Ph.D. (Michigan 1962, 1967) [1951]

DAVID V. KERNS, JR., Adjoint Professor of Electrical Engineering
B.S., M.S., Ph.D. (Florida State 1967, 1968, 1971) [2002]

PAUL H. KING, Associate Professor of Biomedical Engineering
B.S., M.S. (Case Institute of Technology 1963, 1965); Ph.D. (Vanderbilt 1968); P.E. [1968]

DONALD L. KINSER, Professor of Mechanical Engineering, Emeritus; Professor of Materials Science and Engineering, Emeritus
B.S., Ph.D. (Florida 1964, 1968); P.E. [1968]

STACY S. KLEIN, Research Assistant Professor of Biomedical Engineering; Research Assistant Professor of Radiology and Radiological Sciences
B.S.E. (Duke 1991); M.S. (Drexel 1993); Ph.D. (Vanderbilt 1996) [1999]

PETER E. KONRAD, Assistant Professor of Neurological Surgery; Assistant Professor of Biomedical Engineering
B.A. (Rockford 1983); Ph.D., M.D. (Purdue 1988, 1991) [1998]

TAKKUEN JOHN KOO, Assistant Professor of Computer Engineering
B.Eng., M.Phil. (Chinese University of Hong Kong 1992, 1994); Ph.D. (California, Berkeley 2000) [2003]
DAVID S. KOSSON, Professor of Civil and Environmental Engineering and Chair of the Department; Professor of Chemical Engineering
B.S., M.S., Ph.D. (Rutgers 1983, 1984, 1986) [2000]
XENOFON D. KOUTSOUKOS, Assistant Professor of Computer Science
Diploma (National Technical University of Athens 1993); M.S. in Applied Mathematics, M.S. in Electrical Engineering, Ph.D. (Notre Dame 1998, 1998, 2000) [2002]
EVGENI A. KOZLOV, Senior Research Associate in Chemical Engineering
Master of Pharmacy (Secenov Moscow Medical Academy 1963); Ph.D. (Institute of Biological and Medical Chemistry [Moscow] 1971) [2003]
ROBERT F. LABADIE, Assistant Professor of Otolaryngology; Assistant Professor of Biomedical Engineering
B.S. (Notre Dame 1988); Ph.D., M.D. (Pittsburgh 1995, 1996) [2001]
PAUL E. LAIBINIS, Professor of Chemical Engineering
S.B., S.B. (Massachusetts Institute of Technology 1985, 1985); M.A., Ph.D. (Harvard 1987, 1991) [2005]
EUGENE J. LEBOEUF, Associate Professor of Civil and Environmental Engineering
B.S. (Rose-Hulman Institute of Technology 1985); M.S. (Northwestern 1986); M.S. (Stanford 1993); Ph.D. (Michigan 1998); P.E. [1997]
AKOS LEDECZI, Research Assistant Professor of Electrical Engineering
Diploma (Technical University of Budapest 1989); Ph.D. (Vanderbilt 1995) [1996]
YONGSHENG LENG, Senior Research Associate in Chemical Engineering
B.S. (North China University of Technology 1984); M.S. (Tsinghua [China} 1987); Ph.D. (Tsinghua [China] 1999) [2002]
M. DOUGLAS LEVAN, J. Lawrence Wilson Professor of Engineering; Professor of Chemical Engineering and Chair of the Department
B.S. (Virginia 1971); Ph.D. (California, Berkeley 1976) [1997]
DEYU LI, Assistant Professor of Mechanical Engineering
B.E. (University of Science and Technology of China 1992); M.E. (Tsinghua [China] 1997); Ph.D. (California, Berkeley 2003) [2004]
DONGQING LI, H. Fort Flowers Professor of Mechanical Engineering
B.A.Sc. (Zhejiang [China] 1982); M.Sc. (Dalian Maritime [China] 1984); Ph.D. (Toronto 1991) [2005]
HUNG-CHIH LI, Research Associate in Chemical Engineering
B.S. (National Taiwan University 1993); M.S., Ph.D. (Tennessee 1998, 2002) [2002]
BARRY D. LICHTER, Professor of Mechanical Engineering, Emeritus; Professor of Materials Science and Engineering, Emeritus; Professor of Management of Technology, Emeritus
S.B., S.M., Sc.D. (Massachusetts Institute of Technology 1953, 1955, 1958) [1968]
EDUARDO A. LIMA, Research Associate in Biomedical Engineering
B.A., M.S., Ph.D. (Pontificia Universidade Católica do Rio de Janeiro 1994, 1997, 2001) [2002]
ROBERT L. LOTT, JR., Professor of Mechanical Engineering, Emeritus
B.S.M.E. (Southern Methodist 1960); M.S.M.E. (Arkansas 1962); Ph.D. (Oklahoma State 1969); P.E. [1964]
ROBERT H. MAGRUDER III, Adjunct Professor of Electrical Engineering
B.A., M.S., Ph.D. (Vanderbilt 1973, 1980, 1984) [1989]
SANKARAN MAHADEVAN, Professor of Civil and Environmental Engineering
B.Tech. (Indian Institute of Technology 1982); M.S. (Rensselaer Polytechnic Institute 1985); Ph.D. (Georgia Institute of Technology 1988) [1988]
ANITA MAHADEVAN-JANSEN, Assistant Professor of Biomedical Engineering; Assistant Professor of Neurological Surgery
B.Sc., M.Sc. (Bombay 1988, 1990); M.S., Ph.D. (Texas 1993, 1996) [1997]

ERIC J. MANDERS, Research Associate in Electrical Engineering and Computer Science
M.S. (Delft University of Technology 1991); Ph.D. (Vanderbilt 2003) [2003]
LLOYD W. MASSENGILL, Professor of Electrical Engineering; Professor of Computer Engineering
B.S., M.S., Ph.D. (North Carolina State 1982, 1984, 1987) [1987]
CLARE MCCABE, Assistant Professor of Chemical Engineering
B.S., Ph.D. (Sheffield [U.K.] 1995, 1999) [2004]
VIC L. MCCONNELL, Adjunct Professor of Civil and Environmental Engineering
B.E. (Auburn 1990); M.S. (Alabama 1996); J.D. (Samford 1998); P.E. [2004]
CHRISTOPHER D. MCKINNEY, Lecturer in Management of Technology; Director, Office of Technology Transfer
B.A. (Willamette 1986); M.B.A. (Oregon State 1987); A.D. (Idaho State 1990) [2001]
ARTHUR M. MELLOR, Centennial Professor of Mechanical Engineering, Emeritus
B.S.E., M.A., Ph.D. (Princeton 1963, 1965, 1968) [1988]
MICHAEL I. MIGA, Assistant Professor of Biomedical Engineering
B.S., M.S. (Rhode Island 1992, 1994); Ph.D. (Dartmouth 1998) [2000]
JEANNE C. MILOSTAN, Lecturer in Computer Science
B.S. (Michigan 1987); M.S., Ph.D. (California, San Diego 1992, 1999) [2002]
MARY JEAN MORRIS, Research Associate in Civil and Environmental Engineering
B.S., M.A. (Tennessee Polytechnic Institute 1961, 1964) [1964]
ROBERT T. NASH, Professor of Electrical and Computer Engineering, Emeritus; Professor of Management of Technology, Emeritus; Professor of Engineering Science, Emeritus
B.S., M.S., Ph.D. (Ohio State 1952, 1955, 1961); P.E. [1966]
SANDEEP NEEMA, Research Assistant Professor of Electrical Engineering and Computer Science
B.T.E.E. (Indian Institute of Technology 1995); M.S. (Utah State 1997); Ph.D. (Vanderbilt 2001) [2002]
PHONGCHAI NILAS, Research Associate in Mechanical Engineering
B.S. (King Mongkat [Thailand] 1995); M.S., Ph.D. (Vanderbilt 1999, 2003) [2003]
DAVID C. NOELLE, Assistant Professor of Computer Science
B.S. (California, Los Angeles 1987); M.S., Ph.D. (California, San Diego 1992, 1997) [2001]
K. ARTHUR OVERHOLSER, Senior Associate Dean of the School of Engineering; Professor of Biomedical Engineering; Professor of Chemical Engineering
B.E. (Vanderbilt 1965); M.S., Ph.D. (Wisconsin 1966, 1969); P.E. [1971]
HAROLD S. PARK, Assistant Professor of Civil and Environmental Engineering
B.S., M.S., Ph.D. (Northwestern 1999, 2001, 2004) [2005]
FRANK L. PARKER, Distinguished Professor of Environmental and Water Resources Engineering; Professor of Management of Technology
S.B. (Massachusetts Institute of Technology 1948); M.S., Ph.D. (Harvard 1950, 1955); P.E. [1967]
C. LEON PARTAIN, Professor of Radiology and Radiological Sciences; Professor of Biomedical Engineering
B.S.N.E. (Tennessee 1963); M.S.N.E., Ph.D. (Purdue 1965, 1967); M.D. (Washington University 1975) [1980]
CYNTHIA B. PASCHAL, Associate Professor of Biomedical Engineering; Associate Professor of Radiology and Radiological Sciences
S.B., S.M. (Massachusetts Institute of Technology 1986, 1986); Ph.D. (Case Western Reserve 1992) [1992]
KEN R. PENCE, Research Instructor in Civil and Environmental Engineering
B.S., M.S., Ph.D. (Vanderbilt 1977, 2003, 2004) [2004]
RICHARD ALAN PETERS II, Associate Professor of Electrical Engineering
A.B. (Oberlin 1979); M.S., Ph.D. (Arizona 1985, 1988) [1988]

