



1996

Virginia Commonwealth University Undergraduate Bulletin

Virginia Commonwealth University

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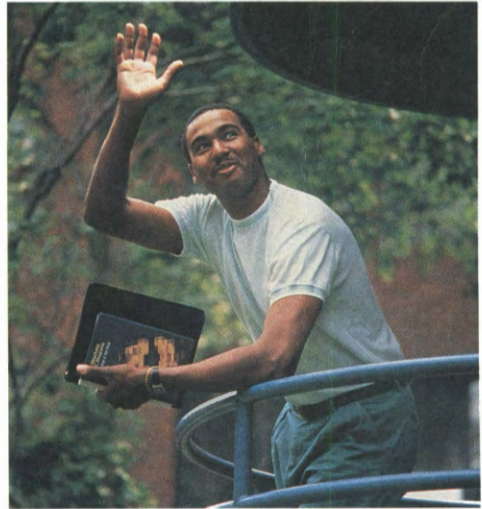
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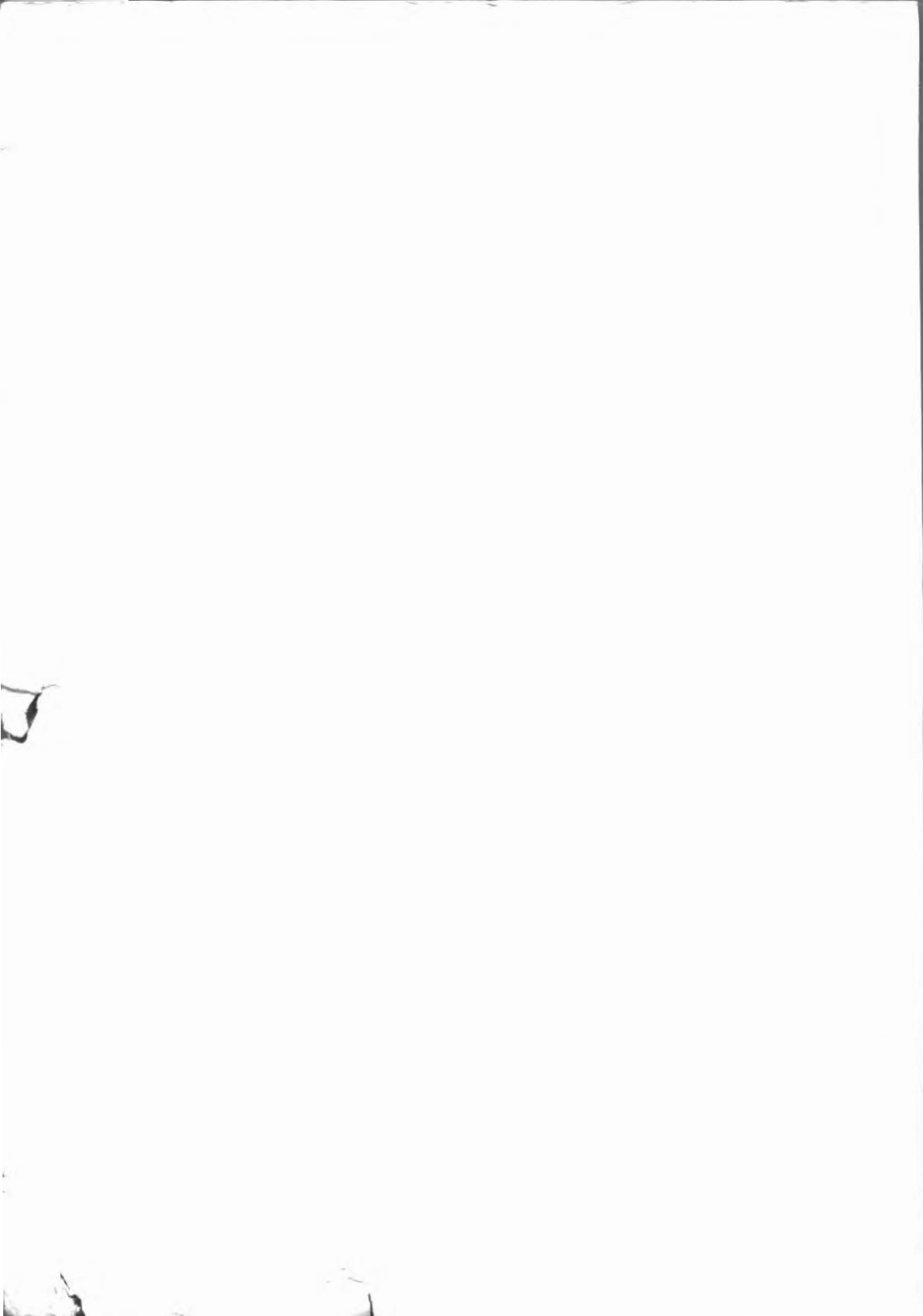
Undergraduate Bulletin



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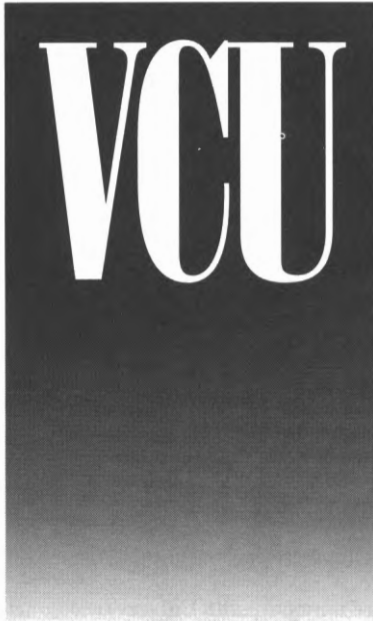
**Do Not Take
From This Room**

Virginia Commonwealth University



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Undergraduate Bulletin



Virginia Commonwealth University

VOLUME LXVIII ▼ MAY 1996 ▼ NUMBER 3

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For information on Virginia Commonwealth University: contact (804) 828-0100 or (804) 828-0488 or refer to Contact Information on page iii of this Bulletin.

Virginia Commonwealth University does not discriminate on the basis of race, color, national origin, sex, age or disability in its admission programs, activities or employment practices. This policy is monitored by the Office of Equal Employment Opportunity/Affirmative Action Services.

Contact Information

Medical College of Virginia/Virginia
Commonwealth University, Admissions,
1101 E. Marshall St., P.O. Box 980632,
Richmond, VA 23298-0632, (804) 828-0488

College of Humanities and Sciences, 900 Park
Ave., P.O. Box 842019, Richmond, VA
23284-2019

School of Allied Health Professions, 1223 E.
Marshall St., P.O. Box 980233, Richmond,
VA 23298-0233

School of the Arts, 325 N. Harrison St., P.O.
Box 842519, Richmond, VA 23284-2519

School of Business, 1015 Floyd Ave., P.O.
Box 844000, Richmond, VA 23284-4000

School of Dentistry, 520 N. 12th St., P.O. Box
980566, Richmond, VA 23298-0566

School of Education, 1015 W. Main St., P.O.
Box 842020, Richmond, VA 23284-2020

School of Engineering, 827 W. Franklin St.,
P.O. Box 842009, Richmond, VA 23284-2009

School of Graduate Studies, 1101 E. Marshall
St., P.O. Box 980568, Richmond, VA 23298-
0568 (MCV Campus), 901 W. Franklin St.,
P.O. Box 843051, Richmond VA 23284-
3051 (Academic Campus) (804) 828-6916

School of Mass Communications, 901 W.
Main St., P.O. Box 842034, Richmond, VA
23284-2034

School of Medicine, 1101 E. Marshall St., P.O.
Box 980565, Richmond, VA 23298-0565

School of Nursing, 1220 E. Broad St., P.O.
Box 980567, Richmond, VA 23298-0567

School of Pharmacy, 410 N. 12th St., P.O. Box
980581, Richmond, VA 23298-0581

School of Social Work, 1001 W. Franklin St.,
P.O. Box 842027, Richmond, VA 23284-2027

Admissions, 821 W. Franklin St., P.O. Box
842526, Richmond, VA 23284-2526, (804)
828-1222

Financial Aid, 901 W. Franklin St., P.O. Box
843026, Richmond, VA 23284-3026, (804)
828-6669

Records and Registration, 827 W. Franklin St.,
P.O. Box 842520, Richmond, VA 23284-
2520, (804) 828-1341 or 828-1349

Office of Academic Support, 109 N. Harrison
St., P.O. Box 842500, Richmond, VA
23284-2500, (804) 828-1650

Equal Employment Opportunity/Affirmative
Action Services, 901 W. Franklin St., P.O.
Box 843022, Richmond, VA 23284-3022,
(804) 828-1347

ACCREDITATION

Virginia Commonwealth University is ac-
credited by the Commission on Colleges of the
Southern Association of Colleges and Schools
to award associate, baccalaureate, masters,
doctoral, and first professional degrees.

EFFECTIVE BULLETIN/CURRICULUM DEGREE REQUIREMENTS

The bulletin for the academic year a student
enters or re-enters a degree program identifies the
curriculum degree requirements for that student.

Students in continuous enrollment may ful-
fill the curriculum degree requirements of the
bulletin for the year they entered VCU or in the
alternative, choose to be subject to the curricu-
lum degree requirements articulated in a subse-
quent bulletin. In either case, students must
fulfill all curriculum degree requirements listed
in the bulletin they choose.

RIGHT RESERVED

All rules and regulations set forth in this bul-
letin will apply until further notice. The univer-
sity reserves the right to make changes includ-
ing but not limited to changes in courses of
study, fees, rules, regulations, programs, fac-
ulty and staff, and classification of students,
whenever university authorities, in their sole
discretion, deem it appropriate, expedient or
wise to do so.

DISCLAIMER

The contents of this bulletin represent the
most current information available at the time
of publication. However, during the period of
time covered by this bulletin, it is reasonable to
expect changes to be made with respect to this
information without prior notice. Thus, the pro-
visions of this bulletin are not to be regarded as
an irrevocable contract between the University
(or any of its divisions) and the student.

1996-97 University Calendar

August

Monday-Wednesday	19-21	MCV Campus Orientation and Registration
Monday-Friday	19-23	Orientation and advising for all Academic Campus students
Thursday	22	Registration for New, Transfer, Readmit Day students— Academic Campus
Thursday	22	Evening Student Registration
Thursday-Friday	22-30	Classes begin at 8:00 am—MCV Campus
Friday	23	Add/Drop and Late Registration—MCV Campus
Saturday	24	Registration, Continuing Day students—Academic Campus
Monday	26	Official date for certifying August diploma
Monday-Thursday	26-30	Classes begin at 8:00 am—Academic Campus
		Add/Drop and Late Registration—Academic Campus

September

Monday	2	Labor Day Holiday
Wednesday	11	Faculty Convocation at 4:00 pm
Friday	20	Last day for Fall degree candidates to submit graduation applications to their advisors for December degrees
Tuesday	24	Last day for undergraduate students to submit work for removal of incompletes from Spring semester or Summer sessions— Academic Campus

October

Friday	18	Last day to drop a course with a mark of "W"—both campuses (except for courses not scheduled for the full semester)
Monday-Friday	28-Nov. 1	Advising for Spring semester

November

Friday	1	Founders Day
Monday	4	Spring semester Advance Registration begins for all students
Wednesday	27	Thanksgiving holiday begins at 4:00 pm— No evening classes will meet

December

Monday	2	Thanksgiving holiday ends at 8:00 am
Friday	6	Last day of classes for Fall semester—both campuses, Saturday classes meet December 7
Monday-Friday	9-13	Final examinations for Fall semester—MCV Campus
Monday-Saturday	9-14	Final examinations for Fall semester—Evening classes
Monday-Tuesday	9-17	Final examinations for Fall semester—Academic Campus Day classes
Tuesday	17	Holiday vacation begins at 5:00 pm
Saturday	21	Official date for certifying December diploma
Tuesday-Wednesday	24-25	Christmas Holiday
Monday	30	Holiday Intersession classes begin
Tuesday	31	New Year's Eve Holiday—Intersession classes meet

Summer Sessions 1998

May

Monday-Friday	18-June 5	3-week summer pre-session
Monday-Thursday	18-June 18	5-week summer pre-session
Monday	25	Memorial Day Holiday
Tuesday/Wednesday	26/27-	
Wednesday/Thursday	July 15/16	8-week evening summer session

June

Monday-Wednesday	15-July 16	4 1/2-week summer session
Monday-Thursday	15-July 23	6-week summer session
Monday/Tuesday	15/16-	
Wednesday/Thursday	Aug 5/6	8-week evening summer session
Monday-Thursday	22-July 23	5-week summer session
Friday	26	Last day for summer degree candidates to submit graduation applications to their advisors for August degrees

July

Friday	3	Independence Day Holiday
Thursday-Friday	16-Aug 14	4 1/2-week summer session
Monday-Friday	27-Aug 14	3-week post session

August

Friday	14	Summer sessions end
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January

Wednesday	1	New Year's Day Holiday—Intersession classes do not meet
Tuesday-Friday	7-10	Orientation and advising for Academic Campus students
Thursday	9	Registration for New, Transfer, Readmit Day students— Academic Campus students Evening Student Registration
Friday	10	Registration, Continuing Day students—Academic Campus
Saturday	11	Holiday Intersession classes end
Monday	13	Classes begin at 8:00 am—both campuses
Monday-Friday	13-17	Add/Drop and Late Registration for all students
Monday	20	Martin Luther King Day (also state Holiday— Lee/Jackson/King Day)
Friday	24	Last day for spring degree candidates to submit graduation applications to their advisors for May degrees

February

Tuesday	11	Last day for undergraduate students to submit work for removal of incompletes for Fall semester—Academic Campus
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March

Friday	7	Last day to drop a course with a mark of "W"—both campuses (except for courses not scheduled for the full semester)
Saturday	8	Spring vacation begins at noon—both campuses
Monday	17	Spring vacation ends at 8:00 am—both campuses Summer Advance Registration begins
Monday-Friday	24-28	Advising for Fall semester
Monday	31	Fall semester Advance Registration begins

April

Tuesday	29	Classes end for Spring semester— Academic Campus—Evening classes continue through May 3
Wednesday	30	Study day—Academic Campus

May

Thursday-Friday	1-9	Final examinations for Spring semester— Academic Campus
Friday	2	Last day of classes for Spring semester—MCV Campus
Monday-Friday	5-9	Final examinations for Spring semester—MCV Campus
Monday-Saturday	5-10	Final examinations for Spring semester—Evening classes
Saturday	17	Commencement (including August and December graduates)
Monday	19	Summer sessions begin

Summer Sessions 1997

May

Monday-Friday	19-June 6	3-week summer pre-session
Monday-Thursday	19-June 19	5-week summer pre-session
Monday	26	Memorial Day Holiday
Tuesday/Wednesday	27/28-	
Wednesday/Thursday	July 16/17	8-week evening summer session

June

Monday-Wednesday	16-July 16	4 1/2-week summer session
Monday-Thursday	16-July 24	6-week summer session
Monday/Tuesday	16/17-	
Wednesday/Thursday	Aug 6/7	8-week evening summer session
Monday-Thursday	23-July 24	5-week summer session
Friday	27	Last day for summer degree candidates to submit graduation applications to their advisors for August degrees

July

Friday	4	Independence Day Holiday
Thursday-Friday	17-Aug 15	4 1/2-week summer session
Monday-Friday	28-Aug 15	3-week post session

August

Friday	15	Summer sessions end
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1997-98 University Calendar

August

Monday-Wednesday	18-20	MCV Campus Orientation and Registration
Monday-Friday	18-22	Orientation and advising for Academic Campus students
Thursday	21	Registration for New, Transfer, Readmit Day students— Academic Campus
Thursday	21	Evening Student Registration
Thursday-Friday	21-29	Classes begin at 8:00 am—MCV Campus
Friday	22	Add/Drop and Late Registration—MCV Campus
Saturday	23	Registration, Continuing Day students—Academic Campus
Monday	25	Official date for certifying August diploma
Monday-Friday	25-29	Classes begin at 8:00 am—Academic Campus
		Add/Drop and Late Registration—Academic Campus

September

Monday	1	Labor Day Holiday
Wednesday	10	Faculty Convocation at 4:00 pm
Friday	19	Last day for Fall degree candidates to submit graduation applications to their advisors for December degrees
Tuesday	23	Last day for undergraduate students to submit work for removal of incompletes from Spring semester or Summer sessions— Academic Campus

October

Friday	17	Last day to drop a course with a mark of “W”—both campuses (except for courses not scheduled for the full semester)
Monday-Friday	27-31	Advising for Spring semester

November

Monday	3	Founders Day
Monday	7	Spring semester Advance Registration begins for all students
Wednesday	26	Thanksgiving holiday begins at 4:00 pm— No evening classes will meet

December

Monday	1	Thanksgiving holiday ends at 8:00 am
Friday	5	Last day of classes for Fall semester—both campuses, Saturday classes meet December 6
Monday-Friday	8-12	Final examinations for Fall semester—MCV Campus
Monday-Saturday	8-13	Final examinations for Fall semester—Evening classes
Monday-Tuesday	8-16	Final examinations for Fall semester—Academic Campus Day classes
Tuesday	16	Holiday vacation begins at 5:00 pm
Saturday	20	Official date for certifying December diploma
Thursday-Friday	25-26	Christmas Holiday
Monday	29	Holiday Intersession classes begin
Wednesday	31	New Year’s Eve Holiday—Intersession Classes meet

January		
Thursday	1	New Year's Day Holiday—Interession classes do not meet
Tuesday-Friday	6-9	Orientation and advising for Academic Campus students
Thursday	8	Registration for New, Transfer, Readmit Day students— Academic Campus students Evening Student Registration
Friday	9	Registration, Continuing Day students—Academic Campus
Saturday	10	Holiday Interession classes end
Monday	12	Classes begin at 8:00 am—both campuses
Monday-Friday	12-16	Add/Drop and Late Registration for all students
Monday	19	Martin Luther King Day (also state Holiday— Lee/Jackson/King Day)
Friday	23	Last day for spring degree candidates to submit graduation applications to their advisors for May degrees
February		
Tuesday	10	Last day for undergraduate students to submit work for removal of incompletes for Fall semester—Academic Campus
March		
Friday	6	Last day to drop a course with a mark of “W”—both campuses (except for courses not scheduled for the full semester)
Saturday	7	Spring vacation begins at noon—both campuses
Monday	16	Spring vacation ends at 8:00 am—both campuses Summer Advance Registration begins
Monday-Friday	23-27	Advising for Fall semester
Monday	30	Fall semester Advance Registration begins
April		
Tuesday	28	Classes end for Spring semester— Academic Campus—Evening classes continue through May 2
Wednesday	29	Study day—Academic Campus
Thursday-Friday	30-May 8	Final examinations for Spring semester— Academic Campus
May		
Friday	1	Last day of classes for Spring semester—MCV Campus
Monday-Friday	4-8	Final examinations for Spring semester—MCV Campus
Monday-Saturday	4-9	Final examinations for Spring semester—Evening classes
Saturday	16	Commencement (including August and December graduates)
Monday	18	Summer sessions begin



Dear Student:

It is my pleasure to welcome you to Virginia Commonwealth University. As Virginia's largest public urban university and one of its top three research institutions, VCU has a significant impact on the economy and the quality of life of the Commonwealth. VCU's programs range from the arts and business to the sciences, humanities, government, public affairs, social work, and education. You will find credit and noncredit offerings for full-time and part-time students as well as for practicing professionals. You will benefit from our extensive research and public service, athletic and cultural activities, libraries, and student centers. Our capable and committed faculty are ready to assist you, augmented by an array of support services designed to help you achieve your potential.

You also will be joining a University that is implementing a comprehensive strategic plan, involving all aspects of VCU. It includes establishing a new School of Engineering, developing the Virginia Biotechnology Research Park, and building a new convocation and recreation center, among other key initiatives on behalf of VCU's students.

VCU is an extraordinary institution. We are proud to have you here as you pursue your education.

Sincerely,

A handwritten signature in cursive script that reads "Eugene P. Trani". The signature is written in dark ink and is positioned above the printed name and title.

Eugene P. Trani
President

P A R T I

VIRGINIA ▼ COMMONWEALTH ▼ UNIVERSITY

THE UNIVERSITY COMMUNITY

Virginia Commonwealth University (VCU) is a state-supported institution of higher learning with more than 21,000 undergraduate, graduate, and health professions students on its two campuses in Richmond.

The Medical College of Virginia (MCV) Campus is situated amid the financial, governmental, and shopping districts of downtown Richmond.

The Academic Campus is located two miles to the west of the MCV Campus in Richmond's historic Fan District—a residential area that boasts some of the finest architecture representative of nineteenth century America.

VCU was founded in 1838 with the inception of MCV, created as Hampden-Sydney College's medical department. Sixteen years later MCV became an independent institution, and in 1860 it became state-affiliated.

The Academic Campus was formed in 1917 as the Richmond School of Social Work and Public Health. In 1925 it became the Richmond Division of the College of William and Mary. Its name changed again in 1939 to Richmond Professional Institute (RPI) of the College of William and Mary, from which it separated in 1962 to become an independent state institution.

Six years later, under an act of the Virginia General Assembly, the two schools merged to form a major state university. From the union of the undergraduate, graduate, and professional programs of RPI and one of the largest and most

comprehensive medical centers on the East Coast, VCU was born.

Today, VCU boasts a student body as diverse as the faculty who teach here. This cadre of scholars come to VCU from the finest graduate institutions in the world. Through their publication in scholarly journals and their work in the classroom, the laboratories, and the hospital, these men and women insure VCU's reputation as one of the most important institutions of higher learning in America. In attracting federally funded research grants, VCU ranks 75th among colleges and universities in the nation.

VCU maintains active communications with its growing cadre of alumni and enjoys a cooperative and stimulating relationship with Richmond's arts community, business community, architectural community, and local governments.

VCU now comprises a major teaching hospital, a college, 11 schools, and the School of Graduate Studies. Combined, these academic components offer 55 baccalaureate, 63 master's, 20 doctoral, 3 first-professional, and 18 post-baccalaureate certificate programs. It also houses one of the largest evening colleges in the country.

Located in Richmond, one of the South's most cosmopolitan cities, VCU students reap all the cultural benefits and business opportunities associated with city living. Richmond offers a full range of cultural, educational and recreational facilities and activities, including a full performance schedule at VCU's Performing Arts Center and a vast collection of paintings, drawings, and sculptures at the nearby Virginia Museum of Fine Arts.

As the state capital and a major financial and manufacturing operation, Richmond affords students opportunities for part-time employment and affordable student housing in a variety of settings.

Centrally located in Virginia, Richmond is also a short distance to many scenic and cultural locales. It is a two-hour drive to Virginia Beach on the Atlantic Coast to the east, the Appalachian mountains to the west, and Washington, D.C. to the north.

ACADEMIC COMPOSITION OF THE UNIVERSITY

VCU is composed of the following college and schools:

College of Humanities and Sciences, including the School of Mass Communications

School of Allied Health Professions

School of the Arts

School of Business

School of Dentistry

School of Education

School of Engineering

School of Graduate Studies

School of Medicine

School of Nursing

School of Pharmacy

School of Social Work

MISSION OF THE UNIVERSITY

VCU is a public, urban, research university, supported by Virginia to serve the people of the state and the nation. The university provides a fertile and stimulating environment for learning, teaching, research, creative expression, and public service. Essential to the life of the university is the faculty actively engaged in scholarship and creative exploration—activities that increase knowledge and understanding of the world and inspire and enrich teaching.

The university is dedicated to educating full-time and part-time students of all ages and backgrounds in an atmosphere of free inquiry and scholarship so they may realize their full potential as informed, productive citizens with a life-long commitment to learning and service.

The university serves the local, state, national, and international communities through its scholarly activities, its diverse educational programs, and its public service activities. As an institution of higher learning in a metropolitan center that is

also the state capital, the university enjoys unique resources that enrich its programs. The university also contributes its intellectual and creative expertise in the development of innovative approaches to meet the changing needs of our society.

The goals of VCU in carrying out its mission are to:

Provide undergraduate education that includes a broad and rigorous foundation in the arts, sciences, and humanities, and explores the ideas and values of humankind.

Offer nationally and internationally recognized professional and graduate programs leading to doctoral, master's, and other terminal and advanced degrees in the professions, the sciences, humanities, and arts.

Foster a scholarly climate that inspires creativity, a free and open exchange of ideas, critical thinking, intellectual curiosity, freedom of expression, and intellectual integrity.

Expand the boundaries of knowledge and understanding through research, scholarship, and creative expression in the sciences, arts, humanities, and professional disciplines.

Value and promote racial and cultural diversity in its student body, faculty, administration, and staff to enhance and enrich the university.

Develop and sustain a faculty of the highest quality by providing an environment conducive to their achieving and maintaining national and international stature and by continuing to attract both recognized scholars and other outstanding individuals with a high potential for scholarly achievement and excellence in teaching.

Provide an optimal environment for educating and training health care professionals, for conducting research to improve health care and delivery, and for meeting the needs of patients and the community in a comprehensive health care setting.

Use the urban environment as a laboratory for studying and developing new approaches to problems pertaining to the public and private sectors.

Support, through its commitment to public exhibitions, performances, and other cultural activities, the imaginative power of the liberal, visual, and performing arts to express the problems and aspirations of humanity and to enrich the lives of individuals.

Develop innovative programs for continuing education that establish permanent intellectual connections between the university and its constituents, enhance professional competence, and promote dialogue on public issues.

Offer diverse opportunities for individuals to benefit from higher education through a variety of avenues to include flexible scheduling for part-

time undergraduate and graduate students, open admission for nondegree-seeking students with appropriate preparation, advanced degree programs for working professionals, selected programs in diverse locales, admission of graduates with appropriate associate degrees in arts or sciences, and support programs for specially admitted students.

Promote interdisciplinary studies within the university to bring new perspectives to bear on complex problems.

Mobilize its creative energies and its expertise to meet the needs of society and individuals in its unique role as Virginia's major urban university.

GENERAL EDUCATION¹

Virginia Commonwealth University recognizes that certain desirable results are so necessary to the educational process at every stage that they should not be separated out or segregated into a part of the curriculum. In particular, clear thinking and information retrieval must pervade the curriculum. The following two statements are commitments of the university:

1. Students can expect to learn the elements of clear thinking and to be nurtured in their development as careful, critical and creative thinkers.
2. Students can expect to learn how to access, retrieve, evaluate and synthesize information in various formats (bibliographic, graphic, numeric, spatial, textual, etc.) through up-to-date means relative to their studies at every level.

The Virginia Commonwealth University Mission Statement states that "The university is dedicated to educating... students... in an atmosphere of free inquiry and scholarship, so that they may realize their full potential as informed productive citizens with a lifelong commitment to learning and service." The best mechanism for fostering a commitment to life-long learning among students is to promote self-examination and to motivate them to seek the life of the mind by immersing them in exciting learning in a variety of venues among dedicated scholars in the arts, the humanities, the sciences and their myriad applications. A third commitment of the university is to foster life-long learning:

3. Students can expect guidance in developing the habit of self-examination and help in becoming self-actuated life-long learners.

Issues-oriented or thematic courses offer an integrated approach to certain fundamental human problems while also requiring students to grapple with important issues of our day. To insure that students have access to issues-oriented courses, the university makes the following commitment:

4. Students can expect to be able to achieve part of their general education through interdisciplinary courses addressing major issues of our day. The courses will integrate, rather than isolate, various disciplinary approaches to learning and understanding.

Virginia Commonwealth University has identified seven curricular elements for general education:

1. Communicating

Students should demonstrate effective oral and written communication skills. Beyond the general basic knowledge of composition and rhetoric, the student should learn the standards of communication within the student's own discipline.

2. Ethics

Students should demonstrate an understanding of the main concepts and theories of ethics and the role they play in our public and private lives at both the professional and personal levels. Students should be able to examine their fundamental moral beliefs, to form rational arguments and judgments relative to ethics, and to enable them to act on their values to make ethical choices.

3. Quantity and Form

Students should be able to quantify or represent information symbolically. Students should be able to use such codified information with respect to questions of size, proportion or order, and to analyze it or manipulate it in a manner consistent with the standards of the student's own discipline.

¹ Approved by the Board of Visitors 1/19/95. This general education plan will be fully implemented in fall 1997.

4. Science and technology

Students should demonstrate some understanding of, and experience with, the processes and concepts of modern experimental science and the impact of science and technology on society.

5. Interdependence

Students should be able to demonstrate an awareness of the cultural, economic, informational, and social interdependencies that exist among nations and cultures today.

6. The Visual and Performing Arts

Students should demonstrate an enhanced understanding of, and experience in, the various visual and performing arts which represent and express the complexities of the human condition.

7. Humanities and Social Sciences

Students should demonstrate an appreciation of the varieties and complexities of human cultures and values as expressed through literary, religious, historical, and philosophical works. They should also demonstrate an understanding of individual and collective behavior as structured through political, economic, social, and cultural institutions.

The class entering in the fall semester of 1997 will be subject to a new set of general education requirements approved by the University Undergraduate Curriculum Committee.

ACADEMIC RESOURCES

VCU 101 Introduction to the University. Designed to orient new students to the rich traditions and purposes of an education at VCU, this course assists students in making the transition from a high school program, a community college or other university program, or the work force to academic life at VCU.

Through lectures, class discussions, on-campus projects, readings, and the opportunity to work with instructors in a small group setting, students can discover the university's resources and services, assess their own academic strengths and limitations, consider academic and career

goals, and clarify expectations about being students at this university.

Having completed this course, students will better understand their "fit" as new members of the VCU community and the ways to achieve a personally rewarding and successful academic program.

Office for Information Technology. The Office for Information Technology (OIT) was created in 1994 in response to a VCU strategic planning directive. Under the leadership of the Vice Provost for Information Technology, the OIT is committed to fostering an environment which facilitates the use of information technology and library resources to support the learning, teaching, research, healthcare, and public service missions of the University. Four organizational units provide technological infrastructure, University-wide user services, and information resources in support of institutional operations and activities.

Administrative Systems is responsible for operating the University's student, financial and human resources systems.

VCU will replace the current administrative systems with an integrated user-focused suite of applications under development with USA Group TRG and twelve partner institutions. Implementation of student and financial systems will begin in 1997. Development of human resources and institutional advancement systems will follow. University administrative processes will be reengineered to ensure that the new systems will promote improved more efficient and user-focused administrative services to the University community. An enterprise-wide database will be developed in conjunction with the new administrative system to ensure a single integrated and coordinated information base within the University. In addition, groupware applications (e-mail, calendaring, document systems) will be implemented in order to improve communications and move toward a "paperless" workplace.

University Computing and Communications Services (UCCS) is composed of the University Computer Center, University Computing Services Academic Campus, University Computing Services-MCV Campus, and Communications and Network Services.

Basic services from these centers include consulting help in the use of all university computing resources, teaching short courses, advice on acquisition of computer systems, operation of local computer facilities and data networks, optical scanning for test grading, faculty evaluation and other surveys, and microcomputer software site licens-

ing. A number of other services are provided to support micro, mini, and mainframe computers.

UCS-Academic and MCV Campus provides end-user services for all University students, faculty and staff. These units provide support for desktop systems - personal computers, client server, and Novell file services, and provide user services including help deskline, training, documentation and instructional technology. UCS personnel operate student and faculty computing labs and customer services areas and distribute software (site/bulk licensed, shareware).

University Computer Center. The University Computer Center (UCC) operates as a centralized computer services utility which makes mainframe computer resources available to all VCU students, faculty, and staff administrative and academic. Located between the Academic and MCV Campuses at 900 East Main Street, the UCC provides many services to administrative staff.

The UCC provides computer utility services on IBM, MVS, and VM mainframe computers for administrative and academic functions of the University. Services provided include large data storage capacity; mainframe processing power; extensive networking facilities (Telnet, Internet, Bitnet, Profs, VCU E-Mail); batch processing; and on-line systems. These on-line systems include TSO, a versatile programming tool, and CICS, which provides access to hundreds of application programs used extensively at VCU. A partial list of programming languages and products available at the UCC includes Fortran, Cobol, SAS, PL/1, C, Pascal, Assembler, Mantis, DYL280, SPSS, SQL, QMF, IMAGINE, and Prolog.

Access to UCC facilities is available at over 1,500 terminals located throughout the university. Dial-up and Telnet facilities are also available.

The UCC maintains a public access INFO system. This is an electronic package of information about VCU. It is accessible to everyone, including university visitors. To use INFO, type 1 at the LOGON screen displayed on any terminal or workstation with access to the UCC's mainframes. The INFO package is menu driven, available 24 hours a day, and requires no computer ID for use.

University Computing Services Academic Campus. Located in the basement of the James Branch Cabell Library (Cabell Library), UCS-AC is the chief provider of end-user computing support on the Academic Campus.

UCS-AC operates several UNIX computer systems, and a variety of software packages are used with the computers. Application software

includes word processing (WordPerfect), editing (vi, JOVE), microcomputer communications (Kermit), electronic mail (ELM mail and "Pop-mail"), newsgroups, networking (ftp, rlogin, telnet), WWW textual browser (Lynx), and statistics (SAS, SPSS, Splus). Access to these applications is available via a Lynx-based menu system. Programming languages available include C, FORTRAN 77 and Pascal.

UCS-AC maintains labs which provide access to UNIX systems, Macintosh and IBM PC/compatible software, and to software residing on Novell servers. The lab located in Cabell Library, Room B-8, contains microcomputers and public access terminals. The department also maintains public labs with terminals for access to the UNIX systems in the General Purpose Academic Building (Room 3303), the Hibbs building (Rooms 331 and 341), and in the School of Business (Business Building Rooms 2127, 2129, and 4115B). These public labs are also equipped with LAN printers. Dialup facilities are available to provide computer access to the UNIX systems from remote locations. In addition, a number of departments and schools maintain their own microcomputer labs.

All VCU students are entitled to access the above UNIX systems. Personal accounts are provided free of charge for VCU research, instructional and administrative support. Students may apply for a personal UNIX system account at any of the stations located in front of the UCS-AC Customer Service Window (in the basement of the Cabell Library, Room B-9). Personal accounts may also be applied for through the Web at: <http://www.vcu.edu/cgi-bin/reqacct>

UCS-AC staff are responsible for a broad range of services. These include consulting (in person, via telephone, or electronic mail), training, documentation, software distribution, Internet services, computer account administration, network planning support, computer procurement support, optical scanning services (for test grading, faculty evaluation and other surveys), and classroom network access. A complete list of all UCS-AC services and systems are available off the VCU WWW server at: <http://www.vcu.edu/vcu/ucsac/>

Consulting areas of expertise include dialup communications (kermit); documentation; e-mail; hardware installations and repair; lab support (Cabell Library Room B-8), Cabell Library Room 320, and the Faculty Center for Instructional Technology (Cabell Library Room B-43); listservs; newsgroups; Macintosh; networks

(Appletalk, IPX); PC compatible (DOS, Windows for Workgroups); procurement; security; software distribution; software suites (Lotus SmartSuite, Microsoft Office, Novell Perfect Office); statistical (SAS, SPSS, Splus); and World Wide Web (WWW) support. UCS-AC staff are also responsible for network desktop services, including project coordination, system readiness, distribution, installation and training.

University Computing Services-MCV Campus. University Computing Services on the MCV Campus (UCS-MCV), located on B3 level of Sanger Hall, manages a VAXcluster (VMS), consisting of multiple VAXs, and UNIX servers (SGI and IBM RS/6000), providing interactive computing to public and private personal computers and terminals around the campus. These servers provide a rich assortment of software packages for statistical analysis (SAS, SPSSX, and GLIM), molecular modeling (CHEMX, FRODO, and SYBYL), DNA sequence analysis (GCG), simulation (SPICE), numerical methods (IMSL, NAG, and LINPACK), and graphics (SAS/GRAPH and GKS on the VAX and numerous packages on the UNIX workstations). Computer languages available include FORTRAN, SAS, Pascal, BASIC, C, and COBOL. Other areas include database (INGRES, Sybase, and Datatrieve), forms management (FMS), data entry (EasyEntry), word processing (WordPerfect), and text processing (TeX). In addition, these servers are used extensively for electronic mail connected to BITNET and the Internet, World-Wide Web Access, and information dissemination for the academic community.

A limited number of IBM-compatible and Apple Macintosh microcomputer systems are available. External devices such as optical scanners, slide-makers, slide scanners, plotters, and digitizers are connected to the microcomputers. SGI, IBM, RS/6000, and VAX station graphics workstations are also available. Many departments and schools maintain their own microcomputer labs. UCS-MCV manages multiple interconnected Ethernet networks on the MCV Campus, supporting Novell, TCP/IP, and DECnet protocols.

Communications and Network Services is responsible for all data, voice and video networking from central systems to the end-user outlet. VCU students, faculty and staff have access to a wide variety of computing resources such as electronic library holdings, E Mail, and special databases and programs. These facilities also allow connectivity to the Internet including the World Wide Web, the University fiber optic

backbone network, and local area networks on both the Academic and MCV campuses. Local dial-up access is also available to the University network and associated computer resources.

INFORMATION RESOURCES AND MEDIA

Multimedia Development Center was created in 1995 to initiate innovative technology for the delivery of instruction at VCU. The staff supports faculty efforts to create a student-centered asynchronous learning environment, applying distance learning, and multimedia-on-demand technology. In partnership with other educational institutions the center and VCU faculty develop multimedia educational models.

UNIVERSITY LIBRARY SERVICES

University Library Services (ULS) is a vibrant community where ideas are generated, engaged, and shared. It is a dynamic center of culture and knowledge, serving as a conduit for recorded information in all its forms.

ULS administers the major research libraries on both campuses and provides numerous electronic resources, federal and state documents, patents, and a wide variety of microform and media resources.

The combined collections in James Branch Cabell Library on the Academic Campus and Tompkins-McCaw Library on the MCV Campus total more than 1.1 million volumes. Cabell Library's growing collections support the programs of the Academic Campus. The Library houses more than 827,000 volumes and 6,700 journal titles. The comprehensive collections of Tompkins-McCaw Library support the university's teaching and research needs in the health sciences and contain more than 296,000 volumes and 3,100 journal titles. Tompkins-McCaw Library is a designated resource library for the southeastern states in the Regional Medical Library System.

The most recent issues of the journal and newspaper titles in the collection are shelved on the second floor of Cabell Library and in the basement of Tompkins-McCaw Library. Bound volumes of the journals are shelved on the second floor of Cabell Library and throughout the stacks at Tompkins-McCaw Library.

A selective depository for U.S. government documents, Cabell Library is also the only United

states Patent and Trademark Depository Library in Virginia. The combined Government Documents collections include approximately 265,000 items available in print.

Both libraries provide an assortment of services, including reference assistance from professional librarians, library orientation tours and bibliographic instruction, computer-assisted literature searches, brown bag lunches and seminars on *Internet* navigational tools and resources, self-service photocopiers, and microform reader-printers.

The online catalog serves as the gateway to both print, non-print, and electronic resources. Electronic databases, and a broad array of CD-ROMs covering all disciplines, constitute the backbone of ULS' electronic resources. The catalog links both libraries and enables patrons to determine the status of library materials. Except for the basement at Cabell Library, computer terminals are located on all floors of both libraries.

Through interlibrary loan, students may borrow books and obtain photocopies of articles from the collections of academic and public libraries throughout this country. VCU students also may borrow specific books from other Richmond academic libraries by inquiring at the Cabell Library Reference Desk and Tompkins-McCaw Library Service Desk for a special borrowers pass.

ULS' document delivery services consist of a service to retrieve, photocopy, and deliver articles owned by ULS. This is a fee-based service. Document delivery forms may be submitted in person at Cabell Library's Interlibrary Loan Office, the Cabell Library Circulation Desk, Tompkins-McCaw Library's Interlibrary Loan Office, or the Tompkins-McCaw Library Service Desk. Forms also may be mailed or faxed to Cabell Library's Interlibrary Loan Office at P.O. Box 842033, 828-1730 or Tompkins-McCaw Library's Interlibrary Loan Office at P.O. Box 980582, 828-2260. Forms also may be submitted via e-mail to University Computing Services-Academic Campus or MCV Campus. A variety of payment and delivery options exists.

Media services include media production services; television and teleconferencing consultation and assistance; and media support services for audio, video and multimedia resources.

Media Production Services (MPS), located in Sanger Hall on the MCV Campus, provides a variety of special services in support of the teaching, research, patient care, and public relations programs at VCU. MPS services include medical illustrations; graphic design of brochures; computer slide presentations; poster exhibits; photo-

graphic prints, slides, film processing, and slide duplication; electronic imaging; broadcast quality video production; and teleconference and distance education programs support.

Media resources, located in room 301 of Cabell Library and on the second floor of Tompkins-McCaw Library, consist of non-print resources, including cassette tapes, compact discs, computer software, models, slides, and video and laser discs. Media Resource Services at Cabell Library also houses music scores. Additionally, films and videos from the RALC Film/Video Library Cooperative are available to VCU faculty.

There are many services for persons with disabilities. Cabell Library has a wheelchair ramp to enter the building on the first floor through automatic doors. Accessible restrooms are in the basement level, and elevators provide access to all floors. Special audio and visual equipment is available to aid in using library materials, including the Kurzweil "Reading Edge," a synthesized-voice reading machine; the Voyager/Visualtek Reader for enlarging printed text; and a large-print microfiche reader. Staff at the Reference Desk can provide special research assistance and orientations by appointment. The new document delivery service will waive the fee and provide assistance with retrieving and photocopying materials from the collection within 48 hours of the request.

Tompkins-McCaw Library has a wheelchair ramp with monitored entrances that must be released for entrance. Accessible restrooms are available on the first floor, and elevators provide access to all floors. Specialized equipment includes a personal computer with a braille keyboard and printer, software for screen magnification and scanning, and synthesized voice for screen reading. A Voyager/Visualtek Reader and large-print microfiche reader also are available. Staff at the document delivery service will waive the fee and provide assistance with retrieving and photocopying materials from the collection within 48 hours of the request.

Most of ULS' reprographics equipment is VCU ONE CARD-compatible. The VCU ONE CARD also can be used for Access Services functions, including checking out library materials.

ULS is a member of the Center for Research Libraries, the Richmond Area Library Cooperative, the Association of Southeastern Research Libraries, the Richmond Area Film/Video Cooperative, the Southeastern/Atlantic Regional Medical Library Services, and the Virtual Library of Virginia (VIVA) initiative.

ULS strives for excellence in all of these endeavors, keeping uppermost in mind at all times the importance of the highest quality service to the students, faculty, and staff of the university.

For more information about University Library Services, please visit the World Wide Web site at <http://exlibris.uls.vcu.edu/uls.html>.

ACADEMIC SERVICES

VCU seeks to make its courses and programs available to all people who qualify for college-level work and wish to enroll in the university. The university has developed programs to improve access to its academic offerings and to prepare special populations for successful college enrollment.

Academic Counseling Office. The Academic Counseling Office helps student-athletes realize their academic potential while participating in the university's intercollegiate athletic program. More than 250 men and women participate in VCU's 16 intercollegiate athletic programs. The services offered to student-athletes include tutoring, study skills, academic monitoring, and academic planning.

Division of Community and International Programs. This division has major responsibility for coordinating the university's community outreach and international activities. The Division offers a wide variety of programs and services to achieve its mission.

These programs include summer and off-campus studies, the Bachelor of General Studies degree program, advising for special students, noncredit professional education courses, cooperative education, conference and workshop planning, community outreach programs and international programs. See Part XVIII of this bulletin for further information.

Senior Citizen Higher Education Program. This program, created by an act of the General Assembly, provides any legal resident of Virginia over 60 years old who has lived in the state for more than one year with free education at state-supported colleges and university.

Advanced Scholars Program. Qualified seniors from area high schools may be permitted to take college-level courses at VCU while completing their high school course work. Eligible students select their courses and, upon successful completion, are awarded the appropriate college credit. See Part II of this bulletin for details.

Early Admission Program. This program allows exceptional high school students to enroll at

VCU after completion of their junior year. See Part II of this bulletin for details.

Early Decision Plan. Under this plan, highly qualified freshman applicants applying for the fall semester may be accepted on December 1. If accepted under this plan, the applicant must withdraw applications from all other universities or colleges and commit to VCU by the first of the year.

Advanced Placement. Qualified students who took college-level work in secondary school may receive academic credit and/or advanced placement. See Part II of this bulletin for further information.

Guaranteed Admission to the Health Science Programs on the MCV Campus and Selected Programs on the Academic Campus

Qualified freshmen may be admitted to the various health science programs on the MCV Campus and selected programs on the Academic Campus. If accepted, these students automatically move into the professional-level program or upper-level division (graduate) program and are not required to submit an application for admission to the professional-level program. See Part II of this bulletin for details.

Office of Academic Support. This office offers a number of services and programs designed to help undergraduates succeed in their education. The office provides supportive programs and services that aid students in adjustment and academic achievement. These programs and services include, innovative curricula, tutorial services, academic advising, personal counseling, and career planning. See Part II of this bulletin.

Service for Students with Disabilities. The Program of Services for Students with Disabilities provides information and assistance in academic planning and advising to VCU students identified as having a disability. Services include: 1) reasonable accommodations, physical access to programs and services, keys to wheelchair lifts, access to classrooms; and 2) academic adjustments, priority registration, auxiliary aids, program and course adjustments, exam modification, *sign language* interpreters, note takers, readers, tutors, psycho-educational and career counseling.

Policy Statement for Persons with Disabilities

VCU is committed to a policy of equal opportunity and affirmative action in education and employment and complies with the requirements of the Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973. The Office of EEO/AA Services oversees compliance with these

laws. Contact Mrs. Gail S. Barber, University ADA Coordinator, at (804) 828-1347.

The university does not discriminate against qualified students with disabilities in admissions or program accessibility. Upon self-disclosure of a disability and the provision of medical documentation, students receive appropriate academic adjustments and reasonable accommodations, as needed.

Services for students with disabilities are coordinated by Dr. Shyla M. Ipsen (Academic Campus), (804) 828-2253, and Mr. Donald G. Roebuck, (MCV Campus), (804) 828-9782.

BOOKSTORES

The bookstores at VCU provide textbooks and other related materials required of university students. The Academic Campus Bookstore maintains the largest stock of used books available to VCU students. The Academic Campus and MCV Campus Bookstores also carry an extensive line of study aids, reference materials, general books, and magazines. Additionally, the bookstores carry a full line of art and office supplies, lab apparel, calculators, greeting cards, candies, snack items, and a large assortment of licensed insignia items, including gifts, furniture, and apparel. The MCV Campus Bookstore carries an extensive line of medical instruments.

Payment. Both bookstores accept cash, VISA, Discover, MasterCard, Most, the University OneCard, and personal in-state checks. Out-of-state checks are accepted during rush periods.

Refunds and Exchanges. For refunds or exchanges, the customer must present a valid cash register receipt. Textbooks may be returned through the third week of regular classes and must be in absolutely new, unmarked condition.

Hours and Location

Academic Campus Bookstore

Regular Hours:

Monday-	
Thursday	8:00 a.m.-7:15 p.m.
Friday	8:00 a.m.-4:30 p.m.

Extended Rush Hours:

Monday-	
Thursday	8:00 a.m.-9:00 p.m.
Friday	8:00 a.m.-4:30 p.m.
Saturday	10:00 a.m.-3:00 p.m.

Wholesale book buy-back daily from 9:00 a.m.-4:00 p.m.

Hours and Location

MCV Campus Bookstore

Monday-

Friday 8:00 a.m.-5:30 p.m.

The location of the Academic Campus Bookstore is in the Hibbs Building, 900 Park Avenue, (804) 828-1678. The MCV Campus Bookstore is located in the N Deck, 601 North 10th Street, (804) 828-0336.

TECHNOLOGY RESOURCES

The technology store at VCU is dedicated to providing high quality, competitively priced computer hardware, software and supplies. Many of the computer products can only be sold to currently enrolled or employed students, faculty or staff. The sales staff can suggest computer bundles that include computer hardware, software and peripherals to meet the needs of a particular field of study.

Payments. The technology store accepts cash, Visa, Discover, MasterCard, Most, the University OneCard and personal checks. The store can also assist in arranging loan agreements.

Hours and Location

Online@VCU

University Student Commons

Regular Hours:

Monday-	
Thursday	9:00 a.m.-7:00 p.m.
Friday	9:00 a.m.-5:00 p.m.
Saturday	11:00 a.m.-3:00 p.m.

Academic Campus Bookstore

Hibbs Building

900 Park Ave., (804) 828-1678 800-489-3638

Online@VCU

University Student Commons

907 Floyd Ave., (804) 828-7295

MCV Campus Bookstore

N Deck

601 N. 10th St., (804) 828-0036 800-865-2777

UNIVERSITY MAIL SERVICES

The United States Postal Service (USPS) provides self-service postal vending machines in the lobby of the VMI Mail Center at 1000 East Marshall

Street on the MCV Campus and in the University Student Commons on the Academic Campus. Students can mail packages through the USPS from the Student Commons Postal Center. A full service USPS station at 8th and East Marshall Streets is available for MCV Campus students.

All students living in residential housing have dormitory mailboxes. The nine digit zip code is important and should be used on all mail. Mail for dormitory residents should be addressed as described below.

Cabaniss Hall

Student's Name
(Room #) Cabaniss Hall
Richmond VA 23298-8000

Bear, McRae, Rudd, or Warner Hall

Student's Name
(Room #) (Bear, McRae, Rudd, Warner) Hall
Richmond VA 23298-7000

Rhoads Hall

Student's Name
(Room #) Rhoads Hall
710 W. Franklin St.
Richmond VA 23220-4101

Johnson Hall

Student's Name
(Room #) Johnson Hall
801 W. Franklin St.
Richmond VA 23220-4103

Gladding Residence Center

Student's Name
(Room #) Gladding Res. Cnt.
711 W. Main St.
Richmond VA 23220-5500

PRINTING SERVICES

Printing Services provides high quality offset printing and reproduction services to faculty, staff and students. Printing Services, through a University contractual relationship currently provided with Xerox Business Services, can assist with preparation, copying, duplicating, printing and distribution and delivery of documents.

School of Business Copy Center
1015 Floyd Ave., Room 1122, 828-7207

Hours
Monday-
Thursday 8:00 a.m.-7:00 p.m.
Friday 8:00 a.m.-4:30 p.m.

Ginter House Copy Center

901 W. Franklin St., Room B8 828-1366

Hours

Monday-
Friday 8:00 a.m.-5:00 p.m.

Hunton Hall Copy Center

Campus Room at MCV
323 N. 12th St., 828-9654

Hours

Monday-
Friday 8:00 a.m.-5:00 p.m.

Printing Services also maintains two coin-operated vending copiers on the Academic Campus, one in the Business Building vending area, the other in Oliver Hall Education Wing, fourth floor vending area.

PARKING AND TRANSPORTATION

The Office of Parking and Transportation has offices conveniently located on both campuses of the university. Office hours are 8:00 a.m.-4:30 p.m. daily. For information regarding shuttle bus services, parking subscriptions, and other parking related topics, please call (804) VCU-PARK (828-7275).

Students living in residence halls may purchase convenient parking which features 24-hour security coverage. The Student Commuter Parking Program offers a variety of parking options for non-residential day students designed to meet various parking needs. Most facilities are served by shuttle service and feature on-site security. Evening students may purchase a discounted permit which provides for parking after 3:30 p.m. on weekdays and all day Saturdays and Sundays. Daily parking is available, on a first-come, first-served basis, in the Academic Parking Deck on Main Street. Entrances are located on either Laurel or Cherry Streets. Payment is made upon exiting the deck. Special tokens may be purchased to expedite your departure from the deck.

INTERCOLLEGIATE ATHLETICS

Dr. Richard Sander
Athletic Director

With new athletic facilities and upgraded programs, the intercollegiate athletic program at VCU continues to grow. The Thalheimer Tennis

center, with its air-supported roof, and the Cary Street Field's prescription turf surface provide our student-athletes with some of the most modern athletic facilities in the state.

The most significant addition to the department's facilities will be the Stuart C. Siegel Convocation and Recreation Center, scheduled for completion by the 1998 fall semester. The multipurpose facility will be located on the northwest corner of West Broad and Harrison Streets and will consist of two components. The first will be a recreational component consisting of over 34,000 square feet of space suitable for a variety of activities, including weight and fitness training, basketball, volleyball, and aerobics, as well as locker rooms, showers, equipment, a lounge, and food service. The second will be an events center with over 155,000 square of multipurpose space, including six basketball courts for daily recreational use and practice for athletes, permanent and retractable seating, locker rooms, study areas, team lounges, concessions, and administrative office space.

More than 250 student-athletes participate in the 16 athletic programs sponsored by the university.

Athletic teams for men include basketball, baseball, cross country, golf, soccer, tennis, and indoor and outdoor track and field. Women's teams include basketball, cross country, field hockey, soccer, tennis, volleyball, and indoor and outdoor track and field.

All full-time undergraduate students enrolled at VCU are eligible to compete subject to the rules and regulations governing intercollegiate competition. Students interested in a specific sport should contact the coach through the Department of Athletics, Franklin Street Gymnasium, 819 West Franklin Street, P. O. Box 842003, Richmond, VA 23284-2003. (804) 828-4000.

ORAU

Virginia Commonwealth University is a sponsoring institution of Oak Ridge Associated Universities (ORAU), a not-for-profit consortium of 62 colleges and universities and a management and operating contractor for the U.S. Department of Energy (DOE) with principal offices located in Oak Ridge, Tennessee. Founded in 1946, ORAU identifies and helps solve problems in science, engineering, technology, medicine, and human resources, and assists its member universities to focus their collective strengths in science and technology research on issues of national significance.

ORAU manages the Oak Ridge Institute for Science and Education (ORISE) for DOE. ORISE is responsible for national and international programs in science and engineering education, training and management systems, energy and environment systems, and medical sciences. ORISE's competitive programs bring students at all levels, precollege through post-graduate, and university faculty members into federal and private laboratories.

ORAU's office for University, Industry, and Government Alliances (UIGA) seeks out opportunities for collaborative alliances among its member universities, private industry, and federal laboratories. Current alliances include the Southern Association for High Energy Physics (SAHEP) and the Center for Bio-Electromagnetic Interaction Research (CBEIR). Other UIGA activities include the sponsorship of conferences and workshops, the Visiting Scholars program, and the Junior Faculty Enhancement Awards.

Contact The Vice President for Research and Graduate Studies, P.O. Box 980568, Richmond, VA 23298-0568, (804) 828-0732 for more information about ORAU programs.

ACADEMIC COMMON MARKET

The state participates in the Academic Common Market, an interstate agreement for sharing uncommon academic programs at both the baccalaureate and graduate levels. Other states which participate in the ACM are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, South Carolina, Tennessee, Texas, and West Virginia. Schools in these states are able to make arrangements for residents who qualify for admission to specific programs in other states to enroll on an in-state tuition basis. A student who has been accepted for admission into a program for which the student's state of residency has obtained ACM access must obtain certification of residency from the higher education authority of the student's state of residency. Inquiries about the Academic Common market also should be directed to the higher education authority of the student's state of residency.

ACADEMIC ORGANIZATION

VCU is organized into a college, schools, and departments offering undergraduate and graduate programs. The dean's office of each school

provides the general coordination of the academic departments and programs within the school. Listed below are the schools with their respective departments and programs.

The College of Humanities and Sciences

School of Mass Communications
 Advertising
 Electronic Media News-Editorial
 Public Relations
 Program in African American Studies
 Interdisciplinary Degree Program in Science
 Department of Biology
 Department of Chemistry
 Department of Criminal Justice
 Law Enforcement
 Juvenile Justice
 Corrections
 Legal Studies
 Department of English
 Department of Foreign Languages
 French
 German
 Spanish
 Comparative Literature
 Department of History
 Program in International Studies
 Department of Mathematical Sciences
 Division of Applied Mathematics and Mathematics
 Division of Computer Science
 Division of Operations Research and Statistics
 Department of Military Science
 Department of Philosophy and Religious Studies
 Program in Judaic Studies
 Department of Physics
 Department of Political Science and Public Administration
 Department of Psychology
 Department of Sociology and Anthropology
 Department of Urban Studies and Planning
 Environment
 Geography
 Information Systems
 Planning
 Public Policy and Social Change
 Public Management
 Pre-professional Studies in Health Sciences
 Clinical Laboratory Sciences
 Dental Hygiene
 Dentistry
 Medicine
 Nursing
 Nuclear Medicine Technology
 Occupational Therapy
 Optometry
 Pharmacy
 Physical Therapy
 Veterinary Medicine
 Pre-professional Study for Law
 Program in Women's Studies
 Environmental Studies

School of Allied Health Professions

Department of Gerontology
 Department of Health Administration
Department of Clinical Laboratory Sciences

Department of Nurse Anesthesia
 Department of Occupational Therapy
 Program in Patient Counseling
 Department of Physical Therapy
 Department of Radiation Sciences
 Department of Rehabilitation Counseling

School of the Arts

Art Foundation Program
 Department of Art Education
 Department of Art History
 Art Historical
 Architectural History
 Museum Studies
 Art Historical/Studio
 Department of Communication Arts and Design
 Advertising Art Direction
 Electronic Media
 Graphic Design
 Illustration
 Photography
 Multi-Disciplinary Program
 Department of Crafts
 Ceramics
 Fiber/Fabric Design
 Glassworking
 Jewelry/Metalsmithing
 Wood/Furniture Design
 Department of Dance/Choreography
 Department of Fashion Design and Merchandising
 Fashion Design
 Fashion Merchandising
 Department of Interior Design
 Department of Music
 Performance
 Composition
 Music Education
 Department of Painting and Printmaking
 Painting
 Printmaking
 Department of Photography (No Undergraduate Degree)
 Department of Sculpture
 Department of Theatre
 Performance
 Design Technical
 Theatre Education

School of Business

Advanced Program
 Business Foundation Program
 Department of Accounting
 Department of Economics
 Department of Finance, Insurance and Real Estate
 Finance
 Insurance/Risk Management
 Real Estate and Urban Land Development
 Safety and Risk Administration Program
 Department of Information Systems
 Department of Management
 Business Administration
 Human Resources Management/Industrial Relations
 Management
 Entrepreneurship and Small Business
 General Management
 Production/Operations Management
 Department of Marketing and Business Law

School of Dentistry

Division of Dental Hygiene
 Department of Endodontics
 Department of Oral Pathology
 Department of Oral and Maxillofacial Surgery
 Department of Orthodontics
 Department of Pediatric Dentistry
 Department of Periodontics
 Department of Prosthodontics
 Department of General Practice Dentistry

School of Education

Division of Educational Studies
 Educational Foundations
 Division of Health, Physical Education and Recreation
 Physical Education
 Health Education
 Recreation, Parks and Tourism
 Division of Teacher Education
 in cooperation with the College of Humanities and
 Sciences Extended Teacher Preparation Programs
 Early Education NK-4
 Middle Education 4-8
 Secondary Education 8-12
 Biology
 Chemistry
 English
 French
 General Science
 German
 History/Social Science
 Mathematics
 Physics
 Spanish
 Special Education K-12
 Emotional Disturbance
 Mental Retardation

School of Engineering

Bio-Medical Engineering Program
 Mechanical Engineering Program
 Chemical Engineering Program
 Electrical Engineering Program

School of Medicine

Department of Anatomy
 Department of Anesthesiology
 Department of Biochemistry and molecular Biophysics
 Department of Dermatology
 Department of Family Practice
 Department of Human Genetics
 Department of Internal Medicine
 Department of Legal Medicine
 Department of Microbiology & Immunology
 Department of Neurology
 Department of Obstetrics and Gynecology
 Department of Ophthalmology
 Department of Otolaryngology
 Department of Pathology
 Department of Pediatrics
 Department of Pharmacology & Toxicology
 Department of Physical Medicine and Rehabilitation
 Department of Physiology
 Department of Preventive Medicine and
 Community Health
 Department of Psychiatry
 Department of Radiation Oncology
 Department of Radiology
 Department of Surgery

School of Nursing

Department of Adult Health Nursing
 Department of Maternal-Child Nursing
 Department of Nursing Systems, Community and
 Psychiatric Mental Health

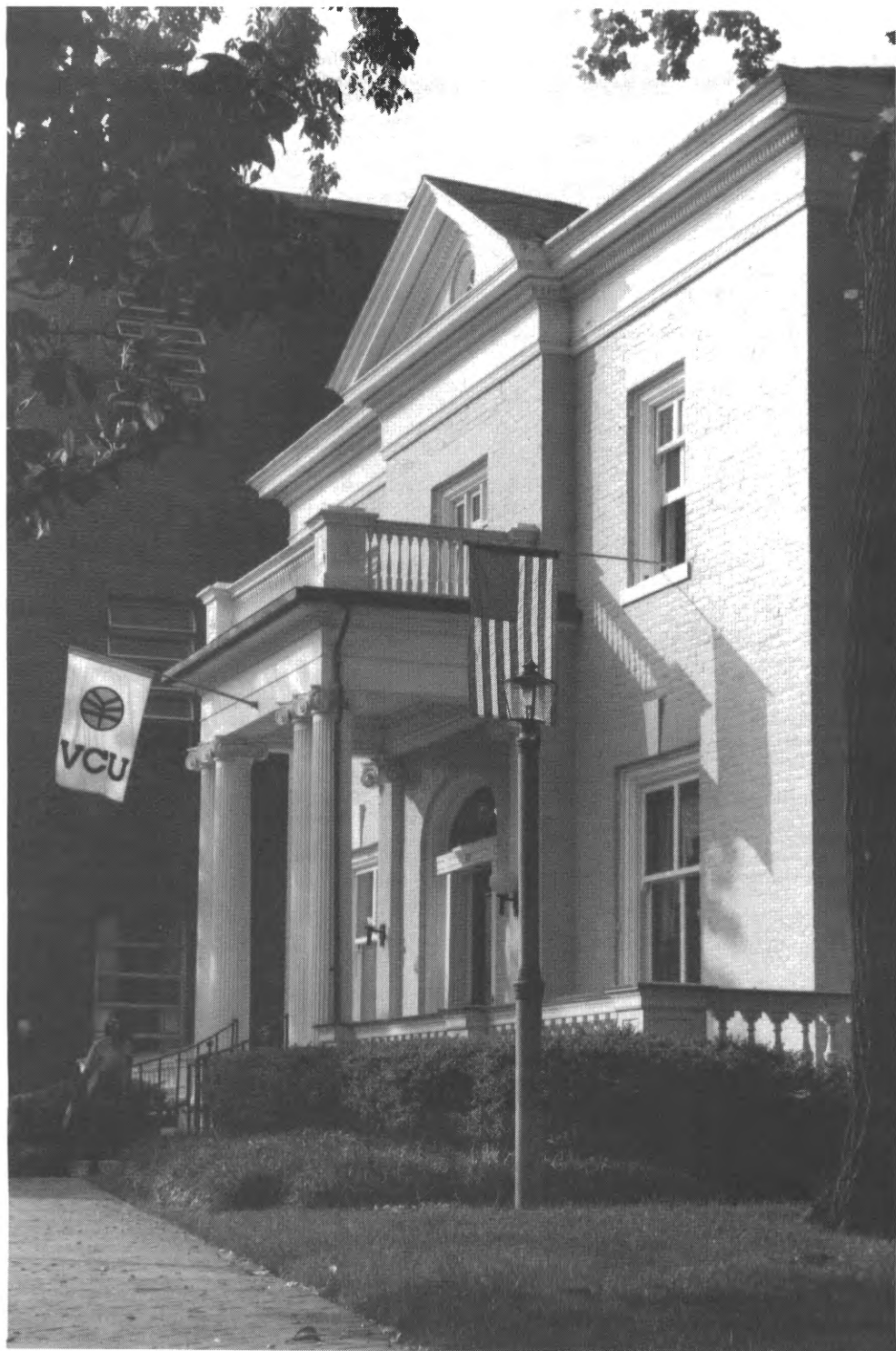
School of Pharmacy

Department of Medicinal Chemistry
 Department of Pharmacy and Pharmaceutics

School of Social Work

Baccalaureate Social Work Program
 Master of Social Work Program
 Ph.D. in Social Policy and Social Work

For a complete list of academic degree programs, see the Academic Programs section of this bulletin.



PART II

UNDERGRADUATE ▼ ADMISSIONS

GENERAL POLICY GOVERNING ADMISSIONS AND ENROLLMENT

As a comprehensive, urban, public institution, Virginia Commonwealth University seeks to provide excellent higher education for those who will profit from an intellectually challenging experience. The University encourages applications from people who are sincere in their desire to study in an environment where excellence in teaching, research, scholarly activities, and community services is stressed. VCU also encourages applications from returning adult students whose education may have been interrupted.

Recognizing the value of a diverse student body, the university invites applications from all qualified persons without regard to age, race, sex, religion, disability, or national origin. Although the university has a primary responsibility to educate Virginia residents, the value and contribution of a diverse student body is recognized and the enrollment of students from other states and countries is encouraged. Entrance requirements are in full compliance with all applicable federal and state statutes, rules, and regulations.

All people admitted to and enrolled in the university are classified as either degree-seeking or special (non-degree-seeking) students. Degree-seeking students are presumed to be working toward a degree in approved educational programs, while special students are permitted to enroll in classes on a semester/term basis. Recognizing a commitment to educate students who desire to take courses primarily for self improve-

ment or to continue life-long education, the university also encourages the enrollment of special (non-degree) students. The University enrolls as many qualified degree and non-degree students as resources permit. When resources are limited, spaces go to those who present credentials showing the greatest potential for academic success in degree programs and for contributing to the university's diverse programs and mission.

The Board of Visitors establishes general admission policies on the recommendation of the university administration. Admission criteria and policies are recommended by the Office of Admissions as well as the deans of the schools and college of the university on the advice of their faculties. Entrance requirements for schools and the college within the university may differ. Unique requirements, such as examinations, auditions, portfolios, interviews, licensure, or language proficiency, may be required to demonstrate potential for success in selected programs and courses. The University selects applicants who present the strongest qualifications in scholastic achievement and potential, standardized examinations, and through the review of other evidence of potential. Each applicant is reviewed on an individual basis.

CATEGORIES OF STUDENT ENROLLMENT

VCU provides a variety of ways in which a student may pursue a course of studies.

Degree-Seeking Student. This student has ful-

filled the admission requirements of the university and a particular school and is enrolled in a bachelor's (four-year) degree program or a health sciences preparatory program. A degree-seeking student may engage in studies as either a full-time student (12 credits or more per semester) or as a part-time student and may enroll for day and/or evening classes.

Furthermore, a degree-seeking student may pursue a program of study in one of the following ways:

1. As a **declared departmental major** in a school or college. The student who declares a specific major when entering VCU begins a course of study leading to a degree in the declared major. (The student may change the major at a later date.)
2. As an **undecided student** within a specific school or college. Students who know the school or college they wish to enter, but not the specific department, may select the "undecided" category within that particular school or college. Students are advised along general academic lines so they may enroll in courses which will assist them in more clearly defining their academic objectives.

Recognizing that some undecided students seeking admission to VCU may not wish to choose a particular school in which to study by the time they apply or enroll, the university recommends that these students select the undecided category in the College of Humanities and Sciences. The advising program is flexible enough to suit the interest of any student, yet it is basic to a number of fields of study. During the first year of study, students are encouraged to investigate various fields until they find a major that suits their interests, needs and goals.

Students must define these goals and declare a major area of study no later than the semester in which they complete 62 credits, generally after two years of study.

Undergraduate Special Student. A student who meets the requirements for undergraduate eligibility may enroll for credit as a special student in day and/or evening classes at VCU without seeking admission to a degree program.

Undergraduate special students are advised about course selections and aided in educational and vocational planning by the Office of Community Programs. Such students are ineligible for financial aid.

Permission to enroll as a special student does not assure later admission as a degree-seeking

student. Continuance in this status is dependent on academic performance, and special students are subject to the continuation regulations stated in Part V of this bulletin.

The undergraduate special student may pursue course work in one of the following categories:

1. As a **nondegree holder**. This student has not previously earned a baccalaureate degree. The student may take a maximum of 11 credits per semester (part-time).
2. As a **degree holder**. This student has previously earned a baccalaureate degree at VCU or another accredited institution and plans to pursue additional undergraduate course work. The student may take a maximum of 19 credits per semester.
3. As a **transient student**. This student is presently seeking a baccalaureate degree at another institution of higher education, is in good standing at that institution, and plans to pursue a course of study at VCU for no more than two semesters with the intent of transferring the work back to the home institution to complete the degree. The student may take a maximum of 19 credits per semester and must present a letter from the home institution approving the student's status as a transient student at VCU. (Refer to the "Special Student Guidelines" in this section of this bulletin).

Credits earned as a special student are recorded on the student's permanent academic record. There is no limit placed on the number of credits that can be earned in this classification. Special students who wish eventually to earn a baccalaureate degree at VCU are encouraged to seek admission to a degree program before accumulating 22 semester credits.

Special Student Guidelines

The first time a student registers as a special student, he or she must meet the following conditions of eligibility as appropriate to his/her status:

1. Be a high school graduate or GED holder for one year before the intended term of entry; or
2. Be an applicant who meets established admission requirements; or
3. Be a transfer student who is eligible to return to the former institution or has been out of school for at least one year for a first suspension or five years for the second suspension incurred at any institution; or
4. Be a former VCU student who is eligible to return. If the student has been suspended from VCU for academic reasons, eligibility

for future enrollment must be reestablished in accordance with procedures outlined in the preceding readmission guidelines section and the suspension policies outlined in Part V of this bulletin; or

5. Be a bachelor's degree holder taking undergraduate courses; or
6. Be an eligible transient student. A transient student must present, before or at the time of registration, a letter from the home institution which states that the student is in good standing, has permission to study at VCU for transfer back to the home institution, and which outlines the courses to be studied at VCU; or
7. Be a non-U.S. citizen who has been cleared through the Center for International Programs.

Students are responsible for knowing the terms of eligibility and for stating that they are eligible for special student status.

The first time a student registers as a special student, proof of eligibility is required. Students may sign an eligibility card stating their eligibility, which is then verified by the Office of Records and Registration. A student may also establish eligibility by providing verification of high school graduation, GED certification, or verification that he or she is eligible to return to the previous institution of study.

If the student's eligibility cannot be verified or if the student is found ineligible, the grade on the course taken is changed to no credit (NC). An administrative hold is placed on future registrations until eligibility is established.

Degree-holding special students enrolling in graduate courses should refer to the *VCU Graduate Bulletin*.

Special students who plan to earn a degree eventually must apply for degree admission and, depending on their credentials, may be required to complete 15 credits with an earned GPA of 2.0 which includes a minimum of two courses (totaling six credits) required by their degree curriculum.

Students studying on foreign visas, because of U.S. immigration and naturalization regulations, are expected to enroll as full-time students and usually are not permitted to enroll as special students.

The Office of Admissions staff is available to answer general questions, to distribute publications and application forms, and to provide specific information pertaining to the admission process.

Application forms and other admissions information may be obtained by writing or telephon-

ing the Office of Admissions, Virginia Commonwealth University, P.O. Box 842526, Richmond, VA 23284-2526, toll free – 1-800-841-3638, (804) 828-1222, FAX (804) 828-1899, or by visiting the office at 821 West Franklin Street.

Evening Studies

VCU day and evening programs are academically integrated, and credit earned in the evening program is identical to credit earned during the day. Evening courses are designated by an "E" in the *Schedule of Classes* published each semester. A student may register for courses in the evening as a degree-seeking or a special (nondegree-seeking) student.

ADMISSION GUIDELINES

The credentials of undergraduate applicants for admission to degree status are reviewed on an individual basis. Because the number of applicants who meet the requirements for admission may exceed the number that can be admitted, the university selects those candidates who present the strongest qualifications in scholastic achievement and potential as reflected on transcripts and test scores. Freshman applicants interested in the university's academic support program should read the information on Office of Academic Support in this section of this bulletin. Applicants interested in enrolling as special students should read the "Special Student Guidelines" that also appear in this section.

Freshman Admission Guidelines

An applicant for degree status must be a graduate of an accredited secondary school (or its equivalent) or hold a GED certificate with adequate scores, defined as a composite score of at least 55 on the GED battery. A high school student should submit an application for admission after completion of the junior year, unless applying for the Early Admission or Advanced Scholar programs, in which case the application should be submitted after the sophomore year.

All freshman applicants under the age of 22 are required to submit scores from the Scholastic Aptitude Test (SAT) or American College Test (ACT). Applicants should also submit the SAT II Subject Test in Writing.

For admission to the College of Humanities and Science (including the School of Mass Communications), School of Business, School of

cation, School of Engineering, or School of Social Work, at least 20 high school units are required, with the following minimum distribution of subjects: Four units in English; three units in mathematics, one of which must be Algebra I and one of which must be geometry or Algebra II; two units in science, one of which must be a laboratory science; and three units of history or social sciences or government. Students are encouraged to present at least two units in a modern or ancient language. Many programs at the university require at least one year of collegiate study in a modern or ancient language for graduation.

In addition, preference is given to candidates who submit the Advanced Studies Diploma or its equivalent. This diploma requires four units in English; three in social sciences, including world history, United States history, and United States government; three units in mathematics (Algebra I, geometry, and Algebra II); three units in science drawn from earth science, biology, chemistry, physics, or other advanced science courses; and either three years of one foreign language or two years of two foreign languages.

Applicants seeking admission to programs in the College of Humanities and Sciences (including the preprofessional health-related programs or pre-engineering), the Schools of Business, Education (especially those interested in the five-year bachelor's/master's program), Engineering, and Social Work are encouraged to take additional laboratory science courses in high school. In addition to the basic requirements in mathematics, applicants to programs in engineering, science, computer science, and mathematics are encouraged to take additional trigonometry, advanced algebra, or higher mathematics courses.

Freshman applicants planning to pursue a major in the health sciences (clinical radiation sciences, dental hygiene, clinical laboratory sciences, nursing, occupational therapy, pharmacy, and physical therapy) are advised to apply to the preprofessional programs of their choice in the College of Humanities and Sciences.

The University Honors Program offers qualified students interested in health science the opportunity for early acceptance into many of VCU's Medical College of Virginia Campus programs.

Freshman applicants who are not admitted with degree status may be eligible to enroll at VCU as special students provided one year has elapsed since their high school graduation date or intended high school graduation date.

Early Decision Plan Guidelines

Highly qualified fall freshman semester applicants who have selected VCU as their first choice and who meet the November 1 early decision application deadline may be admitted to VCU by December 1. Early decision applications are not processed for the spring semester.

School of the Arts Freshman Admission Guidelines

The School of the Arts does not have specific high school unit requirements but does require applicants to have graduated from high school or hold a GED. In place of the units, degree applicants must complete the School of the Arts Admissions Packet which is designed to measure the applicant's ability and aptitude for the arts. **The packet must be filed in addition to the university undergraduate application for admission**, forming an important part of the basis on which admission evaluation is made. With the exception of fashion merchandising and some concentrations in art history, applicants to the visual arts (including technical/design theatre) are required to complete the drawing and design exercises specified in the packet. Additional artwork should not be submitted unless requested. Applicants to the Departments of Dance/Choreography, Music, or Theatre must complete the written information in the packet and are required to participate in an audition arranged by the appropriate department. Applicants to the Department of Music must also show evidence of proficiency in one or more areas of music performance and must take the musicianship placement examination.

Transfer Admission Guidelines

Transfer applicants are considered for admission provided they present evidence of good standing at the last institution attended. Although a minimum cumulative grade-point average (GPA) of 2.0 on a four-point scale in all nonremedial credits attempted at all accredited colleges attended is required for admission, preference is given to transfer applicants presenting a GPA of at least 2.25. Transfer candidates who have earned fewer than 30 semester credits/45 quarter credits and who are under 22 years of age must submit the SAT or ACT results and must also meet specific guidelines listed in the Freshman Admission Guidelines section.

Some programs have additional requirements for admission as a transfer student. For example, transfer applicants to the Schools of the Arts, Business, Engineering and Mass Communications

on the Academic Campus, and to the health science programs on the Medical College of Virginia Campus should consult the appropriate section of this bulletin for admission requirements.

Transfer applicants who are not admitted with degree status may be eligible to enroll as special (nondegree-seeking) students as determined by the Office of Admissions.

VCU encourages students enrolled in a Virginia community college to transfer to VCU. Each Virginia community college has been supplied with the *VCU Transfer Guide* that provides transfer information for specific schools, departments, and programs at VCU. Students planning to transfer should read this guide carefully and should also consult with their community college counselors regarding the specific information in the transfer guide. Applicants from Virginia community colleges should note that their acceptance or denial, and, if enrolled, their subsequent progress and grades of their first year, are reported to the community colleges from which they transferred. This enables community colleges to evaluate the effectiveness of their programs. The information is confidential, and is used internally only for assessing and improving the community colleges' academic programs.

Transfer applicants ineligible to return to their former institutions because of academic suspension may not enroll in VCU for a period of one year for the first suspension and five years for the second suspension.

Transfer applicants who have been suspended from another institution for nonacademic or disciplinary reasons are referred to the Office of the Vice Provost for Student Affairs for preadmission clearance.

Readmission Guidelines

Students who withdraw from all courses after the first week of the semester are considered to have been enrolled for that semester. Students who have not attended VCU for four or more successive semesters (including summer) must submit an application for readmission to the Office of Admissions. **Students who have attended another institution or who have been suspended since their last enrollment at VCU also must apply for readmission.** This must be done before the application submission date for the semester in which the student plans to return.

Students who wish to return to VCU after enrolling at another institution are considered transfer applicants and are reviewed for admission based on the transfer admission guidelines

related to good standing and cumulative GPA. Students who attend another institution during periods of suspension from VCU are considered readmitted students for admission purposes and, on their return, assume their VCU GPA and academic status.

Readmission applicants who wish to change their majors may be required to meet additional requirements for some programs. Applicants to the School of the Arts must submit the School of the Arts Admissions Packet.

Students may apply for readmission to VCU for the semester following completion of the first suspension period (two semesters, one of which may be summer). Under certain circumstances, students may be considered for readmission from the second and final suspension after a period of five years. Students on second suspension who wish to return before the required completion of the five-year suspension period must appeal their readmission to the Academic Status Committee. Students should contact the dean's office of the school or college from which they were suspended to initiate this process. For more information on suspension policies, refer to Part V of this bulletin.

Applicants who have been suspended from the university for nonacademic or disciplinary reasons are referred to the Office of the Vice Provost for Student Affairs for preadmission clearance.

International Student Admission Guidelines

VCU encourages qualified international students, both immigrant and nonimmigrant, to seek admission to VCU. Complete information and application materials for international applicants are available at the Center for International Programs/International Admissions, Virginia Commonwealth University, Richmond, VA 23284-3043, USA.

English Language Proficiency Requirement.

To ensure maximum benefit from academic study at VCU, all non-native English-speaking applicants, regardless of immigration status, must provide evidence of English language proficiency before admission and/or enrollment to the University.

Evidence of English language proficiency is evaluated based on factors such as length of stay in the United States, amount and type of formal U.S. education, Test of English as a Foreign Language (TOEFL) scores, and Scholastic Aptitude Test scores. In general, VCU requires a minimum score of 550 on the TOEFL for admission, but some programs may require a higher TOEFL score. The University reserves the right

to require additional testing and remedial study in the VCU English Language Program prior to full-time enrollment in University courses. The University offers a full-time English as a Second Language non-credit program. For information on this program, including fees, contact the Center for International Programs, Virginia Commonwealth University, P.O. Box 843043, Richmond, Virginia 23284-3043, USA (804) 828-8471.

Nonimmigrants (students with temporary U.S. visas). Due to the time constraints involved in processing international applications and obtaining visas, prospective international students should submit the application for admission at least nine months before they plan to enroll. In order for immigration documents to be issued, all required admission credentials must be submitted no later than eight weeks before registration for classes. Applicants unable to meet the credentials deadline should plan to defer their intended term of entry.

As required by U.S. regulations and by VCU admission policies, nonimmigrant applicants must demonstrate

1. satisfactory academic achievement;
2. adequate English language proficiency as described above; and
3. ability to finance all educational and living expenses.

Applicants must submit academic records that demonstrate successful completion of secondary school education (usually 12 years of pre-university study) in their own country.

VCU is unable to provide financial support for undergraduate international students. Therefore, applicants who need a student (F-1) visa or a visiting scholar (J-1) visa also must present documented evidence of available financial support to cover annual living and educational expenses while studying at VCU.

U.S. Immigration and Naturalization Service regulations usually do not allow nonimmigrant students to study at VCU as special (nondegree-seeking) students. The university registers international students **only** if they present a current and valid visa that permits enrollment in a university. Proof of current visa type must be submitted to the Office of Admissions before enrollment **unless** the applicant is requesting an F-1 or J-1 visa. F-1 students and J-1 visiting scholars admitted to VCU must submit copies of all immigration documents to the international student advisor before enrolling in classes.

Immigrants (permanent residents, resident aliens, and asylum applicants). Since immigrant

applicants usually are in the U.S. at the time an application is submitted, these students must meet the same application deadlines as U.S. citizens.

Refer to the freshman admission guidelines, transfer admission guidelines, and admission procedures for specific program requirements. If educated in the U.S., immigrant applicants are considered for admission under the same academic policies as those applicable to U.S. citizens. If educated outside the U.S., the same academic records are required as those for nonimmigrant students.

The University requires detailed information concerning U.S. immigration status. Proof of permanent residency must be submitted with the admission application.

ADMISSION PROCEDURES

It is the responsibility of the applicant to ensure that all required admission documents are forwarded to the Office of Admissions before the deadline. (Refer to the "Undergraduate Application Deadlines" section in Part II of this bulletin).

Applications and supporting credentials for programs offered on the Academic Campus must be submitted to the Office of Admissions, Virginia Commonwealth University, P.O. Box 842526, Richmond, VA 23284-2526, (804) 828-1222.

Applicants to the professional-level health science programs offered on the MCV Campus (except for the associate degree program in radiologic technology) must have completed a minimum of 60 semester hours of transferable credit from an accredited college or university and must satisfy the prerequisites of the program to which they are applying. Refer to the appropriate section of this bulletin or the *Medical College of Virginia Bulletin* for specific admission requirements. Applications and supporting credentials for the professional-level health science programs must be submitted to MCV Campus Admissions, Virginia Commonwealth University, P.O. Box 980632, Richmond, VA 23298-0632, (804) 828-0488.

All applications and supporting documents become the property of the University and are not returned to the applicant. After all required documents have been received, candidates are notified of the decision by the Office of Admissions.

The following must be submitted to the Office of Admissions when applying for an undergraduate degree program:

1. **Official Application Form.** Candidates seeking admission or readmission to the university in an undergraduate degree program must file an official Application for Undergraduate Admission, signed by the applicant, before the specified deadline. Students planning to complete a second baccalaureate degree also must submit this application. Care should be taken to read the admissions guidelines in this bulletin, to follow the directions accompanying the application, and to complete all information requested. Incomplete or incorrect applications will result in a processing delay.

2. **Application fee.** Application fees are non-refundable and should be submitted by check or money order with the application for admission. Do not submit cash. The application fee is \$25. Currently enrolled VCU students applying to undergraduate MCV campus programs are not required to remit the application fee. Applications received without the application fee or an approved waiver request will be returned to the sender.

3. **Official transcript(s).** *Freshman applicants* are required to submit their official high school transcript(s) showing course work completed to date. The secondary school record should contain courses and grades earned, rank in class, and overall GPA. A final transcript is also required showing date of graduation, overall GPA, and rank in graduating class. **Freshman applicants still in high school are encouraged to have their guidance counselors submit the Application for Admission with their transcripts.** GED holders must submit their partial high school transcripts (if high school was attended).

Transfer candidates must request the registrar of each college attended to send an official transcript of their grades. Transfer candidates who have earned fewer than 30 semester credits/45 quarter credits must also submit their secondary school records.

Applicants to professional-level *health science programs* on the MCV Campus must submit official high school transcripts and official transcripts from all colleges, universities, and hospital schools/programs attended.

The Office of Admissions will obtain for *readmission candidates* the student's VCU transcript. Applicants who have attended other colleges since leaving VCU must request the registrar of each college to send official transcripts to the Office of Admissions.

4. **Test Scores.** *Freshman applicants* (high school graduates and GED holders) under 22 years of age must submit SAT I or ACT scores, SAT II Writing Test scores and, if applicable, an official copy of their GED scores.

Transfer applicants under 22 years of age and with fewer than 30 semester/45 quarter credits of college work must submit SAT I or ACT scores and the SAT II Writing Test scores.

Applicants to professional-level *health science programs* on the MCV Campus must submit these scores if they have taken either of these tests. However, applicants are not required to take either test if they have not already done so.

Foreign applicants whose native language is other than English must submit scores for the Test of English as a Foreign Language in addition to any other test scores required. In general, VCU requires a minimum score of 550 on the TOEFL, but some programs may require a higher TOEFL score.

5. **Supplemental Application Packets.** *Art applicants* must submit the School of the Arts Admissions Packet to the School of the Arts, Virginia Commonwealth University, P.O. Box 842519, Richmond, VA 23284-2519.

Applicants to professional-level *health science programs* on the MCV Campus submit, in addition to the application for admission, the supplemental application materials for the program to which they are applying. All materials are provided in the MCV Application Packet for the program to which the applicant is applying. See the *Medical College of Virginia Bulletin*.

Foreign applicants submit the Financial Support Statement with the application for admission in addition to any other supplemental application packets which may be required.

6. **Interviews and Auditions.** Applicants to the following programs will be contacted by the program for an interview or audition: dance/choreography, dental hygiene, music, nontraditional studies, occupational therapy, radiation sciences, radiologic technology, and theatre. Applicants to health science programs not listed are *strongly encouraged* to contact MCV Campus Admissions, (804) 828-0488, to arrange an interview. Although interviews are not required for other programs, applicants are welcome to meet with

an admissions counselor to discuss their applications. In some cases, however, the Office of Admissions may **require** an interview of any applicant.

UNDERGRADUATE APPLICATION DEADLINES

Freshman Application Deadlines

All applicants to programs on the Academic Campus must submit their applications for the fall semester by February 1 and for the spring semester by December 1. Applications for admission received after these dates will be considered on a space-available basis. Applicants seeking admission to the Guaranteed Admissions program to VCU's School of Medicine must submit the Guaranteed Admissions Application by December 15.

Early Decision Plan

Secondary school students with outstanding records may want to consider VCU's Early Decision Plan. Under this single-choice, binding plan, applicants agree to attend the University if offered admission; and they must withdraw all applications from other institutions if accepted to VCU. The deadline for early decision application is November 1. Acceptances are mailed on December 1. If the University does not offer admission on December 1, the applicant will be reconsidered automatically under the regular admissions process.

Transfer Application Deadlines

While application deadlines for most programs are June 1 for the fall semester and December 1 for the spring semester, the following application deadlines are established for the programs indicated:

	Fall Semester
dental hygiene	February 15
nursing	December 15
occupational therapy	December 15
clinical radiation sciences	April 1
clinical laboratory sciences	no deadline

Applications for admission to the programs listed above (except for the programs in occupational therapy) received after these deadline dates will be considered on a space-available basis.

ADMISSION NOTIFICATION

Freshman applicants accepted to the University for the fall semester are notified by letter of the conditions of their acceptance by April 1 if they meet the February 1 deadline. Freshman applicants who apply under the regular admission process may receive **early notification** of their acceptance if they present exceptional admission credentials. Transfer applicants for the fall semester to programs on the Academic Campus who apply before the June 1 deadline are notified by July 1. **All applicants for the spring semester are notified on a rolling basis.**

Information on advisement and registration procedures, the medical history form, and housing information is included with the acceptance letter. Virginia requires that all full-time students enrolling for the first time in any state institution of higher education furnish a health history and immunization record from a qualified licensed physician. New VCU students must submit their health history to University Student Health Services.

When an applicant is tentatively accepted to the University, a final transcript is required to complete the individual's admission file. If the official transcript is not received by the end of the fourth week of classes of the semester for which the student was accepted, an administrative hold will be placed on future registrations until the credentials are received establishing the student's eligibility.

The University reserves the right to rescind offers of admission if the final documents indicate that the applicant no longer satisfies the entrance requirements.

Undergraduate applicants not admitted to degree status but offered special status may request information or assistance in formulating alternative educational plans from the Office of Community Programs, 827 W. Franklin Street, P.O. Box 842041, Richmond, VA 23284 -2041, (804) 828-1831.

Students are encouraged to seek advising, depending on intended major, from the appropriate office listed below:

School of Business

Office of the Associate Dean for Undergraduate Studies

Business Building, 1015 Floyd Avenue, room 3119, (804) 828-3710

School of Education

Office of the Assistant Dean

Oliver Hall, 1015 West Main Street, room 2090, (804) 828-3382 or Humanities and Sciences (below)

School of Engineering

921 West Franklin Street,
room 102, (804) 828-3643

College of Humanities and Sciences

(including humanities, sciences, social sciences,
Mass Communications, Pre-Health Sciences)

Office of the Associate Dean

Hibbs Building, 900 Park Avenue, room 205,
(804) 828-1673

Humanities and Sciences/Undecided

Office of Academic Advising, 900 Park Avenue,
room 207, (804) 828-2333

Health and Physical Education

Department of Health and P.E.

817 West Franklin Street, room 221,
(804) 828-1948

School of Social Work

Office of the Director for the BSW Program

1001 West Franklin Street, room 103,
(804) 828-0703

RESPONDING TO THE OFFER OF ADMISSION

Fall freshman applicants accepted under VCU's Early Decision Plan must accept the offer of admission by January 1. Fall freshman applicants accepted to the University by April 1, including those admitted under the Early Notification Plan, must notify the Office of Admissions of their intent to enroll or not to enroll by May 1. Fall freshman applicants, if accepted after April 1, must notify the university within four weeks.

Fall transfer applicants accepted to programs on the academic campus must notify the Office of Admissions of their intent to enroll by July 1 or four weeks after receiving their letter of admission. **All students accepted for the spring semester must respond to the offer of admission by January 1.**

A \$100 non-refundable deposit is required of all applicants who accept VCU's offer of admission. The \$100 deposit is credited to the student's account with the University and is not deferrable to a future semester. Students experiencing economic hardships may request a waiver of the \$100 deposit through a letter from a school official (counselor, adviser, financial aid counselor, principal) submitted to the Office of Admissions. The decision to grant a waiver is based on information submitted to the university on the student's Free Application for Federal Student Aid.

Students who defer their acceptance to a later semester forfeit their initial tuition deposit and

must submit a second \$100 deposit for the semester in which they choose to enroll.

IMMUNIZATION REQUIREMENTS

VCU requires all full-time students have a validated immunization record on file at University Student Health Services (USHS). This record must be on file before matriculation.

The record must be completed fully and accurately, and must be accompanied by documentation of vaccinations. This may be done in one of two ways. The student's physician may transfer the information from his or her medical record and sign the form verifying its accuracy. Or, the student may complete the form using information received from his or her local health department or from the armed services. The student must then attach a validated copy of supporting documentation to the immunization certificate and mail both documents to USHS.

Many middle schools and high schools require validated immunization records from students. The student may request that the school provide a copy of his or her immunization record to VCU. Please note that if documented evidence of full immunization according to VCU guidelines cannot be provided, the student must see his or her family physician or health department and receive updated immunizations. Most city and county health departments offer immunizations at a reduced fee. For example, there is the Richmond City Health Department at 500 North Tenth Street. Immunity to the following diseases must be documented as specified on the forms supplied by VCU with the formal offer of admission.

NOTE: Immunization records must be sent to USHS and not to admissions.

Tetanus—Documentation of both 1 and 2 is necessary. (1) Primary immunization series, including month/day/year of each dose, and (2) **tetanus/diphtheria booster (Td), month/day/year within past ten years.**

Diphtheria—Documentation of both 1 and 2 is necessary. (1) Primary immunization series, including month/day/year of each dose, and (2) **Tetanus/diphtheria booster (Td), month/day/year within past ten years.**

Polio—(1) Primary immunization with a total of three doses of OPV (oral Sabin), or (2) primary immunization with a total of four doses of IPV (injected Salk).

NOTE: Documentation of prior vaccination against polio, including month/day/year of each

dose, is required. However, if not completed in the past, it is not recommended that the student complete the primary polio series unless the student is younger than 18 years old or is planning travel to an area endemic or epidemic for polio.

Rubeola (Measles)—Please be aware that there has been a recent change in the recommendations for measles vaccine. VCU, in keeping with the American College Health Association recommendations, now requires two doses of the measles vaccine, both given after 12 months of age. Although the vast majority of students will have had one dose of the vaccine, only a few will have had the second dose. Documentation of one of the following is necessary: (1) Born before 1957 and therefore considered immune. (2) Two doses of measles vaccine, both administered after 1967, after the age of one year, and administered at least one month apart (document month/day/year). This is a new requirement that began fall 1990. (3) Physician certification of diagnosis of measles, including month and year of occurrence. (4) Documentation of immune titer proving immunity.

NOTE: Measles vaccine given before 1968 is not acceptable.

Rubella (German Measles)—Documentation of one of the following is necessary: (1) Rubella vaccine given after one year of age, including month/day/year, or (2) report of immune titer proving immunity.

NOTE: A history of disease is not acceptable. Rubella vaccine given before June 9, 1969, is not acceptable.

Mumps—Documentation of one of the following is necessary: (1) Mumps vaccine given after one year of age and after 1967 (document month/day/year). (2) Report of immune titer proving immunity. (3) Physician's certification of diagnosis of mumps including month and year of occurrence. (4) Born before 1957 and therefore considered immune. All documents must be accompanied by a social security number.

Students with questions should contact the staff of University Student Health Services, Academic Campus, Suite 159, Gladding Residence Center, 711 West Main Street, Richmond, VA 23284-2022, or call (804) 367-1212.

ORIENTATION

The university provides orientation during the summer, fall, and spring to all new undergraduate students. Orientation programs are designed to increase the students' awareness of the university's programs, services, and facilities

and to provide opportunities for faculty advising and registration for their first semester of classes.

After acceptance to the university, students are sent detailed information regarding the orientation program. Included in the summer orientation program is a program for the parents of freshman students that is especially helpful to their understanding of the university and its future relationship to their sons and daughters.

For additional information about orientation, contact the New Student Programs, Virginia Commonwealth University, P.O. Box 842032, Richmond, VA 23284-2032, (804)828-3700.

EVALUATION OF TRANSFER CREDIT

An evaluation of transferable credits for applicants to the Academic Campus programs is made by the appropriate school or department after the accepted applicant's final transcript has been received by the Office of Admissions. Applicants to MCV Campus programs will receive a copy of the transfer credit evaluation with the offer of admission.

Acceptable course credits from other institutions will be recorded on the student's permanent record at VCU, together with the grades earned, if the credits are applicable toward a degree program. Accepted transfer credits are applicable toward a degree program. Accepted transfer credits are counted as hours earned toward the degree but are not used in the computation of the student's VCU GPA. Grades for transfer credits are evaluated in the computation determining graduation honors. Credits earned at other institutions carrying a grade of "D" are not accepted for transfer.* In addition, transfer work from two-year institutions may not be applied to upper-division requirements at VCU.

Courses taken on the "pass/fail" or "pass/no pass" systems or courses taken for grades of "satisfactory" or "unsatisfactory" that receive earned credits and a "satisfactory" grade (or comparable passing grade) from the transfer institution receive equivalent semester credit. Transfer credits graded as "pass/fail" will not be included in the computation for determination of academic honors at VCU.

Degree candidates must complete the last 25% of the credit semester hours required for their associate or bachelor's degree program at this institution.

*See exception relating to Articulation Agreement with state two-year institutions.

Total Semester Hours	123-125	126-129	130-132	134-135	139-141	168
25% Req.	31	32	33	34	35	42

Articulation agreement between Virginia Commonwealth University and Virginia Community Colleges

Virginia Commonwealth University will admit Virginia Community College students who have earned an Associate degree (Associate in Art, Associate in Science, or Associate in Arts and Science), based upon a baccalaureate-oriented sequence of courses, and shall consider such students as having junior standing. These students will be considered to have met all lower-division general education requirements—with the exception that students will be required to satisfy any further lower-division general education requirements which apply to native students also. In addition upper-division general education requirements, prerequisites in the major or other requirements or circumstances at VCU, may mean that it will take longer than two additional years for a student to complete the baccalaureate.

A maximum of 68 semester credits can be accepted from the A.A., A.S., A.A.&S. degrees.

The provisions of this articulation agreement conform to the State Policy on Transfer guidelines for state two-year and four-year institutions. These provisions apply also to college parallel associate degree graduates from Richard Bland College.

Students from VCCS institutions or other two-year institutions **who have not completed the college parallel A.A., A.S., or A.A.&S. degree** will have the exact designation of their status determined after an evaluation of acceptable credits is made by the college or school in which the student is a major. A maximum of 68 credits as determined by the equivalencies shown in the *VCU Transfer Guide* may be accepted, including not more than 50 percent in the major field of study. However, the candidate should realize that more than two additional years may be necessary to complete the degree requirements in certain curricula.

Credits earned in community college occupational or technical programs will be judged on their own merits to determine their applicability toward VCU degree requirements. In addition, many accredited institutions offer correspondence courses which may be considered for transfer credit.

OFFICE OF ACADEMIC SUPPORT

The Office of Academic Support, a composite of several services, seeks to enhance the success and promote the retention of student participants. The office focuses on VCU’s non-traditional students (i.e. minority, low-income, and first-generation college students) who meet the criteria for participation. The office provides counselor support, academic planning, tutorial assistance, career planning, and a variety of seminars and workshops designed to meet the needs of its population.

The Office of Academic Support also provides an alternate admission process for students who marginally meet or fall below the university’s requirements for admission as full-time degree-seeking students. Students who are accepted through the Office of Academic Support have demonstrated potential for academic achievement that is not always indicated by their SAT scores. Students admitted may be required to attend a developmental program during the summer before their university enrollment. Students enroll in courses in mathematics, English, reading/study skills, and orientation to the university. This summer experience allows students to ease into the rigorous demands of university life by improving basic academic skills and personal confidence.

During the academic year, participants maintain close contact with the program and counselors. Students are monitored by their counselors to ease their adjustment to the university.

The Office of Academic Support participants are selected from a variety of academic, economic, geographic, and cultural backgrounds. Early application to the university is encouraged, especially for students who also need financial aid. Priority consideration for admission and also for financial aid is given to students who apply before March 1.

Students who are interested in participating in the programs should write to the Office of Academic Support, Virginia Commonwealth University, P.O. Box 842500, Richmond, VA 23284-2500, (804) 828-1650.

SENIOR CITIZENS HIGHER EDUCATION PROGRAMS

The Senior Citizens Higher Education Act of 1974 provides that any legal resident of the state who before the beginning of any term or semester

... in which he or she claims benefits of the act, and who has had legal domicile in the state for one year may, without paying tuition, register for and enroll in courses under the conditions outlined in the act as amended in 1982 and 1986.

The tuition-free policy shall apply except that the senior citizen shall be subject to fees established for the purpose of paying for course materials, such as laboratory fees, individualized music instructions, etc.

Senior citizens not enrolled for academic credit may not register for more than three courses in any one term or semester but may register each semester. The Senior Citizens Act benefits shall be available to persons 60 years of age or older with the following legally mandated provisions:

1. The senior citizen shall be subject to admission requirements of the institution.
2. The institution shall determine whether or not it has the ability to offer the course or courses.
3. If the senior citizen has a federal taxable income of not more than \$10,000 during the preceding year, the individual may take a course for academic credit at no charge. If the person's taxable income exceeded \$10,000, the individual may only audit the course at no charge. A senior citizen, regardless of income level, may take a noncredit course at no charge.
4. The senior citizen shall be admitted to a course after all tuition-paying students have been accommodated. Senior citizens wishing to avail themselves of the opportunity to study at VCU should call (804) 828-1222 or the Office of Community Programs, (804) 828-1831.

ENRICHMENT AND ACCELERATION OPPORTUNITIES

Special honors programs and courses are offered at the University. Please refer to the appropriate school sections of this bulletin for further information. Interdisciplinary honors courses designed for superior freshmen in any program are also available.

Early Admission Program

The Early Admission Program permits exceptional students the opportunity to enroll at the university as freshmen after the completion of the junior year of high school. The program is available to students who demonstrate readiness for college by their high school record, SAT results, and in an interview with an admissions counselor. Applicants for the Early Admission Pro-

gram must present a minimum GPA of 3.2 and minimum combined SAT scores of 1180 or demonstrate exceptional talent in their intended area of study. Additionally, early admission applicants must be within two of the required units for graduation and have the written approval of the high school principal (or designee) to seek admission to college as full-time undergraduate students. Candidates interested in this program should write the Office of Admissions for further information.

Advanced Scholars Program

Qualified high school students from Richmond and surrounding area high schools may be permitted to carry college-level courses at the University while concurrently completing the high school diploma. Students may select courses of interest and upon successful completion of the courses may receive college credit. However, courses selected should not be available in the high school curriculum.

Candidates must be nominated and approved by the secondary school principal. A maximum of 100 candidates are accepted each term, and candidates may enroll in no more than two courses per term.

As a guide to secondary schools, the following criteria for selection are considered:

1. Each candidate must be nominated and approved by the secondary school principal.
2. Each candidate must have achieved a total of 1180 points on the College Entrance Examination Board SAT or SAT I and must have maintained a "B" average.
3. Each candidate must be a high school junior or senior.
4. The desired courses to be studied must be available and appropriate.
5. All parties should emphasize that tuition is charged for courses taken as an Advanced Scholar.

Notification forms and other information may be obtained from the Office of Admissions, Virginia Commonwealth University, P.O. Box 842526, Richmond, VA 23284-2526, (804) 828-1222.

THE UNIVERSITY HONORS PROGRAM

John F. Berglund
Director

The Virginia Commonwealth University Honors Program was established to meet the needs of academically talented undergraduate students

through a challenging and exciting program with high academic standards. The Honors Program offers students an opportunity to exchange ideas, ask questions, and explore values with bright fellow students and teachers who have been selected carefully for their scholarship and teaching excellence. The University Honors Program offers the opportunity for students to expand their creative and intellectual horizons, and to benefit from small classes in which there is greater interaction between students and faculty and among students themselves.

Eligibility Requirements

The University Honors Program is open to qualified entering freshmen, continuing students who demonstrate excellence after enrolling at VCU, and transfer students who have shown similar ability at other institutions.

1. High school graduates with combined SAT scores of at least 1270¹ who rank in the upper 15% of their graduating class or who are the recipients of a VCU Presidential Scholarship are eligible for admission to the University Honors Program automatically upon application. Continuing VCU students or transfer students who have achieved a 3.50 cumulative GPA in 30 college semester hours are also eligible for admission automatically upon application.
2. Good students who do not quite meet the criteria for automatic admission, are encouraged to apply. Students are admitted to the University Honors Program on an individual basis by a subcommittee of the Honors Council. The primary condition for acceptance is evidence of sufficient personal commitment and academic ability to do honors level work.

To continue in the University Honors Program, a student must maintain a cumulative GPA of 3.50 or higher. Should a student's cumulative GPA fall below 3.50, the student may be placed on Honors Probation for a semester. Withdrawal from the Honors Program is not noted on the student's permanent record.

Undergraduates from all schools and the college on VCU's Academic Campus who meet the eligibility requirements are invited to apply. For application materials write to Dr. John F. Berglund, Director, University Honors Program, Virginia Commonwealth University, P.O. Box 843010, Richmond, VA 23284-3010, (804) 828-1803.

¹ Recentered

Graduation with University Honors

Academic advisors at VCU help honors students select classes that will fulfill the requirements for graduation and match students' interests. In addition, Honors students are eligible to take courses designated as "Honors." Some Honors courses are special sections of regular courses open to Honors students only in which class size is limited to maximize opportunities for interaction directly with the instructor and fellow students. Other honors courses are special courses for the Honors Program. Of particular interest among these are **modules**. These are single focus topics courses, which occupy only one-third of a semester. The modules are often interdisciplinary and strive to connect rather than isolate studies. Each module counts for 1.5 credit hours. All honors courses are noted on the student's official transcript.

To graduate with **University Honors**, students are required to take at least six modules. In addition to completing at least six module courses and maintaining a GPA of 3.50 or higher, the student must present a **dossier** documenting how the student has become a well-educated individual. The dossier will be presented in the **penultimate**² semester of the student's academic work to the Director of the University Honors Program and the University Honors Council.

In the dossier students refer to the following guidelines explaining how they have been fulfilled or explaining why an alternative was more appropriate in the student's particular situation.

Guidelines and regulations

1. The Honors student must have at least a 3.50 cumulative GPA and a 3.20 GPA in Honors courses.
2. **The Honors student should achieve a standard of excellence in general education as well as in the student's major field.**
3. Honors students should show well-roundedness by enrolling in at least two upper-level courses outside their field of specialization.
4. The Honors student should complete at least 18 credit hours in courses designated as Honors courses. Among these, the Honors student must include at least nine credit hours in module courses.³

² See the Honors handbook for specific deadlines dates.

³ Modules are short courses which carry 1.5 credits each. The purpose of the module is to offer the honors student the opportunity to focus on special topics in a challenging academic format. The honors student must complete at least six modules, and the nine credits thus earned may be counted as part of the 18 credits in Honors courses.

It is important to note that the ideas expressed above are to be considered as guidelines to the development of a dossier. Only the GPA minimums and the six modules are required to graduate with University Honors. The central objective of the University Honors Program is that the student demonstrate good scholarship and sound learning in the best of the university's tradition.

Special Opportunities

The Honors Program sponsors a variety of intellectual, cultural and social activities as important supplements to classroom study. Among these are:

The Honors Idea Exchange—an approved student campus organization, composed of Honors students. *The Idea Exchange* decides each year on its projects and activities. In the past these have included picnics and potluck suppers on the social side and tutoring children and adults, and environmental cleanups on the projects side. The main activity, however, is what the name implies: exchanging ideas.

Weekly Brown Bag Lunches—informal discussions on topics pertinent to the wide-ranging interests of Honors students. Discussions are led by outstanding guest speakers from the university faculty and administration, and from many different fields in the community.

Honors Seminars—an arena where students can witness and participate in dialogue between faculty. With more structure than Brown Bag Lunches, the seminars afford the opportunity for presenting scholarly ideas for discussion and debate.

Outstanding Lecturer Series—World renowned scholars are brought to the VCU campus to lecture on topics of interest and concern to Honors students. Students have the opportunity to meet informally with the speakers.

The University Honors Program is committed to enriching the students' academic and personal endeavors. Since people in the Honors Program are serious students, special privileges beyond the vast resources available to all VCU students are provided. Some of these privileges include:

- Registration priority ;
- Special library privileges ;
- Availability of special housing.

The center of activities and community for the University Honors Program is **Valentine House**, a Victorian brownstone house at 920 West Franklin Street. In the house students have meeting rooms, quiet study rooms, word processors, a copy machine, computers, and recreational areas. **Valentine House** is open at night for study and during the day.

Guaranteed Admission Program

This series of programs guarantees Honors students admission to the professional-level health sciences program of their choice or to a graduate program in basic health sciences⁴, biomedical engineering, business, criminal justice, education, history, mathematical sciences, physics, psychology, public administration, or urban studies. Honors students who receive guaranteed admission may enter the program of their choice **without test scores required**, except for statistical purposes, or further application materials provided they fulfill university Honors Program requirements and satisfy the curricular prerequisites of the program they plan to enter. To maintain guaranteed admission status, Honors students must maintain the 3.50 GPA, progress satisfactorily in Honors courses and special courses designated by the professional or graduate program they plan to enter.

Professional Health Sciences Guaranteed Admission Programs

Entering honors freshmen with a combined SAT scores of at least 1270, with neither score below 530, may apply for guaranteed admission to the MCV Campus professional programs in **medicine, clinical laboratory sciences, dentistry, dental hygiene, nursing, occupational therapy, pharmacy, physical therapy or radiation sciences**. Transfer students accepted into the Honors Program who plan to enter program in the School of Dentistry may also apply for guaranteed admission if they meet the SAT requirement.

Graduate Studies Guaranteed Admission Programs

Honors students interested in academic or research careers in **anatomy, biochemistry and molecular biophysics, biostatistics, human genetics, microbiology and immunology, pharmacology and toxicology, and physiology** are invited to apply for guaranteed admission to the School of Medicine during their sophomore year of college. Programs in this school lead to Master of Science (M.S.) and Doctor of Philosophy (Ph.D) degrees.

Honors students, if they meet the criteria established by the **School of Business**, may be guaranteed admission to programs for any of the Masters degree programs offered by the School of Business. The masters degrees are valid terminal degrees for careers in management and adminis-

⁴ See the *Graduate Bulletin* for specific programs.

tration or may be used to satisfy a substantial portion of the requirements for the doctoral program offered at VCU.

Students accepted into the University Honors Program who are planning careers as **elementary, secondary, or special education teachers** may receive guaranteed admission to the graduate phase of the University's extended teacher preparation program. In this program, students earn a bachelor's degree in the College of Humanities and Sciences, a master's degree in the School of Education, and satisfy the certification requirements of Virginia and more than 30 other states. The Honors Program in Teacher Preparation strives to develop teachers with outstanding scholarship and sound professional competency.

The **College of Humanities and Sciences** seeks to attract graduate students of the highest caliber and to prepare them, through research and instruction, to meet local and national needs for highly-trained men and women. Students accepted to the University Honors Program may apply for guaranteed admission to Masters degree programs in **criminal justice, history, physics, public administration, or urban studies**.

Application Procedures

To be accepted into a Guaranteed Admission Program, a student must be accepted by the university, by the University Honors Program, and by the Admissions Committee of the program the student wishes to enter. The Admissions Committee may require an interview. The application deadline for the Guaranteed Admissions Program into the School of Medicine (M.D. degree) is December 15 of the year before matriculation at VCU.

For additional information about the Professional Health Sciences Guaranteed Admission Programs of the VCU Honors Program, write or call Dr. Arthur J. Seidenberg, Coordinator, Pre-health Sciences Advising, Virginia Commonwealth University, P.O. Box 842019, Richmond, VA 23284-2019, (804) 828-1673.

For additional information about any of the Guaranteed Admission Programs of the VCU Honors Program, write or call Dr. John F. Berglund, Director, University Honors Program, Virginia Commonwealth University, P.O. Box 843010, Richmond, VA 23284-3010, (804) 828-1803.

Advanced Placement Tests/College Board

Qualified students who have taken college-level work in a secondary school may receive academic credit and/or advanced placement. Ex-

aminations which determine advanced placement are the Advanced Placement Tests of the College Board. AP grades of 3, 4, or 5 will be given from three to ten semester credits per AP test depending on the subject area and the quality of the free response section of the particular AP test. Final determination of credits are made after test results and examination booklets have been received by the dean's office in the College of Humanities and Sciences and have been evaluated by the University. Accepted credits are counted as credits earned toward the degree but are not used in the computation of the student's VCU GPA.

The University accepts advanced placement in the following areas: American history, history of art, biology, chemistry, computer science, English language and composition, economics, European history, French language and literature, German language and literature, government and politics, Latin, mathematics calculus AB, mathematics calculus BC, music listening and literature, music theory, physics B, physics C, and Spanish language and literature.

The College Level Examination Program (CLEP)

CLEP is designed to allow individuals who have gained knowledge outside the classroom to take an examination and receive college credit for what they have learned.

New students interested in taking the CLEP examination should direct their inquiries to the Office of Community Programs, Virginia Commonwealth University, P.O. Box 842041, Richmond, VA 23284-2041, (804) 828-1831.

CLEP credit is awarded officially only to students who are accepted into a degree program. VCU will keep CLEP credit on file for non-degree seeking students for one year. The maximum credit that can be earned through CLEP is 54 semester hours. If a student has earned CLEP credit in a specific subject area or the mathematics general examination, that credit cannot duplicate accepted transfer credit or credit earned in courses taken at VCU. VCU does not award CLEP credit for the English general examination. Official CLEP scores must be sent to the Office of Admissions for evaluation of credits from another institution.

Information for current students is found in Part V of this bulletin.

International Baccalaureate Program

VCU considers higher level international baccalaureate courses to be comparable to the Ad-

vanced Placement Tests administered by the College Board. Each higher level subject passed with scores of 4-7 will be considered for advanced standing through the freshman sequence of that subject. All final transfer credits are determined by the academic department to which the student is admitted.

Undergraduate Credit By Examination

Refer to Part V of this bulletin.

Placement Tests

The University provides placement testing to assist students in starting at the appropriate level in chemistry, mathematics, foreign languages, and reading. Beginning with the fall 1995 entering class, the SAT II Writing Test will be used for placement in English. The orientation, advisement, and registration brochure sent to new students provides specific information about the curricula requiring these tests.

GRADUATE SCHOOL AND HEALTH SCIENCE PROFESSIONAL PROGRAM ADMISSIONS

The *University Graduate Bulletin* describing requirements and procedures for admission to graduate programs will be sent upon request. Address all inquiries to the School of Graduate Studies, Virginia Commonwealth University, P.O. Box 843051, Richmond, VA 23284-3051, or call (804) 828-6916.

Requirements and procedures for admission to first professional programs in dentistry, medicine, and pharmacy are described in the *Virginia Commonwealth University Medical College of Virginia Bulletin*. Information on obtaining copies is available from the School of Dentistry, Virginia Commonwealth University, P.O. Box 980566, Richmond, VA 23298-0566, (804)828-9196, the School of Medicine, Virginia Commonwealth University, P.O. Box 980565, Richmond, VA 23298-0565, (804)828-9629, or the MCV Campus Bookstore, Virginia Commonwealth University, P.O. Box 980013, Richmond, VA 23298-0013, (804) 828-0336.





PART III

EXPENSES ▼ AND ▼ FINANCIAL ▼ AID

FEES AND EXPENSES

Students must pay all applicable fees when due, as described in this section. Students who fail to pay these fees on time will be charged a late payment fee. The university reserves the right to revise or alter all fees, regulations pertaining to student fees, and fee collection procedures at any time.

In addition to expenses billed by the university, students should make allowances for clothing, books, supplies, travel and other out-of-pocket costs when figuring their total yearly expenses at the university.

Every student is responsible for keeping a current mailing address on file with the Office of Records and Registration.

FEE SCHEDULE

Fees categorized and described in this section also appear in the *VCU Schedule of Tuition, Fees, and Other Expenses*—a publication available each June after the Board of Visitors has set fee amounts. This publication is available at the reception desk at 821 West Franklin Street and in the Student Accounting Department at 327 West Main Street. Students can also obtain a copy by writing or phoning the Office of Admissions.

TUITION DETERMINATION AND STUDENT CLASSIFICATION

Tuition is based on the number of credit hours a student is taking and by the student's place of residence. For in-state tuition benefits, the student must comply with Section 23-7.4 of the *Code of Virginia*. That section of the code is printed on pages 354-357 of this bulletin.

All applicants to VCU who want in-state tuition rates as Virginia residents must fill out the Application for Virginia In-State Tuition Rates. The residency determination of the applicant is conveyed at the time of admission.

New students initially classified as non-Virginians for tuition purposes may request a review of the initial residency determination by contacting the Residency Office. This office may request the applicant complete a *Student Supplemental Application for Virginia In-State Tuition Rates* and submit documents for additional clarification. Continuing students desiring a change of residency status must submit a completed *Student Supplemental Application for In-State Tuition Rates* with supporting documentation. Requests and applications for a second review should be submitted to the Residency Office according to the following schedule:

Spring Semester	December 1
Fall Semester	August 1
Summer Semester	May 1

The final deadline is the last day of the add/drop period of each term.

Students approved for a change to in-state status for tuition purposes are notified by mail with copies of their approval letters sent to the Financial Aid Office and the Student Accounting Department. Students denied this status are also notified by mail. The denial letter informs the student of procedures for appeal of this decision.

TUITION AND FEE CHARGES

Students accepted into an undergraduate degree program who accept the offer of admission must pay a \$100 non-refundable tuition deposit. This deposit is credited toward the tuition charge for the first semester. If the student accepts the offer, pays the fee, then decides not to enroll for the intended semester, the deposit is forfeited.

Students are classified as full-time or part-time based on the total number of credit hours enrolled in each semester. For tuition charges, there is no distinction between day and evening students. A student must be enrolled in at least 12 credits each semester to achieve full-time undergraduate status. An undergraduate year includes two semesters.

Full-time undergraduate students are charged a flat tuition fee per semester. An undergraduate student enrolled for more than 18 credits any semester will be charged a course overload fee on a per credit hour basis above the full-time tuition rate. The overload fee will not apply to students in first professional programs or other programs that specifically require the student to enroll in courses that will exceed the applicable maximum number of credit hours. Part-time undergraduate students, those enrolled in less than 12 credits, are charged tuition on a per-credit basis. Students classified as Virginia residents pay lower tuition fees than out-of-state students.

In addition to tuition, students must pay the mandatory fees listed below.

University Fees. This fee is used by the university to support student facilities, campus development, intercollegiate athletics, and other programs. Full-time students pay a flat-rate University fee each semester. Part-time students pay this fee on a per-credit basis.

Student Activity Fee. This fee is used to support social, cultural, and other student activities on the Academic Campus. These activities include concerts, plays, student organizations, and publications.

This fee is determined and assessed by the student governing body on the Academic Campus. Full-time students on the Academic Campus pay a

flat-rate Student Activity Fee, while part-time students on the same campus pay this fee on a per-credit basis. Part-time evening students and students on the MCV Campus are not charged this fee.

Student Government Association Fee. This fee is used to support social, cultural, and other student activities on the MCV Campus. It is determined and assessed by the Student Government Association on the MCV Campus. Full-time MCV students pay a flat-rate fee. Part-time MCV Campus students and all students on the Academic Campus are not charged this fee.

Student Health Fee. All full-time students on both campuses must pay the Student Health Fee. Part-time students may participate in the University Student Health Services on an elective basis by paying the student health fee. The University Student Health Services offers unlimited office visits for acute and chronic ailments, after-hours emergency room referrals, and laboratory tests, among other services.

The University Fee, the Student Activity Fee, the Student Government Association Fee and the Student Health Fee are not charged to students taking off-campus classes.

SPECIAL FEE CHARGES

Because of specialized programs, various schools and departments may charge each student additional fees to cover special materials, equipment breakage, and other costs. For specific information about special fees, refer to the *VCU Schedule of Tuition, Fees, and Other Expenses*, or to the specific school or department section in this bulletin.

ROOM AND BOARD FEES

With a letter of acceptance, the student also receives a room reservation card. If residence hall space is required, the student fills out the card and returns it with a \$250 room rental prepayment. The student is notified of his or her contract for placement in a residence hall or of being placed on a waiting list for residence hall space. The \$250 room rent prepayment is credited toward the total amount due for room rent. This prepayment is refundable only if the contract is cancelled in writing before June 30 for the fall semester or before December 15 for new students entering in the spring semesters. After these dates, housing contract prepayments are not re-

fundable. Please address correspondence about housing contracts to University Housing Office, Box 842517, 711 West Main Street, Room 103, Richmond, VA 23284-2517.

Room Rent

Room rent is payable at the time tuition and other fees are due. Contracts for residence hall space are for the entire academic year, except in cases involving contracts initiated during the spring or summer terms or for students who will graduate at the end of the fall semester. Students are not released from their contracts between semesters. Only one semester's room rent is due prior to each semester.

Students should refer to the VCU *Schedule of Tuition, Fees, and Other Expenses* for exact room and board charges. In addition, students are responsible for damages to student rooms, furnishings, and common living areas.

Board Plan

Undergraduate students living in university residence halls are required to participate in one of the board plans offered by the university unless they are living in self-sufficient apartment units with kitchens. Students residing off campus are encouraged to participate in a board plan and receive the same benefits of those students living in university residence halls.

VCU offers a number of different meal plans ranging from the traditional 19 meals per week plan to the more flexible 10 meals per week plan. The following information should assist the student in choosing the meal plan that best suits his or her needs.

University Board Plans

19 Meal Plan. This plan provides three meals a day Monday through Friday, plus brunch and dinner on Saturday and Sunday.

15 Meal Plan. Provides any 15 of the 19 meals served in a seven day period.

10 Meal Plan. Students may choose any 10 of the 19 meals served each seven day period.

Students should refer to the VCU *Schedule of Tuition, Fees, and Other Expenses* for exact board plan charges.

OTHER FOOD SERVICE FACILITIES

Park Place. Located in the University Student Commons, this restaurant features a wide variety of fresh food selections as well as Taco Bell and

Dunkin Donuts. There is also a rotating menu of hot entrees and accompaniments, made-to-order deli sandwiches, rotisserie chicken and more.

Common Ground. Located in the lower level of the Commons, the Common Ground serves speciality sandwiches, salads and beverages.

Common Market. Located in the Student Commons, offers gourmet coffees, Dunkin Donuts, Freshens Yogurt, assorted snacks and drinks.

Common Express. Located next to the Common Market, this is the home of Burger King Express, Itza Pizza, salads, snacks and drinks.

Debit Card Accounts. A prepaid account can be established on the VCU One Card which allows students the convenience of making purchases at any university Food Service location without the hassle of carrying cash. Students may make deposits as frequently as necessary. A Debit Account cannot be used in place of participation in a board plan for residence hall students.

The manager of University Food Services is the contact person for all food service concerns. For additional information contact the University Food Service Office, Hibbs Building, Room 225, P.O. Box 980247, Richmond, VA 23298-0247. Food Services can be reached by calling (804) 828-1148 or the Food Services 24 hour information line, (804) 828-3663.

STUDENT BILLING

The Student Accounting Department issues bills to students showing charges for the following fees: tuition, student activities fee, student government association fee, university fee, private music lessons, school major fees, special course fees, course materials fees, dental kits, disability insurance, room rent and board fees, and student health fee.

Tuition and fees for preregistered students, along with charges for room and board where applicable, are due approximately one week before the beginning of each semester. All other students not receiving financial aid must pay at the time of registration or be accepted in the university Installment Payment Plan.

REFUNDS

Students shall be entitled to refunds according to the policies outlined below. Also see, Student Refund/Financial Aid Repayment Policy under "Financial Aid."

1. Students dropping/withdrawing from courses through the first week of class will be entitled to a 100 percent refund of tuition and fees.
2. Students withdrawing from courses through the second week of class will be entitled to an 80 percent refund of tuition and the university fee.
3. Students withdrawing from courses through the third week of class will be entitled to a 60 percent refund of tuition and the university fee.
4. Students withdrawing from courses through the fourth week of class will be entitled to a 40 percent refund of tuition and the university fee. Students withdrawing from courses after the fourth week of class are not entitled to receive a refund of tuition and fees.
5. A full refund of the board plan charges will be made if the withdrawal from the board plan is made before the first official board plan day of the year. However, students withdrawing from the university will be granted a refund based on a daily proration throughout the term.
6. Students will not be entitled to a refund of room fees if they are suspended from the residence halls for disciplinary reasons. Unless clearance is granted through the Housing Office, students will not be entitled to a refund of room fees if they voluntarily withdraw from the university residence halls, yet remain registered for any course(s) at the university. Students will not be granted refunds unless they have completed the withdrawal procedures through the Housing Office.

The actual date of withdrawal is certified by the Office of Records and Registration. **Refunds, when appropriate, are computed based on that certified date. Refunds are not given to students who do not attend classes and have not completed the required withdrawal procedure.** If the refund reduction results in an overpayment on the account, a completed Refund Request Form must be submitted to the Student Accounting Department. Refund Request Forms are available in the Student Accounting Department on both Campuses. Refunds resulting from over payments and/or changes in registration will not be processed until after the add and drop late registration process is complete. Total processing time is approximately two to three weeks.

Written application for an exception to the University Refund Policy must be filed in the Student Accounting Department to the Refund Waiver Appeals Committee. **Refund appeal de-**

terminations are made by the Refund Waiver Appeals Committee.

Residency determinations, upon which tuition rates are set, are made by the Residency Office. Financial aid applications and award determinations are managed by the Financial Aid Office.

DEFENSE CRISIS TUITION RELIEF, REFUND, AND REINSTATEMENT GUIDELINES

These guidelines apply to any operation, including a defense crisis, in which the President of the United States declares a sudden mobilization that includes members of the Virginia National Guard or the active or reserve forces of the U.S. armed forces who are students enrolled at VCU. Students are offered three tuition relief and refund options.

1. Drop all courses before the end of the Add/Drop period and receive a full refund—including all areas covered in number 3 below.
2. Receive a grade of Incomplete in all courses. Students residing in university housing will be released from their housing and meal contracts and receive a full refund of these charges. The student will have twelve months after the beginning date of the next enrollment period following his or her completion of national emergency service to complete the course work.

If this re-enrollment option is chosen, "Ws" will be placed on the file for the original semester and the student may be re-enrolled in the courses without further assessment of tuition or fees.

Should the student not complete the course work within the allotted option time, grade(s) of "W(s)" will be assigned and a full refund of tuition and fees processed.

3. Accept administrative withdrawal from all courses as of the effective date of the orders to active duty. If this option is elected, a full refund of all tuition, fees, and room and board charges will be made to the student. A full refund will be given for returned text books. When financial aid funds are involved, the amount recovered to the financial aid accounts will not exceed the financial portion of the direct university charges.

To initiate the process the student must provide the director of the Office of Records and Registration with a copy of his or her active duty orders

and a statement electing Option 1, 2, or 3. The director of the Office of Records and Registration will post the appropriate grades and send a copy of the orders and the statement to the director of Financial Aid and Student Accounting.

Reinstatement

A student choosing option 1, 2, or 3 may re-enroll in the same program of studies without re-applying for admission, if the student returns within one year of completing service required as a result of the national emergency. The student should begin his or her re-enrollment by writing to the director of admissions of his or her intent to re-enroll.

STATEMENT OF STUDENT FINANCIAL RESPONSIBILITY

A student who fails to meet payments when due is assessed a late payment fee and is denied registration for future classes until he or she has paid all amounts owed to the university.

Student accounts with balances owed the university are referred to the Collection Unit. Pursuant to Sec. 2.1-732 *et seq.*, of the *Code of Virginia*, and in accordance with rules and regulations promulgated by the State Comptroller and Attorney General of the Commonwealth of Virginia, Virginia Commonwealth University will charge interest, costs and fees on all accounts past due. Students with balances owed the university are not issued degrees, transcripts, grades, or grade reports, until all charges are paid in full.

Students are reminded that they are ultimately responsible for any unpaid balance on their account as a result of the Financial Aid Office or the sponsor cancelling or reducing the award.

Any communication disputing an amount owed, including an instrument tendered as full satisfaction of a debt, must be submitted to the Director of Treasury Services, Treasury Services, Box 843031, Richmond, VA 23284.

VCU is participating in the Virginia Set-Off Debt Collection Act of 1981. Under the provisions of this act, a Virginia individual income tax refund is subject to the university's claim for unpaid balances of tuition and fees.

Dishonored Checks

A charge of \$20 is levied for all dishonored checks.

LOAN REPAYMENT

Before graduation or withdrawal from the university, students may be required to attend loan counseling sessions. Please refer to page 61 of this bulletin.

ACCIDENT INSURANCE

VCU is not responsible for accidents occurring to students in connection with class, laboratory, shop, fieldwork, athletics, student activities, travel, or other activities. However, the university offers its students approved insurance, providing substantial benefits at group rates. The insurance extends for a 12-month period beginning August 20, or from the beginning of the second semester to the next August 20, and includes coverage for accidents, hospital, medical, surgical, and other benefits for illnesses. Married students may wish to enroll their spouses and children. The university recommends, but does not require, that all students enroll in the approved student group insurance. For further information, contact University Student Health Services.

TREASURY SERVICES

Student Accounting

The Student Accounting Department, 327 West Main Street, P.O. Box 843036, Richmond VA 23284-3036, (804) 828-2228, is responsible for billing those students who enroll in classes during advance registration for tuition, room, board, and other fees. During regular registration, this office is responsible for assessment of charges to students. The department also bills third-party payers for VCU charges, and manages financial aid award disbursement. It makes tuition and fee refunds to eligible students based on policies stated in this section.

FINANCIAL AID

Degree- and certificate-seeking students receive an average of \$9,100 each per academic year in financial aid. More than 12,000 students receive a combined total of nearly \$110 million in loans, grants and work study each year at VCU.

The role of Financial Aid is to assist over 17,000 students who apply for aid to identify resources so they can achieve their educational

goals. The University operates Financial Aid Counseling and Information Services Centers on each campus of the University to serve students.

Academic Campus financial aid services are provided at 901 West Franklin Street, Richmond, VA 23284-3026. MCV Campus financial aid services are provided 1101 East Marshall Street, Room 1-055, Richmond, VA 23298. Students are encouraged to visit the appropriate office for counseling and information.

Applying for Financial Aid

To be eligible for most federal, state, and institutional aid programs, students must be U.S. citizens or must meet eligible non-citizen criterion; be admitted to and pursuing an eligible degree or certificate program; and, in most cases, be enrolled on at least a half-time basis. In addition, students must have not defaulted on a federal loan program or owe a repayment to a federal grant program.

All financial aid applicants must submit the Free Application for Federal Student Aid (FAFSA) each year that aid is desired. Applicants who were financial aid applicants at any college or university during the previous school year will receive a renewal FAFSA in November or December of the current year. Those who were not financial aid applicants at any college or university, and those who do not receive a renewal FAFSA, must file a new FAFSA. FAFSAs are available at the VCU Financial Aid Office, the financial aid offices at other colleges and universities, high school guidance offices, and most public libraries.

The priority mailing date for the FAFSA or renewal FAFSA is April 15 and March 15 for students entering programs on the MCV Campus. Students mailing the FAFSA after April 15 will be considered late filers and their financial aid may not be processed until after the beginning of the school year. Late filers should pay their university bill when due; or pay on the Student Accounting Installment Payment Plan, if their aid is not processed by the end of registration.

The FAFSA or renewal FAFSA should be filed using the figures from completed tax returns. When requested, filers must submit copies of tax returns. However, if estimated figures must be used to file on time, they should be used and the FAFSA or renewal FAFSA mailed on or before the April 15 deadline.

Applicants who have attended other colleges or universities, whether or not they received financial aid, must submit the Financial Aid Transcripts from all other institutions attended.

No offer of financial aid will be made to a student until all financial aid transcripts are received.

PROGRAM DESCRIPTIONS

There are three basic types of financial aid. Each type has different features and advantages.

1. **LOANS**—In terms of total dollars available, there is more money available from long-term loan programs than from the other two types. A loan is money borrowed which must be repaid at a later time. In most cases, the student is the borrower and repays the loan once he or she is no longer enrolled in an institution of higher learning. There are a few loan programs where the parent is the borrower and begins repaying the loan while the student is still enrolled. All educational loans carry favorable interest rates. Some include interest benefits, meaning the federal government pays the interest on the loan while the student is enrolled. All loans normally must be repaid within a ten year period after enrollment ceases. The more popular loan programs are:

- Federal Direct Loan
- Federal Direct Unsubsidized Loan
- Federal Perkins Loan
- Federal Direct Parent Loan for Undergraduate Students
- Nursing Student Loans

*In addition to long-term loans, VCU offers short-term loans to enrolled students. These unsecured loans must generally be repaid during the semester the loan was granted.

2. **Grants**—Grants are gifts of money awarded without any expectation of repayment. The total dollar amount of available aid in the form of grants is less than that of total dollar amount of loans. Most grants are reserved for those students with the greatest financial need. A number of grant programs are:

- Federal Pell Grant
- Commonwealth Award
- Virginia Guaranteed Assistance Program
- Federal Supplemental Educational Opportunity Grant
- College Scholarship Assistance Program
- Virginia Transfer Grant Program

3. **Work Study**—Work study is a form of financial aid that pays wages for work performed. Work study positions are located on- and off-campus in approved locations. The work study program includes:
 - Federal College Work Study

DETERMINING A STUDENT'S FINANCIAL AID PACKAGE

Financial need is the difference between the amount a student and the student's family can contribute to college costs, as determined from the information submitted on a FAFSA, and the total expected cost of education. Educational expenses include tuition and fees, books and supplies, housing and food, transportation, clothing, health, personal maintenance, miscellaneous expenses, and child care, if applicable. The student's financial eligibility must be determined before an offer of financial aid may be made.

Applications are ranked in order of greatest need. Undergraduates who do not hold a first bachelor's degree are first considered for grant and scholarship eligibility, then for loans or work-study programs. Those holding a first bachelor's degree are considered for loans and work study only.

All students are eligible to apply for the Federal Direct Loan. Parents of dependent undergraduate students are eligible to apply for the Federal Direct Parent Loan for Undergraduate Students (PLUS).

Students receiving departmental or outside scholarships must notify the Financial Aid Office of these awards. Offers of financial aid for these students may be adjusted.

ISSUES AFFECTING ELIGIBILITY FOR FINANCIAL AID

Quality Assurance Department

The Financial Aid Department is committed to the equitable delivery of financial assistance to eligible applicants. To ensure that eligibility information is complete and accurate, student records may be selected for further review at any time during an enrollment period.

Internal VCU practices and policies are also reviewed for consistency and accuracy. In signing the FAFSA certification, students and families have indicated their willingness to provide proof of the information provided on the application. If requested, the required documents and information must be provided or disbursed aid will be recovered and undisbursed aid will be canceled.

Enrollment and Eligibility

Financial aid eligibility is based on the projected enrollment status as reported on the FAFSA—full-time, three-quarter-time, half-time,

or less than half-time. The requirements for each level are as follows:

Undergraduate

Level	Credit Hours
Full-time	12 or more
Three-quarter-time	9-11
Half-time	6-8
Less than half-time	1-5

Credit hours taken for audit do not count in the calculation of enrollment level for financial aid purposes. Since a reduction in credit hours may result in loss of financial aid, students are advised to consult with a financial aid counselor before making any changes to their enrollment status.

Services and Financial Aid Appeals

Financial aid service and aid program decisions are made within the guidelines of federal and state regulations and comply with institutional regulations, policies and procedures. Regulations are applied uniformly to all students and situations.

Students may make service or financial aid appeals if any of the following conditions exist.

1. Financial aid service does not meet your expectations.
2. You have exhausted all possible payment and resource options and still do not have enough money to cover educational expenses.
3. Your family can document unusual circumstances including:
 - loss or reduction of employment earnings by layoff or return to school;
 - disability or death of parent or spouse;
 - separation or divorce;
 - loss or reduction of untaxed income;
 - losses due to natural disaster;
 - unusually high educational program costs;
 - unusual medical expenses; or
 - dependent and child care expenses.

Any financial aid staff member can advise you about the procedures to follow for an appeal hearing.

Summer Studies Financial Aid

Financial Aid is available for summer studies to students who were eligible for aid the previous academic year and is calculated using the previous year's FAFSA. The choice of aid programs is limited.

Application deadlines and processing schedules for summer studies financial aid are published in the *Summer Studies Bulletin*. Processing

is usually restricted to the third week of April. Students seeking financial aid for summer must have participated in advance registration for their summer studies classes.

Reasonable Academic Progress Policy

To be eligible for financial aid from federal, state, or institutional programs at VCU, students must make reasonable academic progress in their certificate or degree programs. The criteria for reasonable academic progress are as follows:

1. Undergraduates who have attempted fewer than 30 hours must have earned at least 70 percent of the hours attempted at VCU.
2. Undergraduates who have attempted 30 or more hours at VCU must have earned at least 80 percent of the hours attempted.
3. Undergraduates who have been enrolled for more than four enrollment periods—summer, spring, or fall—must have earned a minimum cumulative grade point average of at least 2.0.
4. Undergraduates may receive financial aid for a period not to exceed the equivalent of 12 semesters of full-time enrollment. Students admitted to certificate programs may receive financial aid for the equivalent of four full-time semesters.
5. Students who receive aid and withdraw from all classes in two successive semesters shall not have made reasonable academic progress.

Students whose eligibility for financial aid has been suspended for lack of reasonable academic progress may appeal the action. The appeal must be in writing and received by the Financial Aid Office no later than 30 days after the date on the letter of notification. Students will be notified within 30 days, in writing, of the results of the appeal.

At the end of each academic year, reasonable academic progress status will be determined by the Financial Aid Office. This determination will be made during May.

VCU Refund Policy

Students are entitled to refunds according to the policies outlined under “Refunds” in Part III of this bulletin. Requests for refunds must be made in writing to the Student Accounting Department.

Student Refund/Financial Aid

Repayment Policy

Students who withdraw from classes must have their eligibility for a refund calculated. The Student Accounting Department will forward requests for refunds to Financial Aid.

If the certified date of withdrawal occurs during the refund period, a corresponding proration of financial aid eligibility must be made. This calculation may result in a reduction in the financial aid eligibility and a possible return of awards to one or more financial aid programs in accordance with the following Federal refund policies.

Prorata Refund Policy. Students who receive Title IV Federal Financial Aid who are enrolled at the University for the first time and withdraw from all classes may qualify to have a portion of their financial aid returned to the various programs through the tenth week of the semester.

Federal Refund Policy. Students who receive Title IV Federal Financial Aid and withdraw from all classes may qualify to have a portion of their financial aid returned to the various programs through the eighth week of the semester.

If a student is eligible for a refund under the pro-rata and federal policies, after a comparison, the student will have the largest amount returned to the various financial aid programs. The federal refund and the pro-rata policies listed above are subject to an administrative fee that does not exceed the lesser of \$100 or five percent of the tuition.

Students are advised to consult with a financial aid counselor before making a change in enrollment status during the refund period. The counselor will advise the student on how the change in enrollment will affect financial aid eligibility.

If the change in enrollment occurs after the disbursement of all financial aid awards, repayment to the university by the student may be required to reimburse the financial aid programs.

Financial Aid for Study Abroad

In most cases, financial assistance is available to eligible students for both academic year and summer approved study-abroad programs. Students should begin this process by contacting the VCU Center of International Programs.

VETERAN AND RESERVIST EDUCATIONAL BENEFITS

For information on eligibility for Veteran and Reservist Educational Assistance, contact the Office of Veteran Services, Financial Aid, 901 West Franklin Street, Room 107, Richmond, VA 23284-3026. The phone number is (804) 367-0977.

To receive educational benefits, students who are veterans must comply with the following:

1. Request certification each semester and each summer session from the Office of Veteran Services.
2. If you withdraw from VCU or drop a course, you must notify the Office of Veteran Services.
3. Benefits are not awarded for courses taken on an audit basis. If repeating a course or taking a course with no credits, the Office of Veteran Services must be notified.
4. All courses taken must apply to a degree program. These courses may include electives and prerequisite courses, as well as required courses.
5. It is your responsibility to see that the transcripts are evaluated to determine the number of transfer credits accepted by VCU and to have this information submitted to the Office of Veteran Services for transmittal to the VA Regional Office.
3. One of the applicant's parents must have died as a result of injury or disease incurred during war time or another period of armed conflict.
4. One of the applicant's parents must be listed as a prisoner of war or missing in action.
5. The applicant's parent on which eligibility is based must have been a resident of Virginia at the time of entry into active military duty; or
6. The applicant's parent on which eligibility is based must have been a resident of Virginia for at least ten consecutive years immediately before date of application.
7. The applicant must provide written verification attesting to their acceptance as a student in either a state-supported secondary or post-secondary educational institution.

People eligible for the Virginia War Orphans Education Program are entitled to a tuition-free education at state-supported educational or training institutions on an annual basis. (Summer school also may be certified in the annual certification of students.) People entitled to this benefit can use it to pursue any vocational, technical, undergraduate, or graduate program of instruction. Generally, programs listed in the academic catalogues of state-supported institutions are acceptable provided they have a clearly defined educational objective; i.e., certificate, diploma, or degree.

Requests for application should be sent to the Director, Division of War Veterans' Claims, Commonwealth of Virginia, 210 Franklin Road, S.W., Roanoke, VA 24011. If possible, applications should be submitted at least four months before the expected date of matriculation.

VIRGINIA WAR ORPHANS EDUCATION PROGRAM

The Virginia War Orphans Education Program provides educational assistance for children of certain veterans or service personnel. Eligibility for this assistance is contingent upon the following:

1. The applicant must be no less than 16 and no more than 25 years old.
2. One of the applicant's parents must have served in the U.S. Armed Forces and must be permanently or totally disabled due to an injury or disease incurred during war time or another period of armed conflict; or



PART IV

STUDENT ▼ AFFAIRS

The university offers a wide variety of services to its students. The Division of Student Affairs is responsible for the majority of these services. If interested in services not listed below, students are encouraged to contact the vice provost for student affairs.

DIVISION OF STUDENT AFFAIRS

Henry G. Rhone

Vice Provost for Student Affairs

Carmen Bell

Administrative Assistant

Jean M. Yerian

Associate Dean of Student Affairs

The mission of the Division of Student Affairs is to help VCU students gain the most from their educational experiences through direct services, attention to the campus environment, and effective communication and collaboration.

The Office of the Vice Provost for Student Affairs is located in the Sitterding House at 901 Floyd Avenue, P.O. Box 843017, Richmond, VA 23284-3017. The telephone number is (804) 828-1244.

SERVICES FOR STUDENTS

Dean of Student Affairs

William H. Duvall

Associate Vice Provost and Dean of Student Affairs

Norma A. Pierce

Coordinator for Communication

The Office of the Dean of Student Affairs serves as a resource for students, parents of students, faculty, and staff who have problems or concerns with their interaction with one another and with the university. The dean's office assists in resolving issues or refers inquirers to the appropriate person elsewhere at VCU.

The dean's office is also actively involved in understanding students and their needs, improving the quality of student life, and collecting and disseminating information important to students. The dean sits on a number of university committees, participates in orientation activities, and fulfills additional administrative functions.

Students, parents of students, and staff who have issues they wish to discuss or who are interested in various programs and opportunities should visit the dean's office located in the Sitterding House, 901 Floyd Avenue, P.O. Box 843017, Richmond, VA 23284-3017, or call (804) 828-8940.

University Student Health Services

Betty Anne Johnson, M.D., Ph.D.

Director

David Nelson, M.D.

Assistant Medical Director

F. Lynne Clemo, M.D.

Assistant Medical Director

Margaret Roberson, M.D.

Assistant Medical Director

Karen Kirby, M.D.

Assistant Medical Director

Betty Reppert, PA-C

Associate Director for Health Education

Doris Rice

Assistant Director for Administration

University Student Health Services (USHS) offers quality primary health care for treatment of acute and chronic illness. In addition to diagnosis and treatment, the service emphasizes prevention of illness through screening, counseling, and health education. Full-time students are required to participate and must pay the student health fee. Part-time students who elect to participate in the service must pay the full student health fee.