DAVID R. PICKENS III, Associate Professor of Radiology and Radiological Sciences; Associate Professor of Biomedical Engineering
B.A. (University of the South 1969); B.E., M.S., Ph.D. (Vanderbilt 1971, 1977, 1981) [1981]

ROBERT W. PITZ, Professor of Mechanical Engineering and Chair of the Department
B.S. (Purdue 1973); M.S., Ph.D. (California, Berkeley 1975, 1981); P.E. [1986]

J. LEITH POTTER, Research Professor of Mechanical Engineering, Emeritus; Adjunct Professor of Mechanical Engineering
B.S., M.S. (Alabama 1944, 1949); Ph.D., M.S. (Vanderbilt 1974, 1976) [1982]

ALES PROKOP, Research Professor of Chemical Engineering
M.Sc. (Czech Technical University of Prague 1961); C.Sc. (Czechoslovakia Academy of Sciences 1966) [1992]

JASON LEE PYLE, Adjunct Assistant Professor of Biomedical Engineering
B.S.E. (Arizona 1997); M.D., Ph.D. (Stanford 2002, 2005) [2005]

DORIS C. QUINN, Director of Improvement Education, Center for Clinical Improvement; Assistant Professor of Medical Education and Administration; Research Assistant Professor of Medicine; Clinical Assistant Professor of Nursing; Lecturer in Management of Technology
B.S.N. (Saint Anselm 1973); M.S.N. (Catholic 1980); Ph.D. (Vanderbilt 1996); R.N. [1993]

ROBERT A. REED, Research Associate Professor of Electrical Engineering and Computer Science
B.S. (East Tennessee State 1990); M.S., Ph.D. (Clemson 1993, 1994) [2004]

WILLIAM H. ROBINSON III, Assistant Professor of Electrical Engineering
B.S. (Florida Agricultural and Mechanical 1996); M.S., Ph.D. (Georgia Institute of Technology 1998, 2003) [2003]

BRIDGET R. ROGERS, Associate Professor of Chemical Engineering
B.S. (Colorado 1984); M.S., Ph.D. (Arizona State 1990, 1998) [1998]

ROBERT J. ROSELLI, Professor of Biomedical Engineering; Professor of Chemical Engineering
B.S., M.S., Ph.D. (California, Berkeley 1969, 1972, 1975) [1976]

JOHN A. ROTH, Professor of Chemical Engineering, Emeritus; Professor of Environmental Engineering, Emeritus
B.Ch.E., M.Ch.E., Ph.D. (Louisville 1956, 1957, 1961); P.E. [1962]

WILLIAM H. ROWAN, JR., Professor of Computer Science, Emeritus
B.E. (Vanderbilt 1955); Ph.D. (North Carolina State 1965); P.E. [1964]

CHRISTOPHER J. ROWE, Senior Lecturer in Engineering Science; Director of the Freshman Year
B.E., M.E. (Vanderbilt 1996, 1998) [2003]

ROBERT S. ROWE, Professor of Civil Engineering and Environmental and Water Resources Engineering, Emeritus; Dean of the School of Engineering, Emeritus
B.C.E. (Delaware 1942); M.S. (Columbia 1949); M.Eng., D.Eng. (Yale 1950, 1951); P.E. [1960]

CAROL RUBIN, Professor of Mechanical Engineering
B.S. (Columbia 1966); M.S., Ph.D. (Kansas State 1969, 1971); P.E. [1980]

DIETER K. RUDOLPH, Senior Research Associate in Environmental Engineering
B.A. (San Jose State 1968); M.S. (Naval Postgraduate School 1975) [2002]

PATRICIA K. RUSS, Research Associate in Biomedical Engineering
B.S. (Mississippi 1995); M.S., Ph.D. (Vanderbilt 1998, 2000) [2002]

FLORENCE SANCHEZ, Assistant Professor of Civil and Environmental Engineering
D.E.A., Ph.D. (National Institute of Applied Sciences 1992, 1995) [2000]

NILANJAN SARKAR, Associate Professor of Mechanical Engineering; Associate Professor of Computer Engineering
B.E. (Calcutta 1985); M.E. (Indian Institute of Science 1988); Ph.D. (Pennsylvania 1993) [2000]

KAYE SAWYER SAVAGE, Assistant Professor of Earth and Environmental Sciences; Assistant Professor of Civil and Environmental Engineering
B.A. (Pomona 1989); B.S. (Portland State 1993); Ph.D. (Stanford 2001) [2001]

STEPHEN R. SCHACH, Associate Professor of Computer Science; Associate Professor of Computer Engineering
B.Sc., B.Sc. hons, M.Sc. (Cape Town 1966, 1967, 1969); M.Sc. (Weizmann Institute of Science 1972); Ph.D. (Cape Town 1973) [1983]

DOUGLAS C. SCHMIDT, Professor of Computer Science and Associate Chair of the Department
B.A., M.A. (William and Mary 1984, 1986); M.S., Ph.D. (California, Irvine 1990, 1994) [2002]

KARL B. SCHNELLE, JR., Professor of Chemical Engineering; Professor of Environmental Engineering
B.S., M.S., Ph.D. (Carnegie Institute of Technology 1952, 1957, 1959); P.E. [1967]

RONALD D. SCHRIMPF, Professor of Electrical Engineering; Professor of Computer Engineering
B.E.E., M.S.E.E., Ph.D. (Minnesota 1981, 1984, 1986) [1996]

WILLIAM A. SEIDLER III, Adjoint Professor of Electrical and Computer Science
B.S. (Ohio 1967); M.S., Ph.D. (Massachusetts Institute of Technology 1969, 1972) [2003]

JULIE ERVIN SHARP, Associate Professor of the Practice of Technical Communications
B.A. (Belhaven 1968); M.A.T., M.A., Ph.D. (Vanderbilt 1969, 1970, 1987) [1983]

VENKATRAM PRASAD SHASTRI, Assistant Professor of Biomedical Engineering
B.S. (Bombay 1987); M.S. (Kentucky 1989); Ph.D. (Rensselaer Polytechnic Institute 1995) [2004]

RICHARD G. SHIAVI, Professor of Biomedical Engineering; Professor of Electrical Engineering; Assistant Professor of Orthopaedics and Rehabilitation
B.S. (Villanova 1965); M.S., Ph.D. (Drexel Institute of Technology 1969, 1972) [1972]

LESLIE M. SHOR, Research Associate in Civil and Environmental Engineering
B.A. (Virginia 1996); M.S., Ph.D. (Rutgers 1999, 2002) [2002]