The service is staffed by physicians, physician assistants, nurse practitioners, registered nurses, pharmacists, and health educators.

Services offered by USHS include general medical, allergy, and gynecology clinics; pharmacy and laboratory services; after-hours emergency care; and health education and public health programs.

All educational activities sponsored by USHS are available to students, including educational literature, video cassettes, weight reduction classes, and health-related programs on topics of interest to students.

Accidental injury and hospitalization are not covered by the service, and students are urged to join the university-sponsored health plan. Information on this insurance program, which provides benefits to students at group rates, is available at USHS.

Virginia law requires all full-time students submit an immunization record before enrollment at VCU. The immunization record is included in the health history form mailed to students from the Office of Admissions and should be filled out and sent to the immunization coordinator on the Academic Campus.

The USHS office on the Academic Campus is located in Suite 159, Gladding Residence Center, 711 West Main Street. For information call (804) 828-8828.

The USHS office on the MCV Campus is located on the second floor of the A.D. Williams Clinic at 1201 East Marshall Street. For information call (804) 828-9220.

Immunization Requirements

VCU requires all full-time students have a validated immunization record on file at USHS. This record must be on file before matriculation.

The record must be completed fully and accurately, and must be accompanied by documentation of vaccinations. This may be done in one of two ways. The student's physician may transfer the information from his or her medical record and sign the form verifying its accuracy. Or, the student may complete the form using information received from his or her local health depart-

ment or from the armed services. The student must then attach a validated copy of supporting documentation to the immunization certificate and mail both documents to USHS.

Many middle schools and high schools require validated immunization records from students. The student may request that the school provide a copy of his or her immunization record to VCU. Please note that if documented evidence of full immunization according to VCU guidelines cannot be provided, the student must see his or her family physician or health department and receive updated immunizations. Most city and county health departments offer immunizations at a reduced fee. For example, there is the Richmond City Health Department at 500 North Tenth Street. Immunity to the following diseases must be documented as specified on the forms supplied by VCU with the formal offer of admission.

NOTE: Immunization records must be sent to USHS and not to admissions.

Tetanus—Documentation of both 1 and 2 is necessary. (1) Primary immunization series, including month/day/year of each dose, and (2) **tetanus/diphtheria booster (Td), month/day/year within past ten years.**

Diphtheria—Documentation of both 1 and 2 is necessary. (1) Primary immunization series, including month/day/year of each dose, and (2) **tetanus/diphtheria booster (Td), month/day/year within past ten years.**

Polio—(1) Primary immunization with a total of three doses of OPV (oral Sabin), or (2) primary immunization with a total of four doses of IPV (injected Salk).

NOTE: Documentation of prior vaccination against polio, including month/day/year of each dose, is required. However, if not completed in the past, it is not recommended that the student complete the primary polio series unless the student is younger than 18 years old or is planning travel to an area endemic or epidemic for polio.

Rubeola (Measles)—Please be aware that there has been a recent change in the recommendations for measles vaccine. VCU, in keeping with the American College Health Association recommendations, now requires two doses of the measles vaccine, both given after 12 months of age. Although the vast majority of students will have had one dose of the vaccine, only a few will have had the second dose. Documentation of one of the following is necessary: (1) Born before 1957 and therefore considered immune. (2) **Two doses** of measles vaccine, both administered after 1967, after the age of one year, and administered at least

one month apart (document month/day/year). This is a new requirement that began fall 1990. (3) Physician certification of diagnosis of measles, including month and year of occurrence. (4) Documentation of immune titer proving immunity.

NOTE: Measles vaccine given before 1968 is not acceptable.

Rubella (German Measles)—Documentation of one of the following is necessary: (1) Rubella vaccine given after one year of age, including month/day/year, or (2) report of immune titer proving immunity.

NOTE: A history of disease is not acceptable. Rubella vaccine given before June 9, 1969, is not acceptable.

Mumps—Documentation of one of the following is necessary: (1) Mumps vaccine given after one year of age and after 1967 (document month/day/year). (2) Report of immune titer proving immunity. (3) Physician's certification of diagnosis of mumps including month and year of occurrence. (4) Born before 1957 and therefore considered immune. All documents must be accompanied by a social security number.

Students with questions should contact the staff of University Student Health Services, Academic Campus, Suite 159, Gladding Residence Center, 711 West Main Street, Richmond, VA 23284-2022, or call (804) 367-1212.

University Counseling Services

John G. Corazzini

Director

Sandy L. Colbs

Staff Psychologist

Pauline Moroni

Staff Counselor and Assistant to the Director

Napoleon L. Peoples

Staff Counselor

Victor A. Ranft

Staff Counselor

Kathleen J. Scott

Staff Psychologist and

Coordinator of the Training Program

Joy G. Bressler

Staff Counselor

Academic Campus

P.O. Box 842525, 907 Floyd Ave., second floor (Commons, Room 225)

828-6200

Hours:

Monday-Thursday 8:00 a.m.-6:00 p.m.

Friday 8:00 a.m.-4:30 p.m.

(During semester break, spring break and summer, the office closes at 4:30 p.m. daily.)

MCV Campus

P.O. Box 980238, 302 N. 12th St., third floor—Hunton Hall

828-3964

Hours:

Monday-Friday 8:00 a.m.-4:30 p.m.

Students with personal, social, vocational or educational needs may find help from University Counseling Services. The goals of UCS are to promote students' academic success and personal growth as well as to assist students who are experiencing stress or crisis.

University Counseling Services can meet student needs in a variety of ways:

Group Counseling. Ongoing psychotherapy groups focus on personal and social concerns including drug and alcohol related issues, eating disorders, self-esteem, depression, sexuality, problems with parents or peers, stress career choice and identity.

Counseling and Psychotherapy. Individual and couple work is designed to deal with personal and interpersonal issues.

Academic Success Program. Weekly workshops and computerized assessment and interventions focus on development of the practical skills and academic strategies necessary for students to achieve academic excellence in the classroom.

Consultation and Outreach. Presentations, workshops and staff consultation are available to student organizations, academic departments and other groups on issues relevant to each group's needs.

Multicultural Training Program. Consultation and workshops are designed to prepare students, faculty and staff to function effectively in a multicultural environment.

Career Counseling. Individual sessions designed to clarify career direction and satisfaction.

Testing. Vocational, intellectual and personality assessments.

Available to both day and evening students, counseling services are free except for a small fee for occasional testing. All students requesting services will be guided to the appropriate program or counseling service based on an individual assessment of needs and concerns.

Office of Minority Student Affairs

L. Victor Collins

Director

The Office of Minority Student Affairs (OMSA) provides supportive services to ethnic, racial, and

cultural minority groups indigenous to this nation who are substantially represented at the university. VCU is committed to a multicultural, diverse student body, and OMSA offers assistance to students and faculty in support of this commitment.

OMSA facilitates minority student involvement in the total campus experience from the African American Scholars Program to the Student Government Association. The office also serves as an advocate group for minority students' concerns and interests. Another service is the coordination of certain university-wide programs such as Black History Month. OMSA provides individual and group counseling and advice to groups such as the Black Student Alliance, the Black Caucus, the Latino Student Alliance and the Intercultural Council.

OMSA also advises groups and individuals seeking improved understanding of races and cultures represented at VCU. In this way, the office seeks to supplement the opportunities for student growth and development at the university.

All students are urged to visit the Office of Minority Student Affairs located on the ground floor of Sitterding House at 901 Floyd Avenue, or to call (804) 828-6672.

University Career Center

Susan B. Gunn

Director

Camilla C. Jones

Assistant Director

Mary Miller

Assistant Director

Susan L. Walker

Assistant Director

The University Career Center (UCC) assists students and alumni in identifying and achieving career goals. Specifically, the career center staff helps students to discover more about themselves, to explore career options, to decide about career directions, and to develop sound strategies for realizing their career goals.

UCC offers career and graduate education information, including computerized career as well as graduate school searches; a career library of more than 1,000 printed volumes and a video collection on job-search topics; computerized self-assessment and job search in the Center's computer lab; information on employers (such as annual reports, recruiting brochures, and directories); information on Academic Campus majors; and graduate and professional school information.

Students can participate in special career planning groups and meet with a staff member for career counseling. Frequently used self-assessments include Strong Interest Inventory, Campbell Interest and Skills Survey, Myers-Briggs, and Eureka Miro Skills. Two popular topics for individual sessions are resume reviews and referrals to Alumni Career Advisers Network. Alumni career advisers allow students to talk with VCU alumni already active in career fields.

The University Career Center maintains a job bank of part-time and full-time openings including on- and off-campus work-study positions for Virginia students who are eligible for work-study.

Students can learn job search skills by participating in small group sessions on such topics as resume writing and interview techniques. STRATEGIES, a UCC publication for students, is a guide which covers career development, job search, and graduate school planning, which is available on the Career Center's home page on the world wide web.

Seniors finishing within the academic year use the Career Center to interview with business, industry, government, and education representatives who visit the office recruiting prospective graduates for openings in their organizations. Students registered with the center's 1st Place! database can also be part of employer referrals and access job listings on computer. ALEX, VEC's Automated Labor Exchange, is also available at the center.

All students are urged to use the resources of the University Career Center located on the first floor of the University Student Commons at 907 Floyd Avenue. The telephone number is (804) 828-1645. For more information, see the center's web homepage (<http://www.vcu.edu/safweb/careers/ucchome.html>). The center is open from 8 a.m. to 6 p.m. Monday through Thursday; and from 8 a.m. to 4:30 p.m. on Friday.

Student Housing/Residence Education

Bernard A. Mann

Director of Housing

Jane Grassadonia

Director of Residence Education

Living accommodations on campus are provided for the convenient housing of students and to further the educational objectives of the university. Approximately 2,200 students live in university-operated housing which varies in capacity and style, including high-rise residence halls, suites, and apartments on campus.

VCU believes that residence hall life provides an opportunity for students to gain a variety of personal learning experiences that supplement and complement the formal learning gained in classrooms and laboratories. The housing program seeks to make residences a place where students learn to meet and live successfully with other students and to assume major responsibility for their own lives and the atmosphere of their living environment. University housing also helps students participate in many educational and social programs and develop leadership skills through participation in residence, governmental, social, and judicial organizations.

Residence education staff members facilitate these objectives and are always available to assist students in the residence areas. Although acceptance for admission to the university does not guarantee housing facilities to the new student, all students in past years desiring student housing have been accommodated. See the Room and Board Fees heading in Part III of this bulletin.

Rooms in university-operated housing are rented for the entire academic year of nine months unless other arrangements are made. The student, parent of the student, or student guardian contracts to pay the rent for this period.

All rooms are furnished adequately, but students may wish to add personal touches and conveniences of their own. As the buildings vary in age and occupancy, it is best to wait until arrival to decide on any extra furnishings. Students should provide their own pillows, bedspreads, linens, and blankets. Coin-operated washers and dryers are located in each building.

For further information, contact the Housing Office, Gladding Residence Center, 711 West Main Street, P.O. Box 842517, Richmond, VA 23284-2517, or call (804) 828-7666.

Food Service

Undergraduate students living in university residence halls must participate in one of the board plans offered by VCU unless they are living in self-sufficient apartment units with kitchens. Students residing off campus are encouraged to participate in the board plan.

VCU offers a number of different board plans ranging from the traditional 19 meals per week plan to the more flexible 10 meals per week plan. See Part III of this bulletin.

Student Identification Card

Students should always carry their VCU ONE CARD with them and be ready to show it to any authorized university official who requests iden-

tification. The ONE CARD is required for numerous university functions such as borrowing library books and riding the shuttle bus. After registering for classes, students may obtain their ONE CARD at the VCU ONE CARD Office.

Beyond being an identification card the ONE CARD has additional functions. The debit program provides students a convenient way to make food purchases without carrying cash. To utilize meal plan privileges the ONE CARD must be presented at the dining facilities. The ONE CARD vending feature enables students to make copies in the libraries, purchase Pepsi products, and for students living in residence halls, provides an easier payment method in laundry facilities card for those who enroll in the campus MCI program.

Any student who loses his or her VCU ONE CARD should report its loss immediately to the ONE CARD Office and apply for a replacement card. A \$5.00 replacement fee is charged for any card which is lost or damaged. When stray ONE CARDS are turned into the ONE CARD Office, every effort is made to contact the cardholder.

For more information on ONE CARD programs contact the VCU ONE CARD Office at:

Academic Campus: James Branch Cabell Library, Room B-46, 828-8385

MCV Campus: Tompkins McCaw Library, Room 1-025, 828-2545.

Rape Services Consultants

Rape Services Consultants are trained volunteer members of the VCU faculty and staff who are on call around the clock and are available to help rape survivors deal with the aftermath of the attack. Services provided include helping the survivor identify needs, identifying campus and community resources, explaining options, and providing other assistance as requested. To contact a consultant, call University Counseling Services at 828-6200 from 8 a.m. until 4:30 p.m. weekdays, and the VCU Police Dispatcher at 828-1234 nights and weekends.

Substance Abuse/Sexual Assault Education Program

This office provides coordination of substance abuse and sexual assault efforts on campus. It serves as the main point of contact for information and services in these areas. The coordinator provides or arranges for presentations about alcohol and other drug abuse or issues related to sexual assault for student groups, classes, or for

special events such as Alcohol Awareness Weeks and Sexual Assault and Domestic Violence Awareness Month. This office also offer "On Campus...Talking About Alcohol" (OCTAA), a primary prevention program, for students and professionals. This office offers leadership for the campus on sexual assault policy, protocol, educational programming, and services development. The Rape Services Consultants are coordinated by this office. These faculty and staff members serve as initial point of contact for survivors of sexual assault or those concerned about survivors.

For further information, contact the Program at 907 Floyd Avenue, P.O. Box 842032, Richmond, VA 23284-2932, (804) 828-2085.

University Policies and Procedures

A number of policies and regulations at VCU affect students, many of which are printed in Parts II, III, and V of this bulletin.

Three policy documents are of particular interest to students. The Virginia Commonwealth University Rules and Procedures document outlines the rights, responsibilities, and privileges of each member of the university community and describes cases when disciplinary action, including separation from the university, may be taken against a member of this community as a result of prohibited behavior as outlined in this document. The VCU Honor System defines academic dishonesty and provides a procedure for judging alleged violators of academic integrity.

The Grade Review Procedure outlines the process whereby students may appeal grades that they feel have been unfairly assigned. Each student is responsible for being familiar with the provisions of all university policies and regulations.

The three policy documents described above are printed in full in the *VCU Resource Guide*, which is distributed each year on campus and is also available at the Office of the Dean of Student Affairs in the Sitterding House, 901 Floyd Avenue, P.O. Box 843017, Richmond, VA 23284-3017, (804) 828-8940.

INFORMATION SOURCES

Publications of the Division of Student Affairs. The *VCU Resource Guide*, a directory of university services and policies, lists all services available at the university and contains the full text of several university polices affecting students. It also contains information on getting involved in campus life, a list of registered clubs

and organizations, information on special programs and events, and a directory of frequently called phone numbers.

Student Media

Commonwealth Times. Students write and edit the *Commonwealth Times*, a campus newspaper containing news, features, editorials, and reviews of timely topics. The offices are located in Room 1149 of the General Purpose Academic Building, 901 West Main Street, P.O. Box 842010, Richmond, VA 23284-2010, (804) 828-1058.

The Vine. This newspaper presents news of VCU's African-American students. The office is located in Room 018B of the Student Activities Center, 901 Floyd Avenue, P.O. Box 842035, Richmond, VA 23284-2035, (804) 828-3648.

Writers' Corner. This publication showcases creative writing from VCU students.

Richmond Arts Magazine. This student-published literary and visual arts magazine is a two-dimensional showcase for the work of students, faculty, and area artists. The magazine is distributed free on campus.

WCVW. The student-operated radio station uses a carrier current line to some residence halls and cafeterias. Programming includes music, information, news, public affairs, and public service announcements. WCVW studios and offices are located in the General Purpose Academic Building, 901 West Main Street, P.O. Box 841961, Richmond, VA 23284-1961, (804) 828-1057.

University Student Commons and Student Activities

Bart A. Hall

Director – University Student Commons & Student Activities

Carolyn Farley

Assistant Director – Student Activities & Leadership

Felicia L. Keelen

Assistant Director – Programs

John P. Leppo

Assistant Director – Building Services

Henrietta Brown

Manager – Student Organization Accounts

Kirsten Hirsch

Commuter Services Specialist

Yolanda Jackson

Student Activities Specialist

The **University Student Commons** is a gathering place for the VCU community—students, faculty, staff, alumni, and guests. The commons provides an array of programs, facilities and services to meet the needs of daily life on campus. All the facilities and services in the Commons are

conveniently accessible to people with mobility impairments. The Commons is located at 907 Floyd Avenue, P.O. Box 842032, Richmond, VA 23284-2032, (804) 828-1981. Building hours during the academic year:

Monday-Thursday	7:00 a.m.-midnight
Friday	7:00 a.m.-1:00 a.m.
Saturday	10:00 a.m.-1:00 a.m.
Sunday	noon-11:00 p.m.

(Holiday and Summer Session hours are posted.)

The **Information Center** is staffed by students ready to field any VCU-related question. Stop by, or call (804)8281981. **Stay-In-Touch Television (SIT-TV)**, a system of video monitors located throughout the Commons, displays up-to-the-minute information about campus services and events as well as local weather and national news and sports. The **Bulletin** (804-828-6523) is a 24-hour telephone service providing recorded information about campus events. The **Academic Campus Calendar of Events** is distributed monthly, both on paper and on the World-Wide WEB at <http://www.vcu.edu/safweb/commons/cal.html>. A complete on-line description of Commons/Student Activities facilities, programs and services is available at <http://www.vcu.edu/safweb/commons/uschome.html>.

The Lobby Lounge is the crossroads of the Academic Campus – a great place to meet friends or watch people. The Plaza and Commuter Lounges offer a more quiet atmosphere. A Smoking Lounge is located at the north end of the second floor. Art exhibition space includes the Art Gallery near the Information Center and the Student Art Space on the second floor of the theater. **Break Point**, the Commons game room, features pool tables, darts, table tennis, board games, the latest video games and regularly scheduled leagues and tournaments. **Meeting and event facilities** include three conference rooms, the Forum Room, the Commons Theater, the Alumni Association Board Room and the Commonwealth and Capital ballrooms. The Reservations and Events Office schedules the use of the Commons space as well as non-instructional use of some other Academic Campus facilities.

Dining and retail services include **Park Place Cafeteria**, open for breakfast, lunch and dinner, hot meals and fast food on a cash basis and as a board plan option. **The Common Express** food court offers Burger King and Itza Pizza. **The Common Market** provides snack items, gourmet coffee, Dunkin' Donuts, Freshens frozen yogurt, newspapers and film processing. **The Common Ground** offers a deli-pub menu in-

cluding pizza, sandwiches, beer and other entertainment programming. **Online@VCU** carries both PC and Macintosh computer hardware/software and specializes in the latest Macintosh systems including a self-service U.S. Post Office station; two electronic banking machines; pay telephones a coin-operated photocopier; and vending machines.

Commuter Student Services include the Ride Board – located in the Commuter Lounge – helping connect drivers and riders for local/long-distance carpooling and coin-operated lockers – located in Room 141 – providing secure, short-term daily storage for personal belongings. The Commuter Services Specialist is an advocate for commuter student concerns and coordinates a variety of programs and assistance efforts to reduce the challenges non-residential students face.

The **Off-Campus Housing Bureau** offers assistance in the location of non-University controlled residences that rent to students on a non-discriminatory basis; however, the University does not control or monitor privately-operated off-campus housing facilities. This service provides free listings of available housing for VCU students, faculty and staff via computer-generated lists of rental apartments, rooms and houses; roommate request; and houses for sale. Most listings are in the Fan district near the Academic Campus. The bureau also makes available a selection of brochures on topics ranging from tenants' rights to Richmond apartment guides. It is advisable for the student to inspect off-campus accommodations before leasing. Good quality apartments and rooms are limited and students should make arrangements early. The service is located in the Commuter Lounge on the first floor of the Commons Theater building at 907 Floyd Avenue, P.O. Box 842032, Richmond, VA 23284-2032, (804)-828-6492.

The **Student Activities Center** supports and encourages numerous opportunities for students to participate and provide leadership in social, cultural, service, and recreational activities and organizations. Students determine their own level of involvement, bearing in mind the need for balance between academic and extracurricular commitments. The Student Activities Center is located in Room 018 on the lower level of the University Student Commons, P.O. Box 842035, Richmond, VA 23284-2035, (804) 828-3648.

Involvement opportunities include the Academic Campus Student Government Association and its sub-committees such as the Activities Programming Board with eight programming committees – Lectures, Concerts, Films, Alter-

native Films, Homecoming, Special Events, Common Ground, Publicity/Advertising. Other student groups include the Black Caucus, fraternities and sororities, and more than 100 other departmental, religious, political, and special interest clubs and organizations. A complete directory of student organizations and information about how to become involved is available from the Student Activities Center staff or on-line at <http://www.vcu.edu/safweb/tg/rgso.html>.

Programs and activities presented through student and staff collaboration include New Student Night at the Commons, Organization Fair, Fall Block Show, Commons Collage, Homecoming, VCU Celebrates the Holidays, Kwanzaa, Black History Month, Alcohol Awareness Week, SpringFest, the Inter-Cultural Festival, Leadership & Service Awards ceremony, and summer Programs.

Leadership education is available to students through the Student Activities Center. Workshops, retreats and a resource library offer comprehensive information for personal and organizational development. Community/Volunteer Service-Learning programs provide a link between VCU and the Richmond community through one-time service initiatives and on-going volunteer opportunities. Activities include blood drives, sponsorship of several tutoring programs (Carver Promise, Adopt-A-School at Clark Springs Elementary, and Lunch Buddies at Summer Hill Elementary), the Alternative spring Break program, a Volunteer Fair where students can meet representatives from community agencies to learn about volunteering in the Richmond area, and a database of community agencies seeking volunteer assistance. Staff members will provide a listing of service opportunities, help identify programs of interest, and facilitate contact with those agencies.

Students and University Governance

The University Council, an advisory body to the University president, is the highest internal governance body at VCU. The council is made up of faculty, students, administrators, classified staff and four sub-committees – the Committee on Student Affairs, the Committee on Academic Affairs, the Committee on Faculty Affairs, and the Committee on Classified Staff Affairs.

Each of the six schools on the Academic Campus, as well as all students who have not matriculated into schools, are represented by senators on the Student Senate of the Academic Campus Student Government Association. The association provides opportunities for students to ex-

press themselves in the development and implementation of VCU policies, to develop and coordinate services and activities for students, and to budget and allocate student activities fees. Elections for student senators are held each spring and appointments of at-large senators are made as vacancies occur throughout the year.

The Student Government Association is organized into standing committees – Elections, Legislative Issues, Steering, Activities Programming Board, Activities Programming Board, Appointments, Appropriations, Human Relations, Publicity, and Services – and non-elected at-large members are encouraged to most of these committees. All meetings of the Senate are open to the public. Additional information is available from the SGA office in the Student Activities Center or by calling (804) 828-7551.

Many other opportunities to participate in departmental and/or school decision-making exist for students. Contact Department or Deans' offices for more information on committee participation.

Recreational Sports

Susan Ivie Boling

Director

Tom Diehl

Associate Director

Todd B. McCollum

Assistant Director

Jennifer Chapman

Assistant Director

Greg Elliott

Coordinator, Outdoor Adventure Program

Kathy Konrad

Assistant Coordinator, Outdoor Adventure Program

Dawn Kenny

Coordinator, Fitness and Wellness

A variety of facilities, services, and programs designed to meet the leisure and health needs of the VCU community are coordinated by the Recreational Sports staff. All currently enrolled students with a valid ID are eligible to use all facilities. All facilities are also available to people from the following groups who purchase a membership: alumni, faculty, staff, and spouses of students, faculty, and staff.

On the Academic Campus, the Cary Street Recreation Complex offers a gym floor that can be used to play basketball, volleyball, or badminton; a spacious weight room with both machine and free weights; a wooden aerobics/dance floor; four racquetball courts; and a large assortment of fitness equipment. The complex also features a lighted artificial turf field, jogging track, and

lighted outdoor basketball courts. The nearby, lighted tennis courts are administered by the Athletic Department. An indoor pool, administered by the Health, Physical Education, and Recreation Department is available on a limited basis in the basement of the Franklin Street Gym. For additional information call 828-6219.

On the MCV Campus, the MCV Gym features two gym floors which can be used for basketball, volleyball, and indoor tennis; an auxiliary gym used for indoor soccer, aerobics, and basketball; numerous racquetball and squash courts; a weight room; and a wide variety of fitness equipment. In addition an Aquatics Facility will be opening in the Fall of 1996 which will allow for recreational swimming, water fitness activities, and a water sports area. For additional information call 828-6100.

Intramural Sports. Available on both campuses, these sports offer students organized men's, women's, and co-recreational leagues and tournaments. Activities include traditional team sports such as flag football, volleyball, basketball, and softball, as well as individual and dual sports such as tennis, racquetball, and table tennis. A rowing regatta, women's night out, and family programs are also offered.

Fitness Programs. Offered at both gyms, these programs include classes in aerobic, weight training, and ballroom dance. Special programs include wellness days and Special Fitness Week activities.

Sport Clubs. These clubs give students the opportunity to train and compete on a higher level than is offered by the Intramural Sports Program. Currently registered clubs include men's lacrosse, men's rugby, judo, cycling, and fencing. For information about these clubs or about stating a new club, call Recreational Sports at 828-6219.

Outdoor Adventure Program and Outing Rental Center. This program and center provide a variety of outdoor recreational opportunities for students. Organized excursions with experienced trip leaders include camping, white water rafting, canoeing, caving, climbing, bicycling, backpacking, windsurfing, and cross-country skiing—many of which are designed for beginners.

All necessary equipment is included in the trip fees. For students planning their own outdoor activities, equipment can be rented at the Outing Rental Center. For a nominal fee, canoes, backpacks, tents, and cross-country skis can be rented on a short-term basis.

The Outdoor Adventure Leadership Program teaches interested student volunteers a variety of outdoor skills and prepares them to lead wilderness trips.

Information on trips and rentals is available at the Outing Rental Center in the rear of Millhiser House at 916 1/2 West Franklin Street. Or call (804) 828-6044.

Office of New Student Programs

Tracy Green
Coordinator

The programs administered by this office are designed to serve the needs of all entering freshmen and new transfer students and their families. The **STAR program** each summer provides new students the opportunity to take placement tests, meet with a faculty adviser, and pre-register for fall classes. Students' parents are provided programs on VCU services.

New Student Orientation is a three-day program for new students that takes place immediately before fall classes begin. During orientation, students meet faculty, staff, administrator, and upper-class students. They attend information sessions, workshops, and campus tours.

Graduate Student Orientation is a one-day program designed specifically for new graduate students on the Academic Campus. Through campus tours and information sessions, this program offers a quick glimpse of services and programs available to VCU graduate students.

VCU 101: Introduction to the University is a one credit course all entering students are encouraged to take. This 10-week course is taught by faculty and student affairs administrators in small class settings. Students will assess their expectations and evaluate their academic strengths and career goals. Through lectures, guest speakers and individual projects, students will discover the VCU resources and services designed to help them solve problems and to achieve a personally rewarding, successful academic program.

VCU Family Weekend is specially designed to bring parents and families back to see the university after students have registered and attended classes. Each school and college of the university has a chance to meet with the families of its students. Family members participate in a number of programs and special events that highlight the faculty, students, and activities of VCU.

For more information about any of these programs, contact the Office of New Student Programs in the University Student Commons, or call (804) 828-3700, or e-mail to tgreen @ felix.vcu.edu.



PART V

ACADEMIC ▼ REGULATIONS ▼ AND ▼ GENERAL DEGREE ▼ REQUIREMENTS

VCU established the academic regulations outlined in this section for students enrolled in the College of Humanities and Sciences, School of the Arts, School of Business, School of Education, School of Engineering, School of Social Work, and Nontraditional Studies, as well as for special (nondegree-seeking) students.

Undergraduate students enrolled in programs other than those listed above should review the academic regulations described under the specific school or department section in this bulletin and the *Virginia Commonwealth University Medical College of Virginia Bulletin*.

ADDRESS

Every VCU student is responsible for keeping a current mailing address on file with the Office of Records and Registration.

Mailings returned to this office by the U.S. Post Office because of an incorrect address may result in a registration hold on a student's record until the correct address is provided.

ACADEMIC CREDIT

VCU awards credits toward a degree based on a student's demonstrated college-level learning. The university offers students a number of alternatives to accomplish and demonstrate their learning, including independent study, College Level

Equivalency Program (CLEP) Examinations, military education, and credit-by-examination. However, the conventional and most common method is through a combination of studio, laboratory, and/or classroom instruction, along with out-of-class activities such as reading, research, writing, and/or other assignments.

Typically, out-of-class learning activities require **AT LEAST** twice as much time as in-class instruction. Although proportions of time will vary, especially for studio and laboratory classes which require proportionately more in-class time, the ratio of two hours preparation and study for each hour of lecture and discussion is the normal minimum time investment.

ADVISING PROGRAM

Students are responsible for knowing and fulfilling all general and specific degree requirements as described in this section.

Individual student advising is an integral part of the VCU student's academic program. Each degree-seeking student is assigned a faculty advisor who is available for academic and career advising. Special (non degree-seeking students) should contact the Office of Community Programs, 827 West Franklin Street. Students are also encouraged to seek advising, depending on intended major, from the appropriate office listed on the next page:

School of Business

Office of the Associate Dean for
Undergraduate Studies
Room 3119, Business Building, 1015 Floyd
Avenue (804) 828-3710

School of Education

Office of the Assistant Dean
Room 2090, Oliver Hall, 1015 West Main Street
(804) 828-3382

School of Engineering

2nd Floor, 827 West Franklin Street
(804) 828-3576

College of Humanities and Sciences, which
includes humanities, sciences, social sciences,
mass communications, prehealth sciences, and
undecided majors.

Office of the Associate Dean
Room 205, Hibbs Building, 900 Park Avenue
(804) 828-1673

Health and Physical Education

Department of Health and Physical Education
Room 221, 817 West Franklin Street
(804) 828-1948

School of Social Work

Office of the Director for the Bachelor of Social
Work Program
Room 103, 1001 West Franklin Street
(804) 828-0703

Additional assistance for all students is available from the Counseling Center and the University Career Center.

ATTENDANCE REGULATIONS

The instructional program at VCU is based upon a series of class meetings involving lectures, discussions, field experiences, special readings, and reporting assignments. Therefore, it is important for each student to be in attendance on a regular basis. A student who misses a class session is responsible for completing all material covered or assignments made during the absence.

Instructors must clearly inform the student in writing of the attendance requirements for each course and the corresponding consequences of poor attendance. Though the attendance requirements may vary widely from one course to another, students must abide by these requirements. Students cannot enroll in two courses that meet concurrently without written approval from the chairman of each department involved.

Students having attendance problems should contact the instructor to explain the reasons for

nonattendance, and to discuss the feasibility of continuing in the course. If the student has fallen so far behind that the successful completion of the course is impossible, the student should withdraw from the course before the end of the first eight weeks of classes.

If the student continues to miss class and does not officially withdraw from the course, the instructor may withdraw the student for nonattendance with a mark of "W" before the end of the withdrawal period, or may assign a full academic grade. Withdrawals are not permitted after the end of the first eight weeks of classes. For classes that do not conform to the semester calendar, the final withdrawal date occurs when one-half of the course has been completed. Withdrawal dates for summer session classes are published in the summer studies catalogue.

Religious Observances

It is the policy of VCU to accord students, on an individual basis, the opportunity to observe their traditional religious holidays. Students desiring to observe a religious holiday of special importance must provide advance written notification to each instructor by the end of the second week of classes. Instructors are encouraged to avoid scheduling on these dates one time only activities which cannot be replicated. Faculty members are expected to make reasonable accommodations to students who are absent because of religious observance through such strategies as providing alternative assignments or examinations or granting permission for audio or video recordings and the like.

**MIDSEMESTER STUDENT
EVALUATION OF ACADEMIC
PERFORMANCE**

University policy requires faculty to provide students with feedback about their academic performance before the semester or class withdrawal date. Although such feedback does not always take the form of a letter grade, grades do provide a clear indication of class progress.

CHANGE OF MAJOR

Students who wish to change their majors must file a Change of Major Form. These forms are available in the Office of Records and Registration. The change of major becomes official after

the Office of Records and Registration has received the form signed by the dean or chairperson of the appropriate school or department. Change of major should not occur for current semesters after the “Add-Drop” period.

Before initiating a change of major, students should carefully review the requirements and prerequisites of the program they wish to enter. In certain programs—including those in the Schools of the Arts, Business, Education, Mass Communications and nontraditional studies—a candidate must fulfill additional requirements before being accepted as a degree-seeking student.

Students currently enrolled in an MCV Campus program who wish to change to a curriculum on the Academic Campus must go through a change of major. Such students are subject to the continuance policy of the Academic Campus in making a change of major.

Credits previously earned at VCU or at another university, may or may not be applicable to the new major.

CLASSIFICATION OF STUDENTS

Full-time and part-time degree-seeking students, but not nondegree-seeking students, are classified by credits earned as follows:

Freshmen	1 to 23 credits
Sophomores	24-53 credits
Juniors	54 to 84 credits
Seniors	85 credits and more

CONTINUOUS ENROLLMENT

A student who does not attend VCU for four or more successive semesters including summer sessions, must submit an application for readmission to the Office of Admissions. This application must be filed before the suggested deadline date for submitting readmission applications for the semester in which the student wishes to return to VCU.

REGISTRATION POLICIES

Student Load

Student load is the total number of credits for which a student is enrolled in any one semester. The semester credit is the quantitative unit by which courses are measured. A semester credit is defined as one hour per week of lecture/recitation

or not less than two hours per week of laboratory work, field work, internship, or studio work throughout the semester. MAT 001, ENG 001, and ENG 002 are each equivalent to three semester hours, but none carries academic credit.

Full-Time and Part-Time Students

The student enrolled in 12 credits or more during any fall or spring semester is classified as “full-time”. The student enrolled in 11 credits or less during any semester is classified as “part-time”. Either full-time or part-time students may seek degrees at VCU. For more information see the Categories of Student Enrollment section in Part II of this bulletin.

OVERLOAD

A degree-seeking undergraduate student may take no more than 19 credits per semester without special permission. This maximum load excludes holiday intersession courses. More than 19 credits per semester constitutes an overload.

The student’s advisor and academic dean may permit a student to attempt up to 21 credits per semester, but no student may attempt more than 21 credits in any one semester. An Overload Approval Form may be obtained from the Office of Records and Registration.

Undergraduate special nondegree-seeking students may take no more than 11 credits per semester. Overloads for special nondegree-seeking students must be approved by the Academic Status Committee.

For information about credits earned concurrently at another institution, see the Concurrent Registration section in Part V of this bulletin.

Cancellation of Registration

To cancel registration, a student must notify in writing the Office of Records and Registration before the end of the “Add-Drop” period. Refunds are issued in accordance with procedures described under the Refunds section in Part III of this bulletin. For readmission guidelines consult Part II of this bulletin.

Withdrawal From the University

Students who withdraw from all classes during a semester must submit a completed Official Withdrawal Form to the Office of Records and Registration before the end of the first eight weeks of classes. These forms are available from the Office of Records and Registration. Failure to

complete this form can result in the assignment of failing grades in all or some of the courses. The final withdrawal date for classes whose meeting dates do not conform with the semester calendar is the day when one-half of the course has been completed. Withdrawal forms are available at the Office of Records and Registration. Failure to complete this form may result in failing grades in all or some of the courses.

A mark of "W", for withdrawn, will appear on the student's permanent academic record for all courses the student was enrolled in. Tuition refunds are issued in accordance with procedures described under the Refunds heading in Part III of this bulletin.

If due to extraordinary circumstances a student requests retroactive withdrawal after the final withdrawal date, the student must petition the Academic Status Committee for consideration of a waiver of this academic regulation. For further information, see the section headlined Waiver of Academic Regulations Academic Status Committee later in this part of the bulletin.

A student who withdraws from all courses during a semester may attend the following semester without submitting an application for readmission.

A student who does not attend VCU for four or more successive semesters, including the summer, must submit an application for readmission to the Office of Admissions. This must be done before the suggested deadline date for submitting readmission applications for the semester in which the student wishes to return.

See also Cancellation of Registration section above.

Audit Registration

For information on registration for audit see the section under the headline Mark of Audit in Part V of this bulletin.

CHANGE IN REGISTRATION

Once a student has registered for classes, changes in registration must be made according to the procedures listed below. Whenever a student makes any change in registration, the student should keep a copy of the new schedule as verification of the change.

During the Add/Drop Period

Exact dates for add/drop periods before and during the first week of classes are listed in the

schedule booklet each semester. Changes in registration (drops, adds, changes from audit to credit) during the add/drop periods can be made by completing a Course Request Form and submitting it to the Office of Records and Registration. Courses dropped during add/drop periods do not show on a student's permanent record.

After the Add/Drop Period

Students cannot add a course after the add/drop period, except under unusual circumstances and with the permission of the dean of the school offering the course. The calendar in the front of this bulletin lists the date when add/drop ends. Students may withdraw from classes only in accordance with prescribed procedures. To officially withdraw from a class after add/drop, a student must obtain and file the appropriate form with the Office of Records and Registration.

If a student stops attending class and fails to withdraw, a failing grade is usually given for that course. Withdrawals after the add/drop period and before the eighth week of classes become a part of the student's academic record with a mark of "W". In classes that do not conform to the normal semester calendar, the final withdrawal date is when one-half of the course is completed. For further information see the "Withdrawal from the University" heading in Part V of this bulletin.

Concurrent Registration

Students enrolled in degree programs need prior approval to take courses at other institutions to ensure credits earned concurrently at another institution are accepted for transfer at VCU. Before registration at the other institution, the student needs approval by his or her advisor, department chairman, and academic dean. A permit to take courses at another institution can be obtained from the Office of Records and Registration or from the Office of the Dean.

GRADING AND MARKING SYSTEM

Grades and Grade Points

VCU course work is measured both in terms of quantity (semester hours of credit) and quality (grades). Grades are assigned according to a letter system. Each letter is assigned a grade-point value. These letter grades and their respective meaning and grade-point values are listed on the next page:

Grades Letters and Meaning	Grade-Point Values per Semester Credit
A-Superior	4
B-Good	3
C-Average	2
D-Passing	1
F-Failing	0

The above scale is known as a four-point grading system since four is the highest grade-point assigned. The number of grade points earned is computed by multiplying the grade-point value for the letter grade times the number of semester credits for the course. For example, a student who receives an "A" (four grade points) in a three-credit course earns 12 grade points.

The notation (#), when following a letter grade, means that letter grade is not computed in the grade-point average (GPA). The notation (%), when following a letter grade, is assigned by the Academic Honor Council and is computed in the GPA. When a grade of "F" is followed by an asterisk (*), the mark of I was changed to F for failure to complete the course work in the allotted time frame.

Grade-Point Average

The GPA is computed by dividing the number of grade points earned at VCU by the number of credits attempted at VCU. The grades of accepted transfer courses are not included in the computation of the VCU GPA.

Repeated Courses

Courses attempted at VCU can be repeated. All credits attempted and grade points earned are included in the computation of the cumulative GPA with one exception, which applies only to students enrolled in programs on the Academic Campus.

If a student repeats a course in which a "D" or "F" was earned on the first attempt, the student may request at the time of registration that only the better grade be counted in computing the cumulative GPA. The grade is not excluded until the request is made. If, however, more than one "D" or "F" grade is received in the same course, only one of these grades will be removed from the computation of the cumulative GPA.

A student can file the Repeated Course Request Form at any time during a semester

prior to the awarding of the undergraduate degree. This form must be filed before the last week of classes in any semester so the cumulative GPA can be adjusted at the end of that semester.

Grades for all attempted courses remain on the student's permanent record. Students may not repeat courses for which they have previously received transfer credit without losing the transfer credit. A repeated course may be counted only once toward credits necessary for graduation. Before repeating a course, the student should consult with the advisor or department chairman.

Students who choose to repeat a course must do so before the awarding of their undergraduate degrees from any school or college at VCU or from any other college or university. The student's GPA at graduation will not be affected by repeating a course at any time after graduation.

Grade Exclusion Policy

This policy is applicable to former students enrolled in programs on the Academic Campus who have been separated completely from VCU for five years or more; are now entering an Academic Campus program; and who earn at least a 2.0 GPA on the first 12 semester hours completed.

Under this policy, eligible students may request "D" and "F" grades previously earned at VCU be excluded from their total credits earned and GPA computation for the purpose of meeting scholastic continuance and graduation requirements.

All earned grades, including those excluded "D" and "F" grades, remain on the student's permanent academic record. Excluded grades must be approved by the student's major department chairman and by the dean of the school. The grade exclusion policy may be used only once during a student's enrollment at VCU and cannot be revoked by the student after approval is granted. A student who chooses to use this policy must do so before the awarding of his or her undergraduate degree.

Change of Grade

A final grade may be corrected by the faculty member with proper submission of the Change of Grade Form to the chairman of the department in which the course was taught. The chairman will forward the form to the school's dean who will send it to the Office of Records and Registration. For grades awarded in the fall semester, the change of grade must be submitted by the department chairman no later than 30 days after the beginning

of the following spring semester. For grades awarded in the spring semester, the change must be submitted no later than 30 days after the beginning of the following fall semester.

A change of grade that affects the student's academic eligibility to enroll must be made during the first week of classes in the semester or summer session in which the student plans to continue attendance.

Grade Review Procedure

If a student feels a grade is inaccurate, he or she should discuss the grade with the faculty member who assigned it. This allows the faculty member to explain how the final grade was determined. If an error is detected, the faculty member can submit a change of grade.

If no agreement is reached and the student still feels the grade was unfairly assigned, the student can submit a written appeal to the chairman of the department in which the course was taught. For grades awarded in the fall semester, the change of grade appeal must be submitted by the department chairman no later than 30 days after the beginning of the following spring semester. For grades awarded in the spring semester, the appeal must be submitted no later than 30 days after the beginning of the following fall semester.

The burden of proof falls upon the student and the written appeal should state and support with available evidence the reasons why the student believes the grade should be changed. The chairman of the department will attempt to mediate an amicable solution within two weeks of receipt of the written appeal. If the complaint is unresolved, the chairman will forward the student's appeal, together with the chairman's recommendation, to the dean of the school in which the course was taught.

The dean then forms a Grade Review Committee composed of a nonvoting faculty chairman, two faculty members, and two students. The committee reviews all written materials and records and then arranges for a hearing unless the appeal is judged patently without merit. At the hearing, the committee hears evidence and testimony from all parties. The committee has the option of either raising the grade or leaving the grade unchanged.

A change of grade that affects the student's eligibility to enroll must be made during the first week of classes of the semester or summer session in which the student wishes to continue attendance.

The Grade Review Procedure is printed in full in the *VCU Resource Guide*.

Marks

The marks listed below, unlike grades, are not considered in the computation of hours attempted, hours earned, grade points earned, or grade-point averages.

Letters and Meaning

- AU — Audit
- I — Incomplete
- PR — Progress
- CO — Continued
- W — Withdrawn
- P — Pass
- CR — Grade assigned for successful completion of credit by examination
- NG — Temporary administrative grade assigned when no grade is submitted by the instructor
- NC — Administrative grade with no credit
- RD — Repeated course; "D" grade excluded from cumulative GPA
- RF — Repeated course; "F" grade excluded from cumulative GPA

Mark of Audit (AU)

Class size permitting, a student may register for a course on an audit basis. A student may register for audit only during add/drop and late registration periods as a new registration and not as a change from credit to audit. Auditing a course means a student enrolls in a course but does not receive academic credit upon completion of the course. A student who registers on an audit basis is subject to attendance regulations of that class and may be administratively withdrawn by an instructor for a violation of class requirements for audit students, before or after the normal eight week withdrawal deadline. A student who registers for audit may be subject to other course requirements at the discretion of the instructor. Audit students are charged the regular rate of tuition and fees. An audit course is counted as part of the student's semester load.

Mark of Incomplete (I)

When circumstances beyond a student's control prevent the student from meeting course requirements at the end of the semester, the student may request the instructor to assign the mark of "I" for that semester. If in agreement with this request, the instructor fills out an Incomplete Mark Assignment Form bearing the student's signature. This form is then submitted with the grade sheet for that course by the faculty member. A grade cannot be changed to "I" after the deadline for grade submissions.

The time limit for submission of all course work necessary for removal of an "I" given during the fall semester is 30 days after the

beginning of the following spring semester. For “I” grades given during the spring semester or summer session, all course work must be submitted within 30 days after the beginning of the following fall semester.

These deadlines may be extended to the end of that semester if the student requests that extension in writing and is granted approval by the instructor and the dean of the school in which the course was offered. Extensions beyond the end of the following semester are available only to students not enrolled during the semester in which the deadline falls and upon requests submitted before normal deadlines.

Upon expiration of the deadline, an unremoved “I” automatically becomes an “F”.

Mark of Progress (PR)

The mark of “PR” may be assigned only in courses approved for such grading. Unlike the mark of “I”, “PR” will not automatically be changed to a failing grade at the end of the succeeding semester.

Mark of Continued (CO)

The mark of “CO” may be assigned as an interim mark for those courses which run over several grade reporting periods. The “CO” mark indicates the course is not expected to be completed in a single semester and that the student must reregister for the course. Upon completion of the course, a final grade is assigned for that semester and the previous “CO” mark(s) remain. This mark may be assigned only in courses approved for such grading.

Mark of Withdrawn (W)

The mark of “W” indicates the student has officially withdrawn from the course or has been withdrawn for nonattendance. The last day to withdraw for the fall and spring semesters is the end of the eighth week of classes. Summer session students should check the Summer Bulletin for withdrawal dates.

For further information see the heading “Withdrawal From the University” in Part V of this bulletin.

Mark of Pass (P)

The mark of “P” may be assigned only in courses approved for such grading. This grade denotes satisfactory completion of course requirements. If course requirements are not met satisfactorily, a grade of “F” is assigned. Courses assigned the grade of “P” are not computed in the

GPA. However, courses assigned the grade of “F” are computed in the GPA.

Evaluation and Final Grade Reports

Students are encouraged to discuss their progress in courses with their instructors, especially before the withdrawal deadline. See “Midsemester Student Evaluation of Academic Performance” heading in Part V of this bulletin.

Final grade reports are sent to students at the end of each semester. Grade reports are mailed to the official mailing address on file in the Office of Records and Registration. Students must submit in writing any change of address to the Office of Records and Registration, 827 West Franklin Street, P.O. Box 842520, Richmond, VA 23284-2520.

Transcripts

A transcript is a copy of the student’s permanent academic record. An official transcript carries the university seal. Unofficial transcripts given directly to students contain the same information as an official transcript, but do not carry the university seal.

Transcripts of student academic records are issued by the Office of Records and Registration only upon the written request of the student. The request should be made at least one week before the transcript is needed.

A transcript is issued only after the student has paid all university bills.

Transcript requests signed by the student may be submitted in person or by mail to the Office of Records and Registration, 827 West Franklin Street, P.O. Box 842520, Richmond, VA 23284-2520.

CONTINUANCE IN ACADEMIC PROGRAMS

Definition of Good Standing

A student who has been admitted to VCU and is currently enrolled is in “good standing” until such time that the student is placed on academic suspension.

Academic Warning

A student is placed on academic warning when the student’s GPA falls below 2.0 (grade “C”) at the conclusion of any term of attendance—fall, spring, or summer.

Notification of warning appears on the student’s grade report. A student remains on academic warning for one term of attendance at the end of

which time the student must obtain a cumulative GPA of at least 2.0. Failure to achieve this GPA results in academic probation.

Academic Probation

A student is placed on academic probation when the student's cumulative GPA falls below 2.0 for two successive terms of attendance.

A degree-seeking student on academic probation may not enroll in more than 12 credits per term of attendance. Students on academic probation are expected to improve their cumulative GPA by achieving a semester GPA of 2.0 or better during each term of attendance. A student who achieves a cumulative GPA of at least 2.0 is removed from academic probation.

Academic Suspension

A student is placed on academic suspension when the student's cumulative GPA is below 2.0 for two successive semesters and the following term of attendance GPA falls below 2.0.

Notification of suspension appears on the student's grade report and the student also receives a letter from the Office of Records and Registration stating the conditions of the suspension. A notation of the suspension is placed on the student's permanent record. Academic suspension indicates the student has a record of continued unsatisfactory progress.

A student on academic suspension may not enroll at the university for two consecutive semesters, including the summer session. Course work taken at another institution while the student is under academic suspension from VCU is considered part of the criteria for readmission, but the course work is not used to increase the VCU cumulative GPA. If the student is readmitted, the course work will be evaluated according to regular procedures.

A student may apply for readmission to VCU for the semester following completion of the suspension period. A student readmitted after suspension enrolls under the academic probation status and is subject to the provisions of that status. If a student readmitted after suspension fails to obtain a semester GPA of 2.0 in any term before achieving a cumulative GPA of at least 2.0, the student receives a second, and final, suspension. The student may be considered for readmission after a minimum five-year separation from VCU.

For readmission guidelines, see Part II of this bulletin.

HONORS

Dean's List

The dean's list is a recognition of superior academic performance. A student is automatically placed on the dean's list for each semester in which a semester GPA of at least 3.5 is attained, based on a minimum of 15 credits earned. A notation is placed on the student's permanent academic record. Students with marks of "I" or "PR" are ineligible for the dean's list.

Graduation Honors

Candidates for a baccalaureate degree who complete a minimum of 60 credits at VCU may qualify for graduation honors. Awarding of honors is based on the student's cumulative GPA at the time of graduation. Cum Laude is awarded for a 3.30 to 3.59 GPA, Magna Cum Laude is awarded for a 3.60 to 3.89 GPA, and Summa Cum Laude is awarded for a 3.90 GPA or better.

Calculation of the GPA for honors determination is based on grades received for all courses taken for credit at VCU, as well as for credits accepted for transfer at VCU. However, to qualify for graduation honors, a student's GPA for courses taken for credit at VCU must be at least as high as the minimum required for the specific honor bestowed. Recognition of graduation honors is made on the student's diploma, permanent record, and in the commencement bulletin.

DEGREE REQUIREMENTS FOR ALL ACADEMIC CAMPUS STUDENTS

The degree requirements that must be fulfilled by all degree-seeking students on the Academic Campus are listed below. For additional degree requirements, students must consult the school and major departmental sections of this bulletin.

Grade-Point Average

A cumulative GPA of 2.0 (grade "C") or better is required in order to receive a baccalaureate degree. Only credits taken at VCU are computed in the GPA.

Some programs may require a higher cumulative GPA. Students should consult the section of this bulletin that deals with their major for any GPA requirements above the university's 2.0 minimum.

Total Credits

The total number of semester credits required for graduation depends on the student's major.

Specific information on total credit requirements is detailed under degree program descriptions in this bulletin, beginning with Part VI.

Major Concentration

To receive the baccalaureate degree, a student must attain a 2.0 or better in all courses in the student’s major presented for graduation. Only credits taken at VCU are computed in the GPA. Students should consult the appropriate section of this bulletin dealing with their majors for any GPA requirements above the 2.0 university minimum.

Upper-Level Courses

A minimum of 45 credits is required in 300-500-level courses for a bachelor’s degree; therefore credits transferred from two-year institutions can not be used to fulfill this requirement.

Last 25% Rule

Degree candidates must complete the last 25% of the credit semester hours required for their associate or bachelor’s degree program at this institution.

Total Semester Hours	123-125	126-129	130-132	134-135	139-141	168
25% Req.	31	32	33	34	35	42

This requirement does not apply to students who participate in VCU-sponsored programs abroad or who earn course credit at a cooperating university through VCU domestic and international university exchanges.

Graduation Application

Although VCU confers degrees in May, August, and December, an annual commencement exercise is held only in May. Each student who expects to complete the degree requirements by the end of a semester or summer session must file an application for the degree at the beginning of that term.

Application forms are available at the Office of Records and Registration. Degree applications must be submitted by the dates indicated in the calendar appearing in the front of this bulletin. A student needs to schedule a conference with the advisor well in advance of the deadline and should remember that the application also requires approval by the department chairman and dean.

Special Notes for Graduating Financial Aid Recipients

1. If you plan to continue your enrollment at Virginia Commonwealth University after graduation and want financial aid, you must apply and be accepted as a degree/certificate

seeking student and enroll at least half-time to meet financial aid enrollment requirements.
 2. If you received federal loan funds during your enrollment at VCU, you may be required to complete a loan exit counseling session as listed below. Your diploma will not be released until you complete this required obligation.

Exit Counseling Required

<i>Loan Population</i>	<i>Contact Point</i>
Perkins Loans	
HPSL	VCU Accounts Receivable
NSL	327 West Main St.
LDS	P.O. Box 843055
Primary Care University	Richmond, VA 23284-3055
Long Term	(804) 828-4538
MCV Campus all other loans	VCU Financial Aid 1101 E. Marshall St. Rm. 1-055 P.O. Box 980244 Richmond, VA 23298-0244 (804) 828-0523
School of Dentistry	Contact School of Dentistry (804) 828-9196
School of Medicine	Contact School of Medicine (804) 828-4006

Exit Counseling Optional

Federal Direct Loan	VCU Financial Aid 901 West Franklin St. P.O. Box 843026 Richmond, VA 23284-3026
Federal Stafford Loan	(804) 828-6669

COMMENCEMENT PARTICIPATION POLICY

When a student has submitted a degree application for spring graduation but does not meet degree requirements due to extenuating circumstances, the student’s dean may permit the student to participate in commencement exercises. Permission may be granted only when six or fewer credit hours are lacking for degree completion and the student demonstrates his or her intent to complete the needed credits by the end of the summer session.

When such an exception is made, the dean confirms the following conditions to the student:

Participation in the commencement ceremonies does not mean the student has been awarded a degree; the degree will not be awarded until all degree requirements have been met and the student has satisfied all financial obligations to VCU; the exemption is made only to accommodate the student's request and does not obligate VCU to ultimately grant a degree unless all requirements and conditions have been met.

DEGREE OPTIONS

Second Baccalaureate Degree

A student who has already earned a baccalaureate degree and wishes to earn a second baccalaureate degree at VCU needs to complete an application for undergraduate admission. This form is available at the Office of Admissions and should be submitted, after completion, to that office.

Students accepted are referred to the dean's office of the school offering their intended major. The dean's office evaluates the student's academic record and prepares a statement of advanced standing that lists transferable credits to the second degree program.

A student seeking a second undergraduate degree from VCU must earn a minimum of 30 additional credits at VCU and also must satisfy any supplementary requirements of the department or school granting the degree.

Double Major

A double major is the concurrent fulfillment of the requirements of two majors. To earn a degree in a double major, the student must fulfill all the requirements of the degree program(s) in both majors. Only one diploma is awarded, and a notation recognizing the completion of the double major is posted on the student's permanent academic record. To initiate a double major, a student should obtain the necessary form and instructions from the Office of Records and Registration.

Dual Degrees

Dual degrees are the concurrent fulfillment of the requirements of two majors and two degrees. To earn dual degrees, the student must fulfill all the requirements of the degree programs in both majors. The student must complete an additional

25% of hours above the minimum hour requirement of the major requiring the most credits. (Refer to the chart under the Last 25% Rule.) Two diplomas are awarded, and a notation recognizing the completion of the dual degrees is placed on the student's permanent academic record.

Minor Areas of Concentration

Although a minor is not required for completion of a degree, a student may elect any approved minor area of concentration. A minor is the completion of a group of courses within an area of specialization. Usually the minor requires less course work than the major. The minor may be used to fulfill career needs or to facilitate in-depth investigation in a discipline of secondary interest to the student.

A student who wishes to pursue a minor must complete a Change of Major/Minor Form. The courses for the minor are chosen from courses approved for the minor. Students must achieve a minimum 2.0 GPA in the area of the minor. The minor becomes official only after the Office of Records and Registration has received the Change of Major/Minor Form signed by the dean or chairman of the appropriate school. A notation recognizing the fulfillment of the requirements for a minor are posted on the student's permanent record at the time of graduation. The student must submit a Minor Application Form when the student submits an application for graduation. Minor applications are available at the Office of Records and Registration.

OTHER SOURCES OF ACADEMIC CREDIT

College Level Examination Program (CLEP)

CLEP is designed to allow people who have gained knowledge outside the classroom to take examinations and receive college credit for what they have learned.

Procedures for VCU students

1. Obtain CLEP Approval Forms, information about CLEP general and/or subject examinations, VCU course equivalency information, optional essay requirements, and CLEP examination applications from the Office of Community Programs, Virginia Commonwealth University, 827 West Franklin Street, Room 202, P.O. Box 842041, Richmond, VA 23284-2041, (804) 828-1831.
2. CLEP Approval Forms must be completed

- for general examinations and for each subject examination taken.
3. Discuss the examination(s) to be taken with an advisor. Obtain permission signatures from the advisor and dean of the school in which you are a major on each of the three approval forms. If the optional essay is required for a subject examination, it should be indicated on the CLEP Approval Forms and on the CLEP application.
 4. Return the completed CLEP Approval Forms, the completed CLEP application, and the proper fee to the Office of Community Programs. After receipt of these materials and fees, the examination time will be scheduled.
 5. The examination score and the result of the optional essay are sent to the dean's office in which the student is a major for final action. The dean then sends formal notification to the student, Records and Registration, and the student's advisor.

Regulation for VCU students

1. CLEP credit is officially awarded only to students who are fully accepted into a VCU degree program.
2. Students may not take a subject or general examination during the semester in which they plan to graduate.
3. A student may not attempt a subject or general examination if it duplicates in part, or full, any VCU course or combination of courses which the student has already completed or enrolled in for credit. For example, a student who has completed courses in United States and European history, sociology, anthropology, and psychology, or similar courses, is not eligible to take the social sciences and history general examination. The dean's office of the school in which the student is a major makes the decision about the appropriateness of taking a particular examination.
4. If a student has earned CLEP subject examination credit, the student may not take a VCU course for credit which would duplicate the CLEP credits already earned.
5. The CLEP general examination in English composition is not acceptable for VCU credit. Students may take the CLEP freshman English subject examinations for credit equivalent to English 101-102. For a student to receive credit for the CLEP general examination in mathematics, the student must take the Mathematics Placement Test and test at the MAT 102, 112, 200 or STA 213 level. To make arrangements to take this placement test, contact the Department of Mathematics at (804) 828-1301, ext. 107. Results should be reported to the dean of the school in which the student is a major.
6. The maximum of 54 semester credits can be earned through CLEP Examinations.

Undergraduate Credit-by-Examination

Recognizing that VCU enrolls students of varying backgrounds and experiences, the university provides its students the opportunity to accelerate their education through "credit-by-examination". The conditions under which credit-by-examination may be given and the procedure for doing so are outlined below.

1. With the approval of the dean, each department or program shall:
 - A. determine which, if any, courses shall be available for credit-by-examination. The student should check with the department offering course work in the area in which he or she wishes to take credit-by-examination for a list of the courses so designated;
 - B. determine the types of examinations, standards of evaluation, and evaluators for the courses so designated; and
 - C. determine the qualifications for students to be eligible to take the examinations.
2. The examinations, if available, may be taken by any enrolled student during the fall and spring semesters and during the summer session.
3. The student wishing to take credit-by-examination must meet the following requirements:
 - A. not have received a grade listed in the bulletin, including "AU" or "W" for the course for which credit-by-examination is sought. Nor should the student have been granted transfer credit for a similar course taken elsewhere.
 - B. be a currently enrolled student as certified by the examining department.
 - C. meet departmental and school eligibility requirements as evidenced by the written approval of the chair of the examining department.
4. After consultation with the major advisor and within the first four weeks of a semester or the first week of a summer session, the student must complete the Credit-by-Examination Approval Form with the department chair. The form, available from the

department, should be left with the chair when it is completed.

5. Within two weeks, the student is notified by the dean's office of the time and place of examination.
6. After notification, but before taking the exam, the student must pay the university cashier the fee established by VCU for each credit being sought. As verification of payment, the student presents the receipt to the department chair before the examination is taken.
7. After the examination is taken, the results and the examination are sent to the dean's office, which notifies the student of the results. If the student passes the examination, the course title, credits earned, and the grade (CR) are recorded on the student's permanent academic record. Credits so earned are applied toward the graduation requirement for total credits. However, these credits are not included in the computation of the student's GPA.

Military Service and ROTC Courses

The university may grant credit for formal military service school courses offered by the various branches of the United States Armed Services. The guidelines for granting such credit include the following:

1. the positive recommendation of the Commission on Accreditation of Service Experiences of the American Council on Education as stated in the most recent edition of "A Guide to the Evaluation of Educational Experiences in the Armed Services"; and
2. the applicability of such credit toward the student's degree program as interpreted by the department or school in which the student seeks a degree. Credits accepted are counted as credits earned toward the degree, but are not used in the computation of the student's GPA. The student should consult with the dean of the school or college for further details about the procedures for awarding credit for military service school courses.

Army ROTC is open to any VCU student. Advanced standing may be granted to veterans, junior ROTC graduates, or members of the Reserves/National Guard after the department chairman's review of academic records and verification of ROTC academic alignment. The number of credits accepted toward graduation requirements is determined by each school. See "Military Science" in Part VI of this bulletin.

Transfer Credit

See "Evaluation of Transfer Credit" in Part II of this bulletin.

Credits Earned Through the International Student Exchange Program (ISEP)

Credits earned by a VCU student through ISEP appear on the student's transcript, but are not included in the computation of the student's cumulative GPA. See "Center for International Programs" in Part XVIII of this bulletin. This policy became effective July 1990.

Credits Earned Through the National Student Exchange (NSE)

Credits and grades attempted by a VCU student through NSE appear on the student's transcript, and are included in the computation of the student's cumulative GPA. See "Center for International Programs" in Part XVIII of this bulletin. This policy became effective March 1995.

WAIVER OF ACADEMIC REGULATIONS ACADEMIC STATUS COMMITTEE

The Academic Status Committee considers petitions for waiver of the academic regulations for undergraduate programs presented in this section. The committee, composed of faculty and administrators from each school and the college, and the Office of Records and Registration, is a standing committee of the Office of Academic Affairs. The provost and the academic vice-provost appoint committee members.

Students can appeal academic regulations when documented justification based on extenuating circumstances is available.

Below, are the procedures to be followed for the presentation of such an appeal.

1. The academic advisor, department chairman, academic dean, or the Office of Academic Advising can provide an Academic Status Committee Petition Form and assistance in organizing the petition.
2. A letter specifying reasons for the request should be written to accompany the petition.
3. Appropriate written documentation should be provided to support the petition.
4. The petition and accompanying documents should be sent to the advisor, department chairman, or academic dean for review and recommendation.
5. The Office of Community Programs reviews and recommends for special nondegree-seeking students.

The completed petition is then presented to the committee by the school or college representative. Students are notified in writing of the decision of the committee. All committee procedures are confidential and ensure the right of privacy of the student.

VCU HONOR SYSTEM

VCU recognizes that honesty, truth, and integrity are values central to its mission as an institution of higher learning.

And so, VCU must act to maintain these values, even to the point of separating those who violate them from the university. The VCU Honor System describes the responsibilities of students, faculty, and administration in upholding academic integrity, while respecting the rights of individuals to the due process offered by administrative hearings and appeals. All people enrolled in any course or program at VCU and all people supervising the learning of any student are responsible for acting in accordance with the provisions of the VCU Honor System.

This honor system gives definitions and illustrative examples of six acts which are violations of the policy, namely: cheating, plagiarism, facilitating academic dishonesty, abuse of academic materials, stealing, and lying. There are six penalties for students found guilty of these honor system violations. They are honor probation, assignment of grades, suspension, expulsion, revocation, and other relevant sanctions.

See the VCU Honor System, printed in full in the *VCU Resource Guide*.

STUDENT CONDUCT IN THE CLASSROOM

The instructional program at VCU is based upon the premise that students enrolled in a class are entitled to receive instruction free from interference by other students. Accordingly, in classrooms, laboratories, studies, and other learning areas, students are expected to conduct themselves in an orderly and cooperative manner so that the faculty member can proceed with customary instruction. Faculty members (including graduate teaching assistants) may set reasonable standards for classroom behavior in order to serve these objectives. If a student believes that the behavior of another student is disruptive, the instructor should be informed.

If a faculty member believes that a student's behavior is disrupting the class and interfering with normal instruction, the faculty member may direct the student to leave the class for the remainder of the class period. In such circumstances, the faculty member is the sole judge that the student's behavior is sufficiently disruptive to warrant a temporary dismissal from the classroom. Disruptive behavior on the part of the student may result in the filing of formal charges under the University's *Rules and Procedures* document.

Academic Programs

INTRODUCTION

The following seven sections describe in detail the undergraduate degree programs offered by VCU. The information which is included in this introduction will help the reader use program and course information found in the following seven sections.

UNDERGRADUATE DEGREE PROGRAMS AND POST-BACCALAUREATE CERTIFICATES

Bachelor of Arts Degrees

Art History
Chemistry
English
Fashion
Foreign Languages/French
Foreign Languages/German
Foreign Languages/Spanish
Foreign Languages/Comparative Literature
History
Philosophy
Political Science
Psychology
Religious Studies
Sociology and Anthropology

Bachelor of Fine Arts Degrees

Art Education
Art History
Communication Arts and Design
Crafts
Dance/Choreography
Fashion
Interior Design
Painting and Printmaking
Sculpture
Theatre
Theatre Education

Bachelor of General Studies

Bachelor of Music Degrees

Performance
Composition
Music Education

Bachelor of Science Degrees

Accounting
Administration of Justice
Biology
Business Administration
Chemistry
Clinical Laboratory Sciences
Clinical Radiation Sciences
Computer Science
Dental Hygiene

Economics
Engineering
Chemical
Electrical
Mechanical
Finance
Insurance/Risk Management
Health Education
Human Resources Management/Industrial Relations
Interdisciplinary Degree Program in Science
Information Systems
Management
Entrepreneurship and Small Business
General Management
Marketing
Mass Communications
Mathematical Sciences/Applied Mathematics
Mathematical Sciences/Computer Science
Mathematical Sciences/Mathematics
Mathematical Sciences/Operations Research
Mathematical Sciences/Statistics
Nursing
Occupational Therapy
Physical Education
Physics
Physics/Engineering (dual degree)
Production/Operations Management
Psychology
Radiation Sciences
Real Estate and Urban Land Development
Recreation, Parks, and Tourism
Safety and Risk Administration
Science
Sociology and Anthropology
Urban Studies

Bachelor of Social Work Degree

Post-Baccalaureate Certificates

Accounting
Aging Studies
Applied Social Research
Computer Science
Criminal Justice Administration
Environmental Studies - (undergraduate certificate with undergraduate degree)
Information Systems
Patient Counseling
Planning Information Systems
Public Management
Real Estate and Urban Land Development
Statistics
Teaching
Early Education NK-4
Middle Education 4-8
Secondary Education 8-12
Special Education K-12
Urban Revitalization

GENERAL COURSE INFORMATION

Course Numbering System

1. All course numbers will consist of three digits (XXX).
2. The first digit relates to the course level as follows:

- a. 0XX Noncredit Courses
- b. 1XX Undergraduate, Lower Level
2XX Undergraduate, Lower Level
- c. 3XX Undergraduate, Upper Level
4XX Undergraduate, Upper Level
- d. 5XX Introductory Graduate Courses,
First Year, First Professional
(Medicine and Dentistry) Fifth
Year, Professional Baccalaureate
(Pharmacy)
- e. 6XX Graduate Courses
7XX Graduate Courses
6XX Second Year, First Professional
(Medicine, Dentistry, Pharmacy)
7XX Third and Fourth Year, First
Professional (Medicine and
Dentistry)

Course Interpretation

A single number listing for a course, such as Business 121, indicates it is a one-semester course.

Courses listed with a double number, such as History 201, 202 and designated as semester courses, consist of two one-semester courses either of which may be taken without the other.

Courses listed with a double number, such as English 101-102 and designated as a continuous course, consist of two one-semester courses, the first of which can be taken without the second, but the second of which cannot be taken without the successful completion of the first.

The university reserves the right to withdraw any course or program.

Humanities Courses

To fulfill electives in the humanities, students generally may choose courses from among the following:

Art History—all courses except those primarily concerned with technique, style, or skill (e.g. ARH 260, 261 History of Painting Technology; ARH 360 Introduction to Conservation);

English—excluding courses in writing;

Foreign Languages—courses at intermediate (201) level and above, except when such courses are used to fulfill the general education requirement in foreign languages;

History—only HIS 305, 307, 308, 309, 336, 337, 338, 365, 366, and 485;

Music—only MHT 243, 244, 421-422, and 441;

Philosophy—all except PHI 221, 222;

Political Science—only POS 341, and 342;

Religious Studies—all courses;

Any of the courses in European Cultures (EUC), and Foreign Literature in Translation (FLT).

Course Abbreviations Used in This Bulletin

Abbrev.	Description
AAS	African-American Studies
ADE	Adult Education
AEN	Art Education
AFO	Art Foundation
AHP	Allied Health Professions
AMS	American Studies
ANA	Anatomy
ANT	Anthropology
APM	Applied Music
ARH	Art History
ART	Art
BIC	Biochemistry
BIO	Biology
BUS	Business
CDE	Communication Arts and Design
CHE	Chemistry
CHI	Chinese
CHS	College of Humanities and Sciences
CLS	Clinical Laboratory Sciences
CML	Comparative Literature
COP	Cooperative Education
CRA	Crafts
CRJ	Criminal Justice
CRS	Clinical Radiation Sciences
CSC	Computer Science
CSE	Community Services
DAN	Dance
DEH	Dental Hygiene
DEN	Dental Special Topics
EAS	Earth Science
ECO	Economics
EDU	Education
ELP	English Language Program
ENG	English
ENS	Environmental Studies
EUC	European Cultures
FDE	Fashion
FLT	Foreign Literature in English Translation
FRE	French
GEO	Geography
GER	German
GTY	Gerontology
HED	Health Education
HIS	History
HON	University Honors Program
HUS	Humanities and Sciences
IDE	Interior Design
INT	International Studies
ITA	Italian
LAT	Latin

LIN	Linguistics
LSK	Language Skills
MAC	Mass Communications
MAT	Mathematics
MHT	Music History
MIC	Microbiology and Immunology
MIS	Military Science
MUC	Music Composition
MUE	Music Education
NGR	Engineering
NSE	Domestic Exchange Program
NUR	Nursing
OCT	Occupational Therapy
PAC	Patient Counseling
PAP	Painting and Printmaking
PHI	Philosophy
PMC	Pharmacology
POR	Portuguese
POS	Political Science
PSY	Psychology
PTY	Photography
REC	Recreation
REH	Rehabilitation Counseling
RSS	Reading and Study Skills
RST	Religious Studies
RUS	Russian
SCU	Sculpture
SLW	Social Work
SOC	Sociology
SPA	Spanish
SPE	Speech
SRA	Safety and Risk Administration
SSC	Social Science
STA	Statistics
THE	Theatre
UNS	University Studies
USP	Urban Studies and Planning
VCU	Academic Affairs
WST	Women's Studies

SCHOOL AND PROGRAM ACCREDITATIONS

School of the Arts: National Association of Schools of Art and Design
 School of Business: American Assembly of Collegiate Schools of Business (Undergraduate and Masters; Accounting: Undergraduate and Masters)
 School of Education: Virginia State Department of Education; National Council of Accreditation for Teacher Education (NCATE)
 School of Mass Communications: American Council on Education for Journalism accredi-

tation for the news- editorial and broadcast-news sequences

School of Nursing: National League for Nursing
 School of Social Work: Commission on Accreditation of the Council on Social Work Education (B.S.W. and M.S.W.)
 Department of Administration of Justice and Public Safety: Criminal Justice Accreditation Council
 Department of Chemistry: The American Chemical Society
 Department of Interior Design: Foundation for Interior Design Education Research
 Department of Music: National Association of Schools of Music
 Department of Psychology: American Psychological Association accreditation of the Clinical and Counseling Psychology Ph.D. programs
 Division of Computer Sciences, Department of Mathematical Sciences: Computer Science Accreditation Commission of the Computing Sciences Accreditation Board (B.S. in Computer Science)
 Program in Dental Hygiene: Commission on Accreditation of the American Dental Association
 Program in Clinical Laboratory Sciences: National Accreditation Agency for Clinical Laboratory Services
 Program in Occupational Therapy: Accreditation Council for Occupational Therapy Education.
 Program in Nuclear Medical Technology: Joint Review Committee on Educational Programs in Nuclear Medical Technology.
 Programs in Radiation Therapy Technology and Radiology: Joint Review Committee on Education in Radiology Technology.
 Program in Kinesiotherapy: American Kinesiotherapy Association
 Program in Recreation, Parks, and Tourism: National Council on Accreditation of the National Recreation and Park Association.

HONOR SOCIETIES

Chapters of the following national honor societies are located at VCU and annually recognize students and faculty for their service and scholarship:

General Societies

Golden Key National Honor Society—
scholarship

Omicron Delta Kappa—*leadership and scholarship*

Phi Eta Sigma—*freshman scholarship*

Phi Kappa Phi—*scholarship*

Discipline Societies

Alpha Kappa Delta—*sociology*

Alpha Phi Sigma—*criminal justice*

Alpha Omega Alpha—*medicine*

Alpha Sigma Chi—*medical technology*

Beta Alpha Psi—*accounting*

Beta Gamma Sigma—*business*

Delta Pi Epsilon—*business education*

Financial Management Association National

Honor Society—*finance*

Kappa Tau Alpha—*mass communication*

Omicron Delta Epsilon—*economics*

Omicron Kappa Upsilon—*dentistry*

Pi Kappa Lambda—*music*

Pi Sigma Alpha—*political science*

Rho Chi—*pharmacy*

Phi Delta Kappa—*education*

Phi Theta Epsilon—*occupational therapy*

Phi Sigma—*biological sciences*

Sigma Delta Pi—*Spanish*

Sigma Zeta—*medicine, dentistry, pharmacy, and nursing*

Sigma Theta Tau—*nursing*

Sigma XI—*scientific research*

Sigma Pi Sigma—*physics*

Sigma Phi Alpha—*dental hygiene*

Sigma Phi Omega—*gerontology*

Psi Chi—*psychology*

COURSES IN HONORS (HON)

198 Freshman Honors. Semester course; 3 lecture hours. variable credit; maximum total 8 credits. Prerequisite: permission of honors director. Course may be repeated once under different topic. An interdisciplinary course which will provide an intensive study of selected topics.

298 Sophomore Honors. Semester course; 3 lecture hours. variable credit; maximum total 8 credits. Prerequisite: permission of honors director. Course may be repeated once under different topic. An interdisciplinary course which will provide an intensive study of selected topics. Appropriate prerequisites or corequisites may be demanded.

398 Honors Topics. Semester course; 3 lecture hours. variable credit; may be repeated with different topics. Prerequisite: permission of honors director. An in-depth study of selected topics. May be cross-listed with departmental courses. See *Schedule of Classes* for specific topics to be offered each semester. Appropriate prerequisite or corequisites may be demanded.

399 Honors Module. One-third semester course; 3 lecture hours. 1.5 semester hours of credit per module. Prerequisite:

permission of the honors director or the chairman of the offering department. Intensive studies of topics from a wide spectrum of disciplines are undertaken. Each module is a self-contained unit. Nine semester hours of credit must be taken in Honors modules to complete the Honors Core. See *Schedule of Classes* for topics.

492 Honors Independent Study. Semester course; variable credit, maximum of 4 semester hours of credit per semester, maximum total over all semesters of 9 semester hours of credit. Prerequisites: junior or senior standing, approval of honors director and instructor/tutor. Intensive study under supervision of a faculty member in an area not covered in depth or contained in the regular curriculum.

VCU 101 COURSE (VCU)

101 Introduction to the University. 1 lecture hour. 1 credit. A course to orient new students to the rich tradition and purposes of a university education. Students will assess their expectations and evaluate their academic strengths and career goals. Through lectures, guest speakers, and individual projects, students will discover the VCU resources and services designed to help them solve problems and to achieve a personally rewarding successful academic program.

THE BACHELOR OF GENERAL STUDIES PROGRAM

This is a university degree program designed for mature students who have clearly articulated goals that cannot be met by existing university programs. It offers flexible schedules and highly individualized curricula leading to a Bachelor of General Studies (B.G.S.).

Through individualized advising, this program helps adults define their educational goals and design their interdisciplinary curricula by drawing on a variety of course offerings.

Working with other state-supported colleges and universities in the area, the program, when appropriate, helps students draw on instructional resources from Virginia State University, Richard Bland College, John Tyler Community College, and J. Sargeant Reynolds Community College as part of their individualized degree programs.

To earn a B.G.S. degree, students must complete at least 124 credits with at least a 2.0 cumulative GPA. At least 45 of those credits must be upper-division credits.

Program Requirements Competencies

1. Writing. 9 credits. ENG 101-102 Composition and Rhetoric (by course or placement with a minimum grade of "C" or equivalent in each course) and one upper division course in expository writing (i.e., Eng 327, 304, or 302) or

demonstrated competency. (Competency may be demonstrated by the presentation of extensive writing samples per program policy. Competency will be judged by the English Department administration.)

2. **Mathematics.** 6 credits: Must include MAT 101 or equivalent plus CSC 150, STA, or logic (PHI 221, 222).

General Education

30 credits: A minimum of 30 hours to be completed as follows: At least six hours must be selected from each of four of the first five groups. Additional hours may be distributed in any group, 1-6. Up to 6 hours in one category may also be applied to the focus area.

1. **Literature:** literature courses in English or foreign literature in English translation or in the original language.
2. **History, Philosophy (not logic), religious studies, European culture, or nonwestern culture.**
3. **Natural Science:** courses in biology, chemistry, physics, and other laboratory sciences.
4. **Foreign language:** courses through the elementary 102 or equivalent level (by course or placement).
5. **Human Behavior and Institutions:** courses from selected departments in the college of Humanities and Sciences and the Schools of Social Work, Community and Public Affairs, Education, and Allied Health.
6. **Arts:** Any course in the School of Arts including Speech (121 or 321, not both).

Focus Area

The individually designed interdisciplinary focus area requires a minimum of 36 semester hours of credit, including at least 24 semester hours of upper-level credit, and speech competency.

Electives

Maximum of 43 credits.

Other Requirements

For degree completion at least 25 percent of credit semester hours must be earned through instruction at VCU.

The last 31 hours of credit must be taken at VCU or 16 may be taken at VCU and 15 from other approved institutions in the area when there is no equivalent VCU course. At least 24 hours must be in taken after acceptance in the program; 12 of these must be in the focus area. Twenty-one of the junior-senior level hours must be from VCU. No more than 68 semester credits may be from a two-year college, and BGS students may have no more than 31 hours of business courses, including transfer courses.

To enter the program, students must: Attend one orientation session (call to schedule an appointment); have a goal that cannot be met by another degree program at VCU; have a minimum of 30 semester hours of college credit; have a minimum grade point average of 2.0.

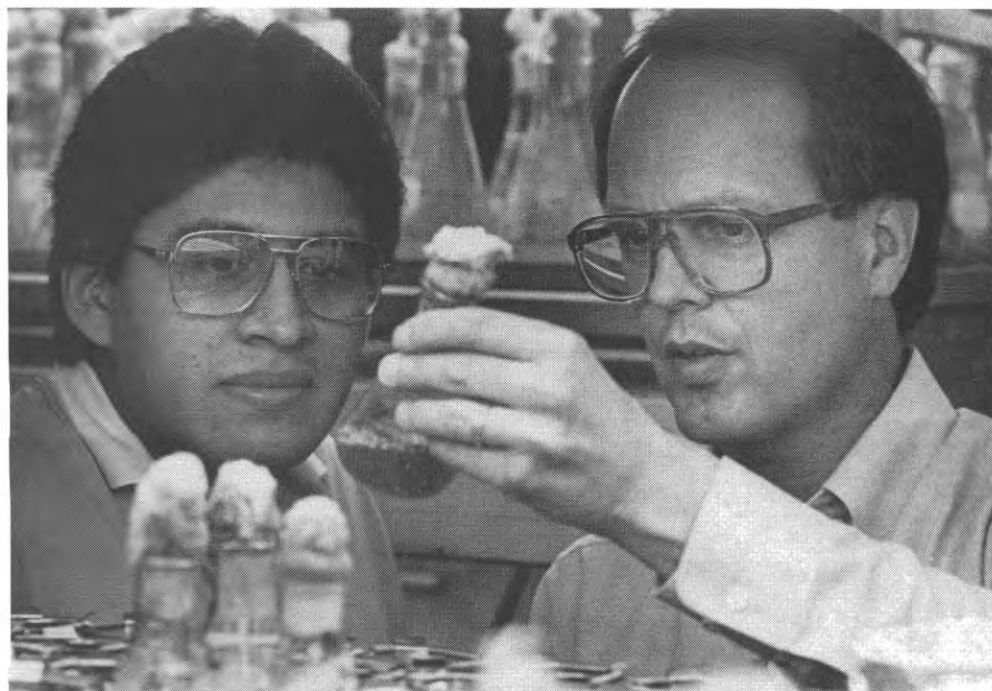
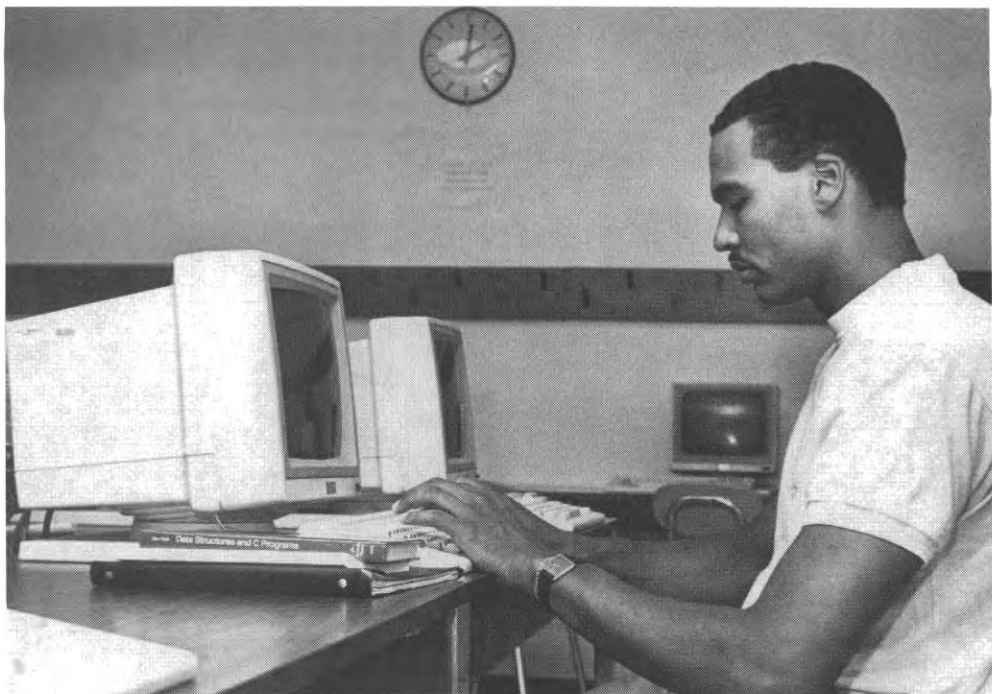
Students admitted to the BGS program have a variety of credit options, including CLEP examinations, credit for formal military training and credits for certain professional certifications when they do not duplicate college course work.

For additional information contact the Office of Community Programs, Virginia Commonwealth University, 827 West Franklin Street, P.O. Box 842041, Richmond, VA 23284-2041, (804) 828-1831.

ADULT STUDENT SERVICES

Adult and special (nondegree-seeking) students may receive help in accessing the university by contacting the Office of Community Programs, 827 West Franklin Street, Richmond, VA 23284-2041, (804) 828-1831.





PART VI

COLLEGE ▼ OF ▼ HUMANITIES ▼ AND ▼ SCIENCES

David R. Hiley

Dean

Susan E. Kennedy

Associate Dean

John H. Borgard

Associate Dean

Jackie C. Elston

Assistant Dean

Arthur J. Seidenberg

Coordinator of Pre-Health Sciences Advising

School of Mass Communications

Joyce Dodd

Director

MISSION OF THE COLLEGE

The faculty and staff of the College of Humanities and Sciences are dedicated to excellence in our teaching, research, and public service. The mission of Virginia Commonwealth University provides the framework for our pursuit of excellence.

Teaching and learning are central to the College, and the College is central to the educational and intellectual life of Virginia Commonwealth University. The College meets the educational needs of a diverse student body, provides general education for all undergraduate students of the university, preparatory programs for the health sciences, engineering, and law, and education in the liberal arts and sciences for future teachers. We offer comprehensive undergraduate, graduate, and professional programs of study which

link a foundation of understanding and knowledge with skills on which students can build careers, become responsible citizens, and continue lifelong learning.

Scholarship, creative work, and professional accomplishment are essential to teaching and learning. We are responsible for advancing understanding and increasing knowledge for its own sake, for the educational benefit of our students, and for the good of the larger community.

In both teaching and research, the College of Humanities and Sciences takes seriously the responsibilities of being part of a public, urban university. Through service and public teaching, we meet the challenges and opportunities afforded by our metropolitan environment and by our location in the capital of the Commonwealth.

The College achieves national and international recognition through the success of our students, through the advancement of the disciplines and professions represented by our programs, and through the individual and collaborative research of its faculty.

CURRICULA

Undergraduate Degree Programs

The College of Humanities and Sciences offers baccalaureate degrees in 18 areas:

biology - B.S.
chemistry - B.S., B.A.
computer science - B.S.
criminal justice - B.S.
economics - B.S.

English - B.A.
 foreign languages - B.A.
 comparative literature
 French
 German
 Spanish
 history - B.A.
 mass communications - B.S.
 mathematical sciences - B.S.
 applied mathematics
 computer science
 mathematics
 operations research
 statistics
 philosophy - B.A.
 political science - B.A.
 physics - B.S.
 psychology - B.S., B.A.
 religious studies - B.A.
 science - B.S.
 sociology and anthropology - B.S., B.A.
 urban studies and planning - B.S.

The School of Mass Communications offers the Bachelor of Science degree.

Information concerning curricula is given in the respective departmental and school sections.

Minor Areas of Concentration

In addition to the major, a student may elect a minor area of concentration in any program or department offering such a program. The minor can be used to fulfill career needs. It can also serve as a means for the student to study in depth a discipline of secondary interest.

Students interested in pursuing a minor should discuss their intentions with their advisors or the chairman of the major department. When the student decides on a minor, a Change of Major/Declaration of Minor Form must be completed in the Office of Records and Registration. When the student files for graduation, the student must complete the Minor Application along with the Graduation Application.

Courses for the minor should be chosen from courses approved by departments offering minors in their areas. Generally, students can not minor in the same area as their major.

A minor designation on the transcript requires a minimum of 18 credit hours and a minimum 2.0 grade point average (GPA) must be achieved in the minor. Prerequisites for courses are stated under course descriptions in this bulletin.

Detailed descriptions of each minor appear under the various departmental headings in this section of the bulletin. Minors are offered in the following areas:

African-American studies
 American studies
 anthropology

biology
 chemistry
 computer science
 criminal justice
 economics
 English
 environmental studies
 French
 geography
 German
 history
 international studies
 Judaic studies
 Latin American Studies
 mathematics
 philosophy
 philosophy of law
 physics
 political science
 psychology
 public management
 religious studies
 Russian Area Studies
 sociology
 Spanish
 statistics
 urban studies
 women's studies
 writing (see English)

Preparation for Professional Studies

In addition to providing studies in liberal arts at the undergraduate and graduate levels, the College of Humanities and Sciences offers undergraduate preparatory programs and advising for the following areas:

Pre-clinical laboratory sciences
 pre-dental hygiene
 pre-dentistry
 pre-engineering
 pre-law
 pre-medicine
 pre-nursing
 pre-occupational therapy
 pre-optometry
 pre-pharmacy
 pre-physical therapy
 pre-radiation sciences
 pre-veterinary medicine

Specific curricular descriptions are listed elsewhere in this section.

Teacher Preparation

Students in the College of Humanities and Sciences can apply to the Extended Teacher Preparation Program sponsored jointly with the School of Education. This program awards both a bachelor's degree from the College of Humanities and Sciences and a master's degree from the School of Education. Students who successfully complete this program will be certified to teach in early childhood, middle, secondary, or special education.

Additional information on this five-year program is available at the School of Education's Office of Academic Services at 2087 Oliver Hall, or call 828-1927. A more thorough description of this program is found under the School of Education section of this bulletin and in the Extended Teacher Preparation Handbook available from the Division of Teacher Education or the College of Humanities and Sciences Dean's Office.

Graduate Studies

Master's degree programs are offered in biology, chemistry, computer science, creative writing, criminal justice, English, history, mass communications, mathematical sciences, physics and applied physics, psychology, sociology and urban and regional planning.

Doctoral programs are available in chemistry and psychology. Doctoral programs are also available in social policy and social work through the School of Social Work and in urban services through the School of Education. The *VCU Graduate Bulletin* describes these graduate programs in detail.

STUDENT ADVISING

Individual student advising is an integral part of the programs in the College of Humanities and Sciences. An important personal link in the university organization, the faculty advisor helps each student establish a relationship between the student's special needs and university services. The advisor also assists the student in career selection and helps the student in understanding university procedures.

The department in which the student intends to major assigns a faculty advisor to each student. Undecided majors and freshmen receive advising through the Office of Academic Advising.

Students are responsible for making sure course selections satisfy graduation requirements of the departmental major programs, general requirements of the College of Humanities and Science, and general degree requirements of the Academic Campus. Consultation with the advisor, and/or dean, along with frequent reference to this bulletin and Humanities and Sciences Graduation Worksheets ensure that students meet these responsibilities.

Students also are responsible to familiarize themselves with academic regulations of the Academic campus concerning change of major, continuance, and so on, as explained in Part V of this bulletin.

EDUCATIONAL GOALS

The ultimate goal of a liberal education is to help students develop the abilities to think and continue learning. These abilities will aid students as they take their places in a world dominated by change. These abilities will also aid student in their future endeavors as they encounter problems, whether in their personal or professional lives, or in their communities. Graduates of the College of Humanities and Sciences are broadly educated, not simply trained, allowing them to function as understanding participants in events rather than as spectators or even victims of those events.

To achieve these ends, the faculty of the College of Humanities and Sciences has identified these specific goals:

Students should write well—organize their ideas, support them, and communicate them clearly and effectively.

Students should reason logically and be able to quantify experiences.

Students should have knowledge of the fundamental ideas and methods of the natural sciences.

Students should be able to analyze ethical conflicts.

They should have an understanding of literature and the other arts.

Students should have a knowledge of our heritage and those of other cultures, along with an introduction to a foreign language.

They should have a basic knowledge of human behavior and social, political, and cultural institutions.

GRADUATION REQUIREMENTS

For students majoring in a four-year B.A. or B.S. degree program (including students in the pre-dental, pre-medical, pre-optometry, pre-veterinary and extended teacher preparation program classifications), there are four areas of requirements that the student must complete for graduation:

1. Academic Campus requirements (See Part V of this bulletin)
2. General requirements of the College of Humanities and Sciences
 - A. Bachelor of Arts degree or
 - B. Bachelor of Science degree
3. Departmental major requirements
4. Electives to complete the total of a minimum of 124 credits

General Education Requirements of the College of Humanities and Sciences

1. In the following section, specific courses that fulfill general education requirements are described. Approved lists from which students must choose courses to complete particular requirements are also listed in this section.
2. Specific courses recommended by a department to fulfill one or more of the College of Humanities and Sciences general education requirements are listed under the Degree Requirement heading in each departmental section. Students should check these listings.
3. Major or minor courses may fulfill general education requirements when those courses appear among the following general education requirements or on the approved lists of courses. However, no one course can be used to fulfill two general education requirements, with the exception of courses used to meet the "writing intensive" requirements.
4. All Bachelor of Arts and Bachelor of Science degree programs require students to complete a minimum of 124 credits. No more than four of those credits can be physical education/activity courses.

Bachelor of Arts

The general education requirements listed below apply to the B.A. degree program in these areas: **chemistry, comparative literature, English, French, German, history, philosophy, political science, psychology, religious studies, sociology and anthropology, and Spanish.**

Minimum Competencies

1. A. ENG 101-102 or 200 Composition and Rhetoric (by placement or course **with a minimum grade of "C" in each course**)
All students who have not received credit for first semester freshman composition and rhetoric must take the English Placement Test. On the basis of the scores, students will be placed in the appropriate level of English or exempted and given credit for the course.
- B. Upper-level writing requirement: One upper-level, three-credit expository writing course (See Approved List A.)

OR

Two writing intensive courses, three credits each, other than those on Approved List A (See *Schedule of Classes* book each semester for a listing of these courses.)

The process of writing takes place in all disciplines. Specific sections of courses will be designated in a variety of departments that will provide students with opportunities for substantial writing while at the same time completion a major course or elective.

2. A. PHI 221 Critical Thinking
AND

either MAT 101 College Algebra or MAT 111 Basic Mathematics for the Behavioral, Social, and Management Sciences or MAT 131 Introduction to Contemporary Mathematics.

- B. Three additional credits from CSC 150 BASIC Computer Concepts, CSC 201 Introduction to Computing Using FORTRAN, CSC 255 Structured Programming, MAT 102 Trigonometry, MAT 112 Elements of Calculus for Behavioral, Social, and Management Sciences, MAT 200 Calculus with Analytic Geometry, MAT 211 Mathematical Structures, PHI 222 Introduction to Symbolic Logic, STA 213 Introduction to Statistics.

If the student places beyond the 101 (111) level of the Mathematics Placement Test, the student may complete the mathematics part of Section A and the Section B requirement by completing any course in B EXCEPT CSC 150 and PHI 222. If the student places into and completes MAT 101 or 111, ANY course in B may be taken to fulfill the section B requirement.

¹ This figure assumes that the requirement is met through an upper-level (300-400) expository writing course. (See Approved List A.) If it is met through writing-intensive courses, presumably they will be used to meet other general education requirements or part of the major.

All students who have not started or completed the mathematics sequence indicated in their curriculum must take the Mathematics Placement Tests.

Natural Sciences

Two-semester sequence of an introductory laboratory science (by course or placement) to be chosen from BIO 102, L102 (BIO 113, L113) Science of Heredity and Laboratory, and BIO/ENS 103 (BIO/ENS 113, L113) Environmental Science and Laboratory; BIO 109-110, L109-110 General Biology and Laboratory; BIO 151-152, L151-152 Introduction to Biological Science (generally for biology and selected pre-health majors); CHE 101-102, L101-102 General Chemistry and Laboratory; CHE 103-104, L103-104 Introduction to Modern Chemistry and Laboratory; PHY 101-102, L101-102 Foundations and Frontiers of Physics and Laboratory; PHY 201-202 General Physics and Laboratory; PHY 207-208 University Physics and Laboratory.

Another sequence which may be used by ENG, HIS, MAC, PHI, RST, POS, PSY, SOA, and foreign language majors is BIO 109, L109 or CHE 101, L101 or CHE 103, L103 or PHY 101, L101 or PHY 201, L201 or PHY 207, L207 AND BIO 114, L114 /ENS 114, L114 (BIO 103, L103/ENS 103, L103) Environmental Science. Not intended to fulfill requirements for BIO, CHE, CSC, MAS, or PHY majors.

Check the *VCU Undergraduate Bulletin* for prerequisites for science courses.

Credits

6-9¹

Human Nature, Culture, and Institutions

1. Three credits in non-participatory courses in the history of an art, art criticism, aesthetics, or music appreciation (See Approved List G.)

OR

Two or more credits in participatory arts course (See Approved List G.)

2. Three credits from courses that apply ethical theories to fundamental moral problems (See Approved List H.)

3. Two courses in literature in English or foreign literature in English translation or upper-level (300-400) foreign literature in the original language. **One of the two courses must be in literature prior to 1900.** (See Approved List B.)

4. Two of the following three options:

A. A two-semester 100- or 300-level European history sequence (See Approved List C.)

OR

Six credits in European culture and heritage courses (See Approved List E.)

B. A two-semester 100- or 300-level American history sequence (See Approved List D.)

C. Six credits in non-western culture and heritage courses (See Approved List F.)

5. A foreign language through the intermediate 202, 205, or equivalent level (by course or placement).

A. Freshmen who wish to continue in their high school language will be given a placement test to determine the level at which they will begin language study for credit. Students desiring to begin study of a different language need not take the placement test and may begin with the elementary course in that language for credit.

B. Students transferring from other colleges and universities with advanced placement or advanced standing in foreign language will receive credits as granted by the institution from which they are transferring and should register for the next course in the sequence. Transfer students who have not begun language study at the collegiate level and who wish to continue study of their high school language are subject to the provisions of the previous paragraph.

C. New freshmen and transfer students who qualify through the intermediate level (course 202 or equivalent) of a foreign language on the placement test receive no semester credit for such placement but have satisfied the language requirement.

6. Two courses that focus on human behavior and institutions (See Approved List J.)

2-3

3

6

12

0-14

Major

See major department degree requirements for exact number of credits (30 credit minimum).

Approved Electives

Approved elective courses to bring credit total to a minimum of 124 credits. Students should consult with their advisors about choice of minor program courses and/or electives appropriate to their departmental programs and personal interests.

Bachelor of Science

The general education requirements listed below apply to the B.S. degree programs in these areas: **biology, chemistry, computer science, criminal justice, economics, mass communication, mathematical sciences, physics, physics/engineering, psychology, sociology and anthropology, urban studies and planning.**

Minimum Competencies

Credits

1. A. ENG 101-102 or 200 Composition and Rhetoric (by placement or course with a minimum grade of "C" in each course).

6-9¹

All students who have not received credit for first semester freshman composition and rhetoric must take the English Placement Test. On the basis of the scores, students will be placed in the appropriate level of English or exempted and given credit for the course.

B. Upper-level writing requirement: One upper-level, three-credit expository writing course (See Approved List A.)

OR

Two writing intensive courses, three credits each, other than those on Approved List A (See *Schedule of Classes* book each semester for a listing of these courses.)

¹ This figure assumes that the requirement is met through an upper-level (300-400) expository writing course. (See Approved List A.) If it is met through writing-intensive courses, presumably they will be used to meet other general education requirements or part of the major.

The process of writing takes place in all disciplines. Specific sections of courses will be designated in a variety of departments that will provide students with opportunities for substantial writing while at the same time completing a major course or elective.

2. MAT 101 College Algebra or MAT 111 Basic Mathematics for the Behavioral, Social, and Management Sciences (by course or placement).

AND

Six additional credits from the mathematical sciences - computer science, mathematics, or statistics - as stipulated by the major departments.

Natural Sciences

Two semester sequence of an introductory laboratory science as stipulated by the major department (by course or placement) to be chosen from **BIO 102, L102 (BIO 113, L113) Science of Heredity and Laboratory, and BIO/ENS 103 (BIO/ENS 113, L113) Environmental Science and Laboratory; BIO 109-110, L109-110 General Biology and Laboratory; BIO 151-152, L151-152 Introduction to Biological Science (generally for biology and selected pre-health sciences majors); CHE 101-102, L101-102 General Chemistry and Laboratory; CHE 103-104, L103-104 Introduction to Modern Chemistry and Laboratory; PHY 101-102, L101-102 Foundations and Frontiers of Physics and Laboratory; PHY 201-202 General Physics and Laboratory; PHY 207-208 University Physics and Laboratory.**

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Check the *VCU Undergraduate Bulletin* for prerequisites for science courses.

Human Nature, Culture, and Institutions

1. Civilization and Culture. Minimum of 14 credits from categories A, B, C, **OR** D below to be taken as follows: no more than six credits in each category may be used toward the required 14, and, of these, six credits must be taken from category A **OR** six must be taken from category B. (Courses can still be taken in both categories.) If the six credits are taken from category A and not from B, three credits must be in literature prior to 1900.

A. Literature – courses in literature in English or foreign literature in English translation or upper-level (300-400) foreign literature in the original language. **One of the two courses must be in a literature prior to 1900.** (See Approved List B.)

B. History or Culture and Heritage European history courses (See Approved List C.)

OR

American history courses (See Approved List D.)

OR

European Culture and Heritage courses (See Approved List E.)

OR

Non-Western Culture and Heritage courses (See Approved List F.)

C. Three credits in nonparticipatory courses in the history of an art, art criticism, aesthetics, or music appreciation; (See Approved List G.)

OR

Two or more credits in participatory arts courses (See Approved List G.)

D. Ethics - courses that apply ethical theories to fundamental moral problems (See Approved List H.)

2. A foreign language through the elementary 102 or equivalent level (by course or placement).

A. Freshmen who wish to continue in their high school language will be given a placement test to determine the level at which they will begin language study for credit. Students desiring to begin study of a different language need not take the placement test and may begin with the elementary course in that language for credit.

B. Students transferring from other colleges and universities with advanced placement or advanced standing in foreign language will receive credits as granted by the institution from which they are transferring and should register for the next course in the sequence. Transfer students who have not begun language study at the collegiate level and who wish to continue study of their high school language are subject to the provisions of the previous paragraph.

C. New freshmen and transfer students who qualify through the elementary level (course 102) of a foreign language on the placement test receive no semester credit but have satisfied the language requirement.

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3. Two courses that focus on human behavior and institutions (See Approved List J.)

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Major

See major department degree requirement for exact number of credits (30 credit minimum).

Approved Electives

Approved elective courses to bring credit total to a minimum of 124 credits. Students should consult with their advisors about choice of minor program course and/or electives appropriate to their departmental programs and personal interests.

GENERAL EDUCATION REQUIREMENTS APPROVED LISTS

APPROVED LIST A - EXPOSITORY WRITING COURSES

See *Bulletin* for any prerequisites.

English (ENG)

302 Legal Writing

304 Advanced Composition

327/BUS 327 Business and Technical Writing

French (FRE)

303, 304 Advanced Grammar and Writing

German (GER)

303, 304 Advanced Grammar and Writing

Mass Communications (MAC)

303 General Assignment Reporting

363 Broadcast Newswriting and Reporting

392 Advertising Copywriting

Spanish (SPA)

303, 304 Advanced Grammar and Writing

APPROVED LIST B - LITERATURE IN ENGLISH OR FOREIGN LITERATURE IN ENGLISH TRANSLATION OR UPPER-LEVEL 300-400 FOREIGN LITERATURE IN THE ORIGINAL LANGUAGE

See *Bulletin* for any prerequisites.

Please note that this requirement calls for one of the two courses chosen to be in a literature prior to 1900. Such courses will be shown with an asterisk.*

Students who have not previously taken a high school or college-level literature survey course may wish to fulfill this requirement with a sophomore-level survey course such as ENG 201 through 206. These courses will give students an extended survey of a number of works written over a relatively long period of time.

Students who have already taken survey courses may wish to fulfill this requirement with an upper-level course in English or foreign literature in English translation (FLT) or the original language excluding courses numbered 291, 391 or 491 and ENG 351. These courses will give students a more intensive experience with the literature of a particular age, genre, or writer.

Literature In English (ENG)

English courses at the 200 level are recommended. However, any upper-level (300-400) literature courses excluding courses numbered 291, 391 or 491 and ENG 351 offered by or

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cross-listed with the English Department (excluding writing and linguistics courses) may be used to fulfill the requirement.

ENG courses covering literature prior to 1900 are ENG 201*, 203*, 205*, 241*, 320*, 321*, 322*, 335*, 361*, 371*, 372*, 400*, 401*, 402*, 403*, 407*, 409*, 410*, 411*, 414*, 415*, 416*, 423*, and 424*.

Foreign Literature in the Original Language (Courses prior to 1900 are indicated with an asterisk)

French (FRE)

- 301*, 302 Survey of Literature
- 411* The Middle Ages
- 412* The Sixteenth Century
- 413* The Seventeenth Century
- 416* The Eighteenth Century
- 417* The Nineteenth Century
- 420 The Twentieth Century

German (GER)

- 301* 302 Survey of Literature
- 416* Age of Goethe
- 417* Literature of the Nineteenth Century
- 420 Literature of the Early Twentieth Century
- 421 Modern Literature

Russian (RUS)

- 301*, 302 Survey of Literature

Spanish (SPA)

- 330 Survey of Spanish Literature
- 331 Survey of Latin American Literature
- 430 Literary Genres
- 431 Literary Periods

APPROVED LISTED C - EUROPEAN HISTORY COURSES (HIS)

Bachelor of Science students may choose **any** of the courses shown on Lists 1 and 2 below. Also, in the sequences shown below, the first course is not a prerequisite for the second course. For example, a student may take HIS 316 prior to HIS 315.

Bachelor of Arts students must choose a **sequence** of courses from List 1. Bachelor of Arts students may not use courses from List 2. Any two consecutively numbered courses from List 1 constitute a sequence. The two courses may be taken in any order.

History (HIS)

List 1

- 101, 102 Introduction to European History
- 303 Greek Civilization
- 304 Roman Civilization
- 306 The Early Middle Ages
- 307 The High Middle Ages
- 308 Europe in Renaissance
- 309 The Reformation
- 310 Europe in Absolutism and Enlightenment 1648-1815
- 311 The Zenith of European Power, 1815-1914
- 312 The Age of Total War: Europe, 1914-1945
- 313 Post-War Europe, 1945 to Present

List 2

- 315, 316 History of France
- 317, 318 History of Germany
- 319, 320 History of England
- 321, 322 History of Russia
- 323 History of Spain and Portugal
- 325, 326/RST 318, 319 History of the Jewish people
- 327/ RST 327 History of Christianity
- 329, 330 European Social History

- 331 Nazi Germany
- 336 Modern European Intellectual History
- 337 The Origins of Modernism, 1880-1930
- 338 History of Socialism

APPROVED LIST D - AMERICAN HISTORY

Bachelor of Science students may choose **any** of the courses shown on Lists 1 and 2 below. Also, in the sequences shown below, the first course is not a prerequisite for the second course. For example, a student may take HIS 352 prior to HIS 351.

Bachelor of Arts students must choose a **sequence** of courses from List 1. Any two consecutively numbered courses from List 1 constitute a sequence. The two courses may be taken in any order.

History (HIS)

List 1

- 103, 104 Introduction to American History
- 342 Colonial America, 1585-1763
- 343 Two American Revolutions, 1763-1800
- 344 Age of Jefferson and Jackson, 1800-1850
- 345 Civil War and Reconstruction
- 346 The Emergence of Modern America, 1877-1914
- 347, 348 Twentieth Century U.S. History

List 2

- 335 The American Jewish Experience
- 349, 350 American Military History
- 351, 352 History of the South
- 353, 354 Virginia History
- 355 History of Virginia
- 356 Virginia Indians and their Neighbors
- 357, 358 American Social History
- 360 American Ethnic History
- 361,362/AAS 361, 362 Americans from Africa
- 363, 364 History of the American Urban Experience
- 365, 366 American Intellectual History
- 369, 370 American Constitutional and Legal Development
- 374 History of the American Frontier
- 375,376 American Diplomatic History

APPROVED LIST E – EUROPEAN CULTURE AND HERITAGE COURSES

See Bulletin for any prerequisites.

Art History (ARH)

- 103,104 Survey of Western Art
- European Culture (EUC)
- 311 Classical Mythology
- 340/USP 350 Culture and Urbanism in Great European Cities

French (FRE)

- 306, 307 French Civilization I, II
- Geography (GEO)
- 207 World Regional Geography
- 334 Regional Geography of Europe

German (GER)

- 306,307 German Civilization I, II

History (HIS)

- 315, 316 History of France
- 317, 318 History of Germany
- 319, 320 History of England
- 321, 322 History of Russia
- 323 History of Spain and Portugal

Italian (ITA)

- 305 Italian Conversation and Civilization
- 103 Ancient Greek and Medieval Western Philosophy

- 104 Modern Western Philosophy
- Political Studies (POS)
 - 352/INT 352 European Government and Politics
 - 354/INT 354 Politics of the Former Soviet Union
- Religious Studies (RST)
 - 304 Introduction to Judaism
 - 407 Modern Jewish Thought
- Spanish (SPA)
 - 320 (306) The Civilization of Spain I

APPROVED LIST F - NON-WESTERN CULTURE AND HERITAGE COURSES

See *Bulletin* for any prerequisites.

- African-American Studies (AAS)
 - 105, 106/HIS 105, 106 Introduction to African History
 - 200/ANT 200/USP 200 African Culture
 - 204 Africa in Transition
 - 333/GEO 333 Geography of Africa
 - 356/POS 356/INT 356 African Government and Politics
 - 357/POS 357/INT 357 Politics of Southern Africa
 - 387/HIS 387 History of West Africa
 - 389/HIS 389 History of Southern Africa
- American Studies (AMS)
 - 301 Introduction to Native American Studies
- Anthropology (ANT)
 - 103 Cultural Anthropology
 - 200/AAS 200/USP 200 African Culture
 - 201 The Evolution of Man and Culture
 - 304/SOC 304/WST 304 The Family
 - 305 Comparative Society
 - 350/INT 350 Peoples and Cultures of the World
 - 425 Religion, Magic, and Witchcraft
- Geography (GEO)
 - 208 World Regions
 - 333/AAS 333 Geography of Africa
- History (HIS)
 - 105, 106/AAS 105, 106 Introduction to African History
 - 107, 108 Introduction to Asian History
 - 109, 110 Introduction to Latin American History
 - 301, 302/RST 315, 316 The Ancient Near East
 - 328 Modern Middle East
 - 378 History of Central America
 - 381, 382 Modern China
 - 383 Ancient Egypt
 - 384 Latin America and World Affairs
 - 385 History of Mexico
 - 386 History of Brazil 387/AAS
 - 387 History of West Africa
 - 389/AAS 389 History of South Africa
- Philosophy (PHI)
 - 408/RST 408 The Indian Tradition
 - 410/RST 410 The Chinese Tradition in Philosophy
 - 412/RST 412 Zen Buddhism
- Political Science (POS)
 - 351/INT 351 Governments and Politics of the Middle East
 - 353/INT 353 Latin American Government and Politics
 - 355/INT 355 Asian Governments and Politics
 - 356/AAS 356/INT 356 African Government and Politics
 - 357/AAS 357/INT 357 Politics of Southern Africa
 - 452/INT 452 Seminar in the Politics of Developing Areas
- Religious Studies (RST)
 - 311 World Religions
 - 315, 316/HIS 301, 302 The Ancient Near East

- 317 Islam
- 320 Taoism
- 408/PHI 408 The Indian Tradition
- 410/PHI 410 The Chinese Tradition in Philosophy
- 412/PHI 412 Zen Buddhism
- Sociology (SOC)
 - 304/ANT 304/WST 304 The Family
- Spanish (SPA)
 - 321 (307) Latin American Civilization
- Women's Studies (WST)
 - 304/ANT 304/SOC 304 The Family

APPROVED LIST G – PARTICIPATORY AND NONPARTICIPATORY ARTS COURSES

Courses fulfilling this requirement are divided into participatory and nonparticipatory courses. Participatory courses are those primarily devoted to perfection of an artistic skill through studio work. Nonparticipatory courses are those primarily lecture- and content-oriented, with little or no studio work required, such as history of an art, art criticism, aesthetics, music appreciation.

PARTICIPATORY COURSES

- Art Foundation (AFO)
 - 121-122 Introduction to Drawing
- Art Education (AEN)
 - 340 Exploring the Visual Arts
 - 408 Two-Dimensional Arts Experiences
 - 409 Three-Dimensional Art Experiences
- Crafts (CRA)
 - See *Bulletin* for CRA courses which are available.
- Dance (DAN)
 - All courses excluding DAN 109-110, 181-182, 209-210, 309-310, 409-410, and 490.
- English (ENG)
 - 305 Creative Writing: Genres
 - 426/THE 426 Playwriting
 - 435, 436 Creative Writing: Poetry
 - 437, 438 Creative Writing: Fiction
- Fashion (FDE)
 - All studio courses: Prerequisites must be satisfied.
- Interior Design (IDE)
 - 103 Introductory Studio course
 - 211 Introduction to Interior Design
- Music (Applied Music-APM)
 - Applied music courses numbered in the 190's are class lessons in piano, voice, guitar, and organ. Contact Department of Music for more specific information.
 - Private lessons (APM 300-level private instruction) are available on beginning and advanced levels. Contact Department of Music for more information.
 - Applied music courses numbered 370 and 390 are large and small ensembles and chamber groups. In most cases, auditions are required. Contact Department of Music for more details.
- Printing & Printmaking (PAP)
 - 155 Drawing and Painting: Basic
 - 209 Materials of Painting
 - 255 Drawing and Painting: Basic
- Sculpture (SCU)
 - 211, 212 Basic Sculpture
- Speech (SPE)
 - 401 Oral Interpretation of Literature
- Theatre (THE)
 - 107, 108 Introduction to Stage Production
 - 103 Stagecraft

- 104 Costume Construction
- 221 Basic Scene Design
- 225 Basic Stage Electronics – Lighting
- 326 Basic Stage Electronics – Sound

NONPARTICIPATORY COURSES

Art Education (AEN)

- 340 Exploring the Visual Arts
- 353 Art and Perceptual Communications

Art History (ARH)

- 103, 104 Survey of Western Art
- All other ARH courses may be used but check *Bulletin* for level and prerequisites.

Communication Arts & Design (CDE)

- 252 Twentieth Century Visual Communications
- 253 Twentieth Century Visual Communications II

Dance (DAN)

- 107 Contemporary Dance Perspectives
- 307-308 Dance History

Fashion (FDE)

All lecture courses: Prerequisites must be satisfied.

Music (Music, History, Literature, and Theory)

- MHT 105-106 Fundamentals of Music Theory
- MHT 110 Elements of Music
- MHT 117 Computers in Music
- MHT 243 Appreciation of Music
- MHT 250/AAS 250 Introduction to African-American Music
- MHT 271 Jazz History and Literature
- MHT 280 Survey of Twentieth Century American Popular Music
- MHT 303-304 Piano Literature
- MHT 336 Organ Design and Literature
- MHT 421-422 Survey of Music History
- MHT/RST 431 Hymnology
- MHT/RST 435 Liturgics
- MHT 434 Choral Literature
- MUE 281 Basic Music Skills
- MUE 331 Multiple Choir Programs

Philosophy (PHI)

- 421 Aesthetics

Theatre (THE)

- 211-212 Introduction to Drama
- 300 The Enjoyment of Theater
- 303/AAS Black Theatre
- 307-308 History of Theatre
- 403-404 History of Dramatic Literature
- 423-424 Modern Drama

APPROVED LIST H – ETHICS COURSES

See *Bulletin* for any prerequisites.

Philosophy (PHI)

- 211 History of Ethics
- 212 Ethics and Applications
- 213 Ethics and Health Care
- 327 Ethical Theory

Political Science (POS)

- 341 History of Political Thought I

Religious Studies (RST)

- 340 Global Ethics and the World's Religions

APPROVED LIST J – HUMAN BEHAVIOR AND INSTITUTIONS

See *Bulletin* for any prerequisites.

African-American Studies (AAS)

- 103 Introduction to Afro-American Studies
- 104/SOC 104 Sociology of Racism
- 305/SOC 305/WST 305 Sociology of the Black Family
- 307/RST 307 Black Religion
- 310/ECO 310 Economics and Poverty
- 318/SOC 318/WST 318 Politics of Race, Class, and Gender

Anthropology (ANT)

- 311/USP 337 Urbanization and Blacks
- 321/USP 321 Urban Economics
- 322/PSY 322 Personality and Behavior of the Afro-American
- 343/POS 343 Black Political Thought

Economics (ECO)

ANT 103 Cultural Anthropology is a prerequisite for many ANT courses and is recommended as the basic course. With completion of any prerequisites, the following are recommended:

- 201 The Evolution of Man and Culture
- 311/GEO 311 History of Human Settlement
- 350/INT 350 Peoples and Cultures of the World

Economics (ECO)

203 Introduction to Economics
210-211 Principles of Economics
With completion of prerequisites, the following are recommended:

- 306 Public Finance – Federal
- 310/AAS 310 Economics and Poverty
- 321/USP 321 Urban Economics
- 421 Government and Business
- 431 Labor Economics

Education (EDU)

- 300 Foundations of Education
- 301 Human Development and Learning

Geography (GEO)

- 102 Introduction to Cultural Geography
- 311/ANT 311, 312 History of Human Settlement
- 322 World Political Geography

Political Science (POS)

POS 101, 102 American Government; 201 Introduction to Political Science; and 202/INT 202 Comparative Politics are recommended as basic courses. However, all POS courses may be used to fulfill this requirement **excluding** the following: POS 214, 320, 331, 334, 432, 448, 494, 498, and 499.

Psychology (PSY)

PSY 101 General Psychology is a prerequisite for all upper-level PSY courses and is recommended as the basic course. With the completion of this prerequisite, all PSY 300 and 400 level courses may be used to fulfill this requirement excluding the following courses: PSY 317, 318, 415, 492, and 498-499.

Religious Studies (RST)

- 101 Introduction to Religious Studies
- 301 Introduction to the Old Testament
- 302 Introduction to the New Testament
- 307/AAS 307 Black Religion
- 311, 312 Religions of the World
- 334 Religions in Contemporary America
- 360/SOC 360 Sociology of Religion

Sociology (SOC)

SOC 101 General Sociology is a prerequisite for many SOC courses and is recommended as the basic course. With the completion of any prerequisites, all SOC courses may be used to fulfill this requirement **excluding** the following courses: SOC 214, 319, 320, 421, 492, and 493.

Social Science (SSC)

- 303 Marriage and Family Relations
- 330 The Psychology and Sociology of Death
- 340 Human Sexuality

Women's Studies (WST)

- 201 Introduction to Women's Studies
- 304/ANT 304/SOC 304 The Family
- 305/AAS 305/SOC 305 Sociology of the Black Family
- 318/AAS 318/POS 318 Politics of Race, Class and Gender
- 333/SOC 333 Sociology of Sex and Gender
- 334/SOC 334 Sociology of Women
- 335/PSY 335 Psychology of Women

HUMANITIES AND SCIENCES UNDECIDED PROGRAM

Exploratory Programs for Students Undecided About a Major

Marcia Zwicker

Coordinator

For those students seeking admission to VCU who are still undecided about their major at the time of their acceptance or enrollment, the university recommends that these students enroll in the College of Humanities and Sciences. Students admitted into the "Humanities and Sciences Undecided" category are encouraged to select a major by the end of two years of study. Students must declare a major within one of the university's schools no later than the semester in which they complete 60 credits. The advising program is flexible enough to suit the interests of any undecided student, yet the courses recommended are basic to a variety of majors.

The undecided student is assigned an advisor in the Office of Academic Advising with whom the student must meet at least once prior to advanced registration each semester. Advisor and student assess the general academic direction of the student's interests and then plan a program of studies to assist the student in defining his or her academic objectives more clearly.

Listed below are freshman and sophomore level courses from which undecided students can choose to explore various fields.

As undecided students begin to make decisions about a major, they should consult this bulletin for that major's specific course requirements that should be taken in the freshman and sophomore years.

Suggested Courses for Humanities and Sciences Undecided Students Among Various Schools

A. Most Transferable Courses

ENG 101-102 or 200 Composition and Rhetoric (placement test required)

HIS 101-102 Introduction to European History

HIS 103-104 Introduction to American History

PSY 101 General Psychology

SOC 101 General Sociology

SPE 121 Effective Speech

BIO 109-110 General Biology, CHE 101-102 General Chemistry, PHY 207-208 University Physics I, II, with laboratories

ECO 210-211 Principles of Economics

MAT 131 or 101 (placement test required)

Physical Education

B. Second Level of Most Transferable Courses

POS 101 American Government

ARH 103 Art History, General

AAS 103 Introduction to African-American Studies

PHI 103 Ancient Greek and Medieval Western Philosophy

PHI 104 Modern Western Philosophy

PHI 221 Critical Thinking and PHI 222 I

If School is Probably Arts

ENG 101-102 or 200 Composition and Rhetoric

AFO 121-122 Introduction to Drawing

ARH 103-104 Survey of Western Art

CRA 201-201 Metalsmithing, CRA 211-212 Jewelry, CRA 241-242 Beginning Ceramics, CRA 261-262 Beginning Textiles

FDE 200 Introduction to Fashion Design, FDE

211-212 Garment Construction, FDE 240-241 Introduction to Fashion Merchandising

IDE 103-104 Introductory Studio Course, IDE 211 Introduction to Interior Design

PAP 155E-156E Drawing and Painting, Basic; PAP 255-246 Drawing and Painting, Basic; PAP 355-356 Drawing and Painting, Intermediate

THE 307-308 History of the Theatre

Private Music Lessons

APM 100 Aural Skills

APM 191-192 Class Lessons in Piano

APM 193-194 Class Lessons in Voice

APM 195-196 Class Lessons in Guitar

APM 197-198 Class Lessons in Organ

APM 370 Large Ensembles

APM 390 Chamber Ensembles

MHT 105-106 Fundamentals of Music Theory

MHT 117 Computers in Music

MHT 201 Acoustics

If College is Probably Humanities and Sciences

ANT 103 Cultural Anthropology

ENG 101-102 or 200 Composition and Rhetoric (placement test required)

Foreign Language (placement test required if continuing in high school language)

HIS 101-102 Introduction to European History

HIS 103-104 Introduction to American History

HIS 105-106 Introduction to African History

HIS 107, 108 Introduction to Asian History

HIS 109-110 Introduction to Latin American History

Laboratory Science – two-course sequence with laboratories – BIO 109-110 General Biology, CHE 103-104 Introduction to Modern Chemistry, PHY 101-102 Foundations and Frontiers of Physics

MAT 131 Introduction to Contemporary Mathematics or MAT 101 College Algebra (placement test required)

PHI 103 Ancient Greek and Medieval Western Philosophy

PHI 104 Modern Western Philosophy

POS 101 U.S. Government and POS 201 Introduction to Politics
 PSY 101 Introduction to Psychology
 RST 101 Introduction to Religious Studies
 SOC 101 General Sociology

If School is Probably Business

ENG 101-102 or 200 Composition and Rhetoric (placement test required)
 BUS 111-112 Basic Mathematics and Elements of Calculus for Behavioral, Social, and Management Sciences
 BUS 121 The Business Environment
 BUS 203-204 Introduction to Accounting
 ECO 210-211 Principles of Economics
 SPE 121 Effective Speech
 Elective in history or political science
 A natural science elective
 Elective in sociology, psychology, or anthropology

If School is Probably Education (See Part XIII for additional information.)

CSC 150 Basic Computer Concepts
 ENG 101-102 or 200 Composition and Rhetoric (placement test required)
 ENG 200 Level Literature
 MAT 131 Introduction to Contemporary Mathematics or MAT 101 and 102 College Algebra and Trigonometry or MAT 111-112 Basic Mathematics and Elements of Calculus for Behavioral, Social, and Management Sciences
 HED 300 Introduction to Health Education
 HIS 103 Introduction to American History
 ECO 203 Introduction to Economics
 PHE 102 Fitness and Weight Control
 PSY 101 Introduction to Psychology
 SOC 101 General Sociology
 BIO 109-110 General Biology
 BIO L109-L110 Biology Laboratory
 SPE 121 Effective Speech
 Physical Education Activity Courses

If School is Probably Social Work

ANT 103 Cultural Anthropology
 ENG 101-102 or 200 Composition and Rhetoric (placement test required)
 BIO 109-110 General Biology
 MAT 101 College Algebra or MAT 111/BUS 111 Basic Math for Behavioral, Social, and Management Sciences (placement test required)
 PSY 101 Introduction to Psychology
 SOC 101 General Sociology
 Social/behavioral science electives, 6 hours (political science, economics, history)
 Electives, 6 hours

UNDERGRADUATE CREDIT BY EXAMINATION

Recognizing that VCU enrolls students of varying backgrounds and experiences, the College of Humanities and Sciences provides students limited opportunities to accelerate their education through "credit by examination." A full description of this program appears in Part V of this bulletin.

UNIVERSITY HONORS PROGRAM

The Virginia Commonwealth University Honors Program, a challenging and exciting program with high academic standards, was established to meet the needs of academically talented undergraduate students. The VCU Honors Program offers students the opportunity to expand their creative and intellectual horizons. Students in this program benefit from small classes which promote greater interaction between students and faculty and among the students themselves.

Undergraduates from the College of Humanities and Sciences and all other school's on VCU's Academic Campus are invited to apply to this program, if they meet eligibility requirements. For a detailed description of qualifications and requirements, see Part II of this bulletin.

Degree Programs and Minors

SCHOOL OF MASS COMMUNICATIONS

Joyce Wise Dodd
 Director

John Campbell
 George Crutchfield
 Marianne Duprey
 James Looney
 Ted Smith
 Jerry Torchia

Diane Cook-Tench
 Thomas Donohue
 David Kenamer
 June Nicholson
 Clarence Thomas
 Wilma Wirt

The School of Mass Communications prepares students for careers in the mass media and related fields and encourages high standards of ethical and journalistic performance. The prescribed courses in the school provide a broad educational base and instruct the students in the techniques of mass communications.

The School of Mass Communications offers a Bachelor of Science degree in mass communications with specialization in four sequences.

The News Editorial Sequence is designed primarily for students planning careers in newspaper writing or editing.

The Advertising Sequence prepares students for careers in advertising departments of manufacturers and retailers, advertising agencies and advertising media, and advertising service organizations. Students choose one of two tracks – Business or Creative.

The Public Relations Sequence is designed to prepare students for employment in industry,

government, nonprofit associations, and public relations agencies.

The Electronic Media Sequence prepares students for careers in electronic journalism or production.

Degree Requirements

Bachelor of Science in Mass Communications. The Bachelor of Science curriculum in mass communications requires a minimum of 124 credits with at least 31 but no more than 34 credits in the major field. The school is divided into a lower division (freshman and sophomore) and an upper division (junior and senior).

Only two courses in the major—MAC 101 Mass Communications and MAC 203 Newswriting—can be taken in the lower division.

To enroll in MAC 203, students must successfully complete a language skills test and type at least 35 words per minute. Proof-of-typing skills are established by examination or completion of a college level typing course with a grade of “C” or better.

Admittance to the upper level is contingent on meeting the following requirements: a GPA of at least 2.25 in all courses, completion of MAC 101 and MAC 203 with at least a grade of “C”, and completion of the following courses—ENG 101 and 102 (or 200), HIS 103-104, ECO 210-211, MAT 101 and STA 213, POS 103, completion of the college laboratory science requirement and a foreign language (six to eight credits).

Certification of these requirements must accompany a formal petition for admission to the upper division of this program. At that time the student must select an area of specialization in mass communications.

To enroll in a mass communications course, majors must have earned at least a “C” in all courses prerequisite for that course.

Mass communications majors must maintain a 2.25 GPA in all VCU course work and a 2.25 in the major to graduate.

Transfer students with junior standing admitted to VCU are placed on one semester probation to establish the required GPA before admission to the upper division.

Students admitted to the upper division must choose one of the following concentrations:

Advertising

- 300 Media Graphics
- 380 Introduction to Advertising
- 392 Advertising Copywriting
- 400 Ethical Problems in Mass Communications
- 481 Advertising Campaigns

Business Track

- 408 Communications Law
- 480 Media Strategy
- 493 Field Work/Internship
- MAC Writing Elective (3 credits)
- MAC Elective (3 credits)

Creative Track

- 393 Creativity for Television
- 394 Advertising Layout & Production
- 450 Portfolio Development
- MAC Electives (4-6 credits)

Public Relations

- 300 Media Graphics
- 320 Public Relations Presentations
- 323 Public Relations
- 333 Public Relations Writing
- 400 Ethical Problems in Mass Communications
- 408 Communications Law
- 423 Public Relations Campaigns
- 425 Public Relations Research
- 493 Field Work/Internship (1-3 credits)
- MAC elective* (3 credits)

*Recommended elective – 380 Introduction to Advertising

News-Editorial

- 300 Media Graphics
- 303 General Assignment Reporting
- 305 Copy Editing
- 400 Ethical Problems in Mass Communications
- 405 Advanced Editing
- 408 Communications Law
- MAC electives (3-6 credits)

And choose 6 hours from the following:

- 403 Advanced Reporting
- 404 Specialized Reporting
- 475 Capital News Service

Electronic Media

- 361 History & Development of Broadcasting
- 363 Electronic Media Writing I
- 365 Radio Production
- 366 Television Production
- 400 Ethical Problems in Mass Communications
- 408 Communications Law
- 463 Electronic Media Writing II
- 464 Electronic Media Writing III
- 493 Field Work/Internship (1-3 credits)

And choose 4-9 hours from the following:

- 362 Newscasting
- 393 Creativity for Television
- 414 Advanced Radio Production
- 415 Advanced Television Production/The Studio
- 461 The Documentary
- 492 Independent Study

Collateral requirements for the tracks include the following:

Advertising

- BUS 308 Marketing

Public Relations

BUS 308 Marketing
 BUS 319 Organizational Behavior
 BUS 320 Production/Operations Management

In addition to mass communications courses and the collateral courses listed above, students must take any two history courses; two literature courses; POS 322 State and Local Government; SPE 321 Speech for Business and the Professions, and CSC 128 Computing Applications and Concepts.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing an undergraduate degree in mass communications. A full description of the program appears in Part XVIII of this bulletin.

MINOR IN AFRICAN-AMERICAN STUDIES

Ann Creighton-Zollar
 Director

Norrece T. Jones, Jr.²
 Audrey Smedley²
 Edgar A. Toppin²

²Joint Appointment

A minor in African-American Studies requires a minimum of 18 credits. Students must complete AAS 103, Introduction to African-American Studies, and at least one course dealing with Africa, African-Americans, and Africa and African-American arts. Courses in African-American Studies are designed to help students gain knowledge and appreciation of the history and culture of Africans and African-Americans and their contributions to world civilizations.

MINOR IN AMERICAN STUDIES

Offered jointly by the Departments of English and History, the minor in American studies consists of at least 18 upper-level credits to be distributed as follows: AMS 394, Perspectives in American Studies and AMS 391, Topics in American Studies (six credits); humanities electives totaling three to six credits; social science electives totaling three to six credits; and approved electives or independent study totaling three to six credits.

All courses selected to fulfill distribution areas should deal with American materials and topics.

A list of recommended courses and electives is available from the coordinator.

BIOLOGY

Leonard A. Smock

Chairman of the Department
 James E. Gates
 Associate Chairman
 Donald R. Young
 Director of Graduate Studies

Charles R. Blem
 Bonnie L. Brown
 Joseph P. Chinnici
 William Eggleston
 Robert W. Fisher
 David N. Karowe
 Sara M. McCowen
 John F. Pagels
 Gerald A. Peters
 Arthur J. Seidenberg
 Gail C. Turner
 Fang-Sheng Wu

Leann B. Blem
 Karlynn Butcher
 Carolyn M. Conway
 Michael I. Fine
 Gregory C. Garman
 T. Daniel Kimbrough, Jr.
 Richard R. Mills
 Rhoda E. Perozzi
 Gregory M. Plunkett
 Jennifer K. Stewart
 Stanley R. Webb

The curriculum in biology prepares students for graduate study in biology, for employment in laboratory or field programs in private industry or government agencies, and for teaching in secondary schools. This curriculum also prepares students for admission into schools of medicine, dentistry, and veterinary medicine, and into allied health programs.

The Department of Biology offers the Bachelor of Science in biology.

Biology majors interested in teaching careers in elementary, secondary, or special education can enroll in the Extended Teacher Preparation Program which simultaneously awards a bachelor's degree in biology and a master's degree in teaching. For more information about this program jointly administered by the College of Humanities and Sciences and the School of Education, contact the School of Education's Office of Academic Services.

Pre-professional Study for the Health Sciences. The Bachelor of Science in biology program is a four-year course of study preparing students for medical, dental, or veterinary school.

Master of Science in Biology. For information about this program, see the *VCU Graduate Bulletin*.

Non-major Electives. The department offers a range of courses that do not fulfill requirements of the major or minor and are not specific requirements for pre-health science students. These courses are designed to develop the general science literacy of non-biology majors.

Degree Requirements

Bachelor of Science in Biology. The bachelor's curriculum in biology requires a minimum of 124 credits, with at least 40 of those credits in biology. No more than four credits of biochemistry can be applied toward the major.

Majors must take two courses from the following options – one course from each option or two courses from one option:

1. Statistics (STA) courses numbered 210 or above.
2. Mathematics (MAT) courses numbered 200 or above.

Before enrollment into any of these mathematical sciences options, all students must take the Mathematical Placement Test. Depending on the test results, students may be placed in MAT 101 College Algebra before being admitted into one of the courses listed above.

Below is a list of required courses and the indicated recommended sequence.

Freshman Year. BIO 151-152, L151-L152 Introduction to Biological Science and Laboratory I and II, CHE 101-102 General Chemistry and CHE L101-L102 General Chemistry Laboratory I and II, and mathematical sciences courses selected from the options described above.

Sophomore Year. Bio 218 Cell Biology, BIO 317 Ecology, BIOCORE 4 credits, CHE 301-302 Organic Chemistry and CHE L301-L302 Organic Chemistry Laboratory I and II, and mathematical sciences courses if not already completed.

Junior Year. BIOCORE 8 credits, PHY 207-208 University Physics, or PHY 201-202 General Physics and BIOAREAS 3 credits.

Senior Year. BIOAREAS 12 credits.

BIOCORE. The following courses must be taken by majors:

BIO 151-152, L151-L152 Introduction to Biological Science and Laboratory I and II

218 Cell Biology

310 Genetics

317 Ecology

Organismal Biology. One course from each of the following groups:

Animal Group

301 Comparative Vertebrate Anatomy

302 Animal Embryology

312, L312 Invertebrate Zoology

313, L313 Vertebrate Natural History

Plant Group

320 Biology of the Seed Plant

321, L321 Plant Development

410 Taxonomy of Flowering Plants

At least six laboratory courses must be taken from BIOCORE and BIOAREAS courses.

BIOAREAS

The remaining required courses in biology must be chosen from any of the following areas: Courses at the 500 level listed in this bulletin are open to qualified seniors and graduate students only.

1. Cellular/Molecular

303 Bacteriology

311 Animal Physiology

405 Bacterial Physiology

420 Plant Physiology

455 Immunology

502 Microbial Biotechnology

504 Comparative Animal Physiology

524 Endocrinology

580 Eukaryotic Biotechnology

585 Virology

2. Organismal

301 Comparative Vertebrate Anatomy

302 Animal Embryology³

309 Entomology

L310 Genetics Laboratory

312, L312 Invertebrate Zoology³

313, L313 Vertebrate Natural History³

320 Biology of the Seed Plant³

321 Plant Development³

410 Taxonomy of Flowering Plants

411 Summer Flora

415 Aquatic Macrophytes

L416 Ornithology

416 Ornithology Laboratory

417 Mammalogy

429 Neuroanatomy

435 Herpetology

L436 Laboratory in Herpetology

503 Fish Biology

³ These courses may be used to fulfill the BIOAREA requirement if not previously used to fulfill the BIOCORE requirement.

3. Environmental

307, L307 Aquatic Ecology

L317 Ecology Laboratory

401 Applied and Environmental Microbiology

431 Introduction to Marine Biology

432, L432 Biology of Polluted Waters

507 Aquatic Microbiology

510 Conservation Biology

514 Stream Ecology

518 Plant Ecology

520 Population Ecology

521 Community Ecology

4. General

200 Biological Terminology

291 Topics in Biology

292 Independent Study

308 Vertebrate Histology

391 Topics in Biology

392 Introduction to Research

430 Human Genetics

445 Neurology and Behavior

490 Research Seminar

491 Topics in Biology
 492 Independent Study
 495 Research and Thesis
 522 Evolution and Speciation

TRANSFER OR CHANGE-OF-MAJOR STUDENTS

Students who change their major to biology after having completed BIO 109, L109, 110, L110 or transfer to VCU with a general biology course equivalent to these courses are allowed to count these courses toward the biology major in lieu of BIO 151, 152, L151, L152.

No more than 8 credits of the 100 level (or introductory level) courses can be applied to the major.

Minor in Biology

The minor in biology shall consist of 23 credits, including the following: BIO 151-152, L151-152 Introduction to Biological Science and Laboratory I and II; BIO 218 Cell Biology; BIO 310 Genetics; BIO 317 Ecology and one of the following courses: BIO 301 Comparative Vertebrate Anatomy; BIO 302 Animal Embryology; BIO 312, L312 Invertebrate Zoology; Bio 313, L313 Vertebrate Natural History; BIO 320 Biology of the Seed Plant; BIO 321, L321 Plant Development; or BIO 410 Taxonomy of Flowering Plants.

In completing the minor in biology, the student is also required to complete CHE 101-102, L101, L102 General Chemistry and General Chemistry Laboratory I and II, and CHE 301-302, L301-L302 Organic Chemistry and Organic Chemistry Laboratory I and II.

Honors in Biology

Biology majors in the B.S. program may earn Honors in Biology. To qualify, students must have overall and biology grade-point averages of at least 3.50 and must have completed BIO 490 Research Seminar and at least 3 credits of BIO 495 (Research and Thesis) with A or B grades in each. Students must meet all Department of Biology requirements for graduation. Students should consult with their academic advisors to create a program suitable to their particular needs and interests.

Cooperative Education Program

Qualifying students pursuing undergraduate degrees in biology are eligible for the Cooperative Education Program. A full description of this program appears in Part XVIII of this bulletin.

CHEMISTRY

R. Gerald Bass
 Chairman of the Department
 Albert T. Sneden
 Associate Chairman

Charlene D. Crawley	M. Samy El-Shall
Nicholas P. Farrell	John B. Fenn
Fred M. Hawkridge	Raphael M. Ottenbrite
Paul K. Ross	Suzanne M. Ruder
Sarah C. Rutan	Donald D. Shillady
Stuart J. Silvers	James Turner
Joseph Topich	Lidia M. Vallarino

The curriculum in chemistry prepares students for graduate study and for admission to schools of medicine, dentistry, and veterinary medicine. It also equips students to teach in secondary schools, or to work in chemical and industrial laboratories and in related fields of business and industry. The department also offers required and elective courses in chemistry to students in other programs of study.

The Department of Chemistry offers two undergraduate programs: the Bachelor of Science and the Bachelor of Arts in chemistry.

Under the **Bachelor of Science** program two options are available: the chemical science program and the professional science program.

The chemical science program is tailored for the pre-professional study of the health sciences and other interdisciplinary areas where an emphasis on chemistry is sought.

Approved by the American Chemical Society Committee on Professional Training, **the professional chemist program** requires a greater concentration in chemistry. Upon satisfactory completion of degree requirements, students are certified by the American Chemical Society.

The Bachelor of Arts program in chemistry affords students a curriculum in chemistry while providing a greater opportunity for electives in other liberal arts areas.

Extended Teacher Preparation Program

Chemistry majors interested in teaching careers in elementary, secondary, or special education can enroll in an extended program that leads to the simultaneous awarding of a bachelor's degree in chemistry and a master's degree in teaching. For detailed information on this program contact the School of Education's Office of Academic Services.

Pre-professional Study for the Health Sciences

With the proper selection of electives, both the B.A. and the B.S. degrees in chemistry satisfy

admission requirements to most schools of medicine, dentistry, and veterinary medicine.

Master of Science and Doctoral Program in Chemistry

For more information about these programs see the *VCU Graduate Bulletin*.

Degree Requirements

Bachelor of Science in Chemistry. The Professional Chemists track of the bachelor of science degree in chemistry requires a minimum of 124 credits, with at least 47 of those credits in chemistry.

For this program, German is recommended for the foreign language general education requirement.

In addition to CHE courses required for the Bachelor of Science degree in chemistry, additional courses that may be used in fulfillment of appropriate College of Humanities and Sciences general education requirements and Academic Campus requirements are also required.

These courses and their recommended sequence are listed below:

Freshman Year. CHE 101-102 General Chemistry and CHE L101-102 General Chemistry Laboratory I,II; MAT 102, 200 Trigonometry and Calculus with Analytic Geometry. (In preparation for MAT 102, all students must take the Mathematics Placement Test. Depending on the results, the student may be placed in MAT 101 College Algebra prior to enrolling in MAT 102.)

Sophomore Year. CHE 309, L 309 Quantitative Analysis and Laboratory; CHE 301-302 Organic Chemistry and CHE L301-L302 Organic Chemistry Laboratory I, II; MAT 201 Calculus with Analytic Geometry; MAT 307 Multivariate Calculus; PHY 207-208 University Physics I, II, or with permission in special cases, PHY 201-202 College Physics.

Junior Year. CHE 303-304 Physical Chemistry, CHE L304 Physical Chemistry Laboratory, MAT 301 Differential Equations.

Senior Year. CHE 406 Inorganic Chemistry, CHE L406 Inorganic Chemistry Laboratory, CHE 409, L 409 Instrumental Analysis and Laboratory, CHE 510 Atomic and Molecular Structure, plus at least one course from CHE 401 Synthetic and Qualitative Organic Chemistry, CHE/BIC 403-404 Biochemistry, 3 credits of CHE 492 Independent Study, 3 credits of CHE 493 Chemistry Internship, or any CHE 500-level course for which the prerequisites have been met.

The Chemical Science option for the bachelor's degree in chemistry permits students to select more courses from other disciplines. With less stringent requirements in mathematics, physics, and chemistry, this program is ideally suited for students planning to study medicine or dentistry.

It requires a minimum of 124 credits, with at least 35 of those credits in chemistry. German is recommended as the foreign language general education requirement.

In addition to the CHE courses required for the bachelor's degree in chemistry, this program also requires courses that may be used to fulfill appropriate College of Humanities and Sciences General Education requirements and Academic Campus requirements.

These courses and their recommended sequence are listed below:

Freshman Year. CHE 101-102 General Chemistry and CHE L101-L102 General Chemistry Laboratory I, II; MAT 102, 200 Trigonometry and Calculus with Analytical Geometry. (In preparation for MAT 102, all students must take the Mathematics Placement Test. Depending on the results, the student may be placed in MAT 101 College Algebra prior to enrolling in MAT 102.)