VENIAMIN YU SIDOROV, Research Assistant Professor of Biomedical Engineering
Ph.D. (Russian Academy of Sciences [Pushchino] 2000) [2004]

RICHARD E. SPEECE, Centennial Professor of Civil and Environmental Engineering, Emeritus
B.S. (Fenn 1956); M.S. (Yale 1958); Ph.D. (Massachusetts Institute of Technology 1961); P.E. [1988]

JEREMY P. SPINRAD, Associate Professor of Computer Science
B.S. (Yale 1978); M.S.E., M.A., Ph.D. (Princeton 1979, 1980, 1982) [1985]

ROBERT E. STAMMER, JR., Associate Professor of Civil Engineering; Director, Engineering Science Program
B.S. (Middle Tennessee State 1971); B.E. (Vanderbilt 1972); M.S. (Georgia Institute of Technology 1974); Ph.D. (Tennessee 1981); P.E. [1981]

JAMES DAVID STEFANSIC, Research Assistant Professor of Biomedical Engineering; Research Assistant Professor of Neurological Surgery
B.S. (Johns Hopkins 1994); M.S., Ph.D. (Vanderbilt 1996, 2000) [2004]

CHARLES V. STEPHENSON, Professor of Electrical Engineering, Emeritus
B.A., M.A., Ph.D. (Vanderbilt 1948, 1949, 1952) [1962]

ALVIN M. STRAUSS, Professor of Mechanical Engineering
B.A. (City University of New York, Hunter College 1964); Ph.D. (West Virginia 1968) [1982]

MARK A. STREMLER, Assistant Professor of Mechanical Engineering
B.S. (Rose-Hulman Institute of Technology 1993); M.S., Ph.D. (Illinois 1995, 1998) [2000]

LIXIN SUN, Research Associate in Chemical Engineering
B.S. (Tianjin [China] 1992); M.S. (Dalian [China] 1995); Ph.D. (Colorado School of Mines 2003) [2004]

CHRISTINE A. SWITZER, Research Associate in Civil and Environmental Engineering
B.S. (Johns Hopkins 1997); M.S., Ph.D. (Rutgers 2000, 2004) [2004]
JANOS SZTIPANOVITS, E. Bronson Ingram Distinguished Professor of Engineering; Professor of Electrical Engineering; Professor of Computer Engineering
Diploma, Ph.D. (Technical University of Budapest 1970, 1980) [1983]
ROBERT D. TANNER, Professor of Chemical Engineering, Emeritus
B.S.E., B.S.E., M.S.E. (Michigan 1961, 1962, 1963); Ph.D. (Case Western Reserve 1967) [1972]
EDWARD L. THACKSTON, Professor of Civil and Environmental Engineering, Emeritus
B.E. (Vanderbilt 1961); M.S. (Illinois 1963); Ph.D. (Vanderbilt 1966); P.E. [1965]
LORI TROXEL, Assistant Professor of Civil and Environmental Engineering
B.S. (Purdue 1984); M.S., Ph.D. (Vanderbilt 1990, 1994); P.E. [1997]
JOHN R. VEILLETTE, Associate Professor of the Practice of Civil Engineering; Associate Dean for Preparatory Academics; Director of PAVE Program
B.S., M.S. (Connecticut 1980, 1982); Ph.D. (Vanderbilt 1987) [1987]
LUKAS VLCEK, Research Associate in Chemical Engineering
M.S. (Masaryk [Czech Republic] 1998); Ph.D. (Institute of Chemical Technology [Czech Republic] 2004) [2005]
GREG WALKER, Assistant Professor of Mechanical Engineering; Assistant Professor of Electrical Engineering
B.S., M.S. (Auburn 1990, 1994); Ph.D. (Virginia Polytechnic 1997) [1999]
TAYLOR G. WANG, Centennial Professor of Materials Science and Engineering
B.S., M.S., Ph.D. (California, Los Angeles 1967, 1968, 1971) [1988]
LASON L. WATAI, Lecturer in Electrical Engineering and Computer Science
B.Eng. (Papua New Guinea University of Technology 1986); M.Sc. (University of Wales 1991); Ph.D. (Vanderbilt 2003) [2003]
M. ROGER WEBB, Professor of Civil Engineering, Emeritus
B.A., M.A. (Peabody 1948, 1956) [1958]
ROBERT A. WEEKS, Research Professor of Materials Science and Engineering, Emeritus
B.S. (Birmingham-Southern 1948); M.S. (Tennessee 1951); Ph.D. (Brown 1966) [1979]
JOSEPH A. WEHRMEYER, Adjoint Associate Professor of Mechanical Engineering
B.S., M.S. (Southern Illinois, Carbondale 1981, 1986); Ph.D. (Vanderbilt 1990) [1996]
SHARON M. WEISS, Assistant Professor of Electrical Engineering
B.S., M.S., Ph.D. (Rochester 1999, 2001, 2005) [2005]
ROBERT A. WELLER, Professor of Electrical Engineering; Professor of Physics; Professor of Materials Science and Engineering
B.S. (Tennessee 1971); Ph.D. (California Institute of Technology 1978) [1987]
FRANCIS M. WELLS, Professor of Electrical Engineering, Emeritus
B.E., M.S., Ph.D. (Vanderbilt 1965, 1967, 1970); P.E. [1969]
ANDREW ALAN WERESZCZAK, Adjoint Professor of Mechanical Engineering
B.S. (Alfred 1987); Ph.D. (Delaware 1992) [2006]
JAMES J. WERT, George A. Sloan Professor of Metallurgy, Emeritus; Professor of Mechanical Engineering, Emeritus
B.S., M.S., Ph.D. (Wisconsin 1957, 1958, 1961); P.E. [1961]
EDWARD J. WHITE, Professor of Electrical Engineering, Emeritus
B.S. (Iowa State 1958); M.E.E., D.Sc. (Virginia 1962, 1966); P.E. [1987]
JOHN P. WIKSWO, JR., Gordon A. Cain University Professor; Professor of Physics; Professor of Biomedical Engineering; Professor of Molecular Physiology and Biophysics
B.A. (Virginia 1970); M.S., Ph.D. (Stanford 1973, 1975) [1977]
D. MITCHELL WILKES, Associate Professor of Electrical Engineering; Associate Professor of Computer Engineering
B.S.Eng. (Florida Atlantic 1981); M.S., Ph.D. (Georgia Institute of Technology 1984, 1987) [1987]

CONNIE WILLIAMS, Lecturer in Computer Science
B.S., M.S. (Tennessee 1976, 1979) [2000]

JOHN W. WILLIAMSON, Professor of Mechanical Engineering, Emeritus
B.S. (Oklahoma 1955); M.S., Ph.D. (Ohio State 1959, 1965); P.E. [1964]

JAMES E. WITTIG, Associate Professor of Materials Science and Engineering; Associate Director of Interdisciplinary Graduate Program in Materials Science
B.S. (Wisconsin, Milwaukee 1978); M.S., Ph.D. (Stanford 1980, 1985) [1987]

ARTHUR F. WITULSKI, Research Associate Professor of Electrical Engineering
B.S., M.S., Ph.D. (Colorado, Boulder 1981, 1986, 1988) [2006]

LUOYU ROY XU, Assistant Professor of Civil and Environmental Engineering
B.S., M.S. (Beijing University of Aeronautics and Astronautics 1987, 1991); Ph.D. (California Institute of Technology 2001) [2001]

YUAN XUE, Assistant Professor of Computer Science; Assistant Professor of Computer Engineering
B.S. (Harbin Institute of Technology [China] 1998); M.S., Ph.D. (Illinois 2002, 2005) [2005]

THOMAS E. YANKEELOV, Assistant Professor of Radiology and Radiological Sciences; Assistant Professor of Biomedical Engineering
B.A. (Louisville 1996); M.A., M.S. (Indiana 1998, 2000); Ph.D. (SUNY, Stony Brook 2003) [2005]

VIRGINIA D. YOUNG, Senior Lecturer in Management of Technology
B.S. (Herff 1977); M.B.A. (Florida Technical Institute 1985); M.S., Ph.D. (Vanderbilt 1999, 2001) [2002]

Peabody College

CAMILLA P. BENBOW, Ed.D., Dean
LEONARD BICKMAN, Ph.D., Associate Dean for Research
CAROLYN M. EVERTSON, Ph.D., Associate Dean for Graduate Education
JAMES H. HOGGE, Ph.D., Associate Dean for Faculty and Programs
JOSEPH F. MURPHY, Ph.D., Associate Dean for Special Projects
M. CHRISTINE LAFEVOR, B.S., Director of Teacher Licensure
SUZAN B. McINTIRE, B.A., Assistant to the Dean
TIMOTHY C. CABONI, Assistant Dean for External Affairs
BETTY S. LEE, M.Ed., Registrar

Faculty Council

Robert L. Crowson, Janet S. Eyler, Ellen B. Goldring, Robert M. Hodapp, Robert T. Jimenez, William L. Partridge, Sharon L. Shields. *Ex Officio:* Camilla P. Benbow.