Sophomore Year. CHE 309, L 309 Quantitative Analysis and Laboratory; CHE 301-302 Organic Chemistry and CHE L301-L302 Organic Chemistry Laboratory I, II; MAT 201 Calculus with Analytic Geometry; PHY 207-208 University Physics I-II; or PHY 201-202 College Physics.

Junior Year. CHE 303 Physical Chemistry; CHE 304 Physical Chemistry; CHE L304 Physical Chemistry.

Senior Year. Approved chemistry electives three credits minimum - may include CHE/BIC 403 Biochemistry.

Bachelor of Arts in Chemistry. The Bachelor of Arts curriculum in chemistry requires a minimum of 124 credits, with at least 35 credits of those in chemistry. German is recommended for the foreign language general education requirement.

In addition to the CHE courses required for the Bachelor of Arts degree in chemistry other courses that may be used to fulfill appropriate College of Humanities and Sciences general education and Academic Campus requirements are also required.

The courses and their recommended indicated sequence are identical to those for the chemical science degree.

Transfer Students

Transfer students intending to major in chemistry must complete a minimum of nine credits of VCU chemistry courses at the 300, 400, or 500 level of which no more than three credits may be CHE 492 or CHE 493. This applies to all chemistry degrees.

Minor in Chemistry

The minor in chemistry requires at least 18 credits distributed as follows: ten credits in CHE 101-102 and L101-L102 General Chemistry and Laboratory I and II, along with a minimum of eight credits selected from CHE 309, L 309 Quantitative Analysis and Laboratory or CHE 301 and L301 Organic Chemistry and Laboratory I; or CHE 303 Physical Chemistry.

If CHE 101-102 and L101-L102 General Chemistry and Laboratory I and II are used to fulfill humanities and sciences laboratory general requirements, ten or more additional credits of upper-level (300-400) chemistry must be completed. Consult course descriptions for prerequisites in mathematics and physics.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in chemistry. A full description of the program appears in Part XVIII of this bulletin.

COMPUTER SCIENCE

The B.S. in computer science and the B.S. in computer science/mathematical sciences are offered by the Department of Mathematical Sciences. A minor in computer science is also available. For further information about these programs read the section of this bulletin under the heading Mathematical Sciences.

CRIMINAL JUSTICE

James E. Hooker

Interim Department Chair

Mary J. Clement

Jill Gordon

Paul W. Keve

(Professor Emeritus)

David P. Geary

James L. Hague

Laura Moriarty

William V. Pelfrey

and other helping professions, and/or prepare them to pursue studies in law. Career opportunities are available in federal, state, local, and private justice-related endeavors.

These careers include law enforcement, juvenile justice, corrections, and the courts. This department also prepares students wishing to enter law school and those wishing to pursue graduate studies in criminal justice or in several of the human services, usually related to justice. This department offers and encourages in-service justice employees, and others, to enhance their professional career development through higher education.

Students majoring in criminal justice receive a broad educational background, professionally oriented courses in their special area of interest, and various skill courses designed to enhance the student's career opportunities.

Upon successful completion of a minimum of 124 semester hours, the student is awarded the Bachelor of Science Degree in Criminal Justice.

The criminal justice curriculum is designed to offer students the opportunity to orient their coursework to fit their educational objectives and career plans. Core courses include CRJ 181, 260, 355, 380, 475 and an applications component. In the applications component, completed during the senior year, the student is placed in an agency internship, a research internship, or in an intensive directed study, depending on the student's career plans, prior coursework and experience. Additionally, the student is required to complete 18 semester hours of criminal justice courses approved by the student's advisor.

It is essential that students seek and follow the advice of their faculty advisor in the progression of the core courses, the selection of criminal justice electives and in the identification of complementary courses in other disciplines which can benefit the student and assist in the accomplishment of career goals. Whether the student is interested in general criminal justice, policing, legal studies, juvenile justice or corrections, faculty can assist in identifying the appropriate curriculum.

Degree Requirements

Bachelor of Science in Criminal Justice. The Bachelor of Science curriculum in Criminal Justice requires a minimum of 123 credits, including 36 credits in criminal justice courses. Students will complete 18 credits in CORE courses and 18 credits in criminal justice electives.

The major objective of this degree program is to prepare students for highly effective professional careers in criminal justice, public service,

NOTE: For students entering in fall 1996 and Spring 1997, they may use the Criminal Justice General Education requirements in place during 1994-96.

CORE 18 credits

Required courses for all Criminal Justice Majors:

CRJ 181 Criminal Justice Survey
 CRJ 260 Criminal Law
 CRJ 355 Foundations of Criminal Justice
 CRJ 380 Criminal Justice Research
 CRJ 475 Case Studies in Criminal Procedure
 CRJ 480, 492 or 493 Application Component

Criminal Justice Approved Electives (18 credit Hours)

Selected from other Criminal Justice courses with advisor's approval.

Minor in Criminal Justice

The minor in Criminal Justice requires a minimum of 18 credits. Students desiring a minor in criminal justice must select one course from each of the following groups: Group I – CRJ 181, 252, 253, 254, or 255. Group II – CRJ 260 or 324.

The additional 12 credits are to be upper-division CRJ courses agreed upon by the student and a faculty advisor in this department. In addition, a criminalistics (forensic science) minor is available to those students majoring in chemistry or certain other physical sciences. The forensic science minor requires the satisfactory completion of 18 credit hours of CRJ courses and includes the following courses: CRJ 260, 370, 380, 475, 571, and 492 or 493.

Master of Science in Criminal Justice

The graduate degree program in criminal justice is designed to provide advanced educational preparation for practitioners and students pursuing careers in criminal justice or forensic science. Such preparation includes understanding appropriate theoretical positions and concepts, and developing necessary professional skills. The master's degree requires either 36 or 39 credit hours. *See the VCU Graduate Bulletin for a more detailed description of this program and the Post-Baccalaureate Certificate program.*

ECONOMICS

Economics, the science of making choices, is the study of how the goods and services we want get produced and how they are distributed.

The Department of Economics offers a Bachelor of Science in economics conferred by the College of Humanities and Science with a core of liberal arts courses, as well as a B.S. in economics conferred by the School of Business with a core of business courses. For further information on this second program see the School of Business section of this bulletin.

The bachelor's degree in economics conferred by the College of the Humanities and Sciences prepares students for careers as economists, or for areas such as public administration, social service, the financial sector, and business. It also prepares students for graduate work in economics and for graduate work in professional schools such as law, public administration, and medicine.

Degree Requirements

Bachelor of Science in Economics. The Bachelor of Science curriculum in economics requires a minimum of 124 credits, with at least 33 of those credits in the major and three credits in STA 213, Introduction to Statistics.

Students majoring in economics must complete ECO 210-211 Principles of Economics; ECO 301 Microeconomic Theory; ECO 302 Macro-Economic Theory; ECO 307 Money and Banking; ECO 489 Senior Economics Seminar; STA 213 Introduction to Statistics; and an additional 15 credits of electives in upper-level (300-400) economics courses.

In addition to these requirements, students in this program must also take one course in computer science (CSC), preferably CSC 150 Basic Computer Concept. Students must also complete two courses in mathematics -- MAT 111 and MAT 112 Basic Mathematics and Elements of Calculus for Behavioral, Social, and Management Sciences. MAT 101 College Algebra may be taken in place of MAT 111. Course selection depends on the Mathematics Placement Test score.

In selecting approved electives to meet the general requirements of the College of Humanities and Sciences, students should select courses related to the economics major—specifically, courses in accounting, mathematics and statistics, philosophy, history, political science, sociology, anthropology, and finance. Students should focus their electives on one or two of these subjects.

Juniors, seniors, and graduate students who have completed baccalaureate degrees are eligible for enrollment in most upper level economics and business courses (BUS or ECO 300-400 levels).

Minor in Economics

This minor, offered through the College of Humanities and Sciences, requires at least 18 credits in the minor field including ECO 210-211, Principles of Economics; one or more courses from ECO 301 Microeconomic Theory, ECO 302 Macroeconomic Theory, or ECO 303 Managerial Economics. The remaining courses to fill this requirement must be chosen from upper-level (300-400) economics courses.

Cooperative Education Program

This program is available to qualifying students pursuing undergraduate degrees in economics. A full description of the program appears in Part XVIII of this bulletin.

ENGLISH

Richard A Fine

Chairman of the Department

Vacant

Associate Chairman

Elizabeth J. Cooper

Director of Composition and Rhetoric

Marguerite Harkness

Director of M.A. Program

Ann M. Woodlief

Director of Undergraduate Studies

Tom De Haven

Director of Creative Writing

Boyd M. Berry

Laura Browder

Marcel Cornis-Pope

Elizabeth F. Duke

Carmen Gillespie

Peter Hadorn

Catherine Ingrassia

James J. Kinney

Lawrence F. Laban

Larry Levis

A. Bryant Mangum

L. Terry Ogge

Richard K. Priebe

Gary Sange

Jeffrey Vasseur

Richard Bozorth

Walter R. Coppedge

Gregory E. Donovan

Maurice Duke

C. W. Griffin

Elizabeth Hodges

Michael Keller

Elisabeth Kuhn

David E. Latané

George C. Longest

Charlotte C. Morse

Patricia Perry

Richard Reid

Nicholas A. Sharp

Emeriti:

Robert A. Armour

Paule Marshall

Elizabeth Reynolds

Daryl C. Dance

James Pendleton

The purpose of the English department is to teach students to see their worlds with clarity and respond to them with sensitivity, through reading and writing. Students are invited to read and explore a diversity of texts created in different times and voices and then to respond to these texts

variously and critically, situating them within their contexts and discerning their important aesthetic features, rhetorical elements, and social functions.

Students in this department are also encouraged to express themselves in expository or imaginative works that engage thought and feeling, evince purpose clearly, marshal appropriate evidence, and observe principles of rhetorical decorum.

The Department of English offers the Bachelor of Arts in English, which provides a broad liberal arts base for advanced study and for careers in academic and professional areas.

English majors interested in careers in early, middle, secondary, or special education can enroll in the Extended Teacher Preparation Program which results in the simultaneous awarding of a bachelor's degree in English and a master's degree in teaching. For more information about this program administered jointly by the College of Humanities and Sciences and the School of Education contact the School of Education's Office of Academic Services.

The department also offers required and elective courses in English composition, language, and literature for English majors and for students in other programs.

Master of Arts in English and Master of Fine Arts in Creative Writing

For information about the graduate program in English, see the VCU *Graduate Bulletin*.

Degree Requirements

Bachelor of Arts in English. The Bachelor of Arts in English requires a minimum of 124 credits, with at least 36 of those credits in the major, three of which fulfill the general education literature requirement. A minimum of 33 credits must be taken in upper-level (300-400-500) English courses; six of those credits may be taken in upper-level foreign literature in the original language or foreign literature in English translation (FLT). ENG 101-102 (or equivalent) do not count toward the major.

English majors should distribute their course work as follows:

1) ENG 301 English Studies Modules (3 credits)

2) Linguistics or Writing (3 credits)

302 Legal Writing

304 Advanced Composition

305 Creative Writing

307 Teaching Writing Skills

327/BUS Business & Technical Report Writing

426-427/THE 426-427 Playwriting

435, 436 Creative Writing: Poetry
 437, 438 Creative Writing: Fiction
 449/LIN 449 Introduction to Linguistics
 450/LIN 450 Modern Grammar
 451/LIN 451 History of English Language
 452/LIN 452 Language and Gender
 453/LIN 453 Introduction to Modern Rhetoric

3) Literature and Criticism (21 credits)

To assure that students study a range of national, historical and cultural literatures, among the 21 hours required, students must include 6 credits in literature prior to 1700, 6 in literature 1700-1900, 6 credits in British literature, 3 credits in American literature, and 3 credits in the literature of diversity. Please note that individual courses often fall into more than one of these categories, offering students additional flexibility.

313 Southern Literature (AL)
 314/AAS 314 Black American Literature (AL), (D)
 315 The Modern Novel
 316 Modern Poetry
 317 Modern Drama
 318 Contemporary Poetry
 320 18th Century British Literature (BL, 1700-1900)
 321 Romantic Literature (BL, 1700-1900)
 322 Victorian Poetry (BL, 1700-1900)
 323 Modern British Literature (BL)
 335 Glories of English Renaissance (BL, pre-1700)
 350 Approaches to Literature
 351/EDU 351 Children's Literature I'
 361/RST 361 Bible as Literature (pre-1700)
 363/AAS 363 African Literature (D)
 365/AAS 365 Caribbean Literature (D)
 367 Eastern Thought in Western Literature
 371 American Literature: Colonial and Federal (AL, 1700-1900)
 372 American Literature: American Romanticism (AL, 1700-1900)
 373 American Literature: Realism and Naturalism (AL, 1700-1900)
 374 American Literature: Early Twentieth Century (AL)
 375 American Literature: Contemporary (AL)
 381 Fiction into Film
 384/WST 384 Women Writers (D – other topic)
 385/ENS 385 Nature Writing (AL)
 386/ANT 386 Introduction to Folklore (D)
 391 Topics in Literature (by specific topic)
 400 Shakespeare – Early Works (BL, pre-1700)
 401 Shakespeare – Later Works (BL, pre-1700)
 402 Chaucer (BL, pre-1700)
 403 Milton (BL, pre-1700)
 407 Medieval Epic and Romance (pre-1700)
 409 Medieval Studies (pre-1700, other by topic)
 410 Renaissance Studies (pre-1700, other by topic)
 411 Studies in 18th Century British Literature (BL, 1700-1900)
 414 American Novel and Narratives (AL)
 415 18th Century English Novel (BL, 1700-1900)
 416 19th Century English Novel (BL, 1700-1900)
 423 English Drama, 900-1642 (BL, pre-1700)
 424 English Drama, Rest and 18th Century (BL, 1700-1900)
 429 Form and Theory of Poetry

430 Form and Theory of Fiction
 433/EDU 433 Literature for Adolescents'
 491 Topics in Literature (by specific topic)
 AMS 391 Topics in American Studies (AL)
 AMS 394 Perspectives in American Studies (AL)

⁴ English majors may count either ENG 351 or ENG 433 but not both toward their major.

4) Electives (6 credits)

Any upper level English, foreign literature, or foreign literature in translation (FLT) courses may be used as general electives.

5) At least 3 credits must be taken in courses designated each semester as Senior Seminars (S).

Minor Requirements - General

English majors may minor in writing, but not in English.

Minor in English. The minor in English consists of 18 credits in upper-level (300-400) English courses, with at least 3 credits from each of the following areas: British literature; American literature; linguistics, criticism, or advanced writing; and comparative literature. Three credits may be taken in foreign literature in English translation and three in independent study. However, ENG 300, Practical Writing Workshop, does not count towards the minor.

Minor in Writing. The minor in writing requires 18 credits in the writing courses listed in this paragraph. ENG 304 Advanced Composition, is required and should be taken as early as possible. The other 15 credits from creative writing (ENG 305, 426, 427, 435, 436, 437, and 438); and/or from professional writing and rhetoric (ENG 302, BUS/ENG 327, ENG 453, ENG 493 and MAC 203, 300, 305, and 341).

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in English. A full description of this program appears in Part XVIII of this bulletin.

MINOR AND CERTIFICATE IN ENVIRONMENTAL STUDIES (ENS)

Gregory C. Garman
 Director

Faculty affiliated with the Environmental Studies Program:

Bonnie Brown
 (Biology)

Margot W. Garcia
 (Urban Studies & Planning)

Richard Rezba (School of Education)	Jim Wetzel (Economics)
Steve Rein (Mathematical Sciences)	Keith Ready (Recreation, Health and Physical Education)
Fred Hawkrige (Chemistry)	Sara McCowen (Biology)
Henry McGee (Engineering)	Martha N. Smith (Preventive Medicine)
Leonard Smock (Biology)	Leonard Vance (Preventive Medicine)

Environmental crises and discussion of environmental issues are central features of modern industrial societies. Continuing technological advancement and economic growth demand increased public understanding of environmental constraints and the effects of human activity on the environment. When environmental questions are explored in depth, scientific knowledge, policy considerations, and ethical questions are necessarily joined. The curriculum in environmental studies is structured to provide a multi-disciplinary introduction to biophysical and social factors which affect the quality of life on earth.

Minor in Environmental Studies

The minor in environmental studies provides an overview of the field which offers an intrinsically interesting way for many students to organize elective course work while gaining knowledge important to life in the contemporary world. This program is structured to provide a multidisciplinary introduction to biophysical and social factors that affect the quality of life, through the study of the scientific knowledge, policy considerations and the ethical issues that constitute environmental issues. When combined with the appropriate major, an environmental studies minor can be useful to students planning careers in any area concerned with environmental processes and problems. The minor may also prepare students for study at the graduate level in such concentrations as ecology and environmental systems.

The minor in environmental studies shall consist of 24 credits, including three required environmental studies courses (a-c), and the statistics requirement (d). The remaining courses are to be selected from the list of electives, with at least one from the Sciences, and one from the Social Sciences. Only one course may be from the student's major department. A minimum of 12 credits must be taken at the upper level (300-400). Please contact the Center for Environmental Studies for the most current curriculum guidelines. Required and approved courses for the minor are as follows:

Required Courses

- ENS 103 (114)/BIO 103 (114) Environmental Science
or
USP 331 Environmental Systems
Credit will only be given for one of these.
- ENS 311/POS 311 Politics of the Environment
- ENS 490 Research Seminar in Environmental Studies
- STA 213 (210) Introduction to Statistics
or
CSE 242 Methods of Community Analysis
or
BUS 301 Business Statistics

Electives

See list of electives after "Post Baccalaureate Certificate in Environmental Studies."

Post-Baccalaureate Certificate in Environmental Studies

The environmental studies certificate is for students who already hold a bachelor's degree in another field and wish to pursue studies in the environmental field. The certificate can help prepare students for work in such fields as industrial pollution control, municipal water treatment, environmental planning and analysis, biological monitoring, and science writing and reporting. 36 credits are required for the certificate, which includes three environmental studies courses (a-c) and two statistics courses (d. and e.). The remaining courses are to be selected from the lists of electives, with at least one from the Sciences, and one from the Social Sciences. 24 credits must be at 300 level or above. A maximum of 11 of the environmental studies-related credits and all 6 of the statistics credits may be transferred from course work completed before or after receiving the bachelor's degree. At least 18 approved credits must be taken at Virginia Commonwealth University.

Post-baccalaureate certificate students must apply for admission using an undergraduate admission form. Normally, a GPA of 2.5 or better is required for admission. Please contact the Center for Environmental Studies for the most current curriculum guidelines.

Required Courses for Certificate

- ENS 103(114)/BIO 103 (114) Environmental Science
or
USP 331 Environmental Systems
Credit will only be given for one of these.
- ENS 311/POS 311 Politics of the Environment
- ENS 490 Research Seminar in Environmental Studies
- STA 213 (210) Introduction to Statistics
or
CSE 242 Methods of Community Analysis
or
BUS 301 Business Statistics

- e. STA 543 Statistical Methods
or
PSY 214 Applications fo Statistics
or
SOC 214 Applications of Statistucs

Electives for Both Minor and Certificate Programs

Sciences

- BIO 307 Aquatic Ecology
BIO 317, 317L Ecology, Lab
BIO 431 Introduction to Marine Biology
BIO 432 Biology of Polluted Waters
BIO 503 Fish Biology
BIO 510 Conservation Biology
BIO 514 Stream Ecology
BIO 518 Plant Ecology
ENS 401/EAS 401 Meteorology and Climatology
ENS 411/EAS 411 Oceanography
ENS 315/PHY 315 Energy and the Environment
ENS 332/BIO 332 Environmental Pollution
GEO 203, 203L Physical Geography, Lab
GEO 204, 204L Physical Geography, Lab
PHY 105, 105L Physical Geology, Lab

Social Sciences and Humanities

- GEO 102 Cultural Geography
ENS 311/POS 311 Politics of the Environment
ENS 385/ENG 385 Nature Writing
SRA 420 Hazardous Materials Management
SRA 430 Safety System
SRA 440 Incident Investigation and Analysis
USP 302 Land Use Capability
USP 331 Environmental Systems
USP 332 Environmental Management

Environmental Studies

- ENS 491 Topics in Environmental Studies
ENS 492 Independent Study
ENS 493 Environmental Studies Internship
Any other ENS courses that may be offered.

Additional Electives for Certification

Graduate level courses open to Post-baccalaureate Certificate Students that may, with permission of the Coordinator, be used as electives:

- USP 650 Environmental Planning
USP 652 Environmental Analysis
INH 504 (1cr.) Radiation Safety
PMC 535 Introduction to Toxicology
MPH 604 Principles of Occupational & Environmental Health

Environmental Concentration in Bachelor of Science in Science

An environmental science concentration is available in the Bachelor of Science in Science program. Contact the Center for Environmental Studies for more information.

FOREIGN LANGUAGES

Robert Godwin-Jones

Chairman of the Department

Manual Béjar	R. McKenna Brown
Paul F. Dvorak	Peter Kirkpatrick
Chantel Maréchal	Antonio Masullo
Sonja Moore	Eugenia Muñoz
Kathryn Murphy-Judy	Angelina Overvold
Margaret T. Peischl	Beatriz Rosado
Robert L. Sims	Kenneth A. Stackhouse

Along with a broad-based liberal education in the humanities, the Bachelor of Arts in foreign languages prepares students for careers requiring a knowledge of a foreign language, and the various socio-cultural environments of its speakers; for graduate study in diverse fields; and for teaching French, German, or Spanish.

The department offers the Bachelor of Arts in foreign languages, with tracks in French, Spanish, German, and comparative literature.

The Department of Foreign Languages also offers courses in foreign literature in English translation, comparative literature, and European culture. These course do not satisfy language requirements or electives.

All VCU students wishing to continue their high school language must take the Foreign Language Placement Test. While credit is not granted by the test, appropriate levels of placement may fulfill certain graduation requirements. Transfer students will receive the credits granted by the institution from which they transfer. Consult specific language requirements for the Bachelor of Arts or Bachelor of Science degrees.

Foreign language majors interested in teaching early, middle, secondary, or special education can enroll in an Extended Teacher Preparation Program that results in the simultaneous awarding of a bachelor's degree in one of the foreign languages mentioned above and a master's in teaching. For additional information about this program administered jointly by the College of Humanities and Sciences and the School of Education, contact the School of Education's Office of Academic Affairs.

Language majors are strongly encouraged to take two more years in a second foreign language. The department offers minors in French, German, Spanish, and comparative literature, and courses in Chinese, Italian, Latin, Portuguese, and Russian. The Foreign Language Department also offers courses in the Latin American Studies minor and the Russian Area Studies minor.

Study Abroad Opportunities

Majors or minors in the Foreign Language Department are encouraged to participate in a study-abroad program. Programs for students interested in living and studying abroad during the summer offer students opportunities for short-term immersion in the language, culture, and civilization of the countries they visit. Currently, study-abroad programs through VCU are available to France, Latin America, Canada, Austria, Spain, and Italy, among others. VCU is a member of the International Student Exchange Program (ISEP) which offers a junior year abroad at one of 40 universities worldwide.

Minimum Major and Minor Requirements for Transfer Students

Transfer students planning to major in a foreign language must complete a minimum of two 400-level courses within the department. Credit and distribution requirements must be satisfied by all students.

For the minor, course work must include at least two courses at the 300 level or above in the chosen language area.

Degree Requirements (Starting in Fall, 1996)

Bachelor of Arts in Foreign Languages with a Track in French, German, or Spanish. The degree program requires a minimum of 124 credits, with at least 30 of those credits in upper-level courses in French, German, and 31 credits in Spanish. Along with the general requirements for the B.A. degree, foreign language students in French, German, or Spanish must take the 295 Gateway course (exemptions from the 295 course are made on a case by case basis) and these courses from the corresponding track:

- 300 and 301 Grammar and Writing I (Previously listed as Survey of Literature)
- 305 Conversation
- 320 and 321 Civilization (Previously listed as Literature of Spanish America)
- 330 and 331 Survey of Literature
- 495 Portfolio Seminar (1 credit; Spanish only)

To complete the major, students select nine hours of course work at the 400 level.

Transfer students who intend to major in a foreign language must take a minimum of two 400-level courses at VCU in the chosen language area. Both credit and distribution requirements for the major must be satisfied.

Foreign language minors must take at least two 300- or 400-level courses at VCU in the chosen language area.

Minor in French, German, or Spanish (Starting in Fall, 1996)

A minor in French, German, or Spanish requires at least 18 credits in the chosen language, only six of which may be earned at the 200 level. Of these the 3-credit 295 Gateway course or its equivalent must be successfully completed before the student may advance to the upper level courses in the minor. Exemptions from the 295 course are made on a case by case basis.

Degree Requirements for Currently Enrolled Students who Became Majors Prior to Fall, 1996

Bachelor of Arts in Foreign Languages with a Track in French, German, or Spanish. The degree program requires a minimum of 124 credits, with at least 30 of those credits in upper-level courses in French, German, or Spanish. Along with the general requirements for the B.A. degree, foreign language students in French, German, or Spanish must take these courses from the corresponding track:

- 301 and 302 Survey of Literature
- 303 and 304 Advanced Grammar and Writing
- 306 and 307 Civilization
- 305 Conversation or 311, Language Through the Media

To complete the major, students select nine hours of course work at the 300 or 400 level, with at least six of those credits at the 400 level.

Transfer students who intend to major in a foreign language must take a minimum of two 400-level courses at VCU in the chosen language area. Both credit and distribution requirements for the major must be satisfied.

Foreign language minors must take at least two 300- or 400-level courses at VCU in the chosen language area.

Minor in French, German, or Spanish Prior to Fall, 1996

A minor in French, German, or Spanish requires at least 18 credits in the chosen language of study to include 201, 202, or 205 and at least 12 credits at the upper (300-400) level. Students who place above the 200 level must take an additional six credits in the upper-level courses.

Bachelor of Arts in Foreign Language with a Track in Comparative Literature. The foreign languages degree program with a track in comparative literature requires a minimum of 124 credits, with at least 30 of those credits towards the major in upper-level (300-400) courses.

Along with the general education requirements of the College of Humanities and Sciences for the B.A. degree and the Academic Campus requirements, students in the comparative literature track must take CML 301 Introduction to Comparative Literature and CML 485 Seminar in Comparative Literature—core courses for the track. Students can substitute ENG 350 Approaches to Literature for CML 301 with the permission of the comparative literature advisor.

Students in this program must also take at least 12 upper-level credits in one of the following national literatures: French, German, Spanish/Latin American. These must include the appropriate 301-302 Survey of Literature, or 321-322 Survey of the Literature of Spanish America sequence, and two other literature courses in the original language.

Students must also take at least six upper-level courses in a second national literature—American, Chinese, English, French, German, Greek, or Spanish. Courses to satisfy this requirement can be taken in the original language or in English translation (FLT).

Finally, the student in this track of the program must take at least six upper-level courses in comparative literature, to include more than one national literature. The following courses may be used to fulfill this requirement:

Comparative Literature: 391 Topics in Comparative Literature/FLT 391 Topics in Foreign Literature in English Translation

English: 315 The Modern Novel, 363 African Literature, 365 Caribbean Literature, 367 Eastern Thought in Western Literature, 386 Introduction to Folklore, 407 Medieval Epic and Romance, 421, 422/CML 421, 422, Comparative Literature, Theatre: 403, 404 History of Dramatic Literature; 423, 424 Modern Drama

The following courses may be used to fulfill the requirements only with the permission of the comparative literature advisor:

English: 316 Modern Poetry, 317 Modern Drama, 318 Contemporary Poetry, 361 The Bible as Literature, 381 Fiction into Film, 390 Studies in Satire, 395 Topics in Literature, 407 Medieval Studies, 491 Topics in Literature, 492 Independent Study Foreign Literature in English Translation: 311 The Humanist Quest in French Literature, 312 Revolt and Renewal in Modern French Literature, 391 Topics in Foreign Literature in English Translation, 492 Independent Study

GEOGRAPHY

A minor in geography is offered by the Department of Urban Studies and Planning. See *Urban Studies and Planning*.

HISTORY

George E. Munro

Chairman of the Department

Joseph W. Bendersky
Robert D. Cromey
Catherine H. Fuller
John Herman
Susan E. Kennedy
Bernard C. Moit
James T. Moore
Robert M. Talbert
Eugene P. Trani
Melvin I. Urofsky

Alan V. Briceland
Arthur J. Engel
Harold E. Greer, Jr.
Norrece T. Jones, Jr.
Michael W. Messmer
Catherine M. Mooney
Philip J. Schwarz
Edgar A. Toppin
Ted Tunnell

The history curriculum exposes students to a multi-dimensional analysis of the human past. Knowledge gained through such analysis not only has the intrinsic appeal of any disciplined intellectual inquiry, but also constitutes an indispensable basis for active citizenship and for critical thinking about the society in which the student lives.

Historical training at the undergraduate level leads to personal and social awareness within the rich tradition of the liberal arts. It also provides students an ideal preparation for a wide range of careers and further professional study.

The Department of History offers the Bachelor of Arts in history.

History majors interested in teaching early, middle, secondary, or special education can enroll in an Extended Teacher Preparation Program that results in the simultaneous awarding of a bachelor's degree in history and a master's degree in teaching. For more information about this program jointly administered by the School of Education and the College of Humanities and Sciences, contact the School of Education's Office of Academic Services.

Other students in the program can take advantage of a wide range of courses with thematic, topical, national, or chronological emphases to fulfill requirements and electives.

Master of Arts in History. For information about this program, see the *VCU Graduate Bulletin*.

Degree Requirements

Bachelor of Arts in History. The Bachelor of Arts curriculum in history requires a minimum of 124 credits, with at least 30 of those credits in history, at least 24 of which must be at the upper (300-400) level. At least six credits must be taken from HIS 461-462, 483, 485, 486, 490, 493, or 498. History majors must also choose at least six credits in each of three geographical areas—Europe, the United States, and the Third World.

Along with completion of general education requirements of the College of Humanities and Sciences for the B.A. degree and Academic Campus requirements, students may choose approved electives from any courses offered by the College of Humanities and Sciences and the Schools of the Arts, Business, Education, and Community and Public Affairs.

Students should consult with their advisors to design a program suitable to their particular needs and interests.

Honors in History

History majors in the B.A. program may earn a degree with honors in history. To qualify for this program, students must have a minimum cumulative GPA of 3.0 or a 3.0 average for their junior year, with at least a 3.2 GPA in history courses. Students must apply to this program in their junior year. An Honors in History notation will appear on the transcripts of students who successfully complete this program.

Minor in History

The minor in history consists of 18 credits, 12 of which must be at the upper level (300-400). Of the upper-level courses, at least three credits must be taken from HIS 461-462, 483, 485, 486, 490, 493, or 498.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in history. A full description of this program appears in Part XVIII of this bulletin.

INTERNATIONAL AND AREA STUDIES MINORS

Judyth Twigg
Director (IASP)

International and Area Studies Programs are designed to increase awareness of and sensitivity of students to the traditions, values, aspirations, and concerns of people in other parts of the world. Through the completion of a minor, students may either examine the complexity of the international environment by focusing on a wide range of issues—cultural, social, economic, and political—that confront the world community, or they may focus on a specific geographic area. Both options seek to expose students to the unique and/or comparative insights offered by a wide variety of cross-cultural disciplines and courses.

Although these programs are coordinated through the College of Humanities and Sciences, they are open to all VCU undergraduate students, and they allow students to earn a minor in one of the program areas while simultaneously completing their requirements for the baccalaureate degree.

The IASP Director coordinates the various components of the program, provides general advice to students, makes referrals for advising depending on the chosen track or area minor, works closely with faculty in appropriate departments who are responsible for a particular track or minor, and provides the final approval to certify that the minor has been completed.

All relevant information about the minors, including approved lists of courses for the various minors and tracks, is available from the IASP Director, as well as from the areas studies minor coordinators.

Students may select one of the following options:

1. an International Studies Minor with a geographic area track or a global issues track. Within the geographic track, students may focus on Africa, Asia, Latin America, the Middle East, Russia and Eastern Europe, or Western Europe.
2. an area studies minor in Russian Area Studies or Latin American Studies

Study Abroad. The Russian Area Studies minor and the Latin American Studies minor urge participation in a “study abroad” program wherever possible. All students who meet eligibility requirements for the federal financial aid program are permitted to use this assistance in approved study-abroad programs. All reasonable costs associated with the study-abroad programs may be incorporated into the determination of eligibility.

International Studies Minor - 21 credits

1. Core Courses (6 credits)
INT/POS 105 International Relations
INT 490 Seminar in International Issues
2. A. **Geographic Track** (15 credits)

Students will select five courses in one of the following geographic areas: Africa, Asia, Latin America, the Middle East, Russia and Eastern Europe, or Western Europe.

An extensive list of approved courses is available from the director. In addition, students must complete the study of two years of a foreign language (through 202 or 205) with a language appropriate to the geographic track.

- B. **Global Issues Track** (15 credits)

In consultation with the program Director, students will select five courses from the

following list. Issues range from international relations and economics to studies of the global environment and the Arab-Israeli conflict.

In addition, students must complete the study of one year of a foreign language, and are strongly encouraged to complete a second year of that language.

AJP 463 Comparative Criminal Justice System
 BUS 418 International Management
 BUS 471 International Marketing
 ECO 329 International Economics
 (Pre-requisite ECO 210-211)
 GEO 322 World Political Geography
 HIS 334 Comparative History of Revolutions
 HIS 337 The Origins of Modernism
 POS/WST 318 Politics of Race, Class, and Gender
 POS/INT 358 Comparative Politics
 POS/INT 361 Issues in World Politics
 POS/INT 362 International Organizations and Institutions
 POS 363 U.S. Foreign Policy
 POS/INT 364 Vietnam
 POS/INT 365 International Political Economy
 POS 391/491 Topics in Political Sciences (as appropriate)
 POS/INT 452 Seminar in the Politics of Developing Areas
 POS 468 Seminar on Comparative Foreign Policy

Relevant topics courses taught by other departments may be included with the Director's approval.

Russian Area Studies Minor - 18 credits

The Russian Area Studies Minor requires the completion of 18 credits drawn from a list of approved courses, with at least 12 credits taken at the 300/400 level. At least three credits must be taken in the humanities and three credits in the social sciences. Students are required to complete Russian language courses through the intermediate (201-202 or 205) level. Native Russian speakers cannot use language courses at the 200 level as part of the 18 credits for the Russian Area Studies Minor.

Students are strongly recommended to take Russian 301-302. Students also are urged to complete a "study abroad" experience of at least one month in Russia.

Approved courses list:

FLT 391 Topics in Russian Literature (HUM)
 HIS 321, 322 Russian History (HUM)
 POS/INT 354 Politics of the Former Soviet Union (SSC)
 RUS 201 Intermediate Russian (LANG)
 RUS 202 Intermediate Russian Conversation (LANG)
 RUS 205 Intermediate Russian Conversation (LANG)
 RUS 301-302 Survey of Literature (HUM)
 RUS 491 Topics in Russian (HUM)
 SOC 328 Russian Society in Transition (SSC)

Note: Topics courses in various departments and programs (*most often designated 391 or 491*) may be used toward the

minor with the approval of the Russian Area Studies Coordinator when the topic concerns Russian.

Latin American Studies Minor - 18 credits

The Latin American Studies Minor requires completion of 18 credits drawn from a list of approved courses, with at least 12 credits taken at the 300/400 level. No more than nine credit hours can be taken in any one discipline, and a minimum of three must be taken in each of three areas: 1) art and literature; 2) history and civilization; and 3) the social sciences. Students are required to complete Spanish or Portuguese through the intermediate level (201 and 202), and these two courses may be used as part of the 18 credits of the minor. Spanish majors and native Spanish speakers cannot use Spanish 201 and 202 and native Portuguese speakers cannot use Portuguese 201 and 202 as part of the 18 credits for the Latin American Studies Minor.

Students are strongly recommended to complete third year Spanish (300, 301 and 330 or 331). Students are urged to complete a "study abroad" experience of at least one month in Latin America.

Approved courses list:

Art and Literature

ARH 335 Pre-Columbian Art and Architecture
 ARH 338 Art and Architecture of Latin America
 ARH 427* Renaissance, Baroque and Rococo Art and Architecture of Mexico, Central America. . .
 ARH 428* Renaissance, Baroque and Rococo Art and Architecture of South America
 ARH 450* Art and Architecture of Mesoamerica
 ARH 451* Art and Architecture of Andean America
 ARH 452* Studies in Pre-Columbian Art and Architecture
 CRA 369 Ancient Peruvian Textile Techniques
 SPA 321 Civilization of Latin America I
 SPA 331 Survey of Latin American Literature
 SPA 421 Civilization of Latin America II
 SPA 430## Literary Genres

*The prerequisite for these courses is three credits in Art History or permission of instructor.

The prerequisite for these courses is Spanish through the intermediate level or the equivalent.

##Nine SPA credits at 300 level.

NOTE: The following topic courses may be used toward the minor with the approval of the advisor when the topic course concerns Latin America: ARH 474, CML 391, FLT 391 and SPA 491.

History and Civilization

HIS 378 History of Central America
 HIS 384 Latin America and World Affairs
 HIS 385 History of Mexico
 HIS 386 History of Brazil
 SPA 321* or 307* Latin American Civilization I

*The prerequisite for this course is Spanish through the intermediate level or the equivalent.

NOTE: History 391 may be used toward the minor with the approval of the advisor when the topic concerns Latin America.

Social Sciences

ECO 315* Economic Development
 POS 353 Latin American Governments and
 Politics
 POS 452 Seminar in the Politics of Developing
 Areas

*The prerequisite for this course is ECO 210-211 and junior standing.

NOTE: The following topic courses may be used toward the minor with the approval of the advisor when the topic concerns Latin America: ANT 350, ANT 391, ECO 310, ECO 491, GEO 334, GEO 391, POS 391, POS 491, SOC 491 and WST 391.

MINOR IN JUDAIC STUDIES

See Philosophy and Religious Studies.

MASS COMMUNICATIONS

See School of Mass Communications at beginning of degree programs.

MATHEMATICAL SCIENCES

J. Richard Morris

Chairman of the Department

David F. Bauer

Assistant Chairman

James E. Ames, IV

Assistant Chairman

James A. Wood

Director of Graduate Affairs

Division of Applied Mathematics and Mathematics

Ghidewon A. Asmeron

James K. Deveney

William Haver

C. Michael Lohr

John F. Schmeelk

William W. Terrell

James Wood

John F. Berglund

Reuben Farley

Andrew Lewis

Pratip N. Raychowdhury

Hassan Sedaghat

Gary Thompson

Division of Computer Science

James Ames IV

Chao-Kun Cheng

Branson Murrill

Dan Resler

Susan Brilliant

William B. Evans

Lorraine Parker

Division of Operations Research and Statistics

John Barnes

James Davenport

Robert E. Johnson

D'Arcy Mays

Gregory Parnell

Patricia Williamson

David F. Bauer

Neil W. Henry

Ronnie Lamb

Sharon Navard

Steven Rein

The curriculum in mathematical sciences promotes understanding of the mathematical sciences and their structures, uses, and relationships to other disciplines. To this end, the scholarly growth of the faculty and students in the mathematical sciences is nurtured through study, research, and a high standard of teaching. The curriculum provides a sound foundation for the student seeking to enter a career with a technological orientation or for the student who wishes to pursue graduate study in applied mathematics, computer science, mathematics, operations research, statistics, or related fields.

The Department of Mathematical Sciences offers a Bachelor of Science degree in mathematical sciences and a Bachelor of Science degree in computer science. Each degree contains a required core of courses that provide a foundation for more specialized work, while furnishing an introduction to a variety of areas in the mathematical sciences.

Students in the B.S. in mathematical sciences can choose from five areas of concentration.

1. Applied Mathematics/Mathematical Sciences concentrates on the analytical and computational techniques necessary to solve many of today's problems. These methods had been applied traditionally in such areas as chemistry and physics, but are now applied in many other areas.

2. Computer Science/ Mathematical Sciences provides the student, through the mathematical foundations and the practical applications of computers, with the expertise to function effectively in this rapidly expanding discipline. This concentration equips the student with a solid education in computer science, yet gives the student the flexibility to pursue other areas of study.

3. Mathematics/Mathematical Sciences fosters the understanding of the power and the beauty of pure mathematics and its applications to various branches of knowledge.

4. Operations Research/Mathematical Sciences focuses on modern mathematical techniques for solving problems arising from other fields, such as engineering, business, or economics.

5. Statistics/Mathematical Sciences teaches students how mathematical models used in the investigation of uncertain phenomena are developed and applied to experimental and non-experimental data.

As an alternative to the above concentrations, students may design an individual plan of study with the help of their advisors.

Mathematical sciences majors interested in teaching careers in early, middle, secondary, or

special education can enroll in an Extended Teacher Education Program that results in the simultaneous awarding of a bachelor's degree in mathematical sciences and a master's degree in teaching. For more information about this program jointly administered by the School of Education and the College of Humanities and Science, contact the School of Education's Office of Academic Services.

The **B.S. in computer science** is a rigorous, highly concentrated curriculum of computer science courses accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board. It includes advanced study in several important areas of computer science and provides a strong foundation in this discipline.

The Department of Mathematical Sciences also offers a Mathematical Sciences Certificate in computer science or in statistics for students in other programs. Additionally, the department offers required and elective courses to students in the mathematical sciences program, and to those in other fields of study.

Degree Requirements

Bachelor of Science in Mathematical Sciences. The B.S. in mathematical sciences requires a minimum of 124 credits with at least 41 of those credits in courses labeled CSC, MAT, or STA. Along with the general education requirements of the College of Humanities and Sciences and the Academic Campus, students are required to take core courses and fulfill specific requirements for the degree.

Based on the results of the Mathematics Placement Test, students may be required to take MAT 101 College Algebra, or MAT 102 Trigonometry. No more than three credits in a 100-level mathematical sciences course (MAT, CSC, or STA) can count for the general requirements toward the B.S. degree. Credit for 100-level mathematical sciences courses cannot be applied toward the mathematical sciences courses required for the major in mathematical sciences.

Mathematical sciences majors are required to select either of the following options:

- A. Complete two of the following sequences:
1. BIO 109-110, L109, L110 General Biology and Laboratory I, II
 2. CHE 101-102, L101, L102 General Chemistry and Laboratory I, II
 3. PHY 207-208 University Physics or PHY 201-202 General Physics

OR

- B. Complete one of the above science sequences, and complete a minor or second major offered outside the Department of Mathematical Sciences.

The student may use courses from the chosen option to fulfill appropriate College of Humanities and Sciences general education requirements.

Core. All students are required to take

CSC 255 Structured Programming
 MAT 200-201 Calculus with Analytic Geometry MAT
 211 Mathematical Structures
 STA 212 Concepts of Statistics

Concentrations. By completing the listed requirements, students may obtain a designation on their transcript that their study has emphasized one of the following concentrations. Students may choose to meet the requirements of more than one concentration.

1. **B.S. in Applied Mathematics/Mathematical Sciences.** MAT 301 Differential Equations, MAT 307 Multi-variate Calculus, MAT 310 Linear Algebra, MAT 512 Complex Analysis for Applications, MAT 517-518 Methods of Applied Mathematics, and six additional upper-level credits in mathematical sciences. (MAT 302 Numerical Calculus, MAT 437 Applied Partial Differential Equations, and MAT 511 Applied Linear Algebra are recommended.) Students in this concentration should elect at least one upper-level course in chemistry or physics. (CHE 510 Atomic and Molecular Structure is recommended.)
2. **B.S. in Computer Science/Mathematical Sciences.** CSC 256 Data Structures and Advanced Programming, CSC 301 Introduction to Discrete Structures, CSC 311 Computer Organization and Assembler Language, CSC 312 Introduction to Operating Systems, CSC 401 Algorithm Analysis with Advanced Data Structures, CSC 403 Computer Languages, one 500 level computer science course, and six additional upper-level credits in mathematical sciences.
3. **B.S. in Mathematics/Mathematical Sciences.** MAT 307 Multivariate Calculus, MAT 310 Linear Algebra, MAT 501 Algebraic Structures, MAT 507-508 Analysis I and II, MAT 509 General Topology I, and six additional upper-level credits in mathematical sciences.
4. **B.S. in Operations Research/Mathematical Sciences.** MAT 307 Multivariate Calculus, MAT 309 Introduction to Probability Theory, MAT 310 Linear Algebra, MAT 327 Mathematical Modeling or STA 503 Introduction to Stochastic Processes, MAT 527-528 Mathematical Foundations of Operations Research, and six additional upper-level credits in mathematical sciences.
5. **B.S. in Statistics/Mathematical Sciences.** MAT 307 Multivariate Calculus, MAT 309 Introduction to Probability Theory, MAT 310 Linear Algebra, STA 404 Introduction to Statistical Inference, STA 541 Applied Statistics for Engineers & Scientists, STA 544 Statistical Methods II, three additional upper-level credits in statistics, and three additional upper-level credits in mathematical sciences.

Students who meet the requirements for two of the concentrations within the mathematical sciences curriculum can receive a double major. Likewise, students who meet the requirements for one of the concentrations and for the computer science degree can also achieve a double major, unless the concentration is computer science. To initiate a double major, students must obtain the appropriate form from the Office of Records and Registration.

With the approval of the departmental Undergraduate Credentials Committee and their academic advisor, students can design their own plan of study which will result in a B.S. in mathematical sciences. This student-planned curriculum must contain at least 24 credits in upper-level (300-500) mathematical sciences courses.

Bachelor of Science in Computer Science.

The B.S. curriculum in computer science requires a minimum of 124 credits, with at least 57 of those credits in courses labeled CSC, MAT, or STA.

Along with the general education requirements of the College of Humanities and Sciences and the Academic Campus, students must also take required courses and fulfill specific degree requirements.

Based on the results of the Mathematics Placement Test, students may be required to take MAT 101 College Algebra, or MAT 102 Trigonometry. No more than three credits in 100-level mathematical sciences courses can be applied to the general requirements for the B.S. degree. Credit for 100-level mathematical sciences courses can not be applied toward the mathematical sciences requirements for the computer science major.

Computer science majors are required to select one of the following options:

A. Complete two of the following sequences:

1. BIO 109-110, L109-L110 General Biology and Laboratory I, II
2. CHE 101-102, L101-L102 General Chemistry and Laboratory I, II
3. PHY 207-208 University Physics

OR

B. Complete all of the following:

1. One of the above science sequences.
2. Six additional credits in biology, chemistry, or physics (excluding PHY 101- 102, and PHY 201-202).
3. A minor or second major offered outside the Department of Mathematical Sciences.

The student may use courses from the chosen option to fulfill appropriate College of Humanities and Sciences general education requirements.

Required Mathematics and Statistics Courses

MAT 200-201 Calculus with Analytic Geometry
 MAT 211 Mathematical Structures
 STA 212 Concepts of Statistics
 One of MAT 301 Differential Equations, MAT 302 Numerical Calculus, MAT 310 Linear Algebra, or MAT 351 Applied Abstract Algebra.

Required Computer Science Courses

CSC 255 Structured Programming
 CSC 256 Data Structures and Advanced Programming
 CSC 301 Introduction to Discrete Structures
 CSC 311 Computer Organization and Assembler Language
 CSC 312 Introduction to Operating Systems
 CSC 401 Algorithm Analysis with Advanced Data Structures
 CSC 403 Programming Languages
 CSC 490 Research Seminar
 CSC 505 Computer Architecture
 CSC 508 Data Base Theory.

Twelve additional credits chosen from upper-level computer science classes. STA 321 Statistical Computing may be used to satisfy three of these credits.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in mathematical sciences. For a full description of this program, see Part XVIII of this bulletin.

Minor Requirements-General

A minimum GPA of 2.0 must be achieved in the minor, and credit for 100-level mathematical sciences courses cannot be applied to the minor. Mathematical sciences and computer science majors cannot minor in a Department of Mathematical Sciences' program.

Minor in Mathematical Sciences. A minor in mathematical sciences consists of at least 18 credits offered by the Department of Mathematical Sciences, including a minimum of three credits of calculus and nine upper-level credits.

Neither STA 213 Introduction to Statistics, nor any 100-level course can be used to fulfill the required 18 credits. The calculus requirement can be fulfilled by MAT 200 Calculus with Analytic Geometry or MAT 112 Elements of Calculus for Behavioral, Social and Management Sciences. However, MAT 112 cannot be used toward the required 18 credits.

Minor in Computer Science

A minor in computer science consists of at least 18 credits offered by the Department of Mathematical Sciences, including CSC 255, CSC

256, MAT 211, and nine upper-level credits in computer science.

Minor in Statistics

The requirements for this minor are identical to those for the minor in mathematical sciences, except that the nine upper-level credits must be earned in statistics courses. It is strongly recommended, though not required, that students minoring in statistics take MAT 211 Mathematical Structures, and STA 212 Concepts of Statistics.

Post-baccalaureate Programs in Mathematical Sciences

For students currently holding a bachelor's degree in the appropriate discipline, the Department of Mathematical Sciences offers the Master of Science in mathematical sciences, the Master of Science in computer science, and the Master of Education in mathematics education. For information about any of these three programs consult the *VCU Graduate Bulletin*.

Second Baccalaureate Degrees and Mathematical Sciences Certificates in Computer Sciences and Statistics

For students possessing a bachelor's degree and wishing to gain undergraduate preparation in an area of mathematical sciences, the department offers several options.

Second baccalaureate degrees are offered through the department. For detailed information about these programs consult Part V of this bulletin.

The Mathematical Sciences Certificate in Computer Science is available to students who have received bachelor's degrees in other areas and wish to pursue the study of computer science. Students who receive certification through this program equip themselves for many professional opportunities in the scientific community and with government agencies. The certification is also designed to allow interested students to prepare for graduate study in computer science.

Certification through this program requires a minimum of 33 credits in mathematical sciences courses at the 200-level or higher. Course work completed before or after receiving the bachelor's degree can be applied to the certification.

Included among the 33 credits must be the following:

A. At least 18 credits from courses in mathematical sciences at the 300 level or higher earned at VCU after the candidate has received a bachelor's degree.

B. Of the 18 credits listed in part A, at least 15 credits must be in computer science with at least six of these credits at the 400 level or higher; CSC 311 Computer Organization and Assembler Language, and CSC 401 Algorithm Analysis with Advanced Data Structures are required courses for certificate students.

C. At least nine credits in approved electives in mathematical sciences other than computer science. A calculus course must be included among these credits.

Upon successful completion of all course work in five years or less, with a grade of "C" or better in each course and a GPA of 2.5 or better, the student is awarded the Mathematical Sciences Certificate in computer science. Successful completion of this program does not guarantee admission to the master's degree program in mathematical sciences.

Students seeking admission into this program should contact the Department of Mathematical Sciences.

The Mathematical Sciences Certificate in Statistics is open to students who have received bachelor's degrees in other areas. The primary goal of the program is to allow students with undergraduate majors in science, engineering and the social sciences an opportunity to acquire the formal training in statistics that is currently in demand in industry and government. Some students may also find this program a useful way to prepare for graduate study in statistics.

To be admitted to the program, a student must have completed a course of study leading to a Baccalaureate Degree. A student with limited college mathematics experience must take the Mathematics Placement Test before entering the program. Application materials and further information can be obtained by calling (804) 367-1301, TDD (804) 367-0100 or writing the following address: Post Baccalaureate Certificate in Statistics, Department of Mathematical Sciences, Virginia Commonwealth University, Richmond, VA 23284-2014.

The certificate program in statistics requires completion of a minimum of 32 approved credits at the 200 level or higher in mathematical sciences or related areas. A maximum of 14 credits toward certification can be transferred from course work completed before or after receiving the bachelor's degree. At least 18 approved credits must be from courses in statistics and probability at the 300 level or higher and must be taken at Virginia Commonwealth University (VCU). No more than six of these 18 credits can be from courses taken before admission to the certificate program. The student must achieve a grade point

average (on courses taken at VCU) of 2.5 or better with no grade below C. All requirements for the certificate must be completed within 5 years of admission to the program.

The follow courses are required:

- MAT 200/201 Calculus with Analytical Geometry
(or equivalent)
- CSC 201 Introduction to Computing using FORTRAN
or
- CSC 255 Structured Programming
(or equivalent)
- STA 213 Introduction to Statistics
(or equivalent)
- MAT 309 Introduction to Probability Theory
- STA 404 Introduction to Statistical Inference
- STA 541 Applied Statistics for Engineers and Scientists
- STA 544 Statistical Methods II

Students will work closely with the program coordinator in selecting appropriate elective courses. While some students may have the background necessary for a 600 level graduate course, it is expected that most elective courses will be drawn from the 300-500 level STA offerings of the Department. Statistics courses taught in other units of the University may be credited toward the certificate with the permission of the program coordinator.

MILITARY SCIENCE

The military science curriculum teaches the principles of management and leadership as a foundation for civilian and military careers. Graduates of this program are eligible for appointments as commissioned officers in the United States Army, the United States Army Reserve, or Army National Guard.

Scholarships

Two and three year Army ROTC scholarships are awarded competitively, based strictly on merit, to the most outstanding students who apply. Academic abilities and extracurricular achievements are factors considered in the selection. Army ROTC scholarships pay for tuition and fees (\$2,500 per semester), books (\$225 per semester), and \$150 per month (Maximum \$1,500 per school year) for living expenses.

The Four-Year Program

The traditional Four-Year Program is divided into two parts.

In the first two years, the Basic Course covers subjects like military history, traditions and organizations, and national defense. There will be a

heavy emphasis on leadership development. There is no commitment for the first two years, if students don't have an ROTC scholarship.

Upon successful completion of the Basic Course, students will be eligible to compete for entrance into the Advanced Course. During the Advanced Course, the curriculum consists of instruction and practice in management, tactics, ethics, professionalism, and continued leadership development.

During your four years, all ROTC textbooks, uniforms and essential materials will be furnished at no cost. Also, if selected for the Advanced Course, students will receive an allowance of \$1,500 each year.

During the summer between junior and senior years, students will attend Advanced Camp, a training session that provides a hands-on feeling for the Army, and practice in everything learned-including how to lead. Advanced Camp lasts six weeks, with pay.

The Two-Year Program

If the first two years of ROTC are missed, or students transfer from a junior or community college, a commission may be obtained through the Two-Year Program.

In this program students attend the ROTC Basic Camp, Camp Challenge, for six weeks during the summer. Upon completion of Camp Challenge, students will be eligible for the Advanced Course.

The Simultaneous Membership Program (SMP)

This program allows students to become members of the Army National Guard or the Army Reserve while enrolled in Army ROTC.

Advanced ROTC SMP students are paid for their Guard/Reserve training plus they receive the ROTC allowance of \$1,500 for each of their two years in the Advanced Course.

ROTC for Veterans

If students are veterans, military experience could fulfill the necessary requirements for the ROTC Basic Course. Veterans may enroll directly in the Advanced Course. In addition to any financial assistance received from ROTC, veterans are still qualified to receive any and all VEAP/GI Bill/Army College Fund benefits to which they are entitled.

Upper-Level Credit Limitation for College of Humanities and Sciences Students

For students in the College of Humanities and Sciences, only three of the eight required 300 level

Military Science credits can be applied to the University's 45 upper-level credit requirements.

OPERATIONS RESEARCH

The B.S. in Operations Research/Mathematical Sciences is offered by the Department of Mathematical Sciences. See Mathematical Sciences.

PHILOSOPHY AND RELIGIOUS STUDIES

Peter Vallentyne
Chairman of the Department

- | | |
|-------------------------|-----------------------|
| ➤ Earle J. Coleman | ➤ Clifford W. Edwards |
| ➤ Anthony Ellis | Thomas O. Hall, Jr. |
| James E. Lindsey, Jr. | ➤ Trenton Merricks |
| Eugene Mills | Amina Wadud-Muhsim |
| ➤ Robert B. Redmon, Jr. | Jack D. Spiro |
| Robert M. Talbert | |

The Department of Philosophy and Religious Studies offers a Bachelor of Arts in philosophy and a Bachelor of Arts in religious studies—each a distinct undergraduate program.

Philosophy aims at a deeper understanding of matters that should most concern us. Philosophical questions crop up in science, religion, art, morality, politics, medicine, and in everyday life. Students enrolled in philosophy are encouraged to think seriously about fundamental issues in all these domains and to formulate coherent and well-grounded points of view. Because of its extensive use of critical and analytical reasoning, philosophy equips the student for careers in medicine, law, business, and other fields that require careful thought and the clear expression of ideas.

Religious Studies focuses on religion as a major aspect of human culture. Students enrolled in religious studies are encouraged to think critically and systematically about religion and its role in culture, and to write clearly and cogently about it. Many students choose to major in religious studies because it provides a broad and flexible degree in the humanities, which might serve as preparation for any other vocation. Some students major in religious studies to prepare for graduate programs in universities, seminaries, and professional schools, becoming clergy, chaplains, and teachers of religion. Others are preparing for specialized ministries in radio, television, church-related publications, and denominational boards and agencies. An increasing demand ex-

ists for public school teachers certified to teach religious studies.

Additionally, the department offers elective courses for students in other programs, as well as for those majoring in philosophy or religious studies.

Degree Requirements

Bachelor of Arts in Philosophy. The Bachelor of Arts curriculum in philosophy requires a minimum of 124 credits, with at least 30 of those credits in philosophy. Fifteen of these credits must be selected from upper-level philosophy courses.

Majors in philosophy are required to take PHI 103 Ancient Greek and Medieval Western Philosophy, PHI 104 Modern Western Philosophy, one of PHI 211, 212, 213 (introductory ethics courses), PHI 222 Logic; three of the following courses with at least one course from group (a) and group (b): (a) PHI 320 Philosophy of Law, PHI 327 Ethical Theory, PHI 335 Social and Political Philosophy, and (b) PHI 301 Mind and Reality, PHI 302 Reason and Knowledge, PHI 303 Philosophy of Language; and (c) PHI 391 Topics in Philosophy; and at least one semester of PHI 490 Seminar in Philosophy.

Students must also fulfill the general education requirements of the College of Humanities and Sciences for the B.A. degree and Academic Campus requirements.

Bachelor of Arts in Religious Studies. The Bachelor of Arts curriculum in religious studies requires a minimum of 124 credits, with at least 30 of those credits in religious studies or in courses listed below as acceptable for religious studies credit.

Majors are required to take RST 101 Introduction to Religious Studies; six credits from RST 301 Introduction to Old Testament, RST 302 Introduction to New Testament, RST 312 World Religions, RST 317 Islam, RST 318, 319 History of Jewish People; RST 334 Religion in Contemporary America; six credits from RST 311 World Religions, RST 320 Taoism, RST 408 Indian Tradition, RST 410 The Chinese Tradition in Philosophy, RST 412 Zen Buddhism; six credits from RST 326 Existentialism, RST 333 Psychology and Religious Experience, RST 350 World Classics of Spirituality, RST 360 Sociology of Religion, RST 430 Philosophy of Religion; three credits from RST 490 Seminar in Religious Studies, RST 491 Topics in Religious Studies, RST 492 Independent Study.

Up to six credits in Hebrew, Greek, Arabic, Japanese, or Chinese language courses may be accepted within the required 30 credits of the program if approved by the curriculum committee of the religious studies division. The curriculum committee may approve occasional substitutions within religious studies major requirements should the needs and background of the student warrant such substitutions.

Students must fulfill the general education requirements of the College of Humanities and Sciences for the B.A. degree and Academic Campus requirements.

Minor Requirements—General

Minor in Philosophy. The philosophy minor consists of 18 credits, with at least nine of those credits in upper-level (300-400) courses and either PHI 103 Ancient Greek and Medieval Philosophy or PHI 104 Modern Western Philosophy.

Minor in Philosophy of Law. The minor in philosophy of law consists of 18 credits, to include PHI 327 Ethical Theory, PHI 335 Social and Political Philosophy, PHI 320 Philosophy of Law and one course from the following— PHI 211 History of Ethics, PHI 212 Ethics and Applications and PHI 213 Ethics and Health Care. Philosophy minors must also take two of the following courses: POS 341, 342 History of Political Thought, POS 314 American Constitutional Law, and HIS 369-370 American Constitutional and Legal Development.

Minor in Religious Studies. The minor in religious studies consists of 18 credits in religious studies, with at least nine of those credits in upper-level courses.

Minor in Judaic Studies

Jack C. Spiro, Director

The minor in Judaic studies consists of 18 credits chosen from the following: RST 301 Introduction to the Old Testament, RST 304 Introduction to Judaism, RST 305 Hebrew Prophets, RST 335 The American Jewish Experience, RST 407 Modern Jewish Thought, HIS 324 The Holocaust, HIS 325,326/ RST 318,319 History of the Jewish People, and other courses approved by the director which may be developed.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in philosophy. A full description of this program appears in Part XVIII of this bulletin.

PHYSICS

Shiv N. Khanna

Chairman of the Department

Marilyn F. Bishop
Purusottam Jena
David P. Pappas
Elske V. P. Smith

Robert H. Gowdy
Adam Niculescu
Bijan K. Rao

The Department of Physics offers the Bachelor of Science in physics and the accelerated B.S./M.S. physics program.

The curriculum in physics prepares students for technical careers in physics or an allied area; for careers in engineering, through either the dual degree or the pre-engineering program; and for the teaching of physics in secondary schools. The curriculum also prepares students for graduate studies in physics or a related area, and for graduate studies of a profession in fields such as business, medical science, environmental science, law, or science writing.

Physics majors interested in teaching careers in elementary, middle, secondary, or special education can enter the Extended Teacher Preparation Program that results in the simultaneous awarding of a bachelor's degree in physics and a master's degree in teaching. For more information about this program jointly administered by the School of Education and the College of Humanities and Sciences, contact the School of Education's Office of Academic Services.

Students interested in preparing for studies in engineering should refer to the pre-engineering program.

The department also offers required and elective courses for students in other programs along with students majoring in physics.

Master of Science in Physics/Applied Physics. For information about this program see the *VCU Graduate Bulletin*.

Degree Requirements

Bachelor of Science in Physics. The Bachelor of Science curriculum in physics requires a minimum of 124 credits, including 42 credits in physics, with a minimum of 32 credits in upper level courses, at least 10 of which must be at the 400 or 500 level (not including PHY 492). In addition to the PHY courses required, 20 credits of mathematics (MAT) are required, with a minimum of 12 credits in upper level courses, at least 6 of which must be at the 400 or 500 level, chosen from the list specified below. Along with the general education

requirements of the college of Humanities and Sciences and the Academic Campus requirements, students must take required courses and fulfill specific requirements for the degree as follows:

Required Physics Courses

PHY	207	University Physics I
PHY	208	University Physics II
PHY	301	Classical Mechanics I
PHY	302	Classical Mechanics II
PHY	320	Modern Physics
PHYL	320	Modern Physics Laboratory
PHY	340	Statistical Mechanics & Thermodynamics
PHY	376	Electromagnetism
PHY	380	Quantum Mechanics I
PHY	420	Quantum Mechanics II
PHY	450	Senior Physics Laboratory
PHY	490	Seminar in Conceptual Physics

Three credits of PHY 300, 400 or 500 electives from the following list:

PHY	331	Electronics and Instrumentation for Scientists I
PHY	407	Mechanics of Solid Materials
PHY	422	Optics
PHY	432	Electronics and Instrumentation for Scientists II
PHY	440	Introduction to Condensed Matter Physics
PHY	491	Topics in Physics
PHY	492	Independent Study
PHY	571	Theoretical Mechanics
PHY	576	Electromagnetic Theory
PHY	580	Quantum Mechanics
PHY	591	Topics in Physics

Required Mathematics Courses

MAT	200	Calculus I
MAT	201	Calculus II
MAT	301	Differential Equations
MAT	307	Multivariate Calculus

Six credits of MAT 400 or 500 level electives from the following list:

MAT	437	Applied Differential Equations
MAT	511	Applied Linear Algebra
MAT	512	Complex Analysis for Applications
MAT	515-516	Numerical Analysis

*MAT 517-518 Methods of Applied Mathematics

*Suggested

Additional Science Requirements

Complete one of the following sequences:

- CHE 101-102, L101-L102 General Chemistry and Laboratory I, II.
- BIO 109-110, L109-L110 General Biology and Laboratory I, II.
- BIO 151-L152, L151-L152 Introduction to Biological Science and Laboratory I, II.

Suggested Course Sequence for Bachelor of Science in Physics

Freshman Year. MAT 200-201 Calculus with Analytic Geometry I, II; PHY 207 University Physics I, L207; CHE 101-102, L101-L102

General Chemistry and Laboratory I, II, or BIO 109-110, L109-L110 General Biology and Laboratory I, II, or BIO 151-152, L151-152 Introduction to Biological Science and Laboratory I, II. (MAT 101-102 College Algebra and Trigonometry may be required prior to MAT 200 depending upon the result of the Mathematics Placement Test. In this case, PHY 207 will be postponed for 1 or 2 semesters).

Sophomore Year. MAT 301 Differential Equations; MAT 307 Multivariate Calculus; PHY 208 University Physics II, L208; PHY 301 Classical Mechanics I; PHY 320 Modern Physics; PHYL 320 Modern Physics Laboratory
Junior Year. PHY 302 Classical Mechanics II; PHY 340 Statistical Mechanics & Thermodynamics; PHY 376 Electromagnetism; PHY 380 Quantum Mechanics I; Physics elective; Math electives.

Senior Year. PHY 420 Quantum Mechanics II; PHY 450 Senior Physics Laboratory; PHY 490 Seminar in Conceptual Physics; Physics electives.

Those students intending to pursue graduate studies in Physics would normally be expected to take PHY 422, 440, 571, 576 or PHY 580. Those interested in experimental physics would also normally take one or more credits in PHY 397 or PHY 492. Those students who plan to pursue technical careers in Applied or Engineering Physics would normally be expected to take PHY 331, 432 and one or more credits from PHY 397 or PHY 492 as electives.

Minor in Physics. A minor in Physics shall consist of 20 credits made up of PHY 207-208, PHY 320, PHYL 320 and 6 credits of Physics electives that are applicable to the Physics major.

Accelerated B.S./M.S. Physics Program. Students enrolled in the Physics B.S. program may elect to take graduate courses that may count toward the M.S. degree. Up to 6 hours of graduate credit may be earned without any special provisions: however, to offer more than 6 credits of pre-admission graduate credits toward the M.S. degree, the student must apply for admission to the accelerated B.S./M.S. program through the Physics Department Graduate Admissions Committee in the junior year, indicating (1) a curriculum plan for completing the Physics B.S. degree within two years or its part-time equivalency and (2) which graduate courses the student intends to

offer toward the Physics M.S. degree. Those applying for this accelerated program should have a "B" average or better. Admission to the accelerated program does not imply admission to the graduate program. Application for graduate admission must be made when the B.S. degree is applied for.

POLITICAL SCIENCE AND PUBLIC ADMINISTRATION

Scott Keeter

Chair of the Department

Amin Alimard
Deirdre Condit
David Farmer
Leigh Grosenick
Herbert Hirsch
Janet Hutchinson
Husain Mustafa
Judyth Twigg
Blue Wooldridge

Elliott Banks
W. Avon Drake
Suzanne Fiederlein
Ralph Hambrick
Robert Holsworth
M. Njeri Jackson
William Newmann
Nelson Wikstrom

The political science and public administration curriculum has two central objectives.

It offers the student a broad liberal arts education along with a comprehensive understanding of the nature and the functioning of the political process.

It also provides a sound foundation for graduate study in political science or for careers which require a knowledge of governance and the political process.

The Department of Political Science and Public Administration offers a Bachelor of Arts degree in political science.

Additionally, the department offers elective courses in political science for program majors and non-majors, alike.

Degree Requirements

Bachelor of Arts in Political Science. The Bachelor of Arts curriculum in political science requires a minimum of 124 credits, with at least 33 of those credits in political science.

Along with the general education requirements of the College of Humanities and Sciences and Academic Campus requirements, the student majoring in political science must take POS 103 American Government, and POS 201 Introduction to Politics.

Political science majors are also required to take one course in three of the following areas: Comparative Politics (POS 351, 352, 353, 354, 355, 356, 357, 358, and 468); International Rela-

tions (POS 361, 362, 363, 364, and 452); Political Theory and Methodology (POS 320, 341, 342, 343, 344, and 448) and U.S. Politics (POS 301, 303, 306, 308, 310, 311, 314, 315, 316, 318, 321, 322, 323, 329, 331, 409, 420, and 432). Topics courses cannot be used to satisfy these distribution requirements.

In addition, political science majors are **strongly encouraged** to take POS 320 Research Methods in the Social Sciences. With prior approval of the departmental curriculum committee, students can take three credits toward the political science major from courses offered by other departments. Students may count a maximum of 6 credits of internship and 3 credits of independent study toward the major.

Honors in Political Science

Political science majors can earn honors in political science.

To enter this program, students must have an overall 3.0 GPA and at least a 3.3. GPA in political science.

Students must also have completed at least 18 credits in political science before their senior year, with at least 12 of these credits taken at VCU.

Application to this program must be made in the second semester of the junior year.

Students earn the honors status when they complete both POS 498 Political Science Honors, and POS 499 Political Science Honors Project, with at least a "B" grade; and graduate with an overall 3.0 GPA and a 3.3 GPA in political science.

Minor in Political Science

The minor in political science consists of 18 credits, including POS 103 U.S. Government, POS 105 International Relations, POS 201 Introduction to Politics, and at least nine credits in upper-level (300-400) political science courses. These upper-level courses must be selected in consultation with a political science advisor. POS 492 Independent Study and POS 493-494 Internships cannot be used to fulfill these nine upper-level credits.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in political science. A full description of the program appears in Part XVIII of this bulletin.

Concentration in Public Management

Majors in this concentration should take POS 331 Public Administration, and POS 432 Public

Bureaucracy, as part of the 33 credits required for the political science major.

To complete the concentration, students should take USP 413 Policy Implementation, and USP 322 Urban Finance, beyond the required credits for the major.

Minor in Public Management

The public management minor consists of 18 upper-level credits. All students must take POS 331 Public Administration; POS 432 Public Bureaucracy; USP 413 Policy Implementation; and USP 322 Urban Finance.

The minor also requires taking any two of the following electives: POS 329 Intergovernmental Relations; POS 334 Public Personnel Administration; USP 541 Urban Public Policy (taken by POS majors), or POS 321 Urban Government and Politics (taken by USP majors).

PSYCHOLOGY

Steven B. Robbins

Chairman

Mark F. Stasson

Director of Undergraduate Studies

Stephen M. Auerbach
Judy M. Chartrand
Steven J. Danish
Albert D. Farrell
Elizabeth A. Fries
Robert J. Hamm
John J. Hartnett
Kathleen M. Ingram
Donald J. Kiesler
Thomas H. Leahey
Micah McCreary
Melanie McGrath
Barbara J. Myers
Joseph H. Porter
Arnold L. Stolberg
Julie Williams

Kent G. Bailey
John G. Corazzini
Marilyn T. Erickson
Donelson R. Forsyth
Sandra E. Gramling
Aura Hanna
Catherine Howard
Steven J. Karau
Wendy Klierer
John M. Mahoney
James P. McCullough, Jr.
Aleta L. Myer
Iris A. Parham
Finetta L. Reese
Stanley R. Strong
Everett L. Worthington

The curriculum in psychology reflects the discipline's three major orientations—a science, teaching and incorporating empirical methods; a healing profession; and a philosophy, raising basic questions about the assumptions, values, and ideals of human beings and their societies.

The **Bachelor of Science** curriculum gives students a comprehensive appreciation of psychology as a science. Through a core set of requirements the student systematically develops understanding and skill in scientific methods of inquiry—particularly about human behavior. Courses selected from the curriculum's four content areas, as well as some of the core require-

ments, expose students to the healing and philosophical sides of psychology and provide a broad understanding of the field of psychology. Students who graduate from this program achieve the necessary preparation for graduate study, and possess the professional skills and knowledge for employment within the field.

Psychology majors interested in teaching careers in early, middle, secondary, or special education can enroll in the Extended Teacher Preparation Program that results in the simultaneous awarding of a bachelor's degree in psychology and a master's degree in teaching. For more information about this program administered jointly by the School of Education and the College of Humanities and Sciences, contact the School of Education's Office of Academic Services.

Master of Science and Doctor of Philosophy Programs in Psychology. For information about graduate work in psychology, see the *VCU Graduate Bulletin*.

Degree Requirements

Students should carefully review the humanities and sciences general requirements. The B.S. curriculum in psychology was developed in context of these general requirements. It is the student's responsibility to know the specific requirements of both the College of Humanities and Sciences and the Department of Psychology. It is also the student's obligation to plan a meaningful program of study, and to consult regularly with advisors in the Psychology Career Information and Advising Center.

Bachelor of Science in Psychology. The Bachelor of Science curriculum in psychology requires a minimum of 124 credits, with at least 30 of those credits in psychology. However, no more than 36 credits in psychology can be presented for graduation for the Bachelor of Science degree. This limit does not apply to courses numbered 490 and above.

At least 15 of the 30 required credits must be taken at VCU, and the student must earn a "C" or better in PSY 101, STA 215, PSY 214, and PSY 317.

The B.S. psychology major must take five core courses in the discipline and four additional courses chosen from a selection of offerings in four content areas.

To complete the minimum requirement of 30 credits for the program, students must complete one free elective selected from any of the department's courses, excluding PSY 201, which

may, however, be counted beyond the required 30 credits.

The following five courses constitute the required core in the B.S. curriculum:

PSY 101 Introduction to Psychology
PSY 214 Applications of Statistics
PSY 317 Experimental Methods
PSY 318 Principles of Psychological Tests and Measurement
PSY 451 History & Systems of Psychology

The student must choose ONE course from each of the following FOUR content areas:

Developmental

PSY 301 Child Psychology OR 304 Life Span Development Psychology (both cannot be taken for credit toward a degree), 302 Psychology of Adolescence, 306 Psychology of Adult Development.

Social/Personality

PSY 309 Personality, 321 Social Psychology, 323 Interpersonal Relations, 335/WST 335 Psychology of Women, 341/SOC 341 Group Dynamics, 405 Humanistic Psychology.

Physiological/Learning

PSY 401 Physiological Psychology, 406 Perception, 410 Principles of Learning and Cognition.

Self-Development/Applied Psychology

PSY 303 Personal Adjustment, 308 Stress and its Management, 310 Industrial Psychology, 340 Introduction to the Helping Relationship, 407 Psychology of the Abnormal, 426 Child Psychopathology.

In addition to the PSY courses required for the Bachelor of Science in psychology, the student must take the following courses:

STA 213 Introduction to Statistics (Required prior to PSY 214 Applications of Statistics)

If the student places high enough on the Mathematics Placement Test, MAT 101 or MAT 131 is not required.

BIO 109, L109 General Biology and Laboratory, and BIO 110, L110 General Biology and Laboratory or BIO 114, L114 Environmental Science

Careers in Psychology

Students choose to major in psychology for many reasons. Most often they select the major for a combination of wanting to help other people and of desiring to learn the scientific principles of behavior. Students in the program expect to receive career counseling and information on graduate and/or professional school training. The department has developed methods to meet these expectations.

PSY 201 Career Development in Psychology, covers specialty fields within the discipline and the career opportunities available to degree holders. This course also discusses graduate and professional school options open to the graduate of the program.

The Career Information and Advising Center has been established by the department to provide individual and group counseling services for undergraduate majors with career concerns. Specific career and academic information is also available at this center. Students are shown how to choose appropriate electives for bachelor's-level careers in mental health services, personnel, management, corrections, rehabilitation, health services, education, and laboratory research.

Faculty advisors specialize in career advising and professional development. The faculty advisor's role is to consult with students about various areas of professional opportunity, explain the role of graduate education, and suggest general areas of study outside of the psychology department that might fit the student's interests and goals. Faculty advisor assignments are made through the Career Information and Advising Center.

PSY 493 Field Work: Human Services, and PSY 494 Research Internship in Psychology, are two of the upper-level electives specially designed to enhance the psychology major's career pursuits for either employment or graduate-level training. Both of these courses provide opportunities for direct, practical experience with close supervision.

Graduate School in Psychology

The Career Information and Advising Center maintains up-to-date information from the American Psychological Association and other resources on admission requirements and programs at a variety of graduate schools.

Students considering graduate school should consult their faculty advisors and the Career Information and Advising Center early in their studies at VCU. Specific courses in psychology are strongly recommended for many graduate programs, so careful and early planning is important.

Referrals to other campus services are made through the center to help the student with other professional school options and their respective entrance requirements. Those options are prelaw, premed, Master of Social Work, Master of Business Administration, and others.

Honors in Psychology

Psychology majors in the B.S. program can earn honors in psychology. Any student is eligible to join the program if he or she declares a major in psychology and meets one of the three following entrance requirements.

Entering freshmen must have combined SAT scores of at least 1250 and rank in top 15% of their graduating high school class. Students transfer-

ring to VCU must have a 3.5 Cumulative GPA in at least 30 college semester hours of credit and have no more than 60 college semester hours of credit. Continuing VCU students must have a 3.5 Cumulative GPA and have taken a minimum of 20, but no more than 60 credits at VCU. Promising students who do not quite meet these requirements can be considered for program membership by writing to the director of the psychology honors program.

Once admitted to the program, the honors student must fulfill three basic program requirements.

First, students must take a minimum of 9 credits in psychology courses that are designated as honors sections. PSY 497, 498, and 499 may NOT be used to fulfill this requirement.

Next, honors students must enroll for a minimum of three credits in PSY 494 Research Internship in Psychology, no later than the fall semester of their junior year.

Finally, all students must complete PSY 497 Honors Seminar, in their junior year, and complete PSY 498-499 Honors in Psychology, in their senior year.

A student in the program will graduate with honors in psychology if he or she has completed all course requirements with a "B" or better; has maintained a GPA of 3.5, overall and in psychology; and has completed all other requirements for the B.S. degree.

Minor in Psychology

The minor in psychology consists of 18 credits in psychology, including PSY 101 Introduction to Psychology; one course from each of the four basic areas—Developmental, Social/Personality, Physiological/Learning, and Self-Development/Applied Psychology; and one additional course. PSY 201 Career Development in Psychology cannot be used to meet this requirement.

At least nine of the 18 credits must be taken at VCU.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in psychology. A full description of the program appears in Part XVIII of this bulletin.

RELIGIOUS STUDIES

See Philosophy and Religious Studies.

INTERDISCIPLINARY DEGREE PROGRAM IN SCIENCE

Marilyn Bishop

(Physics Department)

The purpose of the interdisciplinary program in science is to provide students with a broad and interdisciplinary, yet fundamental, grounding in the sciences. In addition to the broad spectrum of required science courses, students select a concentration from biology, chemistry, mathematical sciences, physics, or environmental studies. This program is particularly suited for students interested in careers in early or middle school science education.

Students completing this curriculum earn a Bachelor of Science degree in science.

Selected faculty in biology, chemistry, mathematical sciences, and physics are the academic advisors for this program.

B.S. in science majors interested in teaching careers in early, middle, secondary, or special education can enroll in the Extended Teacher Preparation Program that results in the simultaneous awarding of a bachelor's degree in science and a master's degree in teaching.

For more information about this program jointly administered by the School of Education and the College of Humanities and Sciences, contact the School of Education's Office of Academic Affairs.

Degree Requirements

Bachelor of Science in Science

The Bachelor of Science curriculum in science requires a minimum of 124 credits.

Along with the B.S. degree general requirements of the Academic Campus and the College of Humanities and Sciences, this curriculum requires 51-56 credits in core science and mathematics courses and 14-15 credits in one of the following tracks: biology, chemistry, mathematical sciences, physics, or environmental studies.

In preparation for the required mathematical sciences courses, all students must take the Mathematical Placement Test. Depending on the results, students may be placed in MAT 101, College Algebra, before enrolling in the required mathematical sciences courses.

Freshman Year. BIO 151-152 and L151-L152 Introduction to Biological Science and Laboratory I and II; CHE 101-102 and L101-L102 General Chemistry and Laboratory; and mathematical sciences courses selected from the options listed below.

Sophomore Year. PHY 201-202 General Physics OR PHY 207-208 University Physics; additional mathematical sciences courses; other lower level CORE courses.

Junior and Senior Years. Other CORE courses and courses from the concentration.

Core Course Requirements:

		<i>Credits</i>
BIO 151-152****	Introduction to Biological Science	6
L151-L152	Laboratory	2
BIO 317	Ecology	3
CHE 101-102	General Chemistry	8
L101-L102	Laboratory	2
PHY 201-202	General Physics	8-10
OR		
PHY 207-208	University Physics	4
PHY 105, L105	Physical Geology & Laboratory	1
PHY 391	Geologic Fieldwork	4
PHY 103, L103	Elementary Astronomy	3
EAS 401	Meteorology and Climatology	4
OR		
EAS 411	Oceanography	4
GEO 203 and L203	Physical Geography & Laboratory	1
OR		
GEO 204 and L204	Physical Geography	1
BIO 392*	Introduction to Research	6-8
Two of the following:		4-6
1. MAT 200**	Calculus with Analytic Geometry	3
2. MAT 201**	Calculus with Analytic Geometry	3
3. STA 212	Concepts of Statistics	3
OR 213***	Introduction to Statistics	3
4. CSC 201	Introduction to Computing	3
OR 255	Structured Programming	3
Sub-total		51-56

* Student may substitute Independent Study 492 for two credits from CHE, MAT or PHY for this course.

** Required in mathematics, physics and chemistry tracks.

*** STA 213 is a prerequisite for STA 543 required in the Environmental Studies track.

**** BIO 109-110, L109-L110 or BIO 101, L101 and BIO 103, L103 (114, L114) recommended for students choosing the Environmental Studies track

AND

One Of The Following Six Tracks:

		<i>Credits</i>
<i>Biology</i>		
BIO 218	Cell Biology	3
BIO 310	Genetics	3
BIO L310	Laboratory in Genetics	1

and two of the following:

	one upper level animal and one upper level plant course	8
Sub-total		15

Chemistry

CHE 301-302	Organic Chemistry	6
CHE L301-L302	Organic Chemistry Laboratory I & II	4
CHE 309	Quantitative Analysis	4
Sub-total		14

*Environmental Studies**

ENS 490	Seminar in Environmental Studies	3
543/BIS 543	Statistical Methods I	3
One of the following:		
ECO 325	Environmental Economics	3
USP/ENS 331	Environmental Systems	3
One of the following:		
BIO 332/ENS 330	Environmental Pollution	3
BIO 432	Biology of Polluted Waters	3
One additional ENS course chosen with advisor approval.		3
Sub-total		15

*With additional credits, students may earn a certificate in Environmental Studies.

Mathematical Sciences

CSC 255	Structured Programming	3
MAT 211	Mathematical Structures	3
Two of the following three:		6
STA 321	Introduction to Statistical Computing	3
MAT 310	Linear Algebra	3
CSC 554	Applications of Computers in Teaching Mathematics	3
Sub-total		15

*Physics***

PHY 320	Modern Physics	3
PHY L320	Modern Physics Laboratory	1
PHY 331	Electronics and Instrumentation for Scientists I	3
MAT 301	Differential Equations	3
PHY 301	Classical Mechanics I	3
PHY 302	Classical Mechanics I I	3
Sub-total		16

**PHY 207-208 sequence required as prerequisite
MAT 307 Multivariate Calculus highly recommended.

SOCIAL SCIENCES

Joseph Marolla,

Coordinator

Courses in social sciences are offered by a number of academic departments. However, these courses have been grouped together under the heading "Courses in Social Sciences" under Course Descriptions.

SOCIOLOGY AND ANTHROPOLOGY

Joseph Marolla

Chairman of the Department

J. Sherwood Williams

Associate Chairman

David G. Bromley

David Croteau

Neil Henry⁶

Ann Creighton-Zollar⁶

David D. Franks

Julie Honnold

Amy Hubbard
 Stephen Lyng
 John H. McGrath
 J. John Palen
 Diana Scully
 Christina Turner

Edward E. Knipe
 John Mahoney
 Lynn D. Nelson
 Daphne Rankin
 Audrey Smedley

Joint Appointment

The curriculum in sociology and anthropology seeks to ensure that each student develops a solid foundation in the basic principles, theories, and techniques of analysis in sociology and/or anthropology.

Since students vary in their interests and professional aspirations, the curriculum provides them with opportunities for intellectual growth and career development. The curriculum also allows students maximum preparation in developing their individual courses of study.

To achieve these goals, the department provides diverse course offerings, including independent study and research for advanced involvement in faculty research.

The department of Sociology and Anthropology offers both the Bachelor of Science and the Bachelor of Arts degrees.

The Bachelor of Science curriculum focuses on the scientific methods and the development of skills important in research-oriented careers.

The Bachelor of Arts curriculum gives students the opportunity to pursue a liberal education consistent with their intellectual interests and career goals.

Both programs prepare students for graduate studies in sociology and anthropology.

Sociology and anthropology majors interested in teaching careers in early, middle, secondary, or special education can enroll in the Extended Teacher Preparation Program that results in the simultaneous awarding of a bachelor's degree in sociology and anthropology and a master's degree in teaching. For more information about this extended program administered jointly by the School of Education and the College of Humanities and Sciences, contact the School of Education's Office of Academic Services

Master of Science Program in Sociology and Doctor of Philosophy Program in Social Policy and Social Work For information about graduate work in sociology, see the *VCU Graduate Bulletin*.

Degree Requirements

Students majoring in sociology and anthropology must meet the B.A. or B.S. general education

requirements of the College of Humanities and Sciences.

Bachelor of Science in Sociology and Anthropology. The B.S. curriculum in sociology and anthropology requires a minimum of 124 credits, with at least 34 of those credits in sociology and anthropology, 21 of which must be in upper-level (300-400) courses.

In fulfilling the mathematical sciences general education requirements of the College of Humanities and Sciences, students seeking a B.S. in sociology or anthropology must choose one of three options:

1. MAT 101 College Algebra or MAT 131 Introduction to Contemporary Mathematics, STA 213 Introduction to Statistics, and any one of the following three courses—MAT 112 Elements of Calculus, CSC 150 Basic Computer Concepts, or CSC 201 Introduction to Computing.
2. MAT 111 Basic Mathematics for Behavioral, Social, and Management Sciences; STA 213 Introduction to Statistics; and any one of the following courses—CSC 150 Basic Computer Concepts, or CSC 201 Introduction to Computing.
3. If the student scores high enough on the Mathematical Placement Test, the requirements may be satisfied with STA 213 Introduction to Statistics and any one of the following courses—MAT 112 Elements of Calculus, CSC 150 Basic Computer Concepts, or CSC 201 Introduction to Computing.

Each of these options fulfills both the general education and the departmental requirements. Sociology and anthropology majors must also take PSY 101 General Psychology, and are strongly urged, though not required, to take at least 15 credits as approved electives in related fields such as mathematics, philosophy, political science, or economics.

Concentrations

The student majoring in sociology and anthropology can fulfill either a sociology or an anthropology concentration to complete the department's requirements for a major.

Sociology Concentration. A minimum of 34 credits in sociology or anthropology including ANT 103 Cultural Anthropology, SOC 101 General Sociology, SOC 214 Applications of Statistics, SOC 320 Research Methods in the Social Sciences, SOC 402 Sociology Theory, and SOC 490 Senior Project. In addition, students must take ONE course from THREE of the following FOUR content areas:

Social Organizations and Institutions

SOC 315 Education and Society, SOC 360 Sociology of Religion, SOC 405 Family Research, SOC 430 Politics,

Power and Ideology, SOC 445 Medical Sociology, SOC 475 Organizations and Human Behavior

Control, Conflict and Social Change

SOC 310 Social Movements and Social Conflict, SOC 321 Class, Status and Power, SOC 322 Minority Groups in the U.S., SOC 334 Sociology of Women

The Relationship of Individual and Society

SOC 341 Group Dynamics, SOC 404 Social Psychology of Emotions, ANT 413 Psychological Anthropology, SOC 446 Sociology of Mental Illness, SOC 440 Advanced Social Psychology

Historical and Cross-Cultural Patterns

ANT 305 Comparative Society, SOC 327 Urban Sociology, SOC 328 Russian Society in Transition, SOC 333 Sociology of Sex and Gender, SOC 380 Drugs, Society, and Culture

The remaining 9 credits may include any upper-level (300-400) credits in sociology or anthropology.

Anthropology Concentration. A minimum of 34 credits in sociology or anthropology courses including SOC 101 Introduction to Sociology, ANT 103 Cultural Anthropology, ANT 490 Senior Thesis. In addition, students must take ONE course from THREE of the following FOUR content areas:

Physical/Biological Anthropology

ANT 301 Evolution of Man and Culture

Linguistics

ANT/ENG 449 Introduction to Linguistics

Archeology

ANT 252 The Archaeology of Richmond, ANT 375 Field Archaeology, ANT 341 Historical Archaeology

Social and Cultural Anthropology

ANT 305 Comparative Society, ANT 350 Peoples and Cultures of the World, ANT 413 Psychological Anthropology, ANT 425 Religion, Magic, and Witchcraft

Of the remaining 18 hours, at least 12 must be upper-level (300-400) credits in anthropology. The remaining courses may come from either anthropology or sociology.

Bachelor of Arts in Sociology and Anthropology. The B.A. curriculum in sociology and anthropology requires a minimum of 124 credits, including 34 credits in sociology and anthropology, 21 of which must be in upper-level (300-400) courses. Students seeking the B.A. degree in this department may also choose a concentration in either sociology or anthropology as described above.. Students who concentrate in sociology are not required to take SOC 214 as part of the Bachelor of Arts curriculum.

Minor Requirements-General

Students majoring in sociology and anthropology cannot minor in sociology or anthropology.

Minor in Anthropology. The anthropology minor shall consist of 18 credits, including ANT

103 Cultural Anthropology. 12 of the 15 remaining credits must be taken from upper-level (300-400) anthropology courses. The remaining three credits may be any Sociology or Anthropology course.

Minor in Sociology. The sociology minor shall consist of 18 credits including SOC 101 General Sociology and at least one of the following: SOC 340 Social Psychology or SOC 402 Sociology Theory. A minimum of 12 credits must be upper-level (300-400) sociology courses. One upper-level course in anthropology may be used to fulfill the 18 credit requirement.

Honors in Sociology and Anthropology

Majors in the Department of Sociology and Anthropology may earn a B.A. or B.S. degree with *Honors in Sociology* or *Honors in Anthropology*. The Sociology/Anthropology Honors Program is available to outstanding senior majors and involves the preparation of a senior thesis during one of the last two semesters of the baccalaureate degree program. In order to participate in the program, students must meet program entrance requirements, identify a project mentor, and receive approval for a project proposal. Honors will be awarded following acceptance of the thesis by the Honors Program Committee.

Honors Program Description

The Sociology/Anthropology Honors Program is designed to provide outstanding majors with the opportunity to pursue an independent research project under the direction of a faculty mentor. The research is conducted during one of the final two semesters of the undergraduate degree program. The project may involve any recognized sociological/anthropological topic, theory, and method that promises to enhance the honor student's disciplinary perspective, skills, and creativity. The project may involve an extension of work initiated in a course, an entirely new project or a collaborative project with the faculty mentor. If the project is an extension of work initiated in a course or developed collaboratively with the mentor, the independent, separate, substantial development of the topic in the thesis should be evident. The thesis should reflect work of high quality for a senior level course.

Honors Eligibility Criteria and Application Procedure

Students majoring in the Department of Sociology and Anthropology, with a concentration in either sociology or anthropology, are eligible to

participate in the departmental honors program if they have maintained a 3.0 overall grade point average and a 3.3 grade point average in the major. Candidates should apply to the Sociology/Anthropology Honors Program Committee. Application materials consist of transcripts documenting the required grade point averages, a description of the proposed project, which should not exceed three typed pages, and the name of the faculty member who has agreed to act as project mentor. Application must be made and project approval received in the semester preceding the one in which the research project will be conducted. The Committee will review the application materials, meet with the candidate to discuss the project proposal, and render an admission decision. Once admitted, program participants will enroll in an Honors Research course. The course may be included in the required hours for the major.

Submit applications to: Sociology/Anthropology Honors Program Committee, Department of Sociology and Anthropology, Virginia Commonwealth University, Richmond, VA 23284-2040. For further information, contact Dr. John McGrath, Director of Undergraduate Studies.

Award of Honors

The completed senior thesis will be submitted to the Honors Program Committee following its acceptance by the faculty mentor and confirmation that the candidate has maintained the requisite grade point averages. Upon submission of the thesis, the student will make an oral presentation to the Committee summarizing the research procedures and findings. The Committee will then evaluate the thesis for the award of honors. For acceptance, the thesis must be evaluated as deserving of a grade of "A" in the Honors Research Course. Acceptance of the thesis will earn an Honors Program Certificate from the department and notation of the student's standing as an honors graduate on the final grad transcript. Honors students will also receive preferential consideration as applicants to the Sociology Master Degree Program.

Undergraduate Topics Courses. Topics Courses in both sociology and anthropology (SOC 391 and ANT 391) are an integral part of the program and provide a rare opportunity for the advanced student. Generally these courses are restricted to a small number of students who share specialized interests in a topic which is either too advanced or too limited in its general

appeal to justify its inclusion as a standard offering. At least one such seminar is offered each semester and the topics course can be repeated up to a maximum of 18 credits as long as there is no duplication of the topics.

Independent Study. These courses (SOC 492 and ANT 492) are designed for juniors and seniors capable of doing independent work on selected topics under the directions of specific faculty. For example, if a course is not regularly offered in a specific area of interest to a particular student, and if there are not enough students topics course, the student may, with the permission of the instructor, enroll in independent study.

Students may earn a maximum of 12 credits in departmental independent study courses, but may not enroll for more than six credits per semester. Only majors in sociology and anthropology or related fields can enroll in these courses. All students entering these courses must have completed a minimum of 12 credits in sociology or anthropology and achieved an overall sociology or anthropology and achieved an overall sociology/anthropology GPA of 2.7 or more.

Cooperative Education Program

The Cooperative Education Program is available to qualifying students pursuing undergraduate degrees in sociology and anthropology. A full description of this program appears in Part XVIII of this bulletin.

Master of Science in Sociology. For information about graduate work in sociology, see the *VCU Graduate Bulletin*.

OTHER GRADUATE WORK

For information about graduate work and doctoral work in social policy, social work, and urban services, see the *VCU Graduate Bulletin*. These advanced degree programs are of particular interest to sociology and anthropology students.

STATISTICS

The B.S. in statistics/mathematical sciences is offered by the Department of Mathematical Sciences. Both a minor and a certificate in statistics are also offered. See Mathematical Sciences.

URBAN STUDIES AND PLANNING

Morton B. Gulak

Chair of the Department

John Accordino	Michael Brooks
Margot Garcia	Marijean Hawthorne
Robert Hodder	Gary Johnson
Robert Rugg	Peter Schulz
Christopher Silver	Weiping Wu

Adjunct Faculty— Daniel Arkin	Ralph Higgins
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Professor Emeritus— Allen Fonoroff	Carroll Hormacchea
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Journal of the American Planning Association—
Gary Johnson and Christopher Silver, Co-Editors
Robert Hodder, Managing Editor
Virginia Brandt, Editorial Assistant
Dorothy Silvers, Copy Editor

The City

Today, nearly 80 percent of the American people live and work in metropolitan areas. The city has become a center for commerce, industry, the arts, and social interaction. It is a place where many people are involved in a great variety of activities. The city is a crowning achievement of civilization and urbanization and has been the means for the development and maintenance of our present society.

Such an intense concentration of human activity is not without its problems: racial discrimination, poverty, substandard housing, traffic congestion, crime, and pollution. Urban governments are ill-equipped to handle these problems because, among other reasons, the available financial resources are decreasing at a time when the needs for municipal services are increasing.

In response to these unpleasant aspects of modern city life, too many city dwellers are moving to the suburban periphery where they have access to the city's resources and shelter from its problems. More than half of the urban population now resides outside the central city. Much commercial, industrial, and recreational activity has also decentralized. The urbanizing suburbs are now beginning to experience the problems of the central city. There is a growing realization that urban problems do not respect boundary lines. The issues are metropolitan in scope and cannot be avoided.

Career Opportunities

Opportunities exist in a wide variety of fields for urban studies graduates. Our recent graduates, those who chose work over graduate or profes-

sional school, have found useful and meaningful employment in a number of public agencies and organizations, including planning commissions, housing authorities, community development departments, transportation firms, social welfare agencies, and a variety of private organizations. Most students who chose graduate school have been accepted to leading institutions, enrolling in programs in architecture, planning, law, public administration, business administration, and other majors in the social and behavioral sciences.

The student with a Bachelor of Science degree in urban studies has acquired those skills needed for graduate school or for satisfying employment.

The Urban Studies Program

The program in urban studies is designed to familiarize the undergraduate with the metropolis (and the benefits achieved through its growth and development); the social science perspective applied to urban problems; and the development of plans and administration to produce a more livable environment.

The major is designed to provide students with an intellectual understanding of urban phenomenon and with sufficient methodological skills to undertake entry-level responsibilities in public and private organizations dealing with the issues of urbanization. The program is not pre-professional in nature, but is broad in scope and draws heavily from the liberal arts.

To accomplish these objectives, twelve courses are required of all majors. These courses address basic knowledge across the field of urban studies, including political, economic, and social functions and interactions, the process of planning, research, urbanization, and policymaking.

The student is able to choose a concentration in planning, public policy and social change, environment, information systems, or public management. The Richmond metropolitan area is the primary laboratory for the program, and students are constantly challenged by the opportunities for research and community involvement. These concentrations provide students with greater choices for more detailed study. The student may also decide upon a generalized course of study.

The urban studies program is distinctly interdisciplinary in nature. Faculty members represent the following disciplines and professions: planning, geography, political science, law, urban studies, history, economics, architecture, and environmental studies. In addition, supporting urban studies courses are taught by faculty members from other departments within the College

of Humanities and Sciences and the university. Students can structure their program of studies to fit individual goals. Intensive participation in curriculum and program planning by urban studies majors is not only encouraged but solicited.

The most significant distinctions of the urban program are

1. A subject that deals with the contemporary world and
2. An opportunity to become directly involved in the community through field work. The fieldwork provides further opportunity to develop skills as well as a transition between academic life and post-baccalaureate work life.

The curriculum is divided into various concentrations of study and a general area of urban studies.

Environmental Concentration

The concentration in environmental studies will expose students to natural science fields that are significant for understanding the physical environment of cities, presenting the effects of urban population and land uses on the physical environment, introducing human response to environmental hazards and conditions in a behavioral context, and identifying alternatives for public management of interactions between human beings and environment. The overall objective of the concentration is to introduce the field of environmental management to those urban studies majors who may wish to orient their future experience in this direction.

Information Systems Concentration

A concentration in information systems within the urban studies major is designed for students interested in urban services and planning careers. This curriculum will provide additional training in computerized information systems.

Courses in this concentration can also be counted toward a Certificate in Planning Information. See *Graduate Bulletin* for additional details.

Planning Concentration

Planning can be defined as a rational approach to decision-making. Urban and regional planning is intended to make it possible to evaluate proposals for physical, social, and economic development against a backdrop of a comprehensive view of the future. To be useful, such a comprehensive view must be realistic politically, financially, and administratively.

Thus, the *planning* concentration is designed to provide general information about the profes-

sion, the subject matter of planning, the theory of planning, and its application to urban problems.

Public Policy and Social Change Concentration

The growth of American urban communities is to a large extent the result of public policy. Laws made at all three levels of government influence the physical, social, and economic character of the metropolis. For this reason, a concentration devoted to the study of public policy (how it is made, its implementation, its impact) is central to an undergraduate urban studies curriculum. Moreover, since the study of urban areas includes a focus on social inequality, a knowledge of public intervention aimed at improving social conditions is essential.

Most students, upon graduation, will either work in government or for a private agency whose budget and programming are largely shaped by government. Consequently, packaging courses in a fashion that provides students with an understanding of the political environment and community ethos in which they will work, the administrative machinery (including government budgeting procedures), and government policy as it affects such matters as social interaction, housing, and transportation, provides an integrated education that is both broad and focused.

Public Management Concentration

The activities carried out by a public manager are pivotal to a city's administration. Unless they are performed effectively, other activities are jeopardized. In crises, people look to urban managers and expect a quick and sure response.

In preparation for this career, the public management concentration achieves an understanding of management tools and relates these tools to fiscal areas and political boundaries of government. Emphasis is placed upon the manager as a public decision maker. Special attention is placed upon the concepts and practices of management, evaluation, policy analysis, governmental fragmentation, and budgeting. The concentration will prepare the student for entry-level positions in government or graduate study in the public management area.

Degree Requirements

Bachelor of Science in Urban Studies and Planning. The Bachelor of Science curriculum in Urban Studies and Planning requires 123 credits, including 36 credits in urban studies and planning courses. The program is designed so that students

may enter as late as their junior year. Students majoring in urban studies may not use USP 316 Urban Life in Modern America to satisfy the cultural diversity requirements of the College.

NOTE: For students entering in Fall 1996 and Spring 1997, they may use the Urban Studies and Planning General Education requirements in place during 1994-96.

Qualified seniors are allowed to enroll in most 500-level courses but should consult their advisor before registering to secure permission of the instructor.

Students with a minimum 2.5 GPA may apply for participation in the Urban Government Internship Program which provides an opportunity to work within the Richmond area on urban and regional problems. In general, students may not exceed 48 credit hours of urban studies courses. However, those students who choose a specific concentration and wish to participate in the internship may exceed this maximum by six credit hours.

All students must successfully complete the following courses:

USP 245 Housing and Community Revitalization
USP/GEO 302 Land Use Capability
USP 304 Urban Social Systems
USP/GEO 306 Urban Economic Base
USP 310 Introduction to Public Planning
USP/GEO 313 Urban Research
USP 322 Urban Finance
USP 413 Policy Implementation
USP 440 Senior Seminar: The Good City
USP 541 Urban Public Policy-Making Processes

All students must also successfully complete one course from the concentration in environment, and one course from the concentration in planning. These courses are

Environment (choose one)

USP/ENS 331 Environmental Systems
USP/ENS/GEO 332 Environmental Management

Planning (choose one)

USP 261 Design of the City
USP/GEO 340 Urban Habitat

To complete a concentration, students must complete successfully three additional courses within that concentration. The concentration in information systems requires four courses. All courses marked with an (*) are required for that concentration. For those students pursuing a generalized course of study, as well as those within specific concentrations, electives must be se-

lected with the assistance of a faculty advisor so that individual programs will form a coherent body of knowledge in urban studies.

Environment

USP 240 Introduction to Historic Preservation
USP 261 Design of the City
*USP/ENS 331 Environmental Systems
*USP/GEO/ENS 332 Environmental Management
USP 333 Energy and Conservation Planning
USP 493 Urban Government Internship
USP/GEO 521 Cartography and Air Photo Interpretation
USP 525 Site Planning

Information Systems

*BUS 358 Introduction to Structured Programming
*BUS 360 Business Information Systems
*BUS 362 Computer Hardware and Software
*USP/GEO 521 Cartography and Air Photo Interpretation

Planning

USP 240 Introduction to Historic Preservation
USP 245 Housing and Community Revitalization
*USP 261 Design of the City
USP/GEO 340 Urban Habitat
USP 493 Urban Government Internship
USP 525 Site Planning
USP 552 Urban Transportation Systems

Public Policy and Social Change

*USP 245 Housing and Community Revitalization
USP 261 Design of the City
*USP 413 Policy Implementation
USP 493 Urban Government Internship
USP 552 Urban Transportation Systems

Public Management

*POS 331 Public Administration
POS 421 Urban Government and Politics
*POS 432 Public Bureaucracy

Open Electives

USP/GEO 340 Urban Habitat
USP 350 Culture and Urbanism in Great European Cities
USP 391 Special Topics in Urban Studies
USP 392 Independent Study
USP 493 Urban Government Internship
USP/GEO 513 Planning Graphics
USP/GEO 521 Cartography and Air Photo Interpretation
USP 552 Urban Transportation Systems

*Required for option.

Minor in Public Management

The minor in Public Management has been created for students in political science and urban studies as well as for any other major. It is designed to develop up-to-date administrative skills and systematic analytical *capabilities* that will qualify graduates for professional staff positions with local, state or federal agencies and an ultimate career in management and personnel administration.

The minor provides an overview of the field of public management. It acquaints students with the political realities of public management, expands their appreciation of subjective factors in planning and decision-making and familiarizes them with psychological and sociological perspectives in management. As a result, the minor is a solid preparation for graduate study in law, public administration, urban planning, public policy, and political science.

The public management minor consists of 18 upper-level credits. All students must take the following courses:

POS 331 Public Administration
 POS 432 Public Bureaucracy
 USP 322 Urban Finance
 USP 413 Policy Implementation

In addition, two of the following electives are required:

POS 329 Intergovernmental Relations
 POS 334 Public Personnel Administration
 POS 421 Urban Government and Politics
 USP 541 Urban Public Policy Processes (for POS students)
 OR
 POS 321 Municipal Government and Administration (for USP students)

Substitutions may be arranged with the assistance of the student's advisor.

Minor in Urban Studies

For a minor in urban studies for a student outside the School of Community and Public Affairs, the following nine credit hours are required: USP 315, 316, and USP 310. An additional nine hours of USP electives are to be taken with the advice and consent of an advisor in this department.

Minor in Geography

The geography minor requires 18 credits. At least six credits must be chosen from upper-level courses. Specializations within the minor are available in physical geography, human geography, and geographic methodology including cartography, air photo interpretation, and geographic information systems.

All students must currently take the following courses:

GEO 203, 203L Physical Geography I, with Lab
 GEO 204, 204L Physical Geography II, with Lab
 GEO 207 or GEO 208 World Regions
 GEO/ANT 311 or GEO/ANT 312 History of Human Settlement

In addition, numerous upper division electives are available.

Master in Urban and Regional Planning

The Master in Urban and Regional Planning (M.U.R.P.) was established in 1973 to prepare professional planners for employment in state and local government and private firms. The M.U.R.P. is a 2-year program that requires 54 semester hours of coursework and internship. Accredited by the Planning Accreditation Board, the curriculum provides a grounding in the theory and methods of planning that is balanced between classroom and field experience. Students may choose a broad program in comprehensive planning or elect one of four concentrations:

Urban Revitalization
 Housing and Community Planning
 Economic Development
 Physical Land Use Planning
 Environmental Planning
 Planning Management

There is also the opportunity for a joint degree program within the T.C. Williams Law School at the University of Richmond.

See the *VCU Graduate Bulletin* for a more detailed description of this program.

MINOR IN WOMEN'S STUDIES

Diana Scully

Director

Women's studies is the Inter-disciplinary, cross-cultural examination of women's perspectives and experiences.

The minor in women's studies shall consist of 18 credits. Students are required to take the following: (1) WST 201, Introduction to Women's Studies; (2) a feminist theory course; and (3) a course addresses racial/cultural diversity. The remainder of courses are electives.

COURSES IN WOMEN'S STUDIES (WST)

201 Introduction to Women's Studies
 236/ENG 236 Women in Literature
 301 Feminist Theory
 304/SOC/ANT 304 The Family
 305/SOC/AAS 305 Sociology of the Black Family
 318/POS 318/AAS 318 Politics of Race, Class and Gender
 333/SOC 333 Sociology of Sex and Gender
 334/SOC 334 Sociology of Women
 335/PSY 335 Psychology of Women
 339/HIS 339 History of Women
 382/CRJ Women in the Justice System
 384/ENG 384 Women Writers
 391 Topics in Women's Studies
 457/ARH 457 Women, Art and Society
 492 Independent Study

PREPARATION FOR THE PROFESSIONAL STUDIES IN THE HEALTH SCIENCES

Arthur J. Seidenberg

Coordinator of Pre-Health Sciences Advising

The College of Humanities and Sciences provides preparatory programs for a number of health science programs offered by the Medical College of Virginia (MCV) Campus. The programs are medicine, dentistry, dental hygiene, medical technology, nuclear medicine technology, nursing, occupational therapy, pharmacy, and physical therapy. Pre-veterinary medicine advising is available through the biology department; pre-optometry through the dean's office of the College of Humanities and Sciences.

A Guaranteed Admission program exists between the College of Humanities and Sciences and the MCV Campus of VCU. This program entitles academically superior students guaranteed admission to the professional programs mentioned above.

The Guaranteed Admission program is only open to entering freshmen whose SAT scores are at least 1270. A detailed description of this program appears in Part II of this bulletin under the "Honors Program" heading.

Most students enrolled in a pre-health science program in the College of Humanities and Sciences will apply to one of the MCV Campus professional programs. Unless informed otherwise by the student, College of Humanities and Sciences' advisors will help the student prepare an academic program that will meet the requirements of the MCV Campus professional programs. However, since more qualified students apply to the MCV Campus professional programs than can be accommodated, students are encouraged to apply to other professional schools and to use their elective courses to meet requirements of those institutions.

Students are also advised to plan alternative career choices in the event they are not accepted into a professional program. This is especially true for students enrolled in a two-year, pre-health science program.

Early preparation in meeting the requirements of the alternate major through judicious selection of electives, enables the student to make a smooth transition from a pre-health science program to a baccalaureate program.

Virginia residency may be a factor in admission to the MCV Campus health science program. For more information about residency, contact the appropriate admissions officer on the MCV Campus.

Preparation for the Study of Medicine and Dentistry—Pre-Medicine (PMD) and Pre-Dentistry (PDT)

Pre-Medical Advisory Committee: Robert G. Bass, Charles R. Blem, Leann B. Blem, Carolyn M. Conway, John J. Hartnett, David N. Karowe, Wendy L. Kliewer, Suzanne M. Ruder, Arthur J. Seidenberg, Stuart Silvers, Judyth L. Twigg

Pre-Dental Advisors: faculty in the biology and chemistry departments

Leaders in medical and dental education encourage students planning to enter these professions to obtain a broad background in the liberal arts, with a study of not only sciences, but the humanities and social sciences, as well. **The prospective student should check with the intended school of medicine or dentistry for specific requirements.**

Like many schools of medicine, the School of Medicine on the MCV Campus requires a minimum of three years (90 semester hours or their equivalent) in an accredited college or university. But preference is given to candidates who earn a baccalaureate degree prior to the beginning of medical school.

Biological science, general chemistry, organic chemistry, English, mathematics, and physics are required for admission to the School of Medicine at VCU. General physiology, genetics, calculus, and behavioral sciences, though not required, are strongly recommended for the pre-medical student.

Like other schools of dentistry, the School of Dentistry on the MCV Campus requires a minimum of 90 credits (or equivalent) taken in an accredited college or university. Biology, general chemistry, organic chemistry, mathematics, physics, and English are generally required for admission to the School of Dentistry at VCU. Other courses, such as those in the behavioral sciences and courses involving psychomotor skills are strongly recommended.

Programs of Study. Admission to and completion of a premedical or pre-dental program offered by the College of Humanities and Sciences does not constitute admission to VCU's School of Medicine or School of Dentistry. The student must apply separately to the medical or dental school of his or her choice at the appropriate time.

A student entering the College of Humanities and Sciences with an interest in preparing for medical or dental school should declare an academic major while also indicating a pre-medical or pre-dental advising track. The classification

premedical or pre-dental exists to identify the student's career interests, but the student does not earn a premedical or pre-dental degree.

For students who are "undecided" about an academic major initially, the students will clarify their academic interests through regular conversations with their advisors. The students will declare a major in one of the regular four-year degree programs offered by the College of Humanities and Sciences. At the same time, the student will complete the necessary prerequisites for application for admission to the medical or dental school of his or her choice.

Premedical and pre-dental students are encouraged to major in fields of greatest interest to them. Students need not major in a science area. In fact, many nonscience majors achieve high-acceptance rates into medical and dental schools.

Certain curricula in the College of Humanities and Sciences allow a student to plan a program for entry into medical or dental schools which accept students after completion of three years successful undergraduate work.

The university will award a B.S. degree to a student who has successfully completed the first year of an accredited medical or dental school, provided he or she has completed all the general requirements for the College of Humanities and Sciences and the requirements in the major. Successful completion of the first year of medical or dental school is accepted as 30 elective credits toward the student's total hours.

Preparation for the Study of Veterinary Medicine (PVT)

Arthur J. Seidenberg
Coordinator

The Bachelor of Science in chemistry and the Bachelor of Science in biology degree programs offered in the College of Humanities and Sciences provide excellent opportunities to complete the necessary prerequisites for application to a veterinary school.

Preparation for the Study of Optometry (POP)

Arthur J. Seidenberg
Coordinator

The Bachelor of Science program offered on the Academic Campus provide excellent opportunities to complete the necessary prerequisites

for application to optometry school.

Prospective students are encouraged to pursue a broad background in liberal arts, including sciences, humanities, and social sciences. **The prospective student should check with the intended school of optometry for its specific requirements.**

Many schools of optometry require a minimum of 90 credits (or their equivalent) in an accredited college or university, but preference is given to candidates who earn a baccalaureate degree prior to the beginning of optometry school. Biological science, general chemistry, organic chemistry, physics, mathematics, English, and general psychology are generally required for admission to most optometry schools.

Preparation for the Study of Dental Hygiene

Arthur J. Seidenberg
Coordinator

The curriculum in pre-dental hygiene offered by the College of Humanities and Sciences meets the minimum academic requirements for application to many professional programs, including the Bachelor of Science degree program in dental hygiene offered by the School of Dentistry on the MCV Campus. Students intending to apply to the junior- and senior-year professional program at another institution should consult that institution's bulletin for specific prerequisites.

Admission to and satisfactory completion of the two-year preparatory program offered by the College of Humanities and Sciences does not constitute admission to the junior- and senior-year professional program on the MCV Campus. In the fall of the year preceding the year of admission, the student must apply separately to that professional program at MCV through the Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia 23298-0632.

Admission into the program is based on scholastic record, demonstrated aptitude and interest, and a personal interview conducted by the departmental admissions committee.

Credits

ENG 101-102 Composition and Rhetoric	6
MAT 101 College Algebra	3
STA 213 Introduction to Statistics	3
CHE 101 General Chemistry	4
CHE L101, Laboratory	1
or	

CHE 103 Introduction to Modern Chemistry	3
CHE L103 Laboratory	1
BIO 109, L109 General Biology, Laboratory I	4
BIO 205, L205 Basic Human Anatomy	4
BIO 206, L206 Human Physiology	4
BIO 209 Medical Microbiology	4
PSY 101 General Psychology	3
SOC 101 General Sociology	3
SPE 121 Effective Speech	3
Approved Electives	14
Total (minimum)	60

Preparation for the Study of Clinical Laboratory Sciences (PCL)

Advisors: Faculty of the Chemistry Department

The curriculum in pre-medical technology offered by the College of Humanities and Sciences meets the minimum academic requirements for application to many professional programs, including the Bachelor of Science degree program in clinical laboratory sciences offered by the School of Allied Health Professions on the MCV Campus. Students intending to apply to a professional program at another institution should consult that institution's bulletin for specific prerequisite courses. Any student who wishes to transfer to a school other than MCV must transfer to a school that will confer a degree at the completion of the fourth year of study.

Admission to and satisfactory completion of the two-year preparation program offered by the College of Humanities and Sciences does not constitute admission to the junior- and senior-year professional program on the MCV Campus. In the fall of the year preceding the year of desired admission, the student must apply separately to the professional program at MCV through the Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0632.

Admission into the program is based on scholastic record, demonstrated aptitude and interest, and a personal interview conducted by the departmental admissions committee.

	Credits	
	1st Sem.	2nd Sem.
<i>First Year</i>		
CHE 101-102 General Chemistry	4	4
CHE L101-L102 General Chemistry Laboratory I, II	1	1
ENG 101-102 Composition and Rhetoric	3	3
CLS 201 Introduction to Medical Technology	1	—
MAT 101 College Algebra or MAT 102 Trigonometry	3	—
Humanities or Social Science Electives	3	3

BIO 109 General Biology	—	3
BIO L109 General Biology Laboratory I	—	1
Total	15	15

Second Year

CHE 309 Quantitative Analysis	—	4
BIO 205, L205 Basic Human Anatomy	4	—
BIO 206, L206 Human Physiology	—	4
Humanities or Social Science Electives	12	6
Total	16	14

If a student does not qualify to take CHE 101 and L101 in the first semester because of a low score on the Mathematics Placement Test or because of placement in CHE 100 Introduction to Chemistry (needed for additional chemistry preparation), the student should add BIO 109, L109 General Biology and Laboratory, in the fall semester and plan to take CHE 102 and L102 the following summer.

Preparation for the Study of Nursing

Gail Turner

Coordinator

Advisors: Leann Blem, Rhoda Perozzi, and Arthur J. Seidenberg

The curriculum in pre-nursing offered by the College of Humanities and Sciences meets the minimum academic requirements for application to many professional programs, including the Bachelor of Science degree program in nursing offered by the School of Nursing on the MCV Campus. Students intending to apply to a professional program at another institution should consult that institution's bulletin for specific prerequisite courses.

Admission to and satisfactory completion of the one or two-year preparation program offered by the College of Humanities and Sciences does not constitute admission to the professional program on the MCV Campus. In the fall of the year preceding the year of desired admission, the student must apply separately to the professional program at MCV through the Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0632.

Two nursing tracks are available.

In the first program, students who start pre-nursing at VCU as freshmen must apply in September of their first year for entrance to the school of nursing. Students receive a decision during the following spring semester.

If accepted, students begin study in the School of Nursing in the fall semester of their sophomore year. The nursing program in this track takes three years to complete. Students in this track complete approximately 30 of the 60 credits

listed in the two-year program during their freshman year. The remaining arts and sciences credits can be completed while the student is enrolled in the School of Nursing—normally during the sophomore year.

The curriculum listed below outlines the 60 credits needed, approximately 30 of which are taken during the freshman year.

The second program is for students who transfer to VCU to complete the pre-nursing requirements. These students apply in September of the year prior to desired matriculation. Students receive a decision during the following spring semester. If accepted, students begin study in the School of Nursing in the summer. This track takes two years and one summer to complete. Students in this track complete all the credits listed below prior to matriculation in the School of Nursing.

	<i>Credits</i>
ENG 101-102 Composition and Rhetoric	6
*Humanities Electives	12
PSY 101 General Psychology	3
SOC 101 General Sociology	3
PSY 304 Life Span Developmental Psychology	3
MAT 101 College Algebra or MAT 111 Basic Mathematics for Behavioral, Social, and ... Management Sciences or STA 213 Introduction to Statistics (STA 213 preferred)	3
**Science Elective	4
BIO 101, L109 General Biology and Laboratory	4
BIO 205, L205 Basic Human Anatomy	4
BIO 206, L206 Human Physiology	4
BIO 209, L209 Medical Microbiology	4
BIO 217 Nutrition	3
Elective	7
Total	60

*one course in philosophy is required

**If high school chemistry (with laboratory) with a grade of "C" or better has not been completed, one semester of chemistry with laboratory must be taken. If high school chemistry with a grade of "C" or better has been completed, choose from: BIO 110 and L110, CHE 103 and L103, PHY 101 and L101, or PHY 201 and L201.

Preparation for the Study of Occupational Therapy (POC)

Arthur J. Seidenberg
Coordinator

The curriculum in pre-occupational therapy offered by the College of Humanities and Sciences meets the minimum academic requirements for the Bachelor of Science degree program in occupational therapy offered by the School of Allied Health Professions on the MCV Campus.

This program is accredited by the American Occupational Therapy Association. Students intending to apply to the junior- and senior-year professional program at another institution should consult that institution's bulletin for specific prerequisite courses.

Admission to and satisfactory completion of the two-year preparation program offered by the College of Humanities and Sciences does not constitute admission to the junior- and senior-year professional program on the MCV Campus. In the fall of the year preceding the year of desired admission, the student must apply separately to the professional program at MCV through the Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0632.

Admission into the program is based on scholastic record and demonstrated aptitude and interest. A personal interview is also part of the admission procedure.

	<i>Credits</i>	
	<i>1st Sem.</i>	<i>2nd Sem.</i>
<i>First Year</i>		
ENG 101-102 Composition and Rhetoric	3	3
PSY 101 General Psychology	3	—
SOC 101 General Sociology	3	—
BIO 109 General Biology	3	—
BIO L109 General Biology Laboratory	1	—
BIO 205, L205 Basic Human Anatomy or BIO 206, L206 Human Physiology	—	4
MAT 101, STA 213 College Algebra and Introduction to Statistics or STA 213		
Introduction to Statistics	3	3
Electives	—	6
Total	16	16

Second Year

PSY 304 Developmental Psychology	3	—
PSY 407 Abnormal Psychology	3	—
Psychology Elective	—	3
BIO 205, L205 Basic Human Anatomy or BIO 206, L206		
Human Physiology	4	—
Sociology elective	3	—
Electives	2-3	12
Total	15-16	15

These courses are considered minimum requirements. Students are encouraged to pursue the further study of biology, psychology, and sociology. Students are also encouraged to take mathematics and statistics courses to increase their curricular options at the end of their preparatory program.

Preparation for the Study of Pharmacy (PPH)

Advisors: Faculty of the Chemistry Department

The curriculum in pre-pharmacy offered by the College of Humanities and Sciences meets the minimum academic requirements needed for application to many professional programs, including the doctoral degree program in pharmacy offered by the School of Pharmacy on the MCV Campus. Students intending to apply to a professional program at another institution should consult that institution's bulletin for specific prerequisite courses.

Credits earned by examination (AP, CLEP, and so on) will not count toward the 73 credits required for admission to the MCV Campus' School of Pharmacy. However, the content area covered by the examination need not be repeated. Electives may be substituted for the needed credits.

Admission to and satisfactory completion of the two-year preparation program offered by the College of Humanities and Sciences does not constitute admission to the final four years of the doctoral program on the MCV Campus. In the fall of the year preceding the year of desired admission, the student must apply separately to the professional program at MCV through the Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0632.

Admission into the program is based on scholastic record, demonstrated aptitude and interest, and a personal interview conducted by the school's admissions committee.

	<i>Credits</i>
BIO 109-110 General Biology	6
BIO L109-L110 General Biology Laboratory I, II ..	2
ENG 101-102 Composition and Rhetoric	6
MAT 101 College Algebra or MAT 102 Trigonometry or STA 213 Introduction to Statistics	3
MAT 200 Calculus with Analytic Geometry	4
CHE 101-102 General Chemistry	8
CHE L101-L102 General Chemistry Laboratory I, II	2
PHY 201-202 General Physics	8
CHE 301-302 Organic Chemistry	6
CHE L301-L302 Organic Chemistry Laboratory I, II	4
SPE 121 Effective Speech	3
Ethics or Logic	3
Social Sciences	6
Arts or Humanities	9
Liberal Arts elective	3
Total	73

If a student does not qualify to take CHE 101 and L101 in the first semester because of a low score on the Mathematics Placement Test or because of placement in CHE 100 Introduction to Chemistry (needed for additional chemistry preparation), the student should add a three-credit elective in the fall semester and plan to take CHE 102 and L102 in the summer or the following fall semester.

And since this program requires students to take 17-18 credits every semester in order to finish the course work in four semesters, they should consider taking some courses during the summer between their freshman and sophomore years. Physical education credits cannot be used to meet the above prerequisites.

Preparation for the Study of Physical Therapy (PPT)

Arthur J. Seidenberg

Coordinator

Advisor: Bonnie L. Brown, Karlynn W. Bucher, Joseph P. Chinnici, Arthur J. Seidenberg, Jennifer K. Stewart

The curriculum in pre-physical therapy offered by the College of Humanities and Sciences meets the minimum academic requirements for application to many professional programs, including the physical therapy program offered by the School of Allied Health Professions on the MCV Campus. Students intending to apply to a professional program at another institution should consult that institution's bulletin for specific prerequisite courses.

Admission to and satisfactory completion of the three-year (90 credits) preparatory program offered by the College of Humanities and Sciences does not constitute admission to the professional program on the MCV Campus. In the fall of the year preceding the year of desired admission, the student must apply separately to the professional program at MCV through the School of Graduate Studies, Virginia Commonwealth University, Richmond, VA 23298-0632.

Admission into this MCV program is determined by the departmental admissions committee. The student's scholastic record and professional suitability are considered by the committee. Even before admission, the students is expected to have knowledge of the practice and goals of the physical therapy profession.

	<i>Credits</i>
* English 101-102 Composition and Rhetoric	6
** BIO 109-110 General Biology	8

** BIO L109-L110 General Biology Laboratory	
I, II	2
*** CHE 101-102 General Chemistry	8
*** CHE L101-L102 General Chemistry	
Laboratory I, II	2
Physiology (with Laboratory)	4
*** PHY 201-202 General Physics	8
*** MAT 101 College Algebra or MAT 102	
Trigonometry or MAT 200 Calculus with	
Analytic Geometry	3-4
STA 213 Statistics	3
*** PSY 101 General Psychology	3
Psychology Elective	3
*** Social Science Electives	6
Humanities Elective	3
Approved Electives	(minimum) 25-28
Total	(minimum) 90

* AP credits may be substituted for up to three credits.

** Students should take BIO 151, L151, 152, and L152 if they plan to major in biology. AP credits may not be used to fulfill the biology requirement.

*** AP credits may be used to satisfy requirement.

To complete the social science, psychology, and humanities requirements, students are encouraged to take courses in child, adolescent, or abnormal psychology; personality, developmental, or psychology of adjustment; sociology, anthropology, economics, history, philosophy, logic, counseling, and human relations.

To complete the total requirements, students are encouraged to choose courses from computer science, embryology, histology, comparative anatomy, vertebrate or human anatomy, kinesiology, physiology, foreign languages, and physical education courses that deal with an analytical approach to human movement or motor learning. At least eight hours of electives must be upper-level courses. A "D" grade in any of the required courses shown above is not acceptable toward admission.

Preparation for the Study of Radiation Sciences (PRS)

Advisor: Arthur J. Seidenberg

The curriculum in pre-radiation sciences meets the minimum academic requirements for the Bachelor of Science degree program in clinical radiation sciences with concentrations in radiography or *nuclear medicine* technology or radiation therapy offered by the School of Allied Health Professions on the MCV Campus. Students intending to apply to a professional program at another institution should consult that institution's bulletin for specific prerequisite courses.

Admission to and satisfactory completion of the one-year preparation program offered by the College of Humanities and Sciences does not constitute admission to the sophomore year professional program on the MCV Campus. In the fall of the year preceding the year of desired admission, the student must apply separately to the professional program at MCV through the Director of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0632.

Admission into the program is based on scholastic record, demonstrated aptitude and interest, and a personal interview conducted by the departmental admissions committee.

	<i>Credits</i>
ENG 101-102 Composition and Rhetoric	6
MAT 101 College Algebra	3
BIO 109, L109 General Biology, Laboratory I	4
BIO 205, L205 Basic Human Anatomy	4
BIO 206, L206 Human Physiology	4
PSY 101 General Psychology	3
PHY 201-202 General Physics	8
Total	<u>32</u>
	(minimum)

PREPARATION FOR PROFESSIONAL STUDIES IN LAW

Advisors: Husain Mustafa, Department of Political Science; Carol D. Rasic, Department of Marketing and Business Law; James L. Hague, Department of Criminal Justice

Few law schools list specific undergraduate courses as prerequisites for admission, thus, the student considering law school can major in virtually any department in the College of Humanities and Sciences, the School of Business, or the School of Community and Public Affairs.

However, students preparing for law school are encouraged to obtain a broad liberal arts background with emphasis on the social sciences, philosophy, and English. Students interested in law school may decide to complete the philosophy of law minor. This minor program is described under the Department of Philosophy and Religious Studies.

Pre-law advisors maintain continual contact with law school admissions offices and will assist any interested student with questions about curriculum, financial assistance, application procedure, and the law school admission test (LSAT).

PREPARATION FOR THE STUDY OF ENGINEERING

Office of Academic Advising
College of Humanities and Science Advisors

Students who wish to pursue a career in any of the fields of engineering should enroll in the Department of Physics. The department offers a pre-engineering program and a dual physics/engineering degree program.

The pre-engineering program gives students a broad background in science and mathematics, as well as exposure to the humanities and social sciences. The department assists qualified students in transferring to accredited engineering schools upon completion of the program.

A typical two-year program for students ready to enter into calculus would be as follows:

Freshman Year. CHE 101-102 General Chemistry; CHE 101-102 General Chemistry Laboratory; ENG 101-102 Composition and Rhetoric; MAT 200-201 Calculus with Analytic Geometry; PHY 207-208, PHY L207-L208 University Physics I and II; humanities or social science electives.

Sophomore Year. MAT 301 Differential Equations; MAT 307 Multivariate Calculus; (PHY 208, if not completed in first year); PHY 301 Classical Mechanics; PHY 320 and L320 Modern Physics and Laboratory; humanities and social sciences electives.

Students able to begin with MAT 201 may wish to add PHY 331 Electronics and Instrumentation for Scientists I and/or PHY 407 Mechanics of Solid Materials.

Students interested in chemical or biological aspects of engineering may wish to substitute courses in these areas in lieu of some of the physics courses taken in the second year. Students interested in engineering, whose backgrounds do not warrant entrance into the two-year sequence, can spread their work over three years. Students should contact the pre-engineering advisor for details about their individualized programs.

The dual physics/engineering degree programs are offered in cooperation with Auburn University, Old Dominion University, and George Washington University. For further details, see the Department of Physics section of this bulletin.

COURSE DESCRIPTIONS AND NUMBERING

Courses designated 100 and 200 are undergraduate lower-level courses offered primarily to undergraduate students; 300 and 400 courses are undergraduate upper-level courses designed for advanced undergraduates.

A course with an asterisk next to it indicates that the course is for selected graduate students and applicable to certain graduate degrees. Such students must obtain approval from their department and dean to register for a limited number of these courses.

Courses at the 500 level are open to advanced undergraduate students with the consent of the department offering the course. Credit is applicable to only one degree.

COURSES IN AFRICAN-AMERICAN STUDIES (AAS)

103 Introduction to African-American Studies. Semester course; 3 lecture hours. 3 credits. Using an interdisciplinary approach, this course will familiarize students with important events, developments, personalities, and other phenomena that help facilitate the study and understanding of African Americans from their African past to their present existence.

104/Sociology 104 Sociology of Racism. Semester course; 3 lecture hours. 3 credits. The course will explore the direct and indirect ways in which racial attitudes are acquired, their effect on individuals and society, and the institutional and ideological manifestations of racism as a "faith system," as exploitation, and as a form of human conflict. The central focus of interest will be on black-white relationships.

105, 106/HIS 105, 106 Introduction to African History. Semester courses; 3 lecture hours. 3-3 credits. An overview of African civilization from prehistory to the present, with emphasis on cultural developments as well as selected in-depth analyses of specific issues in African history. First semester: to 1800. Second semester: since 1800.

121, 122/Dance 121, 122 Tap Technique I. Semester courses; 1 lecture and 2 studio hours. 2,2, credits. Beginning study and training in the principles of tap technique with emphasis upon style, body alignment, spatial patterning, flexibility, strength, and kinesthetic awareness to move the body in the style required for tap dancing.

126, 127/Dance 126, 127 African-Caribbean Dance I. Semester courses; 1 lecture and 2 studio hours. 2,2 credits. Dance based on the movements and rhythms of Africa and the Caribbean.

151, 152/Dance 151, 152 Jazz Dance Technique I. Semester courses; 1 lecture and 2 studio hours. 2,2 credits. Prerequisite: DAN 102 or permission of instructor. Study and training in the principles and concepts of jazz technique. Emphasis on body alignment, flexibility, balance, rhythmic awareness, and mastery of isolated movements of body parts. The

course includes the exploration of the relationship between jazz music and jazz dance.

200/Anthropology 200 Urban Studies 200 African Culture. Semester course; 3 lecture hours. 3 credits. An exploration of the unique and diverse cultural heritage shared by Africans. Particular attention will be given to life styles and work styles as these relate to knowledge, behavior, ideas, and objects.

204 Africa in Transition. Semester course; 3 lecture hours. 3 credits. Prerequisite: AAS 200 or permission of instructor. The impact of modern social change upon the traditional aspects of African life. Various aspects of social change as it applies to Africa today will be explored.

226/Dance 226 African-Caribbean Dance II. Semester course; 1 lecture and 2 studio hours. 2 credits. Prerequisite: DAN 126, 127, audition, or permission of instructor. Further training and study in dances based on the movements and rhythms of Africa and the Caribbean.

250/Music History 250 Introduction to African-American Music. Semester courses; 3 lecture hours. 3-3 credits. An introductory survey of black involvement with the development of music in America from 1607 to the present. African-American musical styles will be studied from many aspects including their African roots and contemporary popular expression.

302/Political Science 302 Political of the Civil Rights Movements. Semester course; 3 lecture hours; 3 credits. The main objectives of the course are to introduce and examine the personalities and activities of the modern Civil Rights Movement. The course provides the historical background leading up to the peak years of the struggle for racial equality in America. It has special focus on the events of the 1960's and, particularly their implication for the current state of Civil Rights in the U.S.

303/Theatre 303 Black Theatre. Semester course; 3 lecture hours. 3 credits. A study of the major developments in the evolution of black theatre through readings and studio performances in black-related and black theatre dramaturgy.

305/Sociology 305/Women's Studies 305 Sociology of the Black Family. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or permission of instructor. A socio-history of the development of the dynamics of the black family.

307/Religious Studies 307 Black Religion. Semester course; 3 lecture hours. 3 credits. An analysis of the role of religion in the lives of blacks with an emphasis on African religions and philosophies, the black church in America, and the roles of the various faiths, sects, and cults.

310/Economics 310 Economics and Poverty. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 210-211 or 203. An analysis of the causes of income inequality, the incidence and characteristics of poverty, and the economics of public policies designed to counteract poverty.

311/Urban Studies 337 Urbanization and Blacks: A Cross-Cultural Comparison. Semester course; 3 lecture hours. 3 credits. Comparisons and evaluation of past and contemporary urbanization patterns of black people primarily in Africa

and America, their current social, economic, and political problems, and the range of solutions being proposed for dealing with them.

314/English 314 African-American Literature. Semester course; 3 lecture hours. 3 credits. An examination of the culture and literature of African-Americans from their roots in Africa and the African diaspora to the present day. Authors may include Wheatley, Jacobs, Wilson, Brown, Dubois, Hurston, Wright, Gaines, and Morrison.

315/Economics 315 Economic Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 210-211. An introduction to the process of economic development including a survey of development theory and a study of the experience of both underdeveloped and developed countries. Economic policies and tools of economic planning for stimulating development will be presented.

322/Psychology 322 Personality and Behavior of the African-American. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 101. A study of personality factors, such as motivation, ego functioning, and the socialization processes with special emphasis on living conditions of African Americans.

333/Geography 333 Geography of Africa. Semester course; 3 lecture hours. 3 credits. A study of land forms, climate, peoples, boundaries, trade, and cultural groupings of the African continent.

342/Art History 342 African-American Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: advanced standing. A study of the art forms produced by Americans of African origin from the seventeenth century to the present with an emphasis on contemporary trends in black art.

343/Political Science 343 Black Political Thought. Semester course; 3 lecture hours. 3 credits. An historical and sociological perspective on the political and social ideas of black thinkers from David Walker to the present.

350/Music History 350 Studies in the Music of the African Continent and Diaspora. Semester course; 3 lecture hours. 3 credits. May be repeated for a maximum of six credits. An in-depth examination of selected topics and issues in African-derived musical and cultural traditions.

356/Political Science 356/International Studies 356 African Government and Politics. Semester course; 3 lecture hours. 3 credits. This course will introduce the student to the basic outlines of government and politics in Africa. The course will consider such topics as colonialism, elites and nationalism, and modernization strategies. Using the comparative approach, the course will primarily focus on West, East, and Central Africa.

357/Political Science 357/International Studies 357 Politics of Southern Africa. Semester course; 3 lecture hours. 3 credits. An examination of racial and political developments in the southern tip of Africa. While South Africa will be the primary focus of analysis, other countries in the region, such as Zimbabwe, Angola, and Mozambique, will be studied.

358/Art History 358 African Art & Architecture. Semester course; 3 lecture hours. 3 credits. A study of African art and architecture from prehistoric times to the present. Special

emphasis is placed on form, content, function and meaning, as well as the impact of African art on modern and African American art.

361, 362/History 361, 362 Americans from Africa. Semester courses; 3 lecture hours. 3, 3 credits. A study of the history and culture of blacks in the United States, designed to analyze some of the most important aspects of black life and the attitudes of the dominant society within which blacks lived. The second semester emphasizes the changing status, expectations, and ideologies of black Americans in the twentieth century. First semester: to 1877. Second semester: since 1877.

363/English 363 African Literature. Semester course; 3 lecture hours. 3 credits. Prerequisite: ENG 101-102 or 200. A survey of the literatures of Africa with particular emphases on fiction and on West Africa. Some attention will also be given to orature.

365/English 365 Caribbean Literature. Semester course; 3 lecture hours. 3 credits. Prerequisite: ENG 101-102 or 200. A survey of West Indian writings. Attention will be given to African, European, and AmerIndian influences, as well as to the emergence of a West Indian literary tradition.

387/History 387 History of West Africa. Semester course; 3 lecture hours. 3 credits. A study of the transformation of West African societies from the iron age to modern, independent nation-states, with stress on the roles of reforming Islam, European economic and cultural influences, and European colonialism.

389/History 389 History of Southern Africa. Semester course; 3 lecture hours. 3 credits. A study of the history and culture of the peoples of southern Africa. Deals with the areas which presently are the Republic of South Africa, Lesotho, Swaziland, Botswana, Namibia, and Zimbabwe. Emphasizes the interaction among the various communities and ethnolinguistic groups in southern Africa.

401/Sociology 401 African-Americans and the United States Health Care System. Semester courses; 3 lecture hours. 3 credits. Prerequisite AAS 103, AAS 305 or permission of the instructor. Explores issues surrounding the disparity in health status and health outcomes between African-Americans and other groups in the United State. Students are required to participate in an experiential exercise designed to enhance learning.

413/Art History 350 African and Oceanic Art. Semester course; 3 lecture hours. 3 credits. A study of the architecture, painting, sculpture, and civilizations of the major art-producing tribes of West Africa and Oceania from the thirteenth century to the present.

440/Art History 440 Contemporary Art & Architecture of Africa. Semester course; 3 lecture hours. 3 credits. A study of the impact on African art and architecture of Colonialism, urbanization, and modernization. Special emphasis is placed on the search for a new identity by contemporary African artists.

491 Topics in African-American Studies. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for a maximum of nine credits; three credits may be applied to the African American Studies minor. An in-depth study of specialized areas of African American Studies.

492 Independent Study. Semester course; variable credit. Maximum four credits per semester. Maximum total in all independent study courses four credits. Open generally only to students of junior and senior standing who have acquired at least 12 credits in African American Studies courses. Determination of the amount of credit and permission of the instructor and coordinator must be procured prior to registration for the course.

COURSES IN AMERICAN STUDIES (AMS)

195 Richmond. 15 contact hours. 1 credit. A series of mini-courses dealing with aspects of Richmond's literary and historical importance from the city's beginning to the present.

301 Introduction to Native American Studies. Semester course; 3 lecture hours. 3 credits. An overview of the historical, social, and cultural aspects of life of the peoples native to the North American continent.

323 Social Attitudes in the Humanities. Semester course; 3 lecture hours. 3 credits. An examination of artistic and literary expressions of social attitudes and their influence on the development of the social reform movement. Focus will be on the western world, with special attention to the United States.

391 Topics in American Studies. Semester course; 3 lecture hours. 3 credits. Selected issues or problems in American civilization with materials drawn from such areas as history, the social sciences, philosophy, literature, the arts and mass communications. May be repeated once for credit.

394 Perspectives in American Studies. Semester course; 3 lecture hours. 3 credits. Prerequisite: six credits in American-related courses. An introduction to the methods, significant works, and major trends in American studies. May be taken for American literature credit by English majors. May not be used to satisfy the College of Humanities and Sciences requirements in literature.

COURSES IN ANTHROPOLOGY (ANT)

103 Cultural Anthropology. Semester course; 3 lecture hours. 3 credits. A general survey of anthropology with emphasis on learning about and from non-Western cultures.

105 Introductory Archaeology. Semester course; 3 lecture hours. 3 credits. The history, development, and current trends in archaeological method and theory are illustrated with case studies from around the world.

200/Afro-American Studies 200 Urban Studies 200 African Culture. Semester course; 3 lecture hours. 3 credits. An exploration of the unique and diverse cultural heritage shared by Africans. Particular attention will be given to life styles and work styles as these relate to knowledge, behavior, ideas, and objects.

252 The Archaeology of Richmond. Semester course; 3 lecture hours. 3 credits. The application of archaeological methods to Richmond's prehistoric, historic, and modern material culture. The city and surrounding counties are treated as an archaeological site and region. The artifacts left by past and present inhabitants provide a foundation for analyzing ways of life in the area.

301 The Evolution of Man and Culture. Semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103. The application of evolutionary theory to the physical and cultural development of Homo sapiens.

304/Sociology 304/Women's Studies 304 The Family. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or ANT 103. The family in its social and cultural context. Analysis of child rearing, marriage, kinship, family crises, and family change in various societies around the world.

305 Comparative Society. Semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103. An introduction to social anthropology. The study of how social institutions such as marriage, family, law, economics, and government are organized and operate in different kinds of societies.

311, 312/Geography 311, 312 History of Human Settlement. Semester course; 3 lecture hours. 3-3 credits. A cultural geography of man's diffusion over the earth, agricultural and urban systems, exploration, migration, and colonization, and changing attitudes toward the environment. First semester: before 1750. Second semester: during and since the Industrial Revolution.

341/History 341 Historical Archeology. Semester course. 3 lecture hours. 3 credits. Prerequisite: ANT 103 or ANT 105 and one history course. A review of the methods and findings of historical archaeology from the 15th century to the present. Special emphasis on the use of written documents and archaeological artifacts to interpret society and culture in the modern world.

350/International Studies 350 Peoples and Cultures of the World. Semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103. May be taken for a maximum of six credits in two different world areas. A survey of the culture and traditions within a specific geographic area such as Latin America, Oceania, or Southeast Asia. See *Schedule of Classes* for areas being offered in a particular semester.

375 Field Archaeology. Semester course; 3 lecture, 8 field and laboratory hours. 6 credits. Introduction to archaeological field and basic laboratory techniques. Archaeological data collection (excavation or survey) forms the core of the course.

380/Sociology 380 Drugs, Society, and Culture. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or ANT 103. An examination of the anthropological and sociological significance of drugs and drug use from pre-historic cultures through modern societies.