Endowed Chairs and Named Professorships

Patricia and Rodes Hart Dean of Education and Human Development
Patricia and Rodes Hart Professor of Psychology and Human Development
Frank W. Mayborn Professor of Cognitive Studies
Dunn Family Chair in Educational and Psychological Assessment, Special Education
Currey-Ingram Chair in Special Education
Nicholas Hobbs Chair in Special Education
Betts Chair in Special Education

Committees of the Faculty Council

AFFIRMATIVE ACTION & DIVERSITY
CURRICULUM
FACULTY AFFAIRS
TEACHING
RESEARCH

Council on Teacher Education

Camilla P. Benbow, Chair. M. Fräncille Bergquist, Mary Catherine Bradshaw, Rebecca B. Creel, Kate Daniels, Sara DeListe, Gina L. Frieden, James H. Hogge, M. Christine LaFevor, Richard C. McCarty, Joseph F. Murphy, Kimberly J. Paulsen, Daniel J. Reschly, Leona Schauble, Virginia M. Scott, Margaret W. Smithey, Corey Sullivan, Thomas E. Verrier.

Faculty

SAMUEL C. ASHCROFT, Professor of Special Education, Emeritus (Died 30 January 2006)
B.S. (Northwestern 1946); M.A. (New York 1951); Ed.D. (Illinois 1960) [1978]

JOHN A. BACHMANN, Senior Lecturer in Public Policy and Education
B.S., M.S., Ph.D. (Virginia Polytechnic Institute 1965, 1968, 1970) [2005]

ROBERT DALE BALLOU, Associate Professor of Public Policy and Education
B.A. (Stanford 1972); Ph.D. (Yale 1989) [2002]

JOHN HOUSTON BANKS, Professor of Mathematics, Emeritus
B.S. (Tennessee Polytechnic Institute 1935); M.A., Ph.D. (Peabody 1938, 1949) [1949]

WILLIAM M. BARKLEY, Adjunct Assistant Professor of Human Development Counseling
B.S., M.S., Ph.D. (Purdue 1970, 1973, 1978) [1978]

JEROLD P. BAUCH, Professor of Education, Emeritus
B.S. (Wisconsin, Superior 1958); M.Ed., Ed.D. (Florida 1964, 1967) [1970]

ALFRED A. BAUMEISTER, Professor of Psychology, Emeritus, Peabody College
B.A. (Alaska 1956); M.A., Ph.D. (Peabody 1959, 1961); L.H.D. (Alaska 1988) [1973]

CAMILLA P. BENBOW, Patricia and Rodes Hart Dean of Education and Human Development, Peabody College; Professor of Psychology, Peabody College; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A., M.A., M.S., Ed.D. (Johns Hopkins 1977, 1978, 1980, 1981) [1998]

MARK BERENDS, Associate Professor of Public Policy and Education
B.A. (Calvin 1985); M.S., Ph.D. (Wisconsin 1988, 1992) [2002]

LEONARD BICKMAN, Associate Dean for Research, Peabody College; Professor of Psychology, Peabody College; Professor of Psychiatry; Director, Center for Evaluation and Program Improvement; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S. (City College of New York 1963); M.A. (Columbia 1965); Ph.D. (City University of New York 1969) [1981]

LEONARD BRADLEY, Lecturer in Education
B.S., M.A. (Tennessee 1968, 1973) [2001]

MARY CATHERINE BRADSHAW, Adjunct Instructor in Education
B.A. (Vanderbilt 1978); M.A. (Middlebury 1985) [1995]

JOHN M. BRAXTON, Professor of Education
B.A. (Gettysburg 1967); M.A. (Colgate 1968); D.Ed. (Pennsylvania State 1980) [1992]

PENELOPE H. BROOKS, Professor of Psychology, Emerita, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Texas 1961); Ph.D. (Minnesota 1964) [1971]

JANICE BROWN, Research Associate, Psychology and Human Development
B.A. (Rochester 1984); M.S., Ph.D. (Vanderbilt 1990, 1996) [2000]

TIMOTHY C. CABONI, Lecturer in Leadership and Organizations; Assistant Dean for External Affairs
B.A. (Louisiana State 1992); M.A. (Western Kentucky 1994); Ph.D. (Vanderbilt 2001) [2002]

STEPHEN M. CAMARATA, Professor of Hearing and Speech Sciences; Associate Professor of Special Education; Deputy Director for Behavioral Research, Vanderbilt Kennedy Center for Research on Human Development
B.A., M.A. (San Diego State 1979, 1981); Ph.D. (Purdue 1984) [1990]

MARK D. CANNON, Assistant Professor of Leadership and Organizational Studies
B.S., M.S. (Brigham Young 1985, 1987); A.M., Ph.D. (Harvard 1996, 1998) [1998]

THOMAS H. CARR, Professor of Psychology; Frank W. Mayborn Chair of Cognitive Psychology
B.A. (Lake Forest 1970); M.A.T. (Chicago, 1972); Ph.D. (Vanderbilt 1975) [2005]

KEFYN M. CATLEY, Assistant Professor of Science Education
Hons. (University College of Wales 1989); M.S. (Western Carolina 1991); Ph.D. (Cornell 1996) [2003]

THOMAS F. CATRON, Associate Professor of Psychiatry; Associate Professor of Psychology, Peabody College; Associate Professor of Pediatrics; Investigator, Vanderbilt Kennedy Center for Research on Human Development; Co-Director, Center for Psychotherapy Research, Institute for Public Policy Studies
B.A. (Virginia 1979); M.S., Ph.D. (Peabody 1982, 1989) [1990]

VERA A. STEVENS CHATMAN, Professor of the Practice of Human and Organizational Development
B.A., M.A. (Fisk 1970, 1972); Ph.D. (Vanderbilt 1976) [1994]

R. WILBURN CLOUSE, Associate Professor of Education
B.A. (David Lipscomb 1959); M.A. (Middle Tennessee State 1968); Ph.D. (Peabody 1977) [1969]

PAUL A. COBB, Professor of Education
B.Sc. (Bristol 1975); M.A., Ed.D. (Georgia 1980, 1983) [1992]

DAVID A. COLE, Professor of Psychology, Peabody College; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (St. Olaf 1976); M.A., Ph.D. (Houston 1980, 1983) [2001]

BRUCE E. COMPAS, Professor of Psychology, Peabody College; Patricia and Rodes Hart Professor of Psychology and Human Development
B.A., M.A., Ph.D. (California, Los Angeles 1973, 1975, 1980) [2002]

DONALD L. COMPTON, Associate Professor of Special Education; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Michigan 1983); M.S., Ph.D. (Northwestern 1986, 1993) [2000]

KENNETH S. COOPER, Professor of History, Emeritus
B.A. (College of Emporia 1940); M.A. (Nebraska 1941); Ph.D. (Missouri 1947) [1947]

DAVID S. CORDRAY, Professor of Public Policy; Professor of Psychology, Peabody College; Co-Director, Center for Evaluation Research and Methodology, Institute for Public Policy Studies
B.A., M.A. (California State, Northridge 1972, 1974); Ph.D. (Claremont 1979) [1989]