386/English 386 Introduction to Folklore. Semester course; 3 lecture hours. 3 credits. A survey of the basic forms of folklore including proverbs, riddles, ballads, folktales, legends, myths, and games. The survey will also include approaches to collecting material and examining its literary, social, and historical significance.

391 Topics in Anthropology. Semester course; 3 lecture hours. 3 credits, maximum 6 credits per semester; maximum total of 18 credits in departmental topics courses which may be applied to the major. Prerequisite: permission of instructor. Seminar on current specialized areas of anthropological interest. See *Schedule of Classes* for specific topic to be offered each semester.

413 Psychological Anthropology. Semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103 or permission of instructor. An examination of individual psychological functioning in the cultural context. Analysis of the role of culture in personality development, cognitive development and mental health.

425 Religion, Magic, and Witchcraft. Semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103. A survey of the nature and variety of beliefs outside of the major streams of religious thought. Among topics considered are myth, totemism, taboo, and sorcery. Emphasis on understanding supernatural beliefs and practices in relation to culture and society.

***449/Linguistics 449/English 449 Introduction to Linguistics.** Semester course; 3 lecture hours. 3 credits. An introduction to methods of language analysis, emphasizing the study of sounds and sound patterns, and units of meaning and their arrangements. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

454 Anthropological Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103 or SOC 101. Major theoretical approaches in understanding cultural similarities and differences.

490 Senior Project Semester course. 1 credit. Required of all SOA majors with an anthropology concentration. Students must register for this course with the permission of an instructor of a regular course offering. Students are required to produce a project report that must be submitted to the faculty of the course as well as to the Director of undergraduate studies for the Department of Sociology and Anthropology prior to graduation.

492 Independent Study. Semester course; variable credit, maximum six credits per semester; maximum total for all independent study courses 12 credits. Open generally only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of the instructor and department chairman must be procured prior to registration for the course. Cannot be used in place of existing courses.

COURSES IN BIOLOGY (BIO)

NOTE: The following courses do not apply toward the major in biology: BIO 102, L102, 103, L103, 205, L205, 206, L206, 209, L209, 211, 217, 315, 332, 465.

102 (113) Science of Heredity. Semester course; 3 lecture hours and 1 recitation hour. 4 credits. Basic scientific principles of genetics and its impact on individuals and society. Draws together principles of biology, chemistry, mathematics, ethics, and sociology. Topics include principles of inheritance, DNA structure and function, biotechnology and its impact on society, the nature of various genetic disorders, genetic screening and counseling, population genetics, and the bioethics of genetic manipulation. Not applicable for credit towards the B.S. degree in Biology. Not applicable as a prerequisite for any Biology course at the 200 level or above.

L102 (113) Science of Heredity Laboratory. Semester course; 2 hours. 1 credit. Laboratory exercises correlated with

BIO 102. Pre- or co-requisite: BIO 102 (113). Not applicable for credit towards the B.S. in Biology degree. Not applicable as a prerequisite for any Biology course at the 200 level or above.

103 (114)/Environmental Studies 103 (114) Environmental Science. Semester course; 3 lecture hours and 1 recitation hour. 4 credits. Basic scientific principles of environmental processes. Draws together aspects of biology, chemistry, geology, physics, and sociology. Among the topics covered are ecology, natural resources, air and water resources, energy and recycling, population biology and sustainable global societies. Not applicable for credit towards the B.S. in Biology degree. Not applicable as a prerequisite for any Biology course at the 200 level or above.

L103 (114)/Environmental Studies L103 (114) Environmental Science Laboratory. Semester course; 2 hours. 1 credit. Laboratory exercises correlated with BIO 103 (114). Pre- or co-requisite: BIO 103. Not applicable for credit towards the B.S. in Biology degree. Not applicable as a prerequisite for any Biology degree. Not applicable as a prerequisite for any Biology course at the 200 level or above.

109-110 General Biology I-II. Continuous course; 3 lecture hours. 3-3 credits. First semester: fundamental properties of living systems. Second semester: organismal biology and ecology. (Not intended for the biology major.)

L109 General Biology Laboratory I. Semester course; 2 hours. 1 credit. Laboratory exercises correlated with BIO 109. Can be taken only concurrently with or subsequent to BIO 109. (Not intended for the biology major.)

L110 General Biology Laboratory II. Semester course; 2 hours. 1 credit. Laboratory exercises correlated with BIO 110. Can be taken only concurrently with or subsequent to BIO 110. (Not intended for the biology major.)

151 Introduction to Biological Science I. Semester course; 3 lecture hours. 3 credits. Designed for biology majors. Principles of plant biology including cell biology, physiology, and evolution of plant diversity on Earth. BIO 151 may be taken after BIO 152.

L151 Introduction to Biological Science Laboratory I. Semester course; 3 laboratory hours. 1 credit. Pre- or corequisite: BIO 151. Laboratory investigation of plant genetics, physiology, and evolution, with an emphasis on formation and testing of hypotheses. Laboratory exercises will elaborate themes discussed in BIO 151.

152 Introduction to Biological Science II. Semester course; 3 lecture hours. 3 credits. Designed for biology majors. Principles of animal biology including genetics, physiology, and evolution of animal diversity on Earth. BIO 152 may be taken before BIO 151.

L152 Introduction to Biological Science Laboratory II. Semester course; 3 laboratory hours. 1 credit. Pre- or corequisite: BIO 152. Laboratory investigation of plant genetics, physiology, and evolution, with an emphasis on formation and testing of hypotheses. Laboratory exercises will elaborate themes discussed in BIO 152..

200 Biological Terminology. Semester course; 1 lecture hour. 1 credit. Prerequisite: a course in biology. The study of

Greek and Latin word roots in the vocabulary of biology and medicine.

Note: A "C" grade or better in each prerequisite course (BIO 109, L109; BIO 110, L110; BIO 151, L151; BIO 152, L152) is required for enrollment in BIO 205, 206, 209, and 217.

205 Basic Human Anatomy. Semester course; 2 lecture hours. 2 credits. Prerequisite: 4 credits in biology; Corequisite: BIO L205. Human body structure with emphasis on the skeleto-muscular aspects, utilizing human specimens and models as demonstrations. (Not applicable to the biology major.)

L205 Basic Human Anatomy Laboratory. Semester course; 4 laboratory hours. 2 credits. Pre- or corequisite: BIO 205. Laboratory stressing human body structure with emphasis on the skeleto-muscular aspects, utilizing the cat for dissection and human specimens and models as demonstrations. (Not applicable to the biology major.)

206 Human Physiology. Semester course; 3 lecture hours. 3 credits. Prerequisite: 4 credits in biology. Functioning of the human body with emphasis on experimental procedures. (Not applicable to the biology major.)

L206 Human Physiology Laboratory. Semester course; 2 laboratory hours. 1 credit. Pre- or co-requisite: BIO 206. Functioning of the human body with emphasis on experimental procedures. (Not applicable to the biology major.)

BIO 209: Medical Microbiology. Semester course; 3 lecture hours. 3 credits. Prerequisite: 4 credits in biology. General principles of microbiology and immunology to provide a thorough understanding of the host-microbe relationship in disease. (Not applicable to the biology major.)

BIO L209: Medical Microbiology Laboratory. Semester course; 2 laboratory hours. 1 credit. Pre- or corequisite: BIO 209. Techniques to culture, isolate, and identify microbes with related topics such as water coliform tests, and antibiotics and disinfectant sensitivity testing. (Not applicable to the biology major.)

217 Principles of Nutrition. Semester course; 3 lecture hours. 3 credits. Prerequisite: 4 credits in biology. An introduction to basic principles of nutrition and their application in promoting growth and maintaining health throughout the life cycle. (Not applicable to the biology major.)

Note: A "C" grade or better in each prerequisite course (BIO 151, L151, 152, L152, or equivalent) is required for enrollment in all advanced biology courses (BIO 218 and higher.)

218 Cell Biology. Semester course; 3 lecture hours. 3 credits. Prerequisites: eight credits of general biology and eight credits in chemistry. An introductory examination of fundamental cellular process including structure-function relationships, enzymology, metabolism, genetic function, and cellular reproduction.

Note: A "C" grade or better in BIO 218 is required for enrollment in all courses for which it is a prerequisite.

291 Topics in Biology. Semester course; variable credit, maximum 4 credits per semester; maximum total credit for all topics courses 6 credits (BIO 291, 391, and/or 491). A study of a selected topic in biology. See the *Schedule of Classes* for specific topic(s) and prerequisites.

292 Independent Study. Semester course; variable credit, maximum 2 credits per semester; maximum total credit for all independent study courses (BIO 292 and/or 492) six credits. Prerequisites: eight credits in biology and an overall GPA of 3.0. Determination of the amount of credit and permission of the instructor and department chairman must be obtained prior to registration for the course. Designed to allow students to accomplish independent readings of biological literature under the supervision of a staff member.

301 Comparative Vertebrate Anatomy. Semester course; 3 lecture and 6 laboratory hours. 5 credits. Prerequisites: BIO 151-L151, 152-L152. The evolution of vertebrate forms as demonstrated by anatomical studies of selected vertebrate types.

302 Animal Embryology. Semester course; 3 lecture and 4 laboratory hours. 5 credits. Prerequisite: BIO 218. Basic reproductive and developmental processes during animal embryonic development. Includes programming/packaging in the egg, cell-cell interactions, basic organogenesis. Cellular mechanisms and the role of differential gene activity in developmental processes will be emphasized. Laboratory includes observation of developmental processes and experimental work using living invertebrate and vertebrate embryos.

303 Bacteriology. Semester course; 3 lecture and 4 laboratory hours. 5 credits. Prerequisites: BIO 218 and eight credits in chemistry. The morphology and physiology of bacteria as applied to their cultivation, identification, and significance to other organisms.

307 Aquatic Ecology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 317, CHE 102 and L102. The physical, chemical, and especially the biological aspects of freshwater ecosystems.

L307 Aquatic Ecology Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre- or co-requisites: BIO 307. Laboratory and field studies of the biota of aquatic habitats and their relationship with the environment.

308 Vertebrate Histology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 218. Microanatomy of vertebrate cells, tissues, and organs and the relationship of structure to function. Laboratory work involves an indepth study of vertebrate microanatomy at the light microscope level as well as an introduction to techniques used for the preparation of materials for histological study.

309 Entomology. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisites: BIO 151-L151, 152-L152. Field and laboratory work emphasized to illustrate insect diversification, diagnostic features, habitats, and development patterns. A project is required and some independent work will be necessary.

310 Genetics. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 218. The basic principles of molecular and applied genetics of plants, animals, and microorganisms.

L310 Laboratory in Genetics. Semester course; 4 laboratory hours. 2 credits. Prerequisite or co-requisite: BIO 310. Exercises and experiments are designed to demonstrate the laws of heredity using a variety of prokaryotic and eukaryotic organisms. Topics may include probability and statistics, cell division, particulate inheritance including X-linked examples, genetic mapping, chromatography, isolation and analysis of DNA, population genetics.

311 Animal Physiology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 218. Physiological principles of animal cells, tissues, and organs from the viewpoint of chemical and physical phenomena.

L311 Animal Physiology Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre- or co-requisite: BIO 311. Experimental methods in physiology.

312 Invertebrate Zoology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 151-L151, 152-L152. A survey of the invertebrate animals with emphasis on environmental interactions. A weekend trip to a marine environment is required.

L312 Invertebrate Zoology Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre- or co-requisite: BIO 312. A laboratory survey of the invertebrate animals, with emphasis on environment interactions. A weekend trip to a marine environment is required.

313 Vertebrate Natural History. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 151-L151, 152-L152. The natural history of vertebrates with emphasis on the species native to Virginia.

L313 Vertebrate Natural History Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre- or co-requisite: BIO 313. Laboratory exercises focusing on the natural history of vertebrates, with emphasis on the species native to Virginia.

315/Environment Studies 314 Man and Environment . 3 lecture hours. 3 credits. A comparative study of the ecology and natural history of human populations, including the environments as determining factors in the evolution of human institutions and technology, resources management, and population crises; cultural traditions as mechanisms of population control; basic theory of population biology. (Not applicable to the biology major.)

317 Ecology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 151-L151, 152-L152. An introduction to the basic principles of ecology, including interactions among organisms and influences of the physical environment.

L317 Ecology Laboratory. Semester course; 4 laboratory hours. 2 credits. Prerequisite or corequisite: BIO 317. A field-oriented course that provides experience in ecological research, including experimental design, instrumentation, data collection, and data analysis.

320 Biology of the Seed Plant. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: BIO 151-L151, 152-L152. The physiology, structure, and adaptation of seed plants.

321 Plant Development Laboratory. Semester course; 4 laboratory hours. 2 credits. Pre- or co-requisite: BIO 321. An

experimental approach applied to a phylogenetic survey of developmental model systems. Observational and experimental protocols will be used to collect data and gather information. Problem solving skills will be utilized to analyze and present experimental results.

L321 Plant Development Laboratory. Semester course; 4 laboratory hours. 2 credits. Pre- or co-requisites: BIO 321. An experimental approach applied to a phylogenetic survey of developmental model systems. Observational and experimental protocols will be used to collect data and gather information. Problem solving skills will be utilized to analyze and present experimental results.

332 /Environmental Studies 330 Environmental Pollution. Semester course; 3 lecture hours. 3 credits. Prerequisite: eight credits in biology. The pollution in the environment with emphasis on the procedures for detection and abatement. (Not applicable to the biology major.)

391 Topics in Biology. Semester course; variable credit, maximum 4 credits per semester; maximum total credit for all topics courses six credits (BIO 291, 391, and/or 491). A study of a selected topic in biology. See the *Schedule of Classes* for specific topic(s) and prerequisites.

392 Introduction to Research. Semester course; 2 lecture / demonstration hours. 1 credit. Prerequisites: 15 credits in biology and junior/senior status, or permission of the instructor. An introduction to the scientific process, including the mechanics of problem definition, information gathering, and experimental design. Experimentation is discussed in context with methods of data collection and analysis; some basic research techniques are demonstrated. Aims are to prepare the student for future research experiences, and to have student write detailed research proposal.

401 Applied and Environmental Microbiology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 218. The biology and chemical activities of microorganisms (bacteria, algae, virus, and fungi) of industrial, pharmaceutical, and agricultural importance.

405 Bacterial Physiology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: BIO 218 and CHE 301-302. The physiology and metabolism of prokaryotic cells including cell structure and function, growth, basic genetics and regulation of cell functions.

410 Taxonomy of Flowering Plants. 2 lecture and 4 laboratory hours. 4 credits. Prerequisites: BIO 151-L151, 152-L152 or permission of instructor. Systematic survey of the flowering plant families with emphasis on relationships. Some field trips for observing local flora.

411 Summer Flora. Semester course; 1 lecture and 5 laboratory hours. 3 credits. Prerequisites: BIO 151-L151, 152-L152 or permission of instructor. Field course in taxonomy of local summer flora.

415 Aquatic Macrophytes. Semester course; 1 lecture and 5 laboratory hours. 3 credits. Prerequisite: BIO 410 or 411. Field and laboratory study of vascular plants or aquatic habitats; including collection and identification, and consideration of the ecology, morphology, and economic value of aquatic macrophytes.

416 Ornithology. Semester course; 3 lecture hours. 3 credits. Prerequisite: 8 credits of biology or permission of instructor. Basic biology of birds, with emphasis on their role in the environment.

L416 Ornithology Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre- or co-requisite: BIO 416. Techniques of identifying, counting, and analyzing behavior of birds in the field.

417 Mammalogy. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: 12 credits of biology and permission of instructor. Study of the characteristics, adaptive radiation, and distribution of mammals, with emphasis on North American forms.

420 Plant Physiology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisites: BIO 218 and either BIO 320 or 321. Topics: photosynthesis, mineral nutrition, transport, phytohormones, development, tissue culture, and environmental stress. The laboratory will stress student-oriented research projects.

431 Introduction to Marine Biology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 317 and CHE 102, L102. An introduction to physical, chemical, and geological oceanography and a more detailed treatment of the organisms and ecological processes involved in the pelagic and benthic environments of the world's oceans and estuaries.

432 Biology of Polluted Waters. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 317 and CHE 102, L102. Survey of the effects of water quality on the biota of freshwater and marine ecosystems with industrial and domestic water usage considerations.

L432 Biology of Polluted Waters. Semester course; 3 laboratory hours. 1 credit. Pre- or co-requisites: BIO 432. Laboratory and field exercises demonstrating basic principles and effects of water pollution on aquatic organisms and ecosystems.

435 Herpetology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 317 or equivalent. The evolution, ecology, structure, taxonomy, and behavior of reptiles and amphibians.

L436 Laboratory in Herpetology. Semester course; 2 laboratory hours. 1 credit. Prerequisite or co-requisite: BIO 435. Identification, behavior, structure, and ecology of amphibians and reptiles. Two Saturday field trips are required.

445 Neurobiology and Behavior. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 317 or equivalent. The study of animal behavior stressing ecological, evolutionary, and neurobiological approaches.

455 Immunology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 218 and 310. A comprehensive introduction to the immune system of higher animals, emphasizing the molecular and cellular basis for antibody-mediated immunity.

490 Research Seminar. Semester course; 1 credit. Prerequisite/co-requisite: BIO 492 or 495 and senior status. Opportunity for students to develop skills necessary for effective oral presentation of their research work. Activities include a variety of seminar discussions and activities such as prepara-

tion of visual materials and statistical analysis of data. Students will make several oral presentations directly related to their specific BIO 492 or 495 projects.

491 Topics in Biology. Semester course; variable credit, maximum 4 credits per semester; maximum total credit for all topics courses six credits (BIO 291, 391, and/or 491). A study of a selected topic in biology. See *Schedule of Classes* for specific topic(s) and prerequisites.

492 Independent Study. Semester course; variable credit, maximum 4 credits per semester; maximum total credit for all independent study courses (BIO 292, 492 and/or 495) 6 credits; (graded as pass/fail;) open only to juniors and seniors. Permission of the supervising faculty member and the department chair must be obtained prior to registration. Projects should include data collection and analysis, learning field and/or laboratory techniques, and/or mastering experimental procedures, all under the direct supervision of a faculty member. A minimum of 3 hours of supervised activity per week per credit hour is required. A final report must be submitted at the completion of the project.

495 Research and Thesis. Semester course; Variable credit, maximum 4 credits per semester; maximum total credit for all undergraduate research in biology (BIO 292, 492, 495) 6 credits. Prerequisites: BIO 392 or BIO 492, permission of the supervising faculty member, and a research proposal acceptable to the chairperson. Activities include field and/or laboratory research under the direct supervision of a faculty mentor. A minimum of 3 hours of supervised per week per credit hour is required. A written thesis of substantial quality is required upon completion of the research.

Courses at the 500 level listed in this Bulletin are open to qualified seniors and graduate students only.

502/Microbiology 502 Microbial Biotechnology. Semester course; 3 lecture hours. 3 credits. Prerequisites: MIC 504 or equivalent, BIC 503-504 or equivalent. Discussion of the application of basic principles to the solution of commercial problems. The course will cover the historical principles in biotransformations as related to primary and secondary metabolism, as well as, recombinant DNA technology and monoclonal antibody production. The products to be considered include antibiotics, steroids, vitamins, organic acids and solvents in addition to monoclonal antibodies and products resulting from the application of recombinant DNA technology.

503 Fish Biology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 317 or equivalent. Classification, behavior, physiology, and ecology of fishes. Laboratories will emphasize field collection of fish and identification of specimens.

504 Comparative Animal Physiology. Semester course; 3 lecture and 4 laboratory hours. 4 credits. Prerequisites: BIO 218 and CHE 301, L301, 302, and L302. Comparative physiology of animals with an emphasis at the molecular level.

507 Aquatic Microbiology. Semester course; 2 lecture and 4 laboratory hours. 4 credits. Prerequisite: BIO 303 and 307 or equivalents. This course will involve a practical approach to the methods used to culture, identify, and enumerate specific microorganisms which affect the cycling of elements in aquatic systems and those which affect or indicate water quality.

510 Conservation Biology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 310 and BIO 317 (or equivalents) or permission of instructor. This course explores the accelerated loss of species due to increasing human population pressure on the biological, social, and legal processes involved in conserving biodiversity.

514 Stream Ecology. Semester course; 3 lecture and 3 laboratory hours. 4 credits. Prerequisite: BIO 317. A study of the ecology of streams and rivers. Laboratory emphasis is on the structure and functioning of aquatic communities in mountain to coastal streams.

518 Plant Ecology. Semester course; 3 lecture and 2 laboratory hours. One three-day field trip is required. 4 credits. Prerequisite: BIO 317 or permission of instructor. A lecture, field, and laboratory course concerned with the development, succession, and dynamics of plant communities and their interrelations with climate, soil, biotic, and historic factors.

520 Population Ecology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 310 and BIO 317 or permission of instructor. Theoretical and empirical analysis of processes that occur within natural populations, including population genetics, population growth and fluctuation, demography, evolution of life history strategies, and interspecific interactions. Quantitative models will be used extensively to explore ecological concepts.

521 Community Ecology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 317 or equivalent. Theoretical and empirical analyses of the structure and function of natural communities, ecosystems, and landscapes.

522 Evolution and Speciation. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 310 or equivalent. Study of evolutionary principles, with emphasis on genetic and environmental factors leading to changes in large and small populations of plants and animals, and the mechanisms responsible for speciation.

524 Endocrinology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 218 and CHE 301, L301, 302, and L302 or equivalent. Study of hormonal control system at the organ, tissue, and cellular levels; although the major emphasis will be on vertebrate endocrine systems, some discussion of invertebrate and plant control systems will be covered.

530 Human Genetics. Semester course; 3 lecture hours. 3 credits. Prerequisites: BIO 310 and CHE 301, L301, 302, and L302. A broad approach, at an advanced level, to human genetics. Topics include cytogenetics, pedigree analysis, genetic mapping, aneuploid syndromes, immunogenetics, inborn errors of metabolism, cancer, genetic engineering, behavior and intelligence, amniocentesis, and genetic counseling.

580 Eukaryotic Biotechnology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 310 and BIO L310, or graduate standing in Biology or related fields. Discussion of principles, concepts, techniques, applications, and current advances in cellular and molecular biology aspects of biotechnology for animal and plant cells. The course will cover molecular construction of foreign genes; DNA cloning; technologies for DNA, RNA, and protein analyses; nonvector and vector-mediated genetic transformation; gene regulation in transgenic cells; cell and tissue culture; cell fusion; and agricultural, medical, and other industrial applications.

585 Virology. Semester course; 3 lecture hours. 3 credits. Prerequisites: 16 credits in biology including BIO 218 or equivalent, and eight credits in chemistry. A comprehensive introduction to virology encompassing viruses of vertebrates, invertebrates, plants, and bacteria. Topics include physical and chemical characterization, classification, detection, replication, genetics, diseases, immunology, epidemiology, and interactions of viruses.

COURSES IN CHEMISTRY (CHE)

NOTE: In chemistry laboratories each student is charged for breakage incurred. Approved safety glasses are required. Failure to check out of laboratory, upon withdrawal or for other reasons, will incur a charge of \$25, billed from the Office of Student Accounting.

100 Introductory Chemistry. Semester course; 3 lecture and 1 problem session hours. 3 credits. (These credits may not be used to satisfy any chemistry course requirements in the College of Humanities and Sciences.) A course in the elementary principles of chemistry; required of all students without a high school chemistry background and who need to take CHE 101-102. (This course is also recommended for students who have a poor high school background in the sciences and who need to take CHE 101-102.)

101-102 General Chemistry. Continuous course; 3 lecture and 1 recitation hour. 4-4 credits. Prerequisite: CHE 100 or a satisfactory score on the Chemistry Placement Test. Pre- or corequisite: MAT 101. Fundamental principles and theories of chemistry, including qualitative analysis.

L101 General Chemistry Laboratory I. Continuous course; 3 laboratory hours. 1 credit. Pre- or corequisite: CHE 101. Experimental work correlated with CHE 101.

L102 General Chemistry Laboratory II. Continuous course; 3 laboratory hours. 1 credit. Pre- or corequisite: CHE 102. Prerequisite: CHE L101. Experimental work includes qualitative analysis.

103-104 Introduction to Modern Chemistry. Continuous course; 3 lecture hours. 3-3 credits. Introduces fundamental principles of modern inorganic, organic, and biochemistry and relates these to the chemistry encountered in everyday life, medicine, and the environment. (For non-chemistry majors; may not be used as a prerequisite for advanced chemistry courses.)

L103 Introduction to Modern Chemistry Laboratory I. Continuous course; 3 laboratory hours. 1 credit. Pre- or corequisite: CHE 103. Experimental work correlated with CHE 103.

L104 Introduction to Modern Chemistry Laboratory II. Continuous course; 3 laboratory hours. 1 credit. Pre- or corequisite: CHE 104. Prerequisite: CHE L103. Experimental work correlated with CHE 104.

NOTE: CHE 101, 102, L101, and L102 are prerequisites to all of the following chemistry courses.

301-302 Organic Chemistry. Continuous course; 3 lecture hours. 3-3 credits. A comprehensive survey of aliphatic and aromatic compounds with emphasis on their structure, properties, reactions, reaction mechanisms, and stereochemistry.

L301 Organic Chemistry Laboratory I. Continuous course; 4 laboratory hours. 2 credits. Pre- or corequisite: CHE 301. Experimental work correlated with CHE 301.

L302 Organic Chemistry Laboratory II. Continuous course; 4 laboratory hours. 2 credits. Prerequisite: CHE L301. Pre-requisite or corequisite: CHE 302. Experimental work correlated with CHE 302.

303 Physical Chemistry. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 201-202 or 207, 208, and MAT 200-201. Ideal and non-ideal gases, thermodynamics, free energy, and chemical equilibrium.

304 Physical Chemistry. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 303. Kinetics, solution thermodynamics, heterogeneous equilibria, electrochemistry, and introductory biophysical chemistry.

L304 Physical Chemistry Laboratory. Semester course; 6 laboratory hours. 2 credits. Prerequisite: CHE 309. Corequisite: CHE 304.

309 Quantitative Analysis. Semester course; 2 lecture hours. 2 credits. Prerequisite: MAT 101 or equivalent. Theory and practice of gravimetric, volumetric, and instrumental analysis techniques, treatment of multiple equilibria in aqueous solutions.

L309 Quantitative Analysis Laboratory. Semester course; 6 laboratory hours. 2 credits. Pre- or co-requisite: CHE 309.

391 Topics in Chemistry. Semester course; variable credit, maximum 4 credits per semester; maximum of 6 credits for all chemistry topics courses may be applied to the major. A study of a selected topic in chemistry. See Schedule of Classes for specific topics to be offered and prerequisites.

401 Synthetic and Qualitative Organic Chemistry. Semester course; 2 lecture and 6 laboratory hours. 4 credits. Prerequisites: CHE 301-302 and L301-L302. Theory, problems, and laboratory practice of synthesis and systematic qualitative analysis of organic compounds. Emphasis is placed on modern spectrometric techniques such as ^1H and ^{13}C NMR and mass spectroscopy and on conducting multistep syntheses.

403/BIC 403 Biochemistry. Semester course; 3 lecture hours. 3 credits. Prerequisites: CHE 301-302 or equivalents with permission of instructor. A presentation of structural biochemistry, enzymology, biophysical techniques, bioenergetics, and an introduction to intermediary metabolism.

404/BIC 404 Biochemistry. Semester course; 3 lecture hours. 3 credits. Prerequisites: CHE 301-302 or equivalents with permission of instructor. A presentation of intermediary metabolism, regulation, molecular genetics, biochemistry of nutrition, and selected topics of physiological/medical significance.

406 Inorganic Chemistry. Semester course; 3 lecture hours. 3 credits. Prerequisites: CHE 303 and 304. Advanced treatment of atomic structure, chemical bonding, properties of the elements, metal complexes, acid-base theory, and related subjects.

L406 Inorganic Chemistry Laboratory. Semester course; 1 lecture and 3 laboratory hours. 2 credits. Pre- or corequisite:

CHE 406. Examination of inorganic non-metal, transition metal, and organometallic compounds using modern inorganic methods of synthesis and characterization.

409 Instrumental Analysis. Semester course; 3 lecture hours, 3 credits. Prerequisites: CHE 301-302, 303-304, and 309 with laboratories. Theory and practice of modern spectrophotometric, electroanalytical, and chromatographic and nuclear magnetic resonance methods.

L409 Instrumental Analysis Laboratory. Semester course; 4 laboratory hours, 1 credit. Prerequisites: CHE 301-302, 303-304, and 309 with laboratories.

491 Topics in Chemistry. Semester course; variable credit, maximum 4 credits per semester; maximum of 6 credits for all chemistry topics courses may be applied to the major. A study of a selected topic in chemistry. See *Schedule of Classes* for specific topics to be offered and prerequisites.

492 Independent Study. Semester course; variable credit, maximum of 4 credits per semester; maximum total for all independent study courses 8 credits. Open generally to students of junior or senior standing who have completed CHE 302, CHE L302, and CHE 309 and have a minimum GPA of 2.5 in chemistry courses. A determination of the amount of credit and the written permission of both the instructor and the department chairman must be procured prior to registration for the course. Investigation of chemical problems through literature search and laboratory experimentation. Written progress and final reports will be required.

493 Chemistry Internship. Semester course; variable credit, maximum of 3 credits. One credit will be given for each 150 hours (approximately one month) of part-time or full-time chemical work experience. Prerequisite: open to students who have completed 24 credits in chemistry. Permission of advisor and department chairman must be obtained prior to registration for the course. Acquisition of chemistry laboratory experience through involvement in a professional chemistry setting. Written progress and final reports will be required.

510 Atomic and Molecular Structure. Semester course; 3 lecture hours, 3 credits. Prerequisites: MAT 301 and PHY 208. Survey of the pertinent aspects of quantum mechanics. Line spectra, atomic structure and molecular bonding.

COURSES IN CHINESE (CHI)

101-102 Elementary Chinese. Continuous course; 5 lecture/recitation hours, 4-4 credits. Elementary grammar, reading, and oral drill.

201-202 Intermediate Chinese. Continuous course; 3 lecture hours, 3-3 credits. Rapid review of the essentials of grammar, conversation, and readings from Chinese literature.

COURSES IN THE COLLEGE OF HUMANITIES AND SCIENCES (CHS)

CHS 190 College Seminar. 1 lecture hour, 1 credit. A seminar designed for first-year programs coordinated through the Office of the Dean of the College of Humanities and Sciences. Designed to help students integrate general education courses. Open only to students who participate in these programs. May be repeated once for credit.

CHS 491 College Topics. Semester course; 3 lecture hours, 3 credits. May be repeated with different topics for maximum of six credits. A discussion of complex issues that are of enduring value or of critical interest to society. The goals of the course are to (1) bring general principles from disciplinary or a variety of disciplinary contexts to bear on specific problems; (2) exercise critical thinking; (3) understand and integrate diverse perspectives; and (4) explore models of decision-making, underlying assumptions, and implications. Open primarily to seniors; others with permission of instructor. See *Schedule of Classes* for specific issues to be offered each semester.

COURSES IN COMPARATIVE LITERATURE (CML)

301 Introduction to Comparative Literature. Semester course; 3 lecture hours, 3 credits. Prerequisite: one course in foreign or English literature. An introduction to the history, theory, and practice of comparative literature, with emphasis on practical exercises in the application of comparative methods.

391/Foreign Literature in English Translation 391 Topics in Comparative Literature. Semester course; 3 lecture hours, 3 credits. May be repeated with different topics for a maximum of 6 credits in all topics courses at the upper-division level. An in-depth study of selected topics in comparative literature. See *Schedule of Classes* for specific topics to be offered each semester.

421, 422/English 421, 422 Comparative Literature. Semester courses; 3 lecture hours, 3, 3 credits. A comparative study of the forms and contents of the literature of Western civilization in translation with some attention to the dominant influence on and inter-relationships between English and continental literatures. First semester: ancient, medieval, and renaissance. Second semester: neo-classical, romantic, and modern.

485 Seminar In Comparative Literature. Semester course; 3 lecture hours, 3 credits. Prerequisites: ENG 201-202 or equivalent, ENG 350, and 12 additional upper-division credits in English, foreign literature ARH, CML, FLT, or THE courses. Students will prepare individual papers or projects in comparative literature. The course will begin with some attention to comparative methods and procedures of independent work. Designed for comparative literature majors.

492 Independent Study. Semester course; variable credit, maximum 3 credits per semester; maximum total for all independent study courses in CML is 6 credits. Open generally only to students of junior or senior standing who have completed 12 upper-division credits in English, foreign literature, ARH, CML, FLT, or THE courses. Determination of course content and permission of the instructor must be obtained prior to registration for the course. The course is designed to give students an opportunity to become involved in independent study in a specific area of comparative literature in which they have an interest.

COURSES IN COMPUTER SCIENCE

(CSC) Computer science is one of the mathematical sciences. See *Mathematical Sciences* for course descriptions.

COURSES IN CRIMINAL JUSTICE (CRJ)

181 Justice System Survey. Semester course; 3 lecture hours. 3 credits. Comprehensive overview of criminal justice; assesses the extent of crime; reviews law enforcement, judicial and correctional processes at all levels of government; discusses history and philosophy of public safety; evaluates career opportunities.

252 Introduction to the Juvenile Justice System. Semester course; 3 lecture hours. 3 credits. This survey course studies all segments of juvenile justice and special procedures designed for young persons; recognizes the importance of proper handling of the juvenile by the police and the courts; reviews recent developments in juvenile rehabilitation.

253 Introductions to Corrections. Semester course; 3 lecture hours. 3 credits. A survey of societal responses to the offender; traces the evolution of practices based on philosophies of retribution, punishment, and rehabilitation; reviews contemporary correctional activities and their relationships to other aspects of the criminal justice system; introduces the emerging area of correctional programming within the community.

254 Introduction to Policing. Semester course; 3 lecture hours. 3 credits. A survey of different facets of law enforcement including the activities of public police agencies and private security organizations. Assesses changes in law enforcement philosophy and practices, police relationships with the public and the political arena, and anticipated future trends in policing.

255 Introduction to Legal Studies. Semester course; 3 lecture hours. 3 credits. Overview of the American legal system, processes, terminology; analysis of historical and philosophical bases of law. Examines the systems that adjudicate criminal and civil law; considers the role of law in the functioning of the justice system.

260 Criminal Law. Semester course; 3 lecture hours. 3 credits. Deals with the definition and processing of substantive offenses along with the bases of criminal liability, defenses, and complicity. Covers the scope of individual rights under due process, emphasizing arrest, interrogations, search and seizure.

305 Policing Theories and Practice. Semester course; 3 lecture hours. 3 credits. An overview of the nature and application of law enforcement theory. Examines the theoretical underpinnings of a variety of law enforcement practices, with emphasis on evolving trends.

324 Courts and the Judicial Process. Semester course, 3 lecture hours. 3 credits. Examines the systems that adjudicate criminal and civil law; includes constitutional authority, jurisdictions, and trial processes, with particular emphasis on reform in court administration, disposition without trial, and sentencing.

350 Evaluation and Treatment of the Offender. Semester course; 3 lecture hours. 3 credits. An analysis of the issues and procedures involved in evaluating individual differences in offenders and among classes of offenders; current diagnostic and treatment methods are discussed; introduces the student to case analysis and correctional counseling techniques. Includes analysis of evaluation and treatment resources external to corrections.

351 Community-Based Correctional Programs. Semester course; 3 lecture hours. 3 credits. A comprehensive review of various community-based rehabilitation and treatment efforts; includes analysis of probation, parole, work release, halfway houses, and other methods of reintegrating the offender into society.

352 Crime and Delinquency Prevention. Semester course; 3 lecture hours. 3 credits. Review and analysis of the problems associated with prevention of crime and delinquency, viewed in a total systems context. Programs and activities involving citizen, community, and agency interrelationships will be developed and examined. Students are responsible for preparing and evaluating projects with crime preventive goals.

355 Foundations of Criminal Justice. Semester course; 3 lecture hours. 3 credits. An examination of the intellectual and underpinnings of the criminal justice system. This will include analysis of evolving values and ideas regarding social control, individual and collective responsibilities and rights, the role of punishment, politics and the law, practitioners as public servants, and criminological and other foundations of the criminal justice system.

358 Lawyer's Role in the Justice System. Semester course; 3 lecture hours. 3 credits. Examines the multiple responsibilities of lawyers from an historical and contemporary perspective. The basic techniques of the lawyer's craft will be studied with emphasis placed on case advocacy, negotiation skills and legal reasoning, and problem solving.

363 Correctional Law. Semester course; 3 lecture hours. 3 credits. Examines the legal rights of both the offender and the correctional worker. Attention is given to case law and legal decisions affecting policies and procedures in probation, correctional settings, and parole. Trends influencing correctional programming and management activities will be projected.

370 Criminalistics and Crime Analysis. Semester course; 3 lecture hours. 3 credits. A comprehensive evaluation of current developments in research, instrumentation, and laboratory technology utilized to detect, identify, analyze, and compare demonstrate evidence.

378 Juvenile Justice Law and Process. Semester course; 3 lecture hours. 3 credits. Examines the juvenile court as an institution; its jurisdiction and procedures. Considers intake, pretrial diversion, and hearings, as well as rights and liabilities of the delinquent, dependent and neglected child. Contrasts juvenile and adult law; projects future impact of the court.

380 Research Methods in Criminal Justice. Semester course; 3 lecture hours. 3 credits Prerequisites; statistics or permission of instructor. Designed to familiarize the student with current and applied research methods in criminal justice, including the application of data and information processing techniques and procedures; analyzes research in criminal justice journals and government reports; and enhances the capability to evaluate contemporary research.

382/Women's Studies 382 Women in the Justice System. Semester course; 3 lecture hours. 3 credits. Surveys the special situation of women in the justice system as offenders, as victims, and as professional practitioners. Applicable laws

and public policy are studied in detail. Issues are punctuated by field trips to juvenile/adult programs and institutions.

394 Field Service in Criminal Justice. Semester course; 1 credit. Designed to provide the student with an opportunity to participate as a volunteer worker in a criminal justice agency. Offers actual experience as an agency volunteer while under supervision of a faculty advisor. May be taken three times for a total of three credits to substitute for internship requirements.

432 Criminal Justice: Organizations. Semester course; 3 lecture hours. 3 credits. Considers the behavioral dimensions of administrations in criminal justice and public safety agencies. Examines the concepts of leadership and decision making and the effect of environmental dynamics in the management of the criminal justice system.

433 Adult/Juvenile Correctional Administration. Semester course; 3 lecture hours. 3 credits. Reviews the development of theories and practices prevalent in contemporary correctional administration and management; encompasses the community safety, treatment, and custodial functions of all juvenile and adult correctional settings. Emphasizes the administrator, organizational, and legal factors which impact on program design, implementation, and operation.

434 Police Administration. Semester course; 3 lecture hours. 3 credits. Examines major management concepts and principles with special emphasis on consideration of law enforcement. Policies and procedures formulated and followed by managers in law enforcement settings will be evaluated from a structural as well as a functional perspective. Contemporary and anticipated future problems, challenges and trends facing police managers will be addressed.

460 Information Management and Data Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: CRJ 380 or permission from instructor. Demonstrates various approaches to collecting, storing, retrieving, and analyzing loss data for management use; topics include report formats, manual and computerized storage systems, BLS data pools, and report generation; emphasis will be given to statistical analysis techniques, hazard/threat identification, risk assessment procedures, and micro-computer data base applications.

462 Strategies for Delinquency and Crime Prevention. Semester course; 3 lecture hours. 3 credits. Course will examine current developments in crime and delinquency control and the challenges proposed by such developments. Assesses a variety of crime and delinquency prevention strategies and procedures for implementing them. Students will develop prevention objectives and work-action plans to reduce and prevent delinquency and crime.

463 Comparative Criminal Justice Systems. Semester course; 3 lecture hours. 3 credits. Study of national and international criminal justice systems with an emphasis on historical, cultural, and operational comparisons. Contemporary research relating to law enforcement, adjudicative, and correctional systems will be considered.

468 Economic Offenses and Organized Crime. Semester course; 3 lecture hours. 3 credits. Analysis of the types of offenses which occur in the business and governmental work and the consequences of illegal practices. Primary attention will address the public sector through the methods utilized to detect and investigate criminal activities affecting govern-

mental units. Relationships to organized crime will be described for each of the specific topics and techniques.

475 Case Studies in Criminal Procedure. Semester course; 3 lecture hours. 3 credits. Analyzes case studies reflecting the supervisory role of the courts over the prosecutorial use of testimonial and non testimonial evidence; examines by actual cases the judicial interpretive processes by which the public safety is balanced with individual rights.

480 Seminar: Critical and Career Issues in Criminal Justice. Semester course; 3 lecture hours. 3 credits. Analyzes contemporary questions relating to policies, goals, and developments throughout criminal justice; includes detailed examinations of vital issues and emerging trends which promise to affect the future. Research papers are to be prepared on selected issues. Students will assess their own career capabilities, with special emphasis on available opportunities for holders of the degree.

491 Topics in Criminal Justice. Semester course; 1-3 lecture hours. 1-3 credits per semester. In-depth examination of selected administration of justice topics. See "Schedule of Classes" for specific topics and prerequisites.

492 Directed Individual Study. Semester course; variable credit 1,2,3 credits; maximum total of 6 credits. Provides an independent study opportunity for the adult student who is (or was) employed in a criminal justice, safety, or risk administration position and who does not require internship or volunteer experience. Additionally, it is available to all other CRJ students who are seniors and have 3.0 or above GPA (with permission of department chair) as a substitute for a major elective course.

493 Internship. Semester course; 3 or 6 credits. Field internship allows the student to relate theory to practice through observation and experience; must be performed in an approved agency or organizational setting under the supervision of the instructor.

COURSES IN EARTH SCIENCE (EAS)

401/Environmental Studies 401 Meteorology and Climatology. Semester course; 3 lecture hours. 3 credits. Prerequisite: GEO 203 or a physical science sequence or permission of instructor. A basic, semi-quantitative course in the elements of weather and climate, their driving forces, and their spatial and temporal distribution and variability. Atmospheric motions and circulation, weather forecasting, human impact on weather, and climate.

L401/Environmental Studies L401 Meteorology and Climatology Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre- or corequisite: EAS 401. A series of laboratory and field experiments designed to quantify the elements of weather and climate and to interpret their local temporal and spatial variations.

411/ Environmental Studies 411 Oceanography. Semester course; 3 lecture hours. 3 credits. Prerequisite: GEO 203 or 204 or PHY 101 or a natural science sequence or permission of instructor. A basic course in the physical, chemical, and geological properties of oceans and ocean basins. Origin and character of ocean basins, properties of oceanic waters, oceanic circulation, land-sea interactions, marine environments, and ecology. Designed for earth science teachers.

COURSES IN ECONOMICS (ECO)

See the School of Business section in this *Bulletin* for course descriptions.

COURSES IN ENGLISH (ENG)

001 Fundamentals of English Composition. Semester course; 3 lecture hours. 0 credits. A course designed to prepare students for ENG 101 Composition and Rhetoric by teaching them to write clear sentences and well-developed, well-organized paragraphs. (This course is recommended for students who have not previously studied grammar and composition extensively and will be required for those students whose English placement scores indicate inadequate preparation in grammar and composition.)

002 English as a Second Language. Semester course; 2 laboratory and 2 lecture hours. 0 credits. Instruction in English pronunciation, grammar, vocabulary, and writing for students whose native language is not English. Primarily for students whose English as a second language skills are at the intermediate level.

101 Composition and Rhetoric I. Semester course; 3 lecture hours. 3 credits. Introduction to effective writing and critical analysis.

114 English Grammar and Usage. Semester course; 3 lecture hours. 2 credits. Prerequisite: ENG 101 or permission of the director of composition and rhetoric. An intensive study of the fundamentals of English grammar, usage, punctuation, mechanics, and spelling through drills and written exercises. This course is not equivalent to English 101 or 102, and these credits may not be used to satisfy the College of Humanities and Sciences degree requirement in composition and rhetoric.

NOTE: ENG 101 is prerequisite to all 200-level English courses; three (3) credits in 200-level literature courses (or equivalent) are prerequisite to all 300- and 400- level English courses.

200 Composition and Rhetoric II. Semester course; 3 lecture hours. 3 credits. Prerequisites: English 101 and sophomore standing (completion of 24 credits). Principles and practices of critical reading, analysis, and writing; methods and criteria for finding and evaluating information from a variety of printed and electronic sources; appropriate ways to use and document outside evidence in academic writing.

201, 202 Western World Literature. Semester courses; 3 lecture hours. 3, 3 credits. A general study of Western world literature, including English and American literature. First semester: Homer to Shakespeare. Second semester: Milton to Faulkner.

203, 204 British Literature. Semester courses; 3 lecture hours. 3, 3 credits. A survey of the literature of Britain with collateral readings, discussions, and reports. First semester: *Beowulf* to Johnson. Second semester: Wordsworth to Auden.

205, 206 American Literature. Semester courses; 3 lecture hours. 3, 3 credits. A survey of the literature of the United States. First semester: before 1865. Second semester: since 1865.

215 Introduction to Literary Genres. Semester course; 3 lecture hours. 3 credits. A study of the major literary genres (e.g., poetry, fiction, drama), designed to develop an understanding and appreciation of literature.

216 Stories. Semester course; 3 lecture hours. 3 credits. A study of what makes good or satisfying storytelling through discussion of such narrative forms as jokes, folktales, radio scripts, children's tales, short stories, and novels.

236/Women's Studies 236 Women in Literature. Semester course; 3 lecture hours. 3 credits. A study of literature by and about women with the intent of exploring images of women as reflected in fiction, poetry, and drama.

241 Introduction to Shakespeare. Semester course; 3 lecture hours. 3 credits. A close reading of a limited number of plays with careful attention to Shakespeare's art and dramatic conventions.

291 Topics in Language or Literature. Semester course; 3 lecture hours. 3 credits; maximum 6 credits in all topics courses at the 200 level. An in-depth study of a selected topic or genre in language or literature. See *Schedule of Classes* for specific topic to be offered each semester.

300 Practical Writing Workshop. Semester course; 3 workshop hours. 1-3 credits; 5, 10, or 15 weeks. Prerequisite: ENG 101 102. Practical Writing Workshop is a variable credit course covering organization, writing, and revision skills useful in upper-level university classes and on-the-job situations. Classes will be conducted as workshops, discussions, and lectures. Assignments may consist of essays, revision exercises, summaries, critical reviews, letters, and resumes. Does not satisfy the Humanities and Sciences minimum competency writing requirements or count toward requirements for the English major or minor.

301 English Studies Modules: _____. One-half semester course; 1.5 lecture hours. 1.5 semester hours of credit per module. Prerequisite: ENG 101 and three credits of literature at the 200-level (or equivalent). A series of short courses which focus on skills helpful early in the English major, introducing students to the ways in which language is used in literary texts and including practice in shaping written responses to those texts. See *Schedule of Classes* for module topics. Students may not receive credit for 2 modules on same topic.

302 Legal Writing. Semester course; 3 lecture hours. 3 credits. Intensive practice in writing on subjects related to law or legal problems. Emphasis on organization, development, logical flow, and clarity of style. May not be used to satisfy the literature requirement of the College of Humanities and Sciences requirement in literature.

304 Advanced Composition. Semester course; 3 lecture hours. 3 credits. An advanced study of the writing of nonfiction prose, such as interviews, reviews and criticism, satire and humor, scientific and analytic writing. Techniques of rewriting and publishing will also be considered. May not be used to satisfy the literature requirement of the College of Humanities and Sciences.

305 Creative Writing: Genres. Semester course; 3 workshop hours. 3 credits. May be repeated once for credit. Sections: poetry, fiction, drama, or multigenre. A workshop

primarily for students who have not produced a portfolio of finished creative work. Students will present a collection of their work at the end of each course. See *Schedule of Classes* for specific genres to be offered each semester. May not be used to satisfy the literature requirement of the College of Humanities and Sciences requirements in literature.

307/Education 307 Teaching Writing Skills. Semester course; 3 lecture hours. 3 credits. Studies the theory and methods for teaching writing to students in middle and secondary schools. Teaches strategies for prewriting, composing, peer revision, evaluation, and topic construction. Includes extensive journal and essay writing. May not be used to satisfy the literature requirements of the College of Humanities and Sciences.

313 Southern Literature. Semester course; 3 lecture hours. 3 credits. A study of the literature of the South with attention to writers such as Byrd, Poe, Chopin, Faulkner, Welty, Wolfe, O'Connor, Walker, and Percy.

314/African-American Studies 314 African-American Literature. Semester course; 3 lecture hours. 3 credits. An examination of the culture and literature of African-Americans from their roots in Africa and the African diaspora to the present day. Authors may include Wheatley, Jacobs, Wilson, Brown, Dubois, Hurston, Wright, Gaines, and Morrison.

315 The Modern Novel. Semester course; 3 lecture hours. 3 credits. An examination of the novel, chiefly British and European, in the twentieth century.

316 Modern Poetry. Semester course; 3 lecture hours. 3 credits. A study of British and American poetry in the first half of the twentieth century.

317 Modern Drama. Semester course; 3 lecture hours. 3 credits. A study of the development of Continental, English, and American drama since Ibsen.

318 Contemporary Poetry. Semester course; 3 lecture hours. 3 credits. A study of British and American poetry from approximately 1950 to the present for the purpose of determining the aesthetic and thematic concerns of contemporary poets.

320 Eighteenth-Century British Literature. Semester course; 3 lecture hours. 3 credits. A survey of representative poetry, drama and prose from the Restoration and eighteenth century, usually including Behn, Dryden, Pope, Swift, Johnson, and Gay.

321 Romantic Literature. Semester course; 3 lecture hours. 3 credits. Exploration of the literature and the cultural phenomenon of Romanticism in Britain during the years 1783-1873, with reading from poets such as Blake, Wordsworth, Byron, and Shelley, and from a variety of other writers.

322 Victorian Poetry. Semester course; 3 lecture hours. 3 credits. A survey of the poetry of Victorian Britain, usually including Tennyson, the Brownings, Arnold, and the pre-Raphaelites.

323 Twentieth Century British Literature. Semester course; 3 lecture hours. 3 credits. Representative British poetry, fiction, and drama of the twentieth century, usually including Yeats, Joyce, Shaw, Lawrence, Conrad, Auden, Forster, Woolf, Thomas, and Orwell.

327/Business 327 Business and Technical Report Writing. Semester course; 3 lecture hours. 3 credits. Development of critical writing skills used in business, science, technology, and government, including instructions, descriptions, process explanations, reports, manuals, and proposals. The course will include such topics as communication theory, technical style, illustrations, formats for proposals, reports, and manuals. May not be used to satisfy the literature requirement of the College of Humanities and Sciences.

335 The Glories of the English Renaissance. Semester course; 3 lecture hours. 3 credits. An introduction to some of the most exciting works of a dynamic age, providing an understanding not only of the achievements of Shakespeare, Spenser, and Milton, but also of the literary period from which they emerged.

350 Approaches to Literature. Semester course; 3 lecture hours. 3 credits. The study and application of various critical approaches—historical, sociocultural, psychological, archetypal, and formalist—used in analyzing literary works.

351/Education 351 Children's Literature I. Semester course; 3 lecture hours. 3 credits. Designed to give students an appreciation of children's literature; includes biography, fable, myth, traditional and modern fanciful tales, and poetry, as well as a survey of the history of children's literature. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

361/Religious Studies 361 The Bible As Literature. Semester course; 3 lecture hours. 3 credits. Literary aspects of the Bible will be considered. Also attention will be given to the history of the English Bible.

363/African-American Studies 363 African Literature. Semester course; 3 lecture hours. 3 credits. A survey of the literatures of Africa with particular emphases on fiction and on West Africa. Some attention will also be given to orature.

365/African-American Studies 365 Caribbean Literature. Semester course; 3 lecture hours. 3 credits. A survey of West Indian writings. Attention will be given to African, European, and Amerindian influences, as well as to the emergence of a West Indian literary tradition.

367 Eastern Thought In Western Literature. Semester course; 3 lecture hours. 3 credits. An exploration of the influence of Eastern thought on selected Western writers, with emphasis on the period from the nineteenth century to the present.

371 American Literature: Colonial and Federal. Semester course; 3 lecture hours. 3 credits. A study of the most important writings from the founding of the first colonies to the establishment of the federal government with attention to such authors as Bradford, Byrd, Bradstreet, Taylor, Edwards, and Franklin.

372 American Literature: American Romanticism. Semester course; 3 lecture hours. 3 credits. A study of the writings of the American romantics in the nineteenth century, with attention to such authors as Poe, Emerson, Thoreau, Fuller, Hawthorne, Melville, Dickinson, and Whitman.

373 American Literature: Realism and Naturalism. Semester course; 3 lecture hours. 3 credits. A study of writings from the end of the Civil War to World War I, with attention

to such authors as Dickinson, Clemens, Howell, James, Wharton, Crane, Norris, Dreiser, Chopin and Chesnut.

374 American Literature: Early Twentieth Century. Semester course; 3 lecture hours. 3 credits. A study of the most important writings between World War I and World War II, with attention to such authors as Anderson, Frost, Eliot, Stein, Glasgow, Fitzgerald, Wright, Cather, Hemingway, O'Neill, Hurston, Toomer, and Faulkner.

375 American Literature: Contemporary. Semester course; 3 lecture hours. 3 credits. A study of American writings since the end of World War II, with some attention to such authors as Albee, Auster, Baldwin, Carver, Didion, Ellison, Ginsberg, Lowell, Morrison, Percy, Plath, Salinger, and Walker.

381 Fiction Into Film. Semester course; 2 lecture and 1 laboratory hour. 2 or 3 credits, 10 to 15 weeks, decided in advance. A study of the translation of literature into film. Topical approaches vary from semester to semester. Consideration is given to the literature in its original form and to the methods of translating it into film.

384/WST 384. Women Writers. Semester course; 3 lecture hours. 3 credits. A study of selected literature written by women and about women writers. May be repeated once when different groups of writers are studied.

385/ Environmental Studies 385 Nature Writing. 3 lecture hours. 3 credits. A study of the literary genre of nature writing in English.

386/Anthropology 386 Introduction to Folklore. Semester course; 3 lecture hours. 3 credits. A survey of the basic forms of folklore including proverbs, riddles, ballads, folktales, legends, myths, and games. The survey will also include approaches to collecting material and examining its literary, social, and historical significance.

390 Studies In Satire. Semester course; 3 lecture hours. 3 credits. Studies in the satiric mode, with some attention to the definition and development of the mode.

391 Topics In Literature. Semester course; 3 lecture hours. 3 credits; maximum 12 credits in all topic courses at the upper-division level. Prerequisite: junior standing. An in-depth study of a literary genre, an aesthetic or cultural theme in literature, or of a major writer in English or American literature. See *Schedule of Classes* for specific topic to be offered each semester.

***400 Shakespeare: The Early Works.** Semester course; 3 lecture hours. 3 credits. Study of the plays and poems written before 1600, focusing primarily on the comedies and histories.

***401 Shakespeare: The Later Works.** Semester course; 3 lecture hours. 3 credits. Study of the plays written in 1600 and after, focusing primarily on the mature tragedies and late romances.

***402 Chaucer.** Semester course; 3 lecture hours. 3 credits. A study of *The Canterbury Tales*, with some attention to the early works.

***403 Milton.** Semester course; 3 lecture hours. 3 credits. A study of shorter poems, selected prose, *Paradise Lost*, and *Samson Agonistes*.

407 Medieval Epic and Romance. Semester course; 3 lecture hours. 3 credits. A study of the vernacular epic and the romance in England and on the continent prior to 1500.

409 Medieval Studies. Semester course; 3 lecture hours. 3 credits. Studies in the English language and literature of the Middle Ages in its cultural context. May be repeated with different topics for a maximum of six credits.

410 Renaissance Studies:
Semester course; 3 lecture hours. 3 credits. Studies in the English language and literature of the sixteenth and seventeenth centuries. May be repeated with different topics for a maximum of six credits.

411 Eighteenth-Century British Studies. Semester course; 3 lecture hours. 3 credits. Studies in the literature, language and culture of Restoration and eighteenth-century England. May be repeated with different topics for a maximum of six credits.

414 American Novels and Narratives. Semester course; 3 lecture hours. 3 credits. A study of selected American novels from 1789 to the present with some attention to other forms of narrative that reflect the varied experiences of diverse groups of Americans.

415 English Novel, Eighteenth Century. Semester course; 3 lecture hours. 3 credits. A study of the British novel in the eighteenth century, usually including Defoe, Richardson, Fielding, Burney, Sterne, Austen, Radcliffe, and Walpole.

416 British Novel, Nineteenth Century. Semester course; 3 lecture hours. 3 credits. A study of the English novel, usually including Austen, Dickens, Thackeray, the Brontës, George, Eliot, and Hardy.

421, 422/Comparative Literature 421, 422 Comparative Literature. Semester courses; 3 lecture hours. 3, 3 credits. A comparative study of the forms and contents of the literature of Western civilization in translation with some attention to the dominant influence on and interrelationships between English and continental literatures. First semester: ancient, medieval, and renaissance. Second semester: neoclassical, romantic, and modern.

423 English Drama, 900-1642. Semester course; 3 lecture hours. 3 credits. A study of the origin of the English drama and its development until the closing of the theaters in 1642, exclusive of Shakespeare.

424 Restoration and Eighteenth Century Drama. Semester course; 3 lecture hours. 3 credits. A study of English drama from 1660-1777, usually including the comedy of manners, sentimental comedy, ballad opera, farce, and heroic and bourgeois tragedy.

426-427/Theatre 426-427 Playwriting. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: ENG 317 or permission of instructor. A practical introduction to the creation of original scripts for theatre. Works may be selected for reading and performance. May not be used to satisfy the College of Humanities and Sciences requirements in literature.

429 Form and Theory of Poetry. Semester course; 3 lecture hours. 3 credits. A study of the poetics, including prosody, with attention to the nature and functioning of language in poetry (especially metaphor), the development of poetic

genres, and the process by which poems are created and come to have meaning.

430 Form and Theory of Fiction. Semester course; 3 lecture hours. 3 credits. A study of narration in verbal and other media, with attention to the nature, organization, and functioning of language in narrative, the development of narrative genres, and the process by which narratives are created and come to have meaning.

433/Education 433 Literature for Adolescents. Designed to acquaint the prospective secondary school English teacher with the nature, scope, and uses of adolescent literature. The student is acquainted with reading materials for meeting the varied needs and interests of adolescents. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

435, 436 Creative Writing: Poetry. Semester courses; 3 workshop hours. 3, 3 credits. Prerequisite: permission of instructor. Study of the craft of writing, with instruction and guidance toward constructive self-criticism. Workshop members will be expected to produce a substantial volume of quality work and to become proficient in critical analysis in order to evaluate and articulate the strength of their own poetry. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

437, 438 Creative Writing: Fiction. Semester courses; 3 workshop hours. 3, 3 credits. Prerequisite: permission of instructor. Study of the craft of fiction writing, with instruction and guidance toward constructive self-criticism. Workshop members will be expected to produce a substantial volume of short stories or portion of a novel and to become proficient in the critical analysis of fiction in order to evaluate and articulate the strength of their own work. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

***449/Linguistics 449 Anthropology 449 Introduction to Linguistics.** Semester course; 3 lecture hours. 3 credits. An introduction to methods of language analysis, emphasizing the study of sounds and sound patterns, and units of meaning and their arrangements. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

***450/Linguistics 450 Modern Grammar.** Semester course; 3 lecture hours. 3 credits. Study of modern English grammar and usage with some attention to linguistic theory. Recommended for teachers at all levels. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

***451/Linguistics 451 History of the English Language.** Semester course; 3 lecture hours. 3 credits. The historical development of the English language; etymology, morphology, orthography, and semantics. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

***452/ Women's Studies 452/Linguistics 452 Language and Gender.** Semester course; 3 lecture hours; 3 credits. A study of relationships between gender and language by focusing on such issues as differences between the ways women and men use language, relationships between language and power, and ways in which language reflects and reinforces cultural attitudes toward gender. May not be used to satisfy

the College of Humanities and Sciences requirement in literature.

453/Linguistics 453 Introduction to Modern Rhetoric. Semester course; 3 lecture hours. 3 credits. An introduction to the broad range of modern rhetorical theories, emphasizing their relationships with linguistics, literary criticism, and the process of writing. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

491 Topics in Literature. Semester course; 3 lecture hours. 3 credits; maximum 12 credits in all topics courses at the upper-division level. An in-depth study of a selected literary topic or genre or of one or two major writings in English or American literature. See *Schedule of Classes* for specific topic to be offered each semester.

492 Independent Study. Semester course; variable credit, maximum 3 credits per semester. Student may take no more than 9 hours total. Generally open only to upper-class students with at least 12 hours of English. To register, the student must write a proposal and have it approved by the supervising instructor, the director of undergraduate studies, and the department chairperson. This course is designed for students who wish to do extensive reading and writing in a subject not duplicated by any English course in the Bulletin. It may not be used for a writing project.

493 English Internship. Semester course; 1-3 credit hours per semester, maximum total of 6 credits. Open to students with demonstrable writing ability; completion of ENG 302, 304, or 327 is recommended. Students will apply research, writing, and/or editing skills in an approved job in areas such as business, government, law, or financial services. Permission and determination of credit must be established prior to registration.

552/Education 552 Teaching English as a Second Language. Semester course; 3 lecture hours. 3 credits. Provides students who plan to teach English to people whose native language is not English with techniques used in teaching foreign languages. Contrastive analyses of morphology, phonology, and syntax are used to isolate areas of difficulty in learning English.

COURSES IN ENVIRONMENTAL STUDIES (ENS)

103 (114)/Biology 103 (114) Environmental Science. Semester course; 3 lecture hours and 1 recitation hour. 4 credits. Prerequisite: BIO 109 OR BIO 110 OR CHE 101 OR CHE 103 OR PHY 101 OR PHY 201 OR PHY 207. Basic scientific principles of environmental processes. Draws together aspects of biology, chemistry, geology, physics, and sociology. Among the topics covered are ecology, natural resources, air and water resources, energy and recycling, population biology and sustainable global societies. (Intended for CRJ, ENG, HIS, MAC, PHI, RST, POS, PSY, SOA, URS, foreign language majors, and programs in other Schools requiring science courses. Not intended for other Humanities and Sciences majors.)

L103 (114)/Biology L103 (114) Environmental Science Laboratory. Semester courses; 2 hours. 1 credit. Laboratory exercises correlated with BIO 103 (114). Pre- or co-requisite: BIO 103 (114). (Intended for CRJ, ENG, HIS, MAC, PHI, RST, POS, PSY, SOA, URS, foreign language majors, and

programs in other Schools requiring science courses. Not intended for other Humanities and Science majors.)

311/Political Science 311 Politics of the Environment. Semester course; 3 lecture hours 3 credits An exploration of the current controversy about environmental politics and the issues and crisis it centers on. Special attention will be given to the constitutional, political, and geographical factors in the development of environmental policy and the organized effort to deal with governmental actions and inaction and its impact on policy outcomes.

314/Biology 315 Man and Environment. 3 lecture hours. 3 credits. A comparative study of the ecology and natural history of human populations, including the environmental as determining factors in the evolution of human institutions and technology, resources management, and population control; basic theory of population crises; cultural traditions as mechanisms of population control; basic theory of population biology. (Not applicable to the biology major.)

315/Physics 315 Energy and the Environment. Semester course; 3 lecture hours, 3 credits. Open to non-physics majors; not applicable to the physics majors. Prerequisite: junior or senior standing. A study of society's demand for energy, how it is currently being met, the environmental consequences thereof, and some discussion of alternatives.

330/Biology 332 Environmental Pollution. Semester course; 3 lecture hours. 3 credits. Prerequisite: eight credits in biology. The pollution in the environment with emphasis on the procedures for detection and abatement. (Not applicable to the biology major.)

331/Urban Studies 331 Environmental Systems. Semester courses; 3 lecture hours. 3 credits. Consists of a broad overview of relevant physical science subjects: climatology, soils science, plant ecology, hydrology, geology, and geomorphology. These subjects are viewed together in a systems framework for taking into account the many interactions among environmental systems and between these systems and man.

332/Urban Studies 332 Environmental Management. Semester course; 3 lecture hours. 3 credits. Provides a framework for development environmental management objectives and techniques. The focus of the course is on a study of natural hazards in Virginia and a variety of approaches to reducing losses from these hazards.

385/English 385 Nature Literature. Semester course; 3 lecture hours. 3 credits. A study of the literary genre of nature writing in English.

401/Earth Science 401 Meteorology and Climatology. Semester course; 3 lecture hours. Prerequisite: GEO 203 or a physical science sequence or permission of instructor. A basic, semi-quantitative course in the elements of weather and climate, their driving forces, and their spatial and temporal distribution and variability. Atmospheric motions and circulation, weather forecasting, human impact on weather, and climate.

L401 Earth Science L401 Meteorology and Climatology Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre or corequisite: EAS 401. A series of laboratory and field experiments designed to quantify the elements of weather and

climate and to interpret their local temporal and spatial variations.

411/Earth Science 411 Oceanography. Semester course; 3 lecture hours. 3 credits. Prerequisite: GEO 203 or PHY 101 or a natural science sequence or permission of instructor. A basic course in the physical, chemical, and geological properties of oceans and ocean basins. Origin and character of ocean basins, properties of oceanic waters, oceanic circulation, land-sea interactions, marine environments, and ecology. Designed for earth science teachers.

490 Research Seminar in Environmental Studies. Semester course; 3 lecture hours. 3 credits. Prerequisite: senior standing and at least 12 hours of approved environmental studies course work. An interdisciplinary examination of problems and issues central to environmental studies. Environmental research of VCU faculty will be reviewed, and selected local environmental problems will be studied. A research project focusing on a specific environmental question will be completed by each student.

491 Topics in Environmental Studies. Semester course; variable credit, 1-3 credits per semester; may be repeated with different topics for a maximum of 6 credits. Prerequisites vary by topic; see class schedule for specific prerequisites. An in-depth study of a selected environmental topic.

492 Independent Study. Semester course; variable credit, maximum 3 credits per semester; maximum total credits for all topics courses 6 credits. Open generally to juniors or seniors who have declared environmental studies as a minor. Determination of the amount of credit and permission of instructor must be procured prior to registration for the course.

493 Environmental Studies Internship. Semester course; variable credit. 1-3 credits per semester; maximum total of 6 credits. Open to students of senior standing who have had some background in environmental studies. Students receive credit for work on environmental projects with approved agencies. Participation requires the approval of both a faculty member and an agency. Grading on a pass/fail basis.

COURSES IN EUROPEAN CULTURES (EUC)

307 Aspects of German Culture. Semester course; 3 lecture hours. 3 credits. A broad interdisciplinary approach to an understanding of German culture, language, and literature. Lectures in English by guest speakers and/or use of films as required. (This course will not satisfy foreign language requirements. No knowledge of German is required. All work is done in English.)

311 Classical Mythology. Semester course; 3 lecture hours. 3 credits. The basic myths of the Greek and Roman heritage. Their impact in culture then and now; from the origins of Greek myth to the superstitions of the late Roman and early Christian world.

340/Urban Studies 350 Culture and Urbanism in Great European Cities. Semester course; 3 lecture hours. 3 credits. Prerequisite: sophomore standing or permission of instructor. Course may be repeated under different topics for a total of six credits. An interdisciplinary course with a dual focus on the origin, expansion, and significance of an important European

city and on reflections of urbanism in its culture. Particular emphasis will be placed on relating the physical, social and economic aspects of the city's growth and development to the cultural dimensions of urbanism, especially as the latter are manifested in major works of literature.

COURSES IN FOREIGN LANGUAGE (FLA)

490 Foreign Languages Internship. Semester course; 50 to 150 clock hours in local, national, or international internship placement where the use of a foreign language is required, 1-3 credits. Prerequisites: prior completion of nine credits in a foreign language at the 300 level, with a course in advanced grammar and composition, one in conversation and one in civilization. Students studying languages in which the 300 level courses are not available will be handled on a case by case basis in the screening process. All students will be screened before acceptance. Under the supervision of both a faculty member and a field supervisor, students will apply their linguistic skills in an approved work situation and each internship will be specifically designed in accordance with the student's linguistic level and the job requirements. The internship may be carried out in the United States or abroad.

COURSES IN FOREIGN LITERATURE IN ENGLISH TRANSLATION (FLT)

311 The Humanist Quest in French Literature. Semester course; 3 lecture hours. 3 credits. A study of the developing concept of humanism in French literature from the Middle Ages to the end of the eighteenth century. (This course will not satisfy foreign language requirements. No knowledge of French is required. All work is done in English.)

312 Revolt and Renewal in Modern French Literature. Semester course; 3 lecture hours. 3 credits. A study of the twin themes of revolt and renewal in French literature of the nineteenth and twentieth centuries. (This course will not satisfy foreign language requirements. No knowledge of French is required. All work is done in English.)

321 Early German Literature. Semester course; 3 lecture hours. 3 credits. Changing perspectives in German literature from its pagan beginnings, through the Medieval Golden Age, Baroque extremism, the Enlightenment, and Storm and Stress up to Classicism and Goethe's *Faust*. Treatment of *The Nibelungenlied*, the courtly epic, *Simplicissimus*, and selections by Lessing, Schiller, and Goethe. (This course will not satisfy foreign language requirements. No knowledge of German is required. All work is done in English.)

322 Modern German Literature. Semester course; 3 lecture hours. 3 credits. Growing psychological awareness and alienation of the individual in German literature of the nineteenth and twentieth centuries. Representative works chosen from among writers of the past century and such modern writers as Thomas Mann, Kafka, Hesse, Brecht, Boll, and Grass. (This course will not satisfy foreign language requirements. No knowledge of German is required. All work is done in English.)

391 Topics in Foreign Literature in English Translation. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for a total of 12 credits. An in-depth study of selected topics in foreign literature. (This course will

not satisfy foreign language requirements. No knowledge of a foreign language is required. All work is done in English.)

492 Independent Study. Semester course; 1, 2, or 3 credits, maximum 3 credits per semester; maximum total of all FLT independent study courses 6 credits. Open generally only to students of junior or senior standing who have acquired at least 12 hours in any literature courses. Determination of course content and permission of the instructor and department chairman must be obtained prior to registration for the course. A course designed to give students an opportunity to become involved in independent study in a literary or linguistic area or subject in which they have an interest and for which they have the necessary background.

COURSES IN FRENCH (FRE)

101-102 Elementary French. Continuous course; 5 lecture/recitation hours. 4-4 credits. Elementary grammar, reading, and oral drill.

201 Intermediate French. Semester course; 3 lecture hours. 3 credits. Continuation of the essentials of grammar with emphasis on achieving proficiency in aural comprehension, speaking, reading, and writing skills.

NOTE: In order to complete French through the intermediate level, a student may select French 202 or 205.

202 Intermediate French Readings. Semester course; 3 lecture hours. 3 credits. Prerequisite: FRE 201 or the equivalent. Designed to increase the student's proficiency through the study of selected cultural and literary texts.

205 Intermediate Conversation. Semester course; 3 lecture hours. 3 credits. Prerequisite: FRE 201 or the equivalent. Designed to increase the student's proficiency in the spoken language through audio-oral exercises, dialogues, and free conversation.