ANNE L. CORN, Professor of Special Education; Professor of Ophthalmology and Visual Sciences; Member, Vanderbilt Kennedy Center for Research on Human Development (On leave spring 2007)
B.S. (Syracuse 1972); M.A. (California State, San Francisco 1973); Ed.M., Ed.D. (Columbia 1978, 1980) [1992]

PHILIP S. CROOKE III, Professor of Mathematics; Professor of Education
B.S. (Stevens Institute of Technology 1966); Ph.D. (Cornell 1970) [1970]

ROBERT L. CROWSON, JR., Professor of Education
A.B., M.A.T. (Oberlin 1961, 1962); Ph.D. (Chicago 1974) [1993]

JOSEPH J. CUNNINGHAM, Associate Professor of Special Education; Chair, Department of Human and Organizational Development
B.S., M.S. (Syracuse 1963, 1965); Ed.D. (Illinois 1970) [1969]

CYNTHIA R. CURTIS, Adjunct Professor of Education
B.S. (Spring Hill 1965); B.M.E., M.M. (Baylor 1967, 1971); Ph.D. (Peabody 1981) [1986]

VICTORIA J. DAVIS, Assistant Clinical Professor of Human and Organizational Development
B.A. (Illinois, Springfield 1988); M.Ed., Ed.D. (Vanderbilt 1993, 1999) [2001]

ROBERTA M. DAWS, Adjunct Instructor in Education
B.A. (Asbury 1955); M.A. (Peabody 1956) [1995]

H. FLOYD DENNIS, JR., Professor of Special Education, Emeritus
J.D. (Vanderbilt 1958) [1971]

LAURA M. DESIMONE, Assistant Professor of Public Policy and Education
B.A. (Wesleyan 1990); M.P.A. (American 1991); Ph.D. (North Carolina 1996) [2001]
BRENDA L. DEW, Adjunct Assistant Professor of Human Development Counseling
B.S. (East Carolina 1963); M.Ed., Ph.D. (Ohio 1971, 1976) [1978]
DAVID K. DICKINSON, Professor of Education
B.A. (Oberlin 1971); Ed.M. (Temple 1976); Ed.D. (Harvard 1982) [2005]
PAUL R. DOKECKI, Professor of Psychology, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Manhattan 1962); M.A., Ph.D. (Peabody 1963, 1968) [1970]
WILLIAM R. DOYLE, Assistant Professor of Higher Education
B.A. (Villanova 1996); Ph.D. (Stanford 2004) [2004]
ELISABETH MAY DYKENS, Professor of Psychology, Peabody College; Associate Director, Vanderbilt Kennedy Center for Research on Human Development; Director, Vanderbilt Kennedy Center for Excellence in Developmental Disabilities Education, Research, and Service
B.A. (Mt. Holyoke 1979); M.A., Ph.D. (Kansas 1983, 1985) [2003]
STEPHEN N. ELLIOTT, Professor of Special Education; Dunn Family Chair in Educational and Psychological Assessment
B.S., M.A. (Michigan State 1974, 1976); M.A.Ed., Ph.D. (Arizona State 1977, 1980) [2004]
CAROLYN M. EVERTSON, Associate Dean for Graduate Education; Professor of Education, Emerita
B.S., Ph.D. (Texas 1958, 1972) [1984]
JANET S. EYLER, Professor of the Practice of Education
B.A., M.Ed. (University of Washington 1966, 1970); Ph.D. (Indiana 1977) [1981]
DALE C. FARRAN, Professor of Education; Professor of Psychology, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (North Carolina 1965); Ph.D. (Bryn Mawr 1975) [1996]
JOHN K. FOLGER, Professor of Education, Emeritus
A.B. (Emory 1943); M.A., Ph.D. (North Carolina 1950, 1951) [1981]
DONNA Y. FORD, Professor of Special Education; Betts Chair of Special Education
B.A., M.Ed., Ph.D. (Cleveland State 1984, 1988, 1991) [2004]
JUDY FREUDENTHAL, Adjunct Assistant Professor of Human Development Counseling
B.A. (Hiram 1975); M.Ed., Ed.D. (Vanderbilt 1987, 1991) [1996]
GINA L. FRIEDEN, Assistant Professor of the Practice of Human and Organizational Development
B.S. (Oklahoma 1978); M.D. (Indiana 1981); Ph.D. (Memphis State 1988) [1994]
SUSAN K. FRIEDMAN, Lecturer in Human and Organizational Development
B.A. (Wellesley 1972); M.A. (Western Michigan 1977); M.B.A. (Arizona State 1986) [2000]
DOUGLAS FUCHS, Professor of Special Education; Nicholas Hobbs Chair in Special Education and Human Development; Co-Director, Vanderbilt Kennedy Center Reading Clinic; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Johns Hopkins 1971); M.S. (Pennsylvania 1973); Ph.D. (Minnesota 1978) [1985]
LYNN S. FUCHS, Professor of Special Education; Nicholas Hobbs Chair in Special Education and Human Development; Co-Director, Vanderbilt Kennedy Center Reading Clinic; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Johns Hopkins 1972); M.S. (Pennsylvania 1973); Ed.S., Ph.D. (Minnesota 1977, 1981) [1985]
JUDY GARBER, Professor of Psychology, Peabody College; Professor of Psychiatry; Associate Professor of Psychology, College of Arts and Science; Senior Fellow, Institute for Public Policy Studies; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (SUNY, Buffalo 1973); Ph.D. (Minnesota 1987) [1985]

MICHAEL GAVLICK, Lecturer in Leadership and Organizations
B.S. (Memphis 1966); M.S. (Wisconsin, Milwaukee 1979); M.A. (Pepperdine 1979); Ph.D. (Vanderbilt 2001) [2002]

CONSTANCE BUMGARNER GEE, Associate Professor of Public Policy and Education
B.F.A. (East Carolina 1976); M.F.A. (Pratt Institute 1979); Ph.D. (Pennsylvania State 1993) [2000]

JONATHA GIBAUD, Clinical and Consulting Psychologist, Psychological and Counseling Center; Adjoint Associate Professor of Psychology, Peabody College; Adjunct Associate Professor of Psychology, College of Arts and Science
B.A. (Wells 1958); M.A.T. (Johns Hopkins 1959); M.A. (Rhode Island 1972); Ph.D. (Peabody 1977) [1979]

JESSICA W. GILES, Assistant Professor of Psychology, Peabody College
B.A. (California, Berkeley 1997); Ed.M. (Harvard 1998); Ph.D. (California, San Diego 2004) [2004]

RUTH GILLESPIE, Associate Professor of Home Economics, Emerita
B.S. (Middle Tennessee State 1936); M.A. (Peabody 1941) [1947]

JOHN C. GLIDEWELL, Professor of Psychology, Emeritus, Peabody College
A.M., Ph.D. (Chicago 1949, 1953) [1981]

ELIZABETH SPENCER GOLDMAN, Professor of Mathematics Education, Emerita
B.S. (Tulane 1964); M.A., Ph.D. (Vanderbilt 1965, 1970) [1968]

ELLEN B. GOLDRING, Professor of Educational Policy and Leadership
B.S. (Wisconsin 1978); M.A. (Tel Aviv 1982); Ph.D. (Chicago 1985) [1991]

STEVEN GRAHAM, Professor of Special Education; Currey-Ingram Chair of Special Education
B.S., M.S. (Valdosta State 1972, 1975); Ed.D. (Kansas 1978) [2005]

DOUGLAS MARK GRANIER, Adjunct Assistant Professor of Education
B.A. (Saint Joseph Seminary College [Louisiana] 1973); B.A. (New Orleans 1975); M.A., Ph.D. (Louisiana State 1980, 1990) [1991]

WILLIAM J. GRIFFIN, Professor of English, Emeritus
B.A. (Park 1929); M.A., Ph.D. (Iowa 1930, 1939) [1948]

BRIAN A. GRIFFITH, Assistant Clinical Professor of Human and Organizational Development
B.S. (Miami [Ohio] 1992); M.Div. (Columbia International 1994); Ph.D. (South Carolina 1998) [1998]

JAMES W. GUTHRIE, Professor of Public Policy and Education; Director, Peabody Center for Education Policy; Chair, Department of Leadership, Policy, and Organizations
A.B., M.A., Ph.D. (Stanford 1958, 1960, 1968) [1994]

ROGERS P. HALL, Professor of Mathematics Education
B.A., M.A. (Houston 1976, 1978); M.S., Ph.D. (California, Irvine 1983, 1990) [2002]

CAROL HAMLETT, Research Associate in Special Education
B.A. (West Florida 1970); M.S. (North Carolina State 1982) [1988]

JOHN ALFRED HAMMOND, Adjunct Assistant Professor of Human Resources
B.S., M.Ed. (London 1963, 1976); M.Phil. (Cambridge 1982) [1996]

SUSAN E. HAMMONDS-WHITE, Adjunct Assistant Professor of Human Development Counseling
B.A. (Wellesley 1972); M.A. (Harvard 1972); M.A. (Lesley 1982); Ed.D. (Vanderbilt 1989) [1990]

TERRY B. HANCOCK, Research Assistant Professor of Special Education; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Abilene Christian 1975); M.S. (Texas Woman's 1979); Ph.D. (Vanderbilt 1988) [1990]

MARIE HARDENBROOK, Assistant Professor of the Practice of Secondary Education
B.A. (Fontbonne College 1970); M.Ed., Ph.D. (Arizona State 1978, 2001) [2001]

RANDALL K. HARLEY, Professor of Special Education, Emeritus
B.S. (Middle Tennessee State 1949); M.A., Ph.D. (Peabody 1954, 1962) [1964]
ALENE H. HARRIS, Research Assistant Professor of Education
B.A. (Western Kentucky 1969); M.A. (Peabody 1974); Ph.D. (Vanderbilt 1988) [1989]
KAREN R. HARRIS, Professor of Special Education; Currey-Ingram Chair of Special Education
B.A. (Northern Colorado 1974); M.A. (Nebraska 1978); Ed.D. (Auburn 1981) [2005]
VICKI S. HARRIS, Assistant Clinical Professor of Psychology, Peabody College; Assistant Clinical Professor of Psychiatry; Member, Vanderbilt Kennedy Center for Research on Human Development; Fellow, Institute for Public Policy Studies
B.S. (SUNY, Cortland 1984); M.S., Ph.D. (Pennsylvania State 1987, 1991) [1993]
H. CARL HAYWOOD, Professor of Psychology, Emeritus, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A., M.A. (San Diego State 1956, 1957); Ph.D. (Illinois 1961) [1962]
CRAIG ANNE HEFLINGER, Associate Professor of Human and Organizational Development; Senior Fellow, Institute for Public Policy Studies
B.A. (Vanderbilt 1973); M.A. (Peabody 1975); Ph.D. (Vanderbilt 1989) [1992]
MARY LOUISE HEMMETER, Associate Professor of Special Education; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Auburn 1984); M.Ed., Ph.D. (Vanderbilt 1987, 1991) [2005]
STEPHEN P. HEYNEMAN, Professor of International Educational Policy
B.A. (California, Berkeley 1964); M.A. (California, Los Angeles 1965); M.A., Ph.D. (Chicago 1973, 1975) [2000]
ROBERT M. HODAPP, Professor of Special Education
A.B. (Columbia College 1977); M.A., Ph.D. (Boston University 1981, 1983) [2003]
CLIFFORD A. HOFWOLT, Associate Professor of Science Education
B.A., M.A. (Colorado State College 1964, 1968); Ed.D. (Northern Colorado 1971) [1972]
JAMES H. HOGGE, Associate Dean for Faculty and Programs, Peabody College; Professor of Psychology, Peabody College
B.A., Ph.D. (Texas 1964, 1966) [1967]
STEVEN D. HOLLON, Professor of Psychology, College of Arts and Science; Professor of Psychology, Peabody College; Associate Professor of Psychiatry; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (George Washington 1971); M.S., Ph.D. (Florida State 1974, 1977) [1985]
CAMILLE HOLT, Senior Lecturer in Education
B.S., M.A. (Austin Peay State 1967, 1971); Ed.D. (Memphis 1974) [2002]
KATHLEEN V. HOOVER-DEMPSEY, Associate Professor of Psychology, Peabody College, and Chair of the Department of Psychology and Human Development; Associate Professor of Education
A.B. (California, Berkeley 1964); M.A., Ph.D. (Michigan State 1969, 1974) [1973]
CAROLYN HUGHES, Professor of Special Education; Investigator, Vanderbilt Kennedy Center for Research on Human Development
A.B. (California, Berkeley 1969); M.S. (Eastern Montana 1985); Ph.D. (Illinois 1990) [1991]
ANNA LEY INGRAHAM, Associate Professor of Health and Physical Education, Emerita
B.S., M.A. (Peabody 1949, 1954) [1968]
ROBERT B. INNES, Associate Professor of Psychology, Peabody College; Director, Program in Human and Organizational Development
B.A., M.A. (Michigan State 1963, 1965); Ph.D. (Michigan 1971) [1971]
LINDA N. ISAACS, Lecturer in Human and Organizational Development
J.D. (Nashville School of Law 1984); M.Ed., Ed.D. (Vanderbilt 1996, 2003) [2003]

ROBERT T. JIMENEZ, Professor of Language, Literacy, and Culture
B.A. (University of the Americas [Mexico] 1978); M.Ed., Ph.D. (Illinois, Urbana-Champaign 1986, 1992) [2004]
LINDA D. JONES, Research Assistant Professor of Psychology, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Wake Forest 1983); M.S., Ph.D. (Kent State 1987, 1989) [1991]
ANN P. KAISER, Professor of Special Education; Professor of Psychology, Peabody College; Director, Research Program on Communication, Cognitive, and Emotional Development, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Kansas State 1970); M.A., Ph.D. (Kansas 1973, 1974) [1982]
TRISH KELLY, Senior Lecturer in Public Policy and Education
B.S. (Babson 1981); Ph.D. (Massachusetts, Amherst 1994) [2002]
EARLINE D. KENDALL, Professor of the Practice of Early Childhood Education, Emerita
B.A. (David Lipscomb 1957); M.A., Ph.D. (Peabody 1966, 1977) [1992]
CRAIG HALL KENNEDY, Professor of Special Education; Associate Professor of Pediatrics; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (California, Santa Barbara 1987); M.S. (Oregon 1988); Ph.D. (California, Santa Barbara 1992) [1997]
YOUB KIM, Assistant Professor of Language and Literacy
B.S. (Yonsei 1984); M.A., Ph.D. (Michigan State 1996, 2003) [2003]
RALPH E. KIRKMAN, Professor of Higher Education, Emeritus (Died 7 December 2005)
B.A., M.A. (Baylor 1950, 1951); Ed.D. (North Texas State 1957) [1968]
LOUISE C. KNOWLES, Associate Professor of Health and Physical Education, Emerita
B.S. (Northeastern Oklahoma State 1942); M.A., Ed.S. (Peabody 1957, 1963) [1965]
KATHLEEN LYNNE LANE, Assistant Professor of Special Education
B.A., M.A., Ph.D. (California, Riverside 1988, 1992, 1997) [2001]
KEVIN M. LEANDER, Associate Professor of Language and Literacy
B.A. (Colorado, Boulder 1985); M.A., Ph.D. (Illinois 1995, 1999) [1999]
KARON JEAN LECOMPTE, Assistant Clinical Professor of Early Childhood and Elementary Education
B.S., M.S. (Sam Houston State 1995, 1996) [2002]
RICHARD LEHRER, Professor of Science Education
B.S. (Rensselaer Polytechnic Institute 1973); M.S., Ph.D. (SUNY, Albany 1976, 1983) [2002]
JAMES R. LENT, Professor of Special Education, Emeritus
B.A. (Denver 1952); M.A., Ed.D. (Syracuse 1955, 1959) [1975]
CHASE L. LESANE-BROWN, Research Assistant Professor of Psychology
B.A. (California, Riverside 1993); M.S. (California State, San Bernardino 1998); M.A., Ph.D. (Michigan 1999, 2002) [2005]
DANIEL T. LEVIN, Associate Professor of Psychology, Peabody College
B.A. (Reed 1989); Ph.D. (Cornell 1997) [2003]
DAVID LUBINSKI, Professor of Psychology, Peabody College; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A., Ph.D. (Minnesota 1981, 1987) [1998]
DEBORAH LUCAS, Lecturer in Education
B.A. (SUNY, Albany 1970); B.S. (Wisconsin 1989); M.Ed. (Edinboro 1971) [2002]
THOMAS F. MAHAN, Adjunct Assistant Professor of Human Development Counseling
B.A. (Ramapo College of New Jersey 1973); M.S. (Peabody 1978); Ed.D. (Vanderbilt 1986) [1994]
JONATHAN E. MAY, Adjunct Assistant Professor of Psychology, College of Arts and Science; Adjunct Assistant Professor of Psychology, Peabody College
A.B. (Mercer 1971); Ph.D. (Vanderbilt 1978) [1979]