NOTE: Non Foreign Language majors who wish to take one or two upper-level classes only need to complete SPA 202 or 205, not 295.

301, 302 Survey of Literature. Semester courses; 3 lecture hours. 3, 3 credits. Conducted in French. Prerequisite: French through the intermediate level or the equivalent. First semester: through the eighteenth century. Second semester: nineteenth and twentieth centuries.

303, 304 Advanced Grammar and Writing. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: French through the intermediate level or the equivalent. A systematic review of French grammar with emphasis on the elements of style and vocabulary building; translation and composition.

305 French Conversation. Semester course; 3 lecture hours. 3 credits. Conducted in French. Prerequisite: French through the intermediate level or the equivalent. Practice in the spoken language with emphasis on discussions relating to topics of current interest.

306 French Civilization I. Semester course; 3 lecture hours. 3 credits. Conducted in French. Prerequisite: French through the intermediate level or the equivalent. A survey of the civilization and culture of France from the origins to the French Revolution.

307 French Civilization II. Semester course; 3 lecture hours. 3 credits. Prerequisite: French through the intermediate level or the equivalent. Conducted in French. A treatment of French culture from the Napoleonic era to the present with a particular focus on the French-speaking countries.

311 French Through the Media. Semester course; 3 lecture hours. 3 credits. Prerequisite: French through the intermediate level or the equivalent. A course designed to develop language proficiency by using material available through the various media; newspapers, magazines, films, slides, and radio broadcasts.

314 Commercial French. Semester course; 3 lecture hours. 3 credits. Prerequisite: French through the intermediate level or the equivalent. The course will develop the student's ability to use the French language as a means of oral and written communication in the business world. Particular emphasis will be given to the study of the technical tools necessary for the task of translating in specialized fields.

NOTE: FRE 301, 302, or 303, 304 are prerequisite to all of the following courses.

411 The Middle Ages. Semester course; 3 lecture hours. 3 credits. Reading and discussion of the following: *La Chanson de Roland*, *Chretien de Troyes*, *Erec et Enide*; *Aucassin et Nicolette*; *Villon*.

412 The Sixteenth Century. Semester course; 3 lecture hours. 3 credits. A study of the Rhetoriqueurs; Rabelais; the Court of Francis I; the Pleiade; selections from Montaigne's *Essais*; the Baroque poets.

413 The Seventeenth Century. Semester course; 3 lecture hours. 3 credits. Conducted in French. Baroque and Classical readings including prose, poetry, and drama of the authors of the reign of Louis XIV; Pascal, La Rochefoucauld, La Bruyere, Corneille, Racine, and Moliere.

416 The Eighteenth Century. Semester course; 3 lecture hours. 3 credits. Principal movements in the various genres; the "philosophes;" the growth of liberalism as reflected in the literature of Montesquieu, Voltaire, Diderot, and Rousseau. Readings from Marivaux, Prevost, and Vauvenargues.

417 The Nineteenth Century. Semester course, 3 lecture hours. 3 credits. A detailed study of the major movements in nineteenth-century French literature: *Romanticism*-Chateaubriand, Lamartine, Hugo, Balzac, and Stendhal; *Realism*-Flaubert; *Naturalism*-Zola; and *Symbolism*-Baudelaire, Verlaine, Rimbaud, and Mallarme.

420 The Twentieth Century. Semester course; 3 lecture hours. 3 credits. Readings and discussion of the novel from Proust to the "nouveau roman," of the drama from Surrealism to Antitheatre, and of poetry from Symbolism to contemporary poets.

491 Topics in French. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for a total of six credits. An in-depth study of selected topics in French. See *Schedule of Classes* for specific topic to be offered each semester.

492 Independent Study. Semester course; variable credit, maximum 3 credits per semester; maximum total for all independent study courses in French 6 credits. Open gener-

ally only to students of junior or senior standing who have six credits of upper-level French courses and/or have a demonstrated competency in the language. Determination of course content and permission of the instructor must be obtained prior to registration for the course. A course designed to give students an opportunity to become involved in independent study in a literary or linguistic area or subject in which they have an interest.

COURSES IN GEOGRAPHY (GEO)

102 Introduction to Cultural Geography. Semester course; 3 lecture hours. 3 credits. An introduction to the way in which man has modified his world, emphasizing the patterns of migration, the livelihoods of man, and the environments in which these modifications took place and continue to occur.

203, 204 Physical Geography. Semester courses; 3 lecture hours. 3, 3 credits. Analysis of the interrelated systems of the earth. First semester: the earth in space, atmosphere, climate, natural vegetation, soils. Second semester: landforms, hydrology, oceanography. Physical Geography Laboratories L203, L204 are optional.

L203, L204 Physical Geography Laboratory. Semester courses; 2 laboratory hours. 1, 1 credits. Pre- or corequisite: GEO 203 for L203, GEO 204 for L204. Optional. First semester: the earth in space, map reading, climates, vegetation, soils. Second semester: landforms, geologic maps, hydrology, oceanography.

207, 208 World Regions. Semester courses; 3 lecture hours. 3, 3 credits. An examination of the various regions of the earth, including land forms, climate, resources, peoples, agriculture, and urban conditions. First semester: Anglo-America, Latin America, Western Europe, Eastern Europe, USSR. Second semester: Middle East and North Africa, Africa (south of the Sahara), Indian Subcontinent, China, Japan, Southeast Asia, Oceania.

302/Urban Studies 302 Land Use Capability. semester course; 3 lecture hours. 3 credits. An introduction to the principles, concepts, and knowledge involved in determining the capacity of land under various conditions to support a variety of uses.

306/Urban Studies 306 The Urban Economic Base. Semester course; 3 lecture hours. 3 credits. Prerequisite: Either STA 213 and BUS 161, 162, 163; or CSE 242 or CSE 243. Explores the nature of work as it is organized in urban businesses, the interdependence of industries, and the reasons why different cities develop different types of economies. Policies and strategies for developing and maintaining health urban economies will be discussed in detail This course is a prerequisite for USP 322 Urban Finance.

311, 312/Anthropology 311, 312 History of Human Settlement. Semester courses; 3 lecture hours. 3, 3 credits. A cultural geography of man's diffusion over the earth, agricultural and urban systems, exploration, migration and colonization, and changing attitudes toward the environment. First semester: before 1750. Second semester: during and since the Industrial Revolution.

313/Urban Studies 313 Urban Research and Field Methods. Semester course; 1 lecture and 4 laboratory hours. 3

credits. Prerequisites: CSE 241 and CSE 242, or CSE 243 or STA 213 and BUS 161, 162, 163; or consent of the instructor. Methods of data collection, organization, and updating; the use of secondary information; applications of elementary statistical analysis and of graphic and cartographic analysis.

322 World Political Geography. Semester course; 3 lecture hours. 3 credits. A study of geographic factors in world power and international affairs, including such topics as resources, national unity, boundaries, etc. Specific areas of international tension may also be considered.

331/Environmental Studies 331/Urban Studies 331 Environmental Systems. Semester course; 3 lecture hours. 3 credits. Consists of a broad overview of relevant physical science subjects: climatology, soils science, plant ecology, hydrology, geology, and geomorphology. These subjects are viewed together in a systems framework taking into account the many interactions among environmental systems and between these systems and man.

332/Environmental Studies 332/Urban Studies 332 Environmental Management. Semester course; 3 lecture hours. 3 credits. Provides a framework for developing environmental management objectives and techniques. The focus of the course is on a study of natural hazards in Virginia and a variety of approaches to reducing losses from these hazards.

333/African-American Studies 333 Geography of Africa. Semester course; 3 lecture hours. 3 credits. A study of the land forms, climate, peoples, boundaries, trade, and cultural groupings of the African continent.

334 Regional Geography of _____. Semester course; 3 lecture hours. 3 credits. A study of the land forms, climate, resources, peoples, agricultural and urban conditions in a specific region such as North America, Europe, Latin America, the Middle East and India, the USSR, and Eastern Europe. See *Schedule of Classes* for specific region to be studied each semester.

340/Urban Studies Urban Habitat. Semester course; 3 lecture hours. 3 credits. An examination of urban habitats in a variety of geographical regions, with emphasis on their differences and their common experiences.

391 Topics in Geography. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics to a maximum of nine credits. An in-depth study of a selected topic in geography. See *Schedule of Classes* for specific topics to be offered each semester.

451 Cultural Geography of Virginia. Semester course; 3 credits. Examination of various cultural geographic factors, focusing on such subjects as contemporary or historical settlement patterns, rural and/or urban development, ethnic groups and migration patterns, or environmental problems. May include field trips.

460 Richmond and its Environs. Semester course; 4 field/lecture hours. 3 credits. Prerequisite: upper-division standing or permission of instructor. An analysis through lectures, discussions, and field trips of Richmond's physical characteristics (its site); relationship with the counties surrounding it (its situation); and the changes in its site and situation caused by cultural, economic, historical, and physical factors.

492 Independent Study. Semester course; variable credit, 2-4 credits per semester; maximum total of 6 credits. Open generally only to students of junior or senior standing. Determination of the amount of credit and permission of instructor and department chairman must be obtained prior to registration for the course. To be eligible, students must have 12 credits in geography or in geography and geology.

COURSES IN GERMAN (GER)

101-102 Elementary German. Continuous courses; 5 lecture/recitation hours. 4-4 credits. Elementary grammar, reading, and oral drill.

201 Intermediate German. Semester course; 3 lecture hours. 3 credits. Continuation of the essentials of grammar with emphasis on achieving proficiency in aural comprehension, speaking, reading, and writing skills.

NOTE: In order to complete German through the intermediate level, a student may elect German 202 or 205.

202 Intermediate German Readings. Semester course; 3 lecture hours. 3 credits. Prerequisite: GER 201 or the equivalent. Designed to increase the student's proficiency in German through the study of selected cultural and literary texts.

205 Intermediate Conversation. Semester course; 3 lecture hours. 3 credits. Prerequisite: GER 201 or the equivalent. Designed to increase the student's proficiency in the spoken language through audio-oral exercises, dialogues, and free conversation.

NOTE: Non Foreign Language majors who wish to take one or two upper-level classes only need to complete SPA 202 or 205, not 295.

301, 302 Survey of Literature. Semester courses; 3 lecture hours. 3, 3 credits. Conducted in German. Prerequisite: German through the intermediate level or the equivalent. First semester: beginnings of German literature through the literature of the first half of the nineteenth century. Second semester: contemporary German literature.

303, 304 Advanced Grammar and Writing. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: German through the intermediate level or the equivalent. A systematic review of German grammar with emphasis on the elements of style and vocabulary building.

305 German Conversation. Semester course; 3 lecture hours. 3 credits. Prerequisite: German through the intermediate level or the equivalent. Conducted in German. Practice in the spoken language with emphasis on discussions relating to topics of current interest.

306 German Civilization I. Semester course; 3 lecture hours. 3 credits. Prerequisite: German through the intermediate level or the equivalent. Conducted in German. A survey of German and Austrian culture from their origins to the founding of the German Empire in 1871.

307 German Civilization II. Semester course; 3 lecture hours. 3 credits. Prerequisite: German through the intermediate level or the equivalent. German 306 recommended. Conducted in German. A treatment of German and Austrian

culture from the founding of the German Empire in 1871 to the present. Particular emphasis on life in modern-day Austria and the Federal Republic of Germany.

311 German Through the Media. Semester course; 3 lecture hours. 3 credits. Prerequisite: German through the intermediate level or the equivalent. A course designed to develop language proficiency by using material available through the various media: newspapers, magazines, films, slides, radio broadcasts.

314 Commercial German. Semester course; 3 lecture hours. 3 credits. Prerequisite: German through the intermediate level or the equivalent. Designed to develop the student's ability to use German as a means of oral and written communication in the business world. Emphasis on the acquisition of technical tools necessary for business exchanges in specialized fields.

NOTE: GER 301, 302, or 303, 304 are prerequisite to all of the following courses.

416 The Age of Goethe. Semester course; 3 lecture hours. 3 credits. Conducted in German. A course centering on the major movements during Goethe's lifetime: enlightenment, storm and stress, classicism, and romanticism.

417 Literature of the Nineteenth Century. Semester course; 3 lecture hours. 3 credits. Conducted in German. A course covering the period of romanticism, *Biedermeier* and *Junges Deutschland*, and the periods of realism and naturalism.

420 Literature of the Early Twentieth Century. Semester course; 3 lecture hours. 3 credits. Conducted in German. A course dealing with the major authors of the periods of impressionism, expressionism, and *neue Sachlichkeit* during the first half of the twentieth century.

421 Modern Literature. Semester course; 3 lecture hours. 3 credits. Conducted in German. A course dealing with the literature of the post-war period leading up to the present.

491 Topics in German. Semester course; 3 lecture hours. 3 credits; may be repeated with different topics for a maximum of 6 credits. An in-depth study of selected topics in German. See *Schedule of Classes* for specific topics to be offered each semester.

492 Independent Study. Semester course; variable credit, maximum 3 credits per semester; maximum total for all independent study courses in German 6 credits. Open generally only to students of junior or senior standing who have six credits of upper-level German courses and/or have a demonstrated competency in the language. Determination of course content and permission of the instructor must be obtained prior to registration for the course. A course designed to give students an opportunity to become involved in independent study in a literary or linguistic area or subject in which they have an interest.

COURSE IN HEALTH SCIENCES (HES)

101 Introduction to Health Related Professions. Semester course; 2 lecture hours. 1 credit. A study of the various health professions, their educational requirements, the duties involved, and their role in the health care team.

COURSES IN HISTORY (HIS)

101, 102 Introduction to European History. Semester courses; 3 lecture hours. 3, 3 credits. A survey of the development of European civilization. First semester: to sixteenth century. Second semester: sixteenth century to the present.

103, 104 Introduction to American History. Semester courses; 3 lecture hours. 3, 3 credits. The history and civilization of the United States from the Age of Discovery to the present, with emphasis on the forces and processes that were major influences in the development of American institutions and ideas. First semester: to Reconstruction. Second semester: Reconstruction to present.

105, 106/African-American Studies 105, 106 Introduction to African History. Semester courses; 3 lecture hours. 3, 3 credits. An overview of African civilization from pre-history to the present, with emphasis on cultural developments as well as selected in-depth analyses of specific issues in African history. First semester: to 1800. Second semester: since 1800.

107, 108 Introduction to Asian History. Semester courses; 3 lecture hours. 3, 3 credits. A survey of the development of the distinctive East Asian civilizations, with emphasis on China and Japan and the Southeast Asia states which combine Chinese and Indian influences.

109, 110 Introduction to Latin American History. Semester courses; 3 lecture hours. 3, 3 credits. A survey of the history of the nations of Latin America from Indian civilizations to the present day. The first semester extends through the movements for independence ending in 1824. The second semester covers the period since independence, 1824 to the present.

191 Topics in History. Semester course; variable credit. 1-3 credits per semester; maximum total of 6 credits. The study of a selected topic or topics in history. See *Schedule of Classes* for specific topics to be offered each semester.

301, 302/Religious Studies 315, 316 The Ancient Near East. Semester courses; 3 lecture hours. 3, 3 credits. A study of the ancient Near Eastern civilizations of Mesopotamia, Egypt, Anatolia, and Syria-Palestine, from the preliterary period to that of the Archaemenid Empire of the Persians. First semester: preliterary period to the end of Kassite rule in Babylonia (c. 1160 B.C.). Second semester: the rise and fall of the great Neo-Assyrian, Neo-Babylonian, Hebrew, and Persian Empires (c. 331 B.C.).

303 Greek Civilization. Semester course; 3 lecture hours. 3 credits. A study of the unique cultural heritage of Greece and the historical patterns that rose from it, from the Heroic Age to the urban worlds after Alexander, 1400 B.C.-146 B.C.

304 Roman Civilization. Semester course; 3 lecture hours. 3 credits. A study of Roman history as it derived from Roman cultural institutions, from the Etruscan period through the conflict of the pagan and Christian worlds and advent of the barbarians, 753 B.C.-A.D. 454.

305 Introduction to Greek Archaeology. Semester course; 3 lecture hours. 3 credits. Selected centers of civilization in prehistoric, classical, and Hellenistic Greece: their rise, destruction, or renewal by urban planning; the history of classical archaeology, its growth, and impact on modern European

art. Emphasis is on the living context of mature and complex peoples: Crete, Myceanae, Classical, and Hellenistic Greece.

306 The Early Middle Ages. Semester course; 3 lecture hours. 3 credits. A topical, thematic, integrative, and problems approach to the emergence of a distinctive European community during the period frequently alluded to as the "Dark Ages."

307/Religious Studies 308 The High Middle Ages. Semester course; 3 lecture hours. 3 credits. A detailed historical analysis of the Gregorian Revolution, the Crusades, the Twelfth Century Renaissance, the Thomistic World, and the death of Medieval civilization.

308 Europe in Renaissance. Semester course; 3 lecture hours. 3 credits. Examination of the political, economic, social, cultural, and religious dimensions of the Italian and Northern European Renaissances.

309/Religious Studies 309 The Reformation. Semester course; 3 lecture hours. 3 credits. A careful and intensive inquiry into the spiritual and material forces and people involved in the reformation of Christendom in sixteenth century Europe.

310 Europe in Absolutism and Enlightenment, 1648-1815. Semester course; 3 lecture hours. 3 credits. Examines the political, social, and economic orders of Old Regime Europe in the context of their increasing contradictions; introduces the cultural and intellectual forces that helped challenge that regime; culminates in the French Revolution and Napoleon.

311 The Zenith of European Power, 1815-1914. Semester course; 3 lecture hours. 3 credits. A study of the period in which the nations of Europe reached their height of world power between the reconstruction of Europe after the Napoleonic Wars and the eve of World War I. Topics includes the rise of nationalism, liberalism, and socialism; the spread of capitalism and industrial society; the beginnings of mass politics; the new imperialism; the diplomatic revolution in the European state system before World War I.

312 The Age of Total War: Europe, 1914-1945. Semester course; 3 lecture hours. 3 credits. A study of the transformation of European society precipitated by World War I and World War II. Emphasis is placed on the origin, nature, and repercussions of total war; the crisis of democracy and the rise of modern dictatorships; changes in political, economic, and social institutions; and the decline of European power.

313 Post-War Europe, 1945 to the Present. Semester course; 3 lecture hours. 3 credits. An examination of Europe's social, economic, and political recovery after World War II and of the transformation of Europe from the center toward the periphery of world power.

315, 316 History of France. Semester courses; 3 lecture hours. 3, 3 credits. First semester: history of France from Gallo-Roman times through the French Revolution and the Napoleonic era. Second semester: from 1815 to the present.

317, 318 History of Germany. Semester courses; 3 lecture hours. 3, 3 credits. First semester: the rise of Prussia, decline of the Holy Roman Empire, and the German Confederation up to 1870. Second semester: Bismarck's Empire, the World Wars, Nazism, and post-1945 Germany.

319, 320 History of England. Semester courses; 3 lecture hours. 3, 3 credits. Traces the rise of England to world hegemony and the causes of its decline as a world power. First semester: Tudor Revolution in government, Reformation, English civil wars and Restoration. Second semester: Whig oligarchy, Industrial Revolution, Victorianism, impact of world wars, problems of Empire.

321, 322 History of Russia. Semester courses; 3 lecture hours. 3, 3 credits. Russian history from its origins to the present, emphasizing the development of political and social institutions and Russia's unique position between Europe and Asia. First semester: origins to 1861. Second semester: 1861 to the present.

323 History of Spain and Portugal. Semester course; 3 lecture hours. 3 credits. A survey of the history of the Iberian peninsula from ancient times to the present, with an emphasis on the distinctive culture and attitude toward life that developed south of the Pyrenees.

324 The Holocaust. Semester course; 3 lecture hours. 3 credits. A multidisciplinary examination of six million Jews; the historical settings of European Jewry and of German fascism; the role of traditional anti-Semitism; the psychology of aggressor and victim; the Holocaust in art and literature, and the moral implications for today.

325, 326/Religious Studies 318, 319 History of the Jewish People. Semester courses; 3 lecture hours. 3, 3 credits. A study of the Jewish people from the destruction of the Second Temple in 70 A.D. to the present. First semester: Judea in Roman times, the Diaspora in Islam and in Europe, social and cultural trends, and the impact of the Emancipation. Second semester: the rise of the American Jewish community, the impact of modernism and growth of Reform, the beginnings and growth of Zionism, restoration in Palestine, the Holocaust, the creation of Israel, and the relations of Israel and World Jewry.

327/Religious Studies 327 History of Christianity. Semester course; 3 lecture hours. 3 credits. A historical and theological examination of Christianity from its origin to the present. Emphasis is placed upon an understanding of leading events, ideas, movements, and persons in their historical settings.

328 Modern Middle East. Semester course; 3 lecture hours. 3 credits. Analysis of the history, problems, and prospects of the nations and peoples of the Middle East with emphasis on developments since the Balfour Declaration of 1917.

329, 330 European Social History. Semester courses; 3 lecture hours. 3, 3 credits. Examines the institutions and structures of European society in the context of their changing interrelationships with politics, economics, ideas, and culture throughout European history. First semester: preindustrial Europe; Second semester: the Industrial Age.

331 Nazi Germany. Semester course; 3 lecture hours. 3 credits. The origin and nature of Hitler's Third Reich. A study of the failure of the Weimar Republic; genesis of the Nazi racial ideology and party structure; the Nazi political, social, and cultural order after the seizure of power; Nazi foreign policy leading to war and genocide; and an analysis of the personality of Hitler.

332 History in Film. Semester course; 3 lecture hours. 3 credits. An examination of the uses and misuses of historical

events and personalities in film. Lectures and readings are used to analyze critically films dealing with biographies, events, and propaganda.

333/Economics 419 History of Economic Thought. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 210-211. A survey of the ideas of major economic contributors to modern economic thought. Theories of value, growth, and distribution from the eighteenth through the twentieth centuries will be presented.

334 Comparative History of Revolutions. Semester course; 3 lecture hours. 3 credits. An historical investigation of the causes, events, results, and interpretation of revolution, focusing upon such subjects as revolutionary change in the ancient and medieval worlds, and the revolutions of the modern age in England, France, Mexico, Russia, China, and Cuba. Emphasis is on historical comparisons and the specific revolutions examined may vary.

335/Economics 320 Economic History of Europe. Semester course; 3 lecture hours. 3 credits. Prerequisite: ECO 210-211 or 203. Studies of the origins and development of modern capitalistic economics with emphasis on transitional factors and institutional changes.

336 Modern European Intellectual History. Semester course; 3 lecture hours. 3 credits. An investigation of the main currents of European thought since 1750 which have shaped the contemporary mind. Emphasis on the interconnections between ideas and society placed in their historical contexts.

337 The Origins of Modernism, 1880-1930. Semester course; 3 lecture hours. 3 credits. An investigation of the interconnections between social, intellectual, and artistic change in Europe in the crucial period 1880-1930. Focus is placed on such major figures as Nietzsche, Freud, Einstein, Picasso, Duchamp, and Stravinsky in an attempt to locate the origins of contemporary artistic and intellectual experience.

338 History of Socialism. Semester course; 3 lecture hours. 3 credits. An examination of the roots of socialism in the cultural and religious tradition of the West, its development during Europe's industrialization, its present status, and the alternative it presents to capitalism.

339/Women's Studies 339 History of Women. Semester course; 3 lecture hours. 3 credits. Through lecture, reading, and discussion, this course traces and analyzes historical changes in the economic, political, legal, and cultural position of women, including such topics as changing employment opportunities, the struggle for suffrage and political rights, and the history of social and sexual reform movements.

340/Economics 318 Origins and Development of Capitalism. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. A study of the fundamental changes that occurred in early modern times and which were associated with the "birth of capitalism" is followed by an examination of the evolution of Western market economics. A review of some main paradigms of capitalistic development parallels observations about the growth and internationalization of the institution of capitalism.

341/Anthropology 341 Historical Archeology. Semester course. 3 lecture hours. 3 credits. Prerequisites: ANT 103 or ANT 105 and one history course. A review of the methods and findings of historical archaeology from the 15th century to the

present. Special emphasis on the use of written documents and archaeological artifacts to interpret society and culture in the modern world.

342 Colonial America, 1585-1763. Semester course; 3 lecture hours. 3 credits. An examination of the development of the 13 original colonies; the establishment and growth of society, politics, and the economy; and modification in the relationship between the provinces and Great Britain.

343 Two American Revolutions, 1763-1800. Semester course; 3 lecture hours. 3 credits. An examination of the late eighteenth century revolutions which molded the American political system—the revolution of colonial Englishmen against Great Britain and the revolution of the nationalists against the government established by the American Revolution, which produced and firmly established the United States Constitution.

344 Age of Jefferson and Jackson, 1800-1850. Semester course; 3 lecture hours. 3 credits. A survey of the major personalities and patterns in American history from the presidential election of 1800 through the Compromise of 1850.

345 Civil War and Reconstruction. Semester course; 3 lecture hours. 3 credits. A study of the cultural and political origins of the crisis of the Union; of the events, personalities, and significance of the war years; and of the major issues of the Reconstruction that followed.

346 The Emergence of Modern America, 1877-1914. Semester course; 3 lecture hours. 3 credits. An examination of the major political, legal, social, and economic trends in the United States at this time, focusing on the industrialization of the nation and the resulting effects it had on such diverse matters as urbanization, immigration, economic distribution, and cultural affairs, culminating in the Progressive reform movement.

347, 348 Twentieth Century U.S. History. Semester courses; 3 lecture hours. 3, 3 credits. A study of the political, social, economic, and cultural history of the United States in the twentieth century, with emphasis on how the American people have responded to reform, war, prosperity, depression, international status, and changing relationships within government and society. First semester: to World War II. Second semester: since World War II.

349, 350 American Military History. Semester course; 3 lecture hours. 3, 3 credits. Analysis of the evolution, status, and conduct of the armed forces of the United States. Emphasis will be placed on the changing nature of American military thought and institutions, their performance in peace and war, and their relationship to civilian authority. First semester: to 1900. Second semester: 1900 to the present.

351, 352 History of the South. Semester courses; 3 lecture hours. 3, 3 credits. A regional history placing particular emphasis upon the distinctive culture and problems of the South and its significance in the history of the United States. First semester: Old South, from colonial period to 1861. Second semester: New South, from 1865 to the present.

355 History of Virginia. Semester course; 3 lecture hours. 3 credits. The course focuses on the central themes, events, and personalities of the state's history from 1607 to the present.

356 Virginia Indians and Their Neighbors. Semester course; 3 lecture hours. 3 credits. An examination of the history of Virginia natives from 1585 to the present. Emphasis will be placed on the seventeenth century European contact period and on the Indian interactions with the English settlers. The interaction of other coastal peoples with the Europeans are examined for comparisons.

357, 358 American Social History. Semester courses; 3 lecture hours. 3, 3 credits. The social life of Americans is examined in all periods of their history, focusing on the changing structure and functions of social institutions and thought. First semester: to 1876. Second semester: 1877 to the present.

360 American Ethnic History. Semester course; 3 lecture hours. 3 credits. A history of immigrant groups in the United States and their impact upon the economic, political, and social mainstream of American life.

361, 362/African-American Studies 361, 362 Americans from Africa. Semester courses; 3 lecture hours. 3, 3 credits. A study of the history and culture of blacks in the United States, designed to analyze some of the most important aspects of black life and the attitudes of the dominant society within which blacks lived. The second semester emphasizes the changing status, expectations, and ideologies of black Americans in the twentieth century. First semester: to 1877. Second semester: since 1877.

363, 364 History of the American Urban Experience. Semester courses; 3 lecture hours. 3, 3 credits. First semester: the evolution of colonial towns into industrial metropolises will be examined, placing emphasis on how this change determined contemporary conditions in American cities. Second semester: an examination of post-1880 urban developments (including suburbanization) emphasizing twentieth-century reformers' and intellectuals' efforts to understand and improve contemporary cities.

365, 366 American Intellectual History. Semester courses; 3 lecture hours. 3, 3 credits. The development of American thought and attitudes, with emphasis on trends in social and religious ideas, the rise of educational and cultural institutions, and expressions in literature and the arts. First semester: Colonial period to 1860. Second semester: 1860 to the present.

369, 370 American Constitutional and Legal Development. Semester courses; 3 lecture hours. 3, 3 credits. An analysis of the development of American constitutionalism and of concomitant legal developments, emphasizing judicial review, the relationship between the Constitution and modern industrialized society, and civil rights, as well as the growth of case law and the rise of the legal profession. First semester: to 1877; Second semester since 1877.

374 History of the American Frontier. Semester course; 3 lecture hours. 3 credits. A survey of the western movement in the United States from the time the first outposts were established to the end of the frontier in the nineteenth century. Particular attention to the influence of the frontier upon the American mind and ideals.

375, 376 American Diplomatic History. Semester courses; 3 lecture hours. 3, 3 credits. A study of the role of the United States in international relations. Emphasis is placed on institutional and theoretical development and continuity as well as

the role of the individual. First semester: to 1900. Second semester: since 1900.

377/Economics 319 Economic History of the United States. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211. A study of American economic development from colonial beginnings to the present, treating such topics as agriculture, industry, commerce, finance, economic causes and effects of wars, interrelationships of government and business, role of the entrepreneur, and the economic basis of cultural progress.

378 History of Central America. Semester course; 3 lecture hours. 3 credits. An exploration of the history of the region beginning with pre-Hispanic Indian civilizations and continuing to the present. Topics to be studied include the Spanish conquest, the liberal-conservative struggle, U.S. gunboat diplomacy, the Sandinista Revolution, civil war in El Salvador, militarism in Guatemala, and democracy in Costa Rica.

381, 382 Modern China. Semester courses; 3 lecture hours. 3, 3 credits. First semester: the Confucian culture state under Ch'ing, confrontation with the West, and collapse (1644-1900). Second semester: intellectual, political, and social revolution; emergence and development of the People's Republic.

383 Ancient Egypt. Semester course; 3 lecture hours. 3 credits. A general survey of the history and culture of ancient Egypt from the Predynastic period through the age of the New Kingdom. In addition to the historical reconstruction, emphasis is placed on the art, literature, and religion of each of the major periods.

384 Latin America and World Affairs. Semester course; 3 lecture hours. 3 credits. A survey of the relation of Latin America since the sixteenth century to major world developments which have occurred and in which Latin America was involved.

385 History of Mexico. Semester course; 3 lecture hours. 3 credits. A study of Mexico and its culture, including early Indian civilizations, Spanish conquest, colonial period, independence, struggle for reform, revolution, and development as a modern state.

386 History of Brazil. Semester course; 3 lecture hours. 3 credits. A survey of the development of Brazilian culture and institutions from the Portuguese occupation of eastern South America through the Colonial period, independent empire, and the republic to the present time.

387/African-American Studies 387 History of West Africa. Semester course; 3 lecture hours. 3 credits. A study of the transformation of West African societies from the iron age to modern, independent nation-states, with stress on the roles of reforming Islam, European economic and cultural influences, and European colonialism.

389/African-American Studies 389 History of Southern Africa. Semester course; 3 lecture hours. 3 credits. A study of the history and culture of the peoples of southern Africa. Deals with the areas which presently are the Republic of South Africa, Lesotho, Swaziland, Botswana, Namibia, and Zimbabwe. Emphasizes the interaction among the various communities and ethnolinguistic groups in southern Africa.

391 Topics in History. Semester course; 1, 2, or 3 lecture hours. Variable credit; may be repeated with different topics for a maximum of 9 credits. An in-depth study of a selected topic in history. See *Schedule of Classes* for specific topics to be offered each semester.

461-462 Archival and Historical Administration. Continuous course; 3 lecture and 3 workshop hours. 3-3 credits. First semester: an examination of the development of archival administration with emphasis on modern techniques and practices of archival and historical administration. Second semester: workshop in which each student will receive on-the-job training in various phases of archival administration.

483 Museum Methods. Semester course; 3 lecture hours. 3 credits. Practical presentation of techniques of working museums, presented in conjunction with local or regional museums.

485 Seminar in Historiography. Semester course; 3 lecture hours. 3 credits. May be repeated for a total of six credits with different topics. Introduction to questions in historiography, meaning, methodology, and interpretation in the teaching and writing of history.

486 Seminar In Historical Methodologies. Semester course; 3 lecture hours. 3 credits. An introduction to the various methodologies used in historical research and an analysis of their reliability and limitations: includes quantification, oral history, and psychohistory. See *Schedule of Classes* for each semester's offerings.

490 Seminar in History. Semester course; 3 lecture hours. 3 credits; maximum 9 credits. Research and analysis of a selected historical topic in a seminar setting. See *Schedule of Classes* for each semester's offerings.

492 Independent Study. Semester course; variable credit. 2-4 credits per semester; maximum total of 6 credits. Open generally only to students of junior and senior standing who have acquired 12 credits in the departmental disciplines. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course.

493 Internship. Semester course; variable credit. 2-4 credits per semester; maximum total of 6 credits. Open generally to students of senior standing. Students receive credit for work on historical projects with approved agencies. Determination of the amount of credit and permission of departmental internship coordinator must be procured prior to registration for the course.

498 Honors Seminar in History. Semester course; 3 lecture hours. 3 credits; maximum 6 credits. Research and analysis of selected historical topics in a seminar setting. Open only to students in the history honors program.

COURSES IN HUMANITIES AND SCIENCES (HUS)

291 Special Topics in the Humanities and Sciences. Semester course; 1-4 credits. May be repeated with different content. Specialized topics in the liberal arts and sciences designed to provide an overview of a topic not provided by an existing course or program. May be multi-disciplinary. Grade Option: P/F or Normal Letter Grading. Option will be established by instructor.

391 Special Topics in the Humanities and Sciences. Semester course; variable credits; 1-4 credits. May be repeated with different content. Specialized topics in the liberal arts and sciences designed to provide an overview of a topic not provided by an existing course or program. May be multi-disciplinary. Grade Option: P/F or Normal Letter Grading. Option will be established by instructor.

COURSES IN INTERNATIONAL STUDIES (INT)

105/ Political Science 105 International Relations. Semester course; 3 lecture hours. 3 credits. An introductory analysis of interstate relations and world affairs. Attention focuses on theories of international politics, military capabilities and their application, international organizations, global economic trends, domestic sources of state behavior, and other selected issues as appropriate.

340/ Urban Studies 340 The Urban Habitat. Semester course; 3 lecture hours. 3 credits. An examination of urban habitats in a variety of geographical regions with emphasis on their differences and their common experiences.

350/ Anthropology 350 Peoples and Cultures of the World. Semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103. May be taken for a maximum of six credits in two different world areas. A survey of the culture and traditions within a specific geographic area such as Latin America, Oceania, or Southeast Asia. See *Schedule of Classes* for areas being offered in a particular semester.

351/ Political Science 351 Governments and Politics fo the Middle East. Semester course; 3 lecture hours. 3 credits. A comparative analysis of political systems in the Middle East including the study of contemporary aspects in the Middle Eastern states. The courses will explore the primary bases of cleavage and conflict and the political forces that shape the policies and political dynamics of the region.

352/ Political Science 352 European Governments and Politics. Semester courses; 3 lecture hours. 3 credits. A comparative study of the political systems of selected western and eastern European countries.

353/ Political Science 353 Latin American Governments & Politics. Semester course; 3 lecture hours. 3 credits. A survey of politics characteristic of Latin American systems, including democratic reformism, military authoritarianism, and revolutionary socialism. The course also examines the contemporary problems of fledgling democracies as they cope with economic and debt crises and various opposition challenges.

354/ Political Science 354 Politics of the Former Soviet Union. Semester course; 3 lecture hours. 3 credits. A study of the origins, institutions, processes, and disintegration of the Soviet political system, and of the ongoing reform efforts during the post-Soviet period. Special emphasis is places on the politics of the transition to democratic political system and a market economy. Other topics include nationalities issues, social problems, and foreign policy.

355/ Political Science 355 Asian Government and Politics. Semester course; 3 lecture hours. 3 credits. A comparative analysis of the politics and governments of major Asian states, with a focus on Japan, China, and India.

356/ Political Science 356/African-American Studies 356 African Government and Politics. Semester course; 3 lecture hours. 3 credits. This course will introduce the student to the basic outlines of government and politics in Africa. The course will consider such topics as colonialism, elites and nationalism, and modernization strategies. Using the comparative approach, the course will primarily focus on West, East, and Central Africa.

357/ Political Science 357/African-American Studies 357 Politics of Southern Africa. Semester course; 3 lecture hours. 3 credits. An examination of racial and political developments in the southern tip of Africa. While South Africa will be the primary focus of analysis, other countries in the region, such as Zimbabwe, Angola, and Mozambique, will be studied.

358/Political Science 358 Comparative Politics. Semester course; 3 lecture hours. 3 credits. Comparative study of politics and governments. Introduces concepts and theories used in the study of political systems. Topics include democratization and democratic governance, the role of the state, one-party and military regimes, revolution, and economic and political development.

361/Political Science 361 Issues in World Politics. Semester course; 3 lecture hours. 3 credits. An exploration of several significant issues in world politics. Topics may include peace-keeping and collectiveness, global environmental politics, as well as selected others. Topics will vary with current events and trends in the international arena.

362/ Political Science 362 International Organizations and Institutions. Semester course; 3 lecture hours. 3 credits. A study of the background development structure and operations of organizations and institutions such as the United Nations, the European Community, the Organization of American States.

363/ Political Science 363 U.S. Foreign Policy. Semester course; 3 lecture hours. 3 credits. A analytical survey of processes and practices in the formulation of United States foreign policy, including an introduction to the goals, problems of implementation, and current challenges faced by policy-makers.

364/ Political Science 364 Vietnam. Semester course; 3 lecture hours. 3 credits. An analysis of the complete record of the conflict in Vietnam. The primary focus will be on the period of United States involvement. The course will examine closely how and why the U.S. became involved in Vietnam and what impact the Vietnam war has had on political institutions and behavior. In particular, the course will examine what impact the period of U.S. involvement has had upon U.S. foreign policy. The course will also consider additional topics including: public opinion and the war, the relationship between President and Congress in light of the War, and contemporary U.S. politics as a backlash against the political movements of the 1960s.

365/Political Science 365 International Political Economy. Semester course; 3 lecture hours. 3 credits. A survey of both theoretical and current policy issues in international political economy. Theories to be covered include liberalism, mercantilism, Marxism, regionalism, world systems theory, and others. Policy issues include differing styles of capitalism in the industrialized world, the political economy of development, the politics of international corporate alliances, and others.

398 Directed Study Abroad. Semester course; variable credit, 0-8 credits per semester; with approval of student's major department may be repeated up to a total of 8 credits. A course involving travel and/or residence in a foreign country as features of the student's work on a pre-arranged project. Intended primarily for students participating in student exchange programs. Permission of academic advisor required.

452/Political Science 452 Seminar in the Politics of Developing Areas. Semester course; 3 lecture hours. 3 credits. Analysis of the processes of political and economic development. Includes a study of various challenges facing developing countries, such as economic inequalities, environmental degradation, mass political participation, military coups, revolution, and civil war. 1992

468/Political Science 468 Seminar on Comparative Foreign Policy. Semester course; 3 lecture hours. 3 credits. Prerequisite: POS 201 or permission of instructor. A study of theories, models, and hypotheses of foreign policy behavior in various types of political systems with emphasis on empirical research and analysis of differences and similarities.

490 Seminar in International Issues. Semester course; 3 lecture hours. 3 credits. Prerequisite: INT 340 or permission of instructor. May be taken only once. An individualized research project focusing on international issues and undertaken in a seminar setting.

491 Topics in International Studies. Semester course; 3 lecture hours. 3 credits; may be repeated with different topics for a maximum of 6 credits. An in-depth study of a particular topic in international studies. See *Schedule of Classes* for specific topics to be offered each semester.

493 International Studies Internship. Semester course; 150 clock hours in a local, national, or international internship placement, 3 credits; or 300 clock hours, 6 credits. Maximum of six total credits per student. Prerequisite: junior or senior standing. Approval of selection committee or program director required. The internship is designed to present opportunities for qualified students to acquire exposure to internationally-oriented public and private organizations and agencies. The course includes a rigorous evaluation of the internship experience, based on learning objectives stipulated in a contract between the student, faculty advisor, and a field supervisor. The internship may be carried out in a local or national institution, or abroad.

COURSES IN ITALIAN (ITA)

101-102 Elementary Italian. Continuous course; 5 lecture/recitation hours. 4-4 credits. Elementary grammar, reading, and oral drill.

201 Intermediate Italian. Semester course; 3 lecture hours. 3 credits. Continuation of the essentials of grammar with emphasis on achieving proficiency in aural comprehension, speaking, reading, and writing skills.

NOTE: In order to complete Italian through the intermediate level, a student may elect Italian 202 or 205.

202 Intermediate Italian Readings. Semester course; 3 lecture hours. 3 credits. Prerequisite: ITA 201 or the equivalent.

lent. Designed to increase the student's proficiency in Italian through the study of selected cultural and literary texts.

205 Intermediate Conversation. Semester course; 3 lecture hours. 3 credits. Prerequisite: ITA 201 or the equivalent. Designed to increase the student's proficiency in the spoken language through audio-oral exercises, dialogues, and free conversation.

305 Italian Conversation and Civilization. Semester course; 3 lecture hours. 3 credits. Conducted in Italian. Prerequisite: Italian through the intermediate level or the equivalent. Practice in the spoken language with emphasis on discussion dealing with Italian civilization and culture.

COURSES IN LANGUAGE SKILLS (LSK)

103/Linguistics 103 Introduction to Languages. Semester course; 3 lecture hours. 3 credits. A course designed to help students understand how languages function through a survey and contrastive analysis of language systems, with attention to the sociocultural, psychological, and historical aspects of languages. (Completion of this course does not qualify a student to take the 200 level of a language without passing a language placement test.)

203 Classical Elements in the English Language. Semester course; 3 lecture hours. 3 credits. Development of English vocabulary through a study of Greek and Latin elements in English: derivatives, roots, and loan words. Some emphasis on the special vocabularies of the sciences.

COURSES IN LATIN (LAT)

101-102 Elementary Latin. Continuous course; 4 lecture hours. 4-4 credits. First semester: a study of the Latin language with emphasis on the Latin elements found in English. Latin vocabulary. Second semester: introduction to Latin authors and related aspects of Roman civilization.

201-202 Readings in Latin Literature. Continuous course; 3 lecture hours. 3-3 credits. Brief grammar review with a parallel study of political and literary trends and developments as found in several of the major Latin writers. First semester: prose, with emphasis on Cicero, Pliny the Younger, and Sallust. Second semester: poetry, with selected readings from Catullus, Tibullus, Ovid, and Vergil.

COURSE IN LIBRARY SKILLS (LRS)

101 Library Resources and Research Methods. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Designed for students at all levels who wish to improve their ability to use libraries in general and the VCU libraries in particular. The course emphasizes the use of the card catalog, bibliographies, indexes, abstracts, and other library resources. Directed to the individual student's subject interest as far as possible.

COURSES IN LINGUISTICS (LIN)

103/Language Skills 103 Introduction to Languages. Semester course; 3 lecture hours. 3 credits. A course designed to help students understand how languages function through a

survey and contrastive analysis of language systems, with attention to the sociocultural, psychological, and historical aspects of languages. (Completion of this course does not qualify a student to enroll in the 200 level of a language without passing a language placement test.)

401/Linguistics 401 Comparative Structures. Semester course; 3 lecture hours. 3 credits. Prerequisite: Completion of 9 credits of Spanish at the 300 level or the equivalent. Conducted in Spanish. A comparison of English and Spanish, with emphasis on pronunciation and problems encountered in the teaching of Spanish.

***449/English 449 Anthropology 449 Introduction to Linguistics.** Semester course; 3 lecture hours. 3 credits. An introduction to methods of language analysis, emphasizing the study of sounds and sound patterns, and units of meaning and their arrangements. May not be used to satisfy the College of Humanities and Sciences requirement in English.

***450/English 450 Modern Grammar.** Semester course; 3 lecture hours. 3 credits. Study of modern English grammar and usage with some attention to linguistic theory. Recommended for teachers at all levels. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

***451/English 451 History of the English Language.** Semester course; 3 lecture hours. 3 credits. The historical development of the English language; etymology, morphology, orthography, and semantics. May not be used to satisfy the College of Humanities and Sciences requirement in English.

***452/Women's Studies 452/English 452 Language and Gender.** Semester course; 3 lecture hours. 3 credits. A study of relationships between gender and language by focusing on such issues as differences between the ways women and men use language, relationships between language and power, and ways in which language reflects and reinforces cultural attitudes toward gender. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

453/English 453 Introduction to Modern Rhetoric. Semester course; 3 lecture hours. 3 credits. An introduction to the broad range of modern rhetorical theories, emphasizing their relationships and linguistics, literary criticism, and the process of writing. May not be used to satisfy the College of Humanities and Sciences requirement in English.

552/Education 552 Teaching English as a Second Language. Semester course; 3 lecture hours. 3 credits. Provides students who plan to teach English to people whose native language is not English with techniques used in teaching foreign languages. Contrastive analyses of morphology, phonology and syntax are used to isolate areas of difficulty in learning English.

COURSES IN MASS COMMUNICATIONS (MAC)

101 Mass Communications. Semester course; 3 lecture hours. 3 credits. The influence of, and techniques used by mass media, including ethical considerations. Origin of newspapers and periodicals and their evolution to mass circulation journalism of today. Structure, organization, management, content, and operation of radio, television, and motion picture industries. Attention is paid to roles of advertising and public relations.

181 Principles of Advertising. Semester course; 3 lecture hours. 3 credits. A survey of all forms of advertising; principles of layout copy; production methods; campaign preparation; media selection. (Not open to Mass Communications majors.)

203 Newswriting. Semester course; 1 lecture and 4 laboratory hours. 3 credits. Prerequisites: ENG 101-102, typewriting proficiency of 35 wpm and successful completion of a language skills test. Study and practice in fact gathering and development of the basic skills needed for writing for the media. Course will focus on newspaper writing and will stress grammar skills. **Students must obtain permission to register from the School of Mass Communications office.**

NOTE: For MAC majors only, MAC 101 and MAC 203 are prerequisites for the following courses.

300 Media Graphics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A course on the functions of visual and graphic communication in the print and electronic media. Course focuses on creative typographic and layout design, editing, pictures, and nonverbal elements of communications and perception, and integrates computer software packages such as PageMaker, Quark and others.

303 General Assignment Reporting. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Detailed study in gathering and reporting facts, with emphasis on clarity and maturity of writing. The intent is to build skills in interviewing, to provide practice in writing general news and features, and to prepare for entry-level reporting assignments.

305 Copy Editing. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisites: MAC 300. Instruction and practice in basic newspaper editing with a focus on practical experience in editing local and news service copy for publication. Includes emphasis on headline writing, development of news judgment, accuracy and fairness while exposing students to legal problems confronting a copy editor. Some attention will be paid to layout and design of newspapers.

320 Public Relations Presentations. Semester course; 2 lecture and 1 laboratory hour. 2 credits. Instruction and practice in broadcast and computerized public relations production methods, and special events planning and implementation.

323 Public Relations. Semester course; 3 lecture hours. 3 credits. Study of public relations principles and practices, including analysis of tools, media, ethical responsibilities and emerging technologies. Special attention to the theory and research literature on rational and ethical persuasion.

333 Public Relations Writing. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAC 323. An intensive writing course focusing on researching and writing materials in support of the public relations function. Practice in preparing materials for controlled and uncontrolled media, both print and broadcast, including news releases, interview protocols, special events background materials, media kits, employee newsletters, community relations materials and formal public speaking scripts. Explores routine, special event and crisis situations, and the link between written and audiovisual documents.

341 Feature and Article Writing. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAC 303 or 363 or permission

of instructor. Practice in preparing articles and features for newspapers and magazines. Emphasis is on creative journalistic writing and development of writing skills.

361 History and Development of Broadcasting. Semester course; 3 lecture hours. 3 credits. An examination of the regulatory, technical, economic and creative foundations of the broadcast media. Historical, contemporary, and ethical issues in broadcasting are also addressed.

362 Newscasting. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MAC 363. Concentrates on developing on-air skills in radio and television studio and field situations. Emphasizes journalistic principles in delivery of news, public affairs, editorial and interviews. Grammar, diction and broadcast writing are stressed.

363 Electronic Media Writing I. Semester course; 3 lecture hours. 3 credits. Students will concentrate on developing writing and reporting skills for radio and television. Weekly writing assignments. Students will write the following for radio: a wrap, a person on the street, a two-part series. Students will write the following for television: an anchor voice over, a voice over sound on tape, a package with reporter stand-up. **MAC 363 to be taken concurrently with MAC 365 and MAC 366.**

365 Radio Production. Semester course; 3 laboratory hours. 1 credit. Students will learn the purpose, function, and execution of basic techniques of radio audio field and studio production operations. Emphasis will be placed on the production of broadcast-quality audition tapes. Fieldwork production, remote production, and live production. Radio production organizational structure, individual roles, and the one-person newsroom will also be covered.

366 Television Production. Semester course; 3 laboratory hours. 1 credit. Students will learn the purpose, function and execution of basic techniques of television and video field and studio production operations. Emphasis will be placed on the production of broadcast-quality audition tapes. Fieldwork production, remote production, live production. Television production organizational structure, individual roles and the one-person television crew will also be covered.

375 Legislative Reporting. Semester course; laboratory. 1 credit. Prerequisite: MAC 303 or 363. Concentrated five-week course to permit advanced students to gain reporting experience with the Virginia General Assembly.

380 Introduction to Advertising. Semester course; 3 lecture hours. 3 credits. An overview of the advertising industry. A practitioner-oriented approach to the creation, preparation, and evaluation of advertising. The course views the subject from an advertising management perspective.

391 Newspaper Advertising. Semester course; 3 lecture hours. 3 credits. A course in the preparation, placing, and proofing of advertising in daily and weekly newspapers. Its aim is to improve the appearance, effectiveness, and originality of newspaper advertising. Some attention is given to the organization and management of the advertising function in newspapers.

392 Advertising Copywriting. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MAC 380. Study of the different types of advertising copy used by both

local and national advertisers. Practice in writing consumer, trade, and industrial copy.

393 Creativity for Television. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MAC 380. Learn the process of developing professional-level television advertising with a concentration in creative thinking and solutions. Students create TV commercials with attention to scripts, storyboards, talent, visual composition, editing, music, sound effects and direction.

394 Advertising Layout and Production. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MAC 300 and 380. Study and practice in layout and design of advertising for all media. Ideas will be followed through from concept to production.

400 Ethical Problems in Mass Communications. Semester course; 1 lecture hour. 1 credit. Prerequisite: for upper division Mass Communications students only, recommended for senior year. Examination and analysis of contemporary issues and problems in mass communications. Critical and unresolved issues will be discussed in light of laws and guidelines governing the actual practice of print and broadcast journalism, advertising, and public relations. Students are required to design and justify resolutions to the issues and present defenses for the resolution proposals.

403 Advanced Reporting. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisites: MAC 303. Intensive study of the techniques of reporting meetings and news of public affairs. Attention will be paid to covering governmental agencies at all levels. Quality of writing will be a paramount and continual consideration.

404 Specialized/Project Reporting. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: MAC 403. An advanced course to provide news beat experience for students reporting on complex issues facing the public in the urban community. Emphasis also on team reporting, in-depth research and interviewing techniques, and use of public records.

405 Advanced Editing. Semester course; 1 lecture and 4 laboratory hours. 3 credits. Prerequisite: MAC 305. An advanced course in editing to prepare students for work on copy desks and news desks of daily newspapers. Emphasis on fine points of editing and the layout of newspaper pages.

408 Communications Law. Semester course; 3 lecture hours. 3 credits. Study of legal limitations affecting publishing, advertising, broadcasting, and telecasting and legal philosophy and ethics relating to the media of communications.

414 Advanced Radio Production. Semester course; 3 laboratory hours. 1 credit. Prerequisite: MAC 365. Documentary soundtrack production, multi-track production, music production for radio and television. Digital audio workstations. Audio and related electronic media computer software applications.

415 The Television Studio: Advanced Television Production. Semester course; 3 laboratory hours. 1 credit. Prerequisite: MAC 366. Students learn the inner working of the television studio. Studio camera operation, advanced audio, basic studio lighting, digital video effects, Chyron operation, graphics creation, TelePrompTer operation, master control, multi-camera live direction techniques. Video and related electronic media computer software applications.

423 Public Relations Campaigns. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAC 323, Co- or Prerequisite: MAC 333. Application of public relations theory and methods in the preparation of a plan for a public relations campaign. Special attention to the planning process, including issues analysis, and public relations research methods, including depth interviews, focus groups, simple opinion surveys and communication audits.

425 Public Relations Research. Semester course; 3 lecture hours. 3 credits. An introduction to the role of research in public relations, with primary emphasis on content analysis, focus group, survey and communication audit methods and the evaluation of quantitative research data.

450 Advertising Portfolio Development. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAC 300, 380, 392 and 394. An advanced, intensive study of copywriting and art direction for advertising. Students will prepare comprehensive advertisements and campaign materials for professional review. Emphasis will be on the development of a professional-quality portfolio.

461 The Documentary. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: MAC 363-364, 365, or permission of instructor. An examination of documentary concepts through analysis of radio, television, and film documentaries. The course will center on the development, writing, and production of a documentary in the medium (radio, television, or film) of the student's choice.

463 Electronic Media Writing II. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAC 363, 365. Radio practicum. Students will submit radio programming for broadcast on Richmond radio stations and on a statewide satellite news network. Writing intensive. Using the city of Richmond as their classroom, students will report, write and produce radio and audio news and programming. Studio and remote equipment will be utilized to create professional caliber projects.

464 Electronic Media Writing III. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAC 363, 365, 366. Television Practicum. Students will produce television programming for submission to broadcast on Richmond television stations. Writing intensive. Using the city of Richmond as their classroom, students will report, write and produce television and video news and programming. Studio and remote equipment will be utilized to create professional caliber projects.

475 Capital News Service. Semester course; 9 laboratory hours. 3 credits. Prerequisites: MAC 300 and 303. Concentrated semester-long course providing government reporting and/or editing/graphics experience for advanced students for publication in statewide community newspapers. Coverage includes VA General Assembly when in session plus legislative committee meetings and governmental agencies in Richmond as well as the U.S. congressional and presidential elections. Some topical issue-oriented political and medical enterprise reporting included. Strong emphasis on fast-paced deadlines. To register, a student must complete an application and submit writing samples for approval by the CNS Director.

480 Media Strategy. Semester course; 3 lecture hours. 3 credits. Development of media strategies to accomplish advertising objectives. Practical problems in planning and buying media. Analysis of the rapidly-changing media environ-

ment, with special attention given to new electronic media and the Internet.

481 Advertising Campaigns. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: MAC 392, 393, 394. Intensive study in the planning and preparation of advertising campaigns. Students develop complete advertising programs including research, basic advertising plans, media and creative strategies, sales promotion, and merchandising plans.

486 Creative Advertising Workshops. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MAC 394 or permission of instructor. A concentrated study of principles of advertising message development. Creative strategies will be developed to accomplish advertising objectives. Students develop and defend campaign themes and message ideas including print layouts and television story-boards. Emphasis on creating messages for multi-media exposure.

487 Seminar in Advertising in Society. Semester course; 3 lecture hours. 3 credits. An examination of the role of advertising in modern life in America in light of historical and recent development in advertising and distribution.

489 Sales Promotion. Semester course; 3 lecture hours. 3 credits. Describes and analyzes sales promotion between the manufacturer and three other levels: the distribution system, the consumer, and the sales force. Effective use of special media, merchandising activities, and sales aids are also discussed.

491 Topics in Communications. Semester course; variable credit. 1, 2, or 3 credits per semester; maximum total 3 credits. Prerequisite: permission of instructor. An intensive study of a specialized field of mass communications.

492 Independent Study. Semester course; variable credit, maximum 3 credits per semester; maximum total for all independent study courses 6 credits. Prerequisite: open generally only to students of junior and senior standing who have acquired at least 12 credits of Mass Communications. The course is designed for students who wish to study subject matter not offered elsewhere in the Mass Communications' curriculum. To register, a student must write a proposal and have it approved by the student's advisor, supervising instructor and School director or assistant director.

493 Fieldwork/Internship. Semester course; variable credit. 1, 2, or 3 credits per semester; maximum total 3 credits toward graduation. Prerequisite: permission of faculty member and of internship coordinator. Selected students will receive on-the-job training under the supervision of an instructor and the employer. Internships are available in newspapers, magazines, public relations, advertising, radio, and television.

499 Problems and Issues in Mass Communications. Semester course; variable credit. 1, 2, or 3 credits per semester; maximum total 3 credits. Open only to students who have successfully completed at least 12 credits in mass communications. Determination of amount of credit and permission of instructor and school director must be obtained prior to registration for course. A concentrated examination of specific areas of mass communications. Each mini-course will be five weeks in length. Topics announced in advance.

MATHEMATICAL SCIENCES

Students registering for CSC 150, 201, 255, MAT 101, 111, 112, 131, 200, 211, or STA 213 must have taken the VCU Mathematics Placement Test within the one-year period immediately preceding the beginning of the course. An exception to this policy is made in the case in which the stated alternative prerequisite course has been completed at VCU.

COURSES IN COMPUTER SCIENCE (CSC)

150 BASIC Computer Concepts. Semester course; 2 lecture and 3 laboratory hours. 3 credits. The BASIC language will be used to provide an introduction to understanding and programming digital computers. Several computer uses and their societal impact will be presented. Students may not receive degree credit for both CSC 150 and BUS 160, 161, 162, 163, or 166.

191 Topics in Computer Science. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of the instructor. This course will teach selected topics in computer science. May be repeated for credit. See *Schedule of Classes* for specific topics and prerequisites.

201 Introduction to Computing Using FORTRAN. 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: MAT 101 or MAT/BUS 111 or satisfactory score on the Mathematics Placement Test. Introduction to the concept and practice of structured programming using FORTRAN. Elementary computer concepts, problem solving, top-down design of algorithms, basic FORTRAN syntax, including control structures, arrays, and subroutines.

255 Structured Programming. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisite: MAT 101 or MAT/BUS 111 or a satisfactory score on the Mathematics Placement Test. Working knowledge of computers recommended. Introduction to the concept and practice of structured programming using Pascal. Problem solving, top-down design of algorithms, basic Pascal syntax including control structures, procedures, and functions, scalar data types, and arrays. (CSC 255 is a core course for mathematical sciences.)

256 Data Structures and Advanced Programming. Semester course; 2 lecture and 3 laboratory hours. 3 credits. Prerequisites: CSC 255 and MAT 211. Topics include records, sets, files, strings, pointers, linked lists, stacks, queues, binary trees, recursion, program design, and basic searching and sorting techniques.

301 Introduction to Discrete Structures. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 255 and MAT 211. A continuation of MAT 211. Recursion and induction. Operations on sets and relations. Formal languages with an emphasis on finite state automata and grammars. Monoids and graphs (trees in particular). Elementary combinatorics and advanced Boolean algebra.

311 Computer Organization and Assembler Language Programming. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 256. Registers, instruction set issues, data representation, data storage and processing, subprograms and parameter passing, macros and conditional assembly, interrupts, I/O, and arithmetic, logical, and control operations.

312 Introduction to Operating Systems. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 311. Computer systems design, I/O processing, secondary memory organization, command languages, memory management, and job scheduling.

391 Topics In Computer Science. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of the instructor. This course will teach selected topics in computer science. May be repeated for credit. See *Schedule of Classes* for specific topics and prerequisites.

401 Algorithm Analysis with Advanced Data Structures. Semester course; 3 lecture hours; 3 credits. Prerequisites: CSC 256 and CSC 301. Introduction to algorithm analysis and complexity classes. Advanced data structures topics include multiple linked lists, height-balanced trees, B-trees, file organization, and graphs. Analysis of various searching and sorting algorithms. Algorithm design topics include divide-and-conquer, dynamic programming, greedy methods, and heuristic search.

403 Programming Languages. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 301 and CSC311. Survey of representative modern programming languages. Formal definition of programming languages including specifications of syntax and semantics. Precedence, infix, prefix, and postfix notation. Global properties of algorithmic languages. Sub-routines, co-routines, and tasks. List processing, string manipulation, data description, and simulation languages. Run-time representation of program and data structures.

490 Research Seminar. Semester course. 1 lecture hour. 1 credit. Prerequisites: CSC 312, 401, and 403. Discussion of research and presentation methods in computer science, ethics in computer science, and other topics in computer science as stimulated by independent reading in selected areas and at least one oral presentation by each student.

492 Independent Study. Semester course; variable credit, 2, 3, 4 credits per semester; maximum 4 credits per semester; maximum total of 6 credits. Generally open only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course. The student must submit a proposal for investigating some area or problem not contained in the regular curriculum. The results of the student's study will be presented in a report.

502 Concepts of Concurrency. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 312 and CSC 401. Software and hardware mechanisms for providing mutual exclusion in uniprocessor and multiprocessor environments. Concurrency problems and solutions in a distributed environment including message passing and remote procedure calls.

504 Compiler Construction. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 401 and 403. Review of programming language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler. Use of bootstrapping and compiler writing languages.

505 Computer Architecture. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 301 and CSC 311. Basic digital circuits. Combinational logic, data transfer,

and digital arithmetic. Memory and memory access, control functions, CPU organization, microprogramming, input/output interfaces.

506 Computer Networks and Communications. Semester course. 3 lecture hours. 3 credits. Prerequisite: CSC 312. Theoretical and applied analysis of basic data communication systems. Design of networks in the framework of the OSI reference model. Local and Wide Area Networks. Performance analysis of networks. Error control and security.

508 Data Base Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 401. Design and implementation of hierarchical, network, and relational data base systems. Relational algebra, normal forms, and normalization.

509 Artificial Intelligence. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 401 and CSC 403. Problem spaces, problem-solving methods, game playing, knowledge representations, expert systems, natural language understanding.

511 Computer Graphics. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSC 401 and MAT 310. Mathematical techniques for picture development and transformation, curve and surface approximation and projections, graphical languages, and data structures and their implementation, graphical systems (hardware and software).

519 Software Engineering. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 401. Systematic approach to the development and maintenance of software and the associated documentation. Includes software life cycle, scheduling and budgeting, configuration management, quality assurance, and software tools.

521 Introduction to the Theory of Computation. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 301. An introduction to automata theory, formal languages, and computability. Finite automata, pushdown automata, Turing machines, decidability, and computational complexity.

526 Theory of Programming Languages. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSC 403. An introduction to the formal semantics of programming languages, logic programming and functional programming. Denotational semantics, attribute grammars, Backus Formal Functional Programming, fixed point semantics, model-theoretic semantics, and PROLOG.

554 Applications of Computers in the Teaching of Mathematics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: a college calculus course and permission of instructor. Introduction to computers and programming using the language, BASIC. Applications of the computer in algebra, geometry, trigonometry, statistics, and calculus. Not applicable toward certificate program, B.S. or M.S. degree in mathematical sciences or computer science.

591 Topics in Computer Science. Semester course; 3 lecture hours. 3 credits. Prerequisites may vary. Permission of the instructor is required. Selected topics in computer science such as theory of data bases, information retrieval, and artificial intelligence. Course is open to qualified undergraduates. May be repeated for credit. See *Schedule of Classes* for specific topics and prerequisites.

See also MAT 515-516 Numerical Analysis.

COURSES IN MATHEMATICS (MAT)

NO MORE THAN THREE CREDITS MAY BE EARNED FROM AMONG MAT 101 AND MAT 111/ BUS 111, and MAT 131.

001 Elementary Algebra. Semester course; 3 lecture hours or 3 laboratory-tutorial hours. No credit. Prerequisite: permission of the department. The purpose of this course is to provide laboratory and tutorial instruction for those seeking remediation or review of high school algebra. Topics include basic properties of real numbers, operations with algebraic expressions, solution of equations and inequalities, exponents and radicals, introduction to functions, and graphing.

101 College Algebra. Semester course; 3 lecture hours or 3 laboratory-tutorial hours. 3 credits. Prerequisite: MAT 001 or satisfactory score on the Mathematics Placement Test. Topics include solutions of equations, linear, quadratic, and higher degree polynomials; inverse functions, exponential and logarithmic functions, systems of equations and inequalities; binomial theorems, sequences and series, complex numbers, permutations, and combinations.

102 Trigonometry. 3 lecture hours or 3 laboratory-tutorial hours. 3 credits. Prerequisite: MAT 101 or a satisfactory score on the Mathematics Placement Test. Topics include circular functions, periodic functions, graphs, identities, inverse functions, solutions of equations, solutions of triangles, and complex numbers.

111/Business 111 Basic Mathematics for the Behavioral, Social, and Management Sciences. Semester course; 3 lecture hours. 3 credits. Prerequisites: one year of high school algebra and a satisfactory score on the Mathematics Placement Test. Topics include sets, functions, exponents, logarithms, mathematics of finance, matrix algebra, systems of equations, and linear programming. Students may not receive degree credit for both MAT/BUS 111 and MAT 101.

112/Business 112 Elements of Calculus for the Behavioral, Social, and Management Sciences. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 101 or 111. Differential calculus and integral calculus.

131 Introduction To Contemporary Mathematics. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 001 or satisfactory score on the Mathematics Placement Test. Topics include optimization problems; data handling; growth and symmetry; and mathematics with applications in areas of social choice. Major emphasis is on the process of taking a real-world situation, converting the situation to an abstract modeling problem, solving the problem and applying what is learned to the original situation. (Serves as a prerequisite for STA 213, but does not serve as a prerequisite for calculus or other advanced mathematical sciences courses.)

191 Topics in Mathematics. Semester course; 1-3 credits per semester. A study of selected topics in mathematics. See *Schedule of Classes* for specific topics and prerequisites. May be repeated for credit. For a course to meet the general education requirements it must be so stated in the *Schedule of Classes*.

200-201 Calculus with Analytic Geometry. Continuous course; 4 lecture hours. 4-4 credits. Prerequisite for MAT 200: MAT 101 or satisfactory score on the Mathematics Placement Test (algebra portion). Prerequisites for MAT 201: MAT 200 and either MAT 102 or satisfactory score on the Mathematics Placement Test (trigonometry portion). Limits, continuity, derivatives, differentials, antiderivatives, and definite integrals. Applications of differentiation and integration. Selected topics in analytic geometry. Infinite series.

211 Mathematical Structures. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 101 or a satisfactory score on the Mathematics Placement Test. An introduction to mathematical logic and set theory, including applications in Boolean algebras and graph theory. (A core course for mathematical sciences.)

291 Topics in Mathematics. Semester course; 1-3 credits per semester. A study of selected topics in mathematics. See *Schedule of Classes* for specific topics and prerequisites. May be repeated for credit.

301 Differential Equations. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 201. Solution of ordinary differential equations of first order. Linear differential equations with constant coefficients using operator methods. Series solutions and applications.

302 Numerical Calculus. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: CSC 201 or demonstrated knowledge of FORTRAN and MAT 201. An introduction to numerical algorithms for solving systems of linear equations, finding zeroes, definite integration, minimization, etc. Those features of FORTRAN that affect the precision of numerical computations will be included.

305 Elementary Number Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 211. Divisibility, congruences, Euler phi-function, Fermat's Theorem, primitive roots, Diophantine equations.

307 Multivariate Calculus. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 201. The calculus of vector-valued functions and of functions of more than one variable. Partial derivatives, multiple integrals, line integrals, surface integrals, and curvilinear coordinates. Lagrange multipliers; theorems of Green, Gauss, and Stokes. Applications.

309 Introduction to Probability Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 201. A study of the mathematical theory, including finite and infinite sample spaces, random variables, discrete and continuous distributions, mathematical expectation, functions of random variables, and sampling distributions.

310 Linear Algebra. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 201. Systems of linear equations, vector spaces, linear dependence, bases, dimensions, linear mappings, matrices, determinants, quadratic forms, orthogonal reduction to diagonal form, eigenvalues, and geometric applications.

327 Mathematical Modeling. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 200. Fundamental concepts of mathematical modeling. Differential equation models. Optimization models. Probabilistic models. Practical problems will be discussed throughout.

351 Applied Abstract Algebra. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 211. A survey of several areas in applied abstract algebra which have applications in computer science such as groups, codes, matrix algebra, finite fields, and advanced graph theory.

391 Topics in Mathematics. Semester course; 1-3 credits per semester. A study of selected topics in mathematics. See *Schedule of Classes* for specific topics and prerequisites. May be repeated for credit.

437 Applied Partial Differential Equations. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 301 and 307. Parabolic (heat), hyperbolic (wave), and elliptic (steady-state) partial differential equations are studied. Solution techniques are demonstrated, including separation of variables and integral transforms. Practical problems and applications are emphasized.

492 Independent Study. Semester course; variable credit, 2, 3, 4 credits per semester; maximum 4 credits per semester; maximum total of 6 credits. Generally open only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course. The student must submit a proposal for investigating some area or problem not contained in the regular curriculum. The results of the student's study will be presented in a report.

493 Mathematical Sciences Internship. Semester course; the equivalent of at least 15 work-hours per week for a 15-week semester. 3 credits. Mathematical sciences majors only with junior or senior standing. Admission by permission from the department chairman. Through placement in a position in business, industry, government, or the university, the student will serve as an intern in order to obtain a broader knowledge of the mathematical sciences and their applications.

501 Introduction to Abstract Algebra. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 211 and 310. An introduction to groups, rings, and fields from an axiomatic point of view. Coset decomposition and basic morphisms.

505 Modern Geometry. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 307; corequisite: MAT 310. Topics in Euclidean, projective, and non-Euclidean geometries from a modern viewpoint.

507-508 Analysis I, II. Continuous course; 3 lecture hours. 3-credits. Prerequisites: MAT 211, 307, and 310 or permission of instructor. Theoretical aspects of calculus: sequences, limits, continuity, infinite series, series of functions, integration, differential geometry.

509-510 General Topology I, II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 211 and 307. Foundations and fundamental concepts of point-set topology. Topological spaces, convergence, connected sets, compactness, product spaces, quotient spaces, function spaces, separation properties, metrization theorems, mappings, and compactification.

511 Applied Linear Algebra. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 310. The algebra of matrices, the theory of finite dimensional vector spaces, and the basic results concerning eigenvectors and eigenvalues, with particular attention to applications.

512 Complex Analysis for Applications. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 307. A rigorous development of those parts of the theory of analytic functions of a single complex variable which are prominent in applications.

515 Numerical Analysis I. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 302 or permission of instructor. Solutions of equations, interpolation and approximation, numerical integration, iterative methods for solving linear equations, calculation of eigenvalues and eigenvectors. Selected algorithms may be programmed for solution on computers.

516 Numerical Analysis II. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 515. Numerical solution of initial value problems in ordinary differential equations, 2 point boundary value problems. Introduction to numerical techniques for solving partial differential equations. Selected algorithms may be programmed for solution on computers.

517-518 Methods of Applied Mathematics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 301 and MAT 307. Vector analysis, matrices, complex analysis, special functions. Legendre and Hermite polynomials, Fourier series, Laplace transforms, integral equations, partial differential equations, boundary-value and initial value problems.

520 Game Theory and Linear Programming. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 310. The mathematical basis of game theory and linear programming. Matrix games, linear inequalities and convexity, the minimax theorem, optimal strategies.

521 Introduction to Algebraic Number Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 501. Introduction to algebraic numbers and algebraic number fields