KAY JOHNSON MCCLAIN, Associate Professor of Mathematics Education
B.S., M.Ed. (Auburn 1974, 1975); Ed.D. (Vanderbilt 1995) [1996]
STEVEN MCFADYEN-KETCHUM, Senior Lecturer in Psychology, Peabody College
B.A. (Alabama, Huntsville 1972); M.S. (Tennessee State 1977); Ph.D. (Vanderbilt 1992) [1994]
MICHAEL K. MCLENDON, Associate Professor of Public Policy and Higher Education
B.A. (Baylor 1991); M.S. (Florida State 1994); Ph.D. (Michigan 2000) [1999]
P. J. MCWILLIAM, Research Assistant Professor of Special Education
B.A. (Maryland 1975); M.A. (West Virginia 1977); Ph.D. (North Carolina, Greensboro 1987) [2003]
JACK W. MILLER, Professor of Education, Emeritus
B.S. (Bemidji State 1956); M.A., Ed.D. (Peabody 1957, 1961) [1962]
HENRY RICHARD MILNER, Assistant Professor of Education
B.A., M.A.T. (South Carolina State 1996, 1997); M.A. (Ohio State 2000) [2001]
DAVID D. MOHNING, Director of Student Financial Aid; Assistant Professor of the Practice of Education
B.S. (Iowa State 1967); M.B.A., Ph.D. (Miami [Ohio] 1971, 1986) [1991]
VALERIE MARIE MOORE, Adjunct Assistant Professor of Human and Organizational Development
B.S., M.S. (Illinois State 1979, 1982); Ph.D. (Georgia State 1992) [1993]
JOSEPH F. MURPHY, Associate Dean for Special Projects, Peabody College; Professor of Education
B.A. (Muskingum 1971); M.S.T. (Chicago 1974); Ph.D. (Ohio State 1980) [2002]
CHARLES B. MYERS, Professor of Social Studies Education, Emeritus
B.S. (Pennsylvania State 1961); M.A., Ph.D. (Peabody 1963, 1968) [1970]
MAURY NATION, Assistant Professor of Human and Organizational Development
B.A. (Georgia State 1992); Ph.D. (South Carolina 1999) [2003]
ANN M. NEELY, Associate Professor of the Practice of Education
B.S., M.Ed. (Auburn 1977, 1979); Ed.D. (Georgia 1983) [1985]
CARIN LYNN NEITZEL, Assistant Professor of Early Childhood Education
B.A., Ph.D. (Indiana 1996, 2003) [2003]
JOHN R. NEWBROUGH, Professor of Psychology, Emeritus, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (College of Idaho 1955); M.A., Ph.D. (Utah 1956, 1959) [1966]
LOUIS T. NICHOLAS, Professor of Music, Emeritus (Died 28 December 2005)
A.B. (Southwestern at Memphis 1934); M.M. (Michigan 1939); Diploma, Specialist (Columbia 1952) [1944]
JULIA S. NOLAND, Research Assistant Professor of Psychology, Peabody College
B.A. (Earlham 1991); Ph.D. (Cornell 1998) [2003]
LAURA R. NOVICK, Associate Professor of Psychology, Peabody College; Associate Professor of Psychology, College of Arts and Science
B.S. (Iowa 1981); Ph.D. (Indiana 1986) [1988]
AMY B. PALMERI, Assistant Professor of the Practice of Education
B.A. (SUNY, Buffalo 1990); Ph.D. (Indiana 1995) [1995]
WILLIAM L. PARTRIDGE, Professor of Human and Organizational Development; Professor of Anthropology
B.A., M.A., Ph.D. (Florida 1966, 1969, 1974) [2001]
KIMBERLY J. PAULSEN, Associate Professor of the Practice of Special Education
B.A. (Northern State 1985); M.S. (Moorhead State 1994); Ed.D. (Las Vegas 1997) [1999]
RICHARD L. PERCY, Associate Professor of Education, Emeritus
B.A., M.A. (Syracuse 1959, 1968); Ed.D. (Virginia 1971) [1971]

DOUGLAS D. PERKINS, Associate Professor of Human and Organizational Development
B.A. (Swarthmore 1980); M.A., Ph.D. (New York 1985, 1990) [2000]
JEWELL A. PHELPS, Professor of Geography, Emeritus
B.S., M.A. (Peabody 1941, 1946); Ph.D. (Northwestern 1955) [1951]
ROSE C. PICKEL, Adjunct Instructor in Education
B.A. (Birmingham Southern 1965) [1996]
GEORGINE M. PION, Research Associate Professor of Psychology, Peabody College
B.A. (Simpson 1974); M.A., Ph.D. (Claremont 1977, 1980) [1989]
ANDREW CALVIN PORTER, Professor of Public Policy and Education; Director, Learning Sciences Institute
B.S. (Indiana State 1963); M.S., Ph.D. (Wisconsin 1965, 1967) [2003]
ISAAC PRILLELTENSKY, Professor of Human and Organizational Development
B.A. (Bar-Ilan 1980); M.A. (Tel Aviv 1983); Ph.D. (Manitoba 1989) [2003]
ORA PRILLELTENSKY, Lecturer in Human and Organizational Development
B.A. (Bar-Ilan 1982); M.Ed. (Manitoba 1988); Ed.D. (Toronto 1998) [2004]
HARRY E. RANDLES, Professor of Education, Emeritus
B.F.A. (Syracuse 1950); M.Ed. (Miami [Ohio] 1958); Ph.D. (Miami/Ohio State 1964) [1979]
DANIEL J. RESCHLY, Professor of Education; Professor of Psychology, Peabody College; Chair, Department of Special Education; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Iowa State 1966); M.A. (Iowa 1968); Ph.D. (Oregon 1971) [1998]
JOHN J. RIESER, Professor of Psychology, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Harvard 1971); Ph.D. (Minnesota 1978) [1977]
VICTORIA J. RISKO, Professor of Education
B.S. (Pittsburgh 1966); M.A., Ed.D. (West Virginia 1969, 1971) [1975]
BETHANY RITTLE-JOHNSON, Assistant Professor of Psychology, Peabody College
B.A. (Virginia 1994); M.S., Ph.D. (Carnegie Mellon 1996, 1999) [2002]
HEBER ROGERS, Adjunct Instructor in Education
B.A. (Vanderbilt 1951); M.A. (Peabody 1957) [1996]
DEBORAH W. ROWE, Associate Professor of Early Childhood Education
B.S. (Kentucky 1976); M.A.Educ. (Wake Forest 1982); Ph.D. (Indiana 1986) [1986]
HOWARD M. SANDLER, Professor of Psychology, Peabody College
B.A. (Johns Hopkins 1967); M.A., Ph.D. (Northwestern 1969, 1971) [1970]
TISHA L. BENNETT SANDERS, Assistant Clinical Professor of Early Childhood Education
B.S. (Tennessee, Martin 1991); M.S. (Alabama 1993); Ed.D. (North Texas 2000) [2002]
MEGAN M. SAYLOR, Assistant Professor of Psychology, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (California, Berkeley 1996); M.S., Ph.D. (Oregon 1997, 2001) [2001]
LEONA SCHAUBLE, Professor of Science Education
A.B. (Bates 1968); Ph.D., M.A. (Columbia 1989, 1996) [2002]
TERIS K. SCHERY, Research Professor of Special Education; Research Professor of Hearing and Speech Sciences
A.B., M.A. (Stanford 1965, 1966); Ph.D. (Claremont 1980) [1992]
H. LORRAINE SCHNIEDERS, Assistant Clinical Professor of Human and Organizational Development
B.A. (Northern Kentucky 1975); M.Ed. (Xavier 1985); Ed.D. (Louisville 1999) [2002]
JULES SEEMAN, Professor of Psychology, Emeritus, Peabody College
B.S. (Johns Hopkins 1942); M.A. (Maryland 1944); Ph.D. (Minnesota 1948) [1953]

LARRY SEEMAN, Adjoint Associate Professor of Psychology, Peabody College; Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A., M.A., Ph.D. (Peabody 1970, 1971, 1977) [1979]
SHARON L. SHIELDS, Professor of the Practice of Health Promotion and Education
B.S., M.Ed. (Louisville 1971, 1974); Ph.D. (Peabody 1976) [1976]
STEVEN H. SMARTT, Assistant Provost for Research and Graduate Education; Assistant Professor of the Practice of Education
B.M.E., M.M.E. (Peabody 1971, 1972); Ph.D. (Florida State 1974) [1981]
CRAIG A. SMITH, Associate Professor of Psychology, Peabody College; Investigator, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Dartmouth 1980); Ph.D. (Stanford 1986) [1988]
THOMAS M. SMITH, Assistant Professor of Public Policy and Education
B.A. (California. Los Angeles 1988); M.A. (Columbia 1991); M.A. (Catholic 1995); Ph.D. (Pennsylvania State 2000) [2001]
CLAIRE E. SMREKAR, Associate Professor of Public Policy and Education
B.A. (California, Los Angeles 1982); M.A., M.A., Ph.D. (Stanford 1986, 1989, 1991) [1991]
PAUL W. SPEER, Associate Professor of Human and Organizational Development
B.S. (Baker 1982); Ph.D. (Missouri, Kansas City 1992) [2001]
JAMES H. STEIGER, Professor of Psychology, Peabody College
B.A. (Cornell 1970); M.S. (Oklahoma 1972); Ph.D. (Purdue 1976) [2003]
NORMAN L. STEPHENSON, Adjunct Associate Professor of Psychology, Peabody College; Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A. (Missouri 1963); Ph.D. (Minnesota 1970) [1974]
WENDY L. STONE, Professor of Pediatrics; Professor of Psychology, Peabody College; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Williams 1975); M.S., Ph.D. (Miami [Florida] 1981, 1981) [1988]
THOMAS F. STOVALL, Professor of Education, Emeritus
B.A. (Tennessee 1949); M.A., Ph.D. (Peabody 1950, 1954) [1975]
C. WARREN THOMPSON, Adjoint Associate Professor of Psychology, Peabody College; Adjunct Assistant Professor of Psychology, College of Arts and Science
B.A. (Southwestern at Memphis 1962); Ph.D. (Vanderbilt 1973) [1987]
KRISTEN TOMPKINS, Clinical Instructor in Human and Organizational Development
B.A. (Tennessee 1999); M.Ed. (Vanderbilt 2001) [2002]
EVA K. TOUSTER, Professor of English, Emerita
A.B. (Murray State 1935); M.A. (North Carolina 1944); Ph.D. (Vanderbilt 1951) [1964]
GEORGENE L. TROSETH, Assistant Professor of Psychology, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Wyoming 1994); M.A., Ph.D. (Illinois 1997, 2000) [2000]
NAOMI CHOWDHURI TYLER, Research Assistant Professor of Special Education; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S. (New Mexico State 1985); M.A., Ph.D. (New Mexico 1988, 1996) [1997]
PATTI PARKISON VAN EYS, Clinical Assistant Professor of Psychology, Peabody College
B.A. (DePauw 1983); M.A., Ph.D. (Bowling Green State 1985, 1989) [1995]
TEDRA ANN WALDEN, Professor of Psychology, Peabody College; Member, Vanderbilt Kennedy Center for Research on Human Development; Senior Fellow, Institute for Public Policy Studies
B.A., M.A., Ph.D. (Florida 1974, 1976, 1978) [1981]
LALLA WALKER, Professor of English, Emerita
B.S., M.A. (Peabody 1936, 1941) [1958]

LYNN S. WALKER, Professor of Pediatrics; Professor of Psychology, Peabody College; Associate Professor of Psychology, College of Arts and Science; Investigator, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Oberlin 1973); M.S., Ph.D. (Peabody 1978, 1981) [1982]

KENNETH A. WALLSTON, Professor of Psychology in Nursing; Professor of Psychology, Peabody College; Professor of Psychology, College of Arts and Science; Member, Vanderbilt Kennedy Center for Research on Human Development
A.B. (Cornell 1964); M.A., Ph.D. (Connecticut 1965, 1968) [1971]

AVIVA WASSERMAN, Adjunct Assistant Professor of Psychology, Peabody College
A.B. (Harvard 1980); M.A., Ph.D. (North Carolina 1985, 1988) [1989]

JOSEPH H. WEHBY, Associate Professor of Special Education; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Memphis State 1982); M.Ed., Ph.D. (Vanderbilt 1987, 1990) [1990]

BAHR WEISS, Associate Professor of Psychology, Peabody College; Investigator, Vanderbilt Kennedy Center for Research on Human Development; Co-Director, Center for Psychotherapy Research and Policy, Institute for Public Policy Studies
A.B. (Michigan 1974); Ph.D. (North Carolina 1988) [1988]

JAMES W. WHITLOCK, Professor of Education, Emeritus
B.S. (Tennessee 1949); M.A., Ed.D. (Peabody 1952, 1956) [1959]

ROBERT S. WHITMAN, Professor of English Education, Emeritus
B.A. (Lawrence 1956); M.A., Ph.D. (Illinois 1963, 1973) [1968]

MARK WOLERY, Professor of Special Education; Member, Vanderbilt Kennedy Center for Research on Human Development
B.A. (Tennessee Temple 1969); M.Ed. (Virginia Commonwealth 1975); Ph.D. (University of Washington 1980) [2000]

RUTH ASHWORTH WOLERY, Assistant Professor of the Practice of Special Education; Director, Susan Gray School
B.S. (Tennessee, Chattanooga 1976); Ph.D. (Pittsburgh 1997) [2000]

PAUL J. YODER, Professor of Special Education; Investigator, Vanderbilt Kennedy Center for Research on Human Development
B.S. (Louisiana State 1978); M.S. (Peabody 1979); Ph.D. (North Carolina 1985) [1987]

ZINA YZQUIERDO, Research Assistant Professor of Special Education; Member, Vanderbilt Kennedy Center for Research on Human Development
B.S. in Education, M.A. in Education (Stephen F. Austin State 1982, 1983); Ph.D. (New Mexico 1995) [1997]

LINDA ZECH, Senior Research Associate, Human and Organizational Development
B.M.E., B.S.E., M.Ed., Ph.D. (Nebraska 1970, 1970, 1986, 1989) [1992]

JAMES P. ZERFACE, Adjoint Associate Professor of Psychology, Peabody College
B.A. (DePauw 1962); M.S., Ed.D. (Indiana 1963, 1968) [1979]

GAIL H. ZIKA, Instructor in the Practice of Special Education
B.A. (Monmouth 1966); M.Ed. (Smith 1976) [1997]

Index

A Arts and Science
B Blair
E Engineering
P Peabody

PHOTOGRAPHS by Neil Brake, Daniel Dubois, Steve Green, Gerald Holly, and Jeremy Teaford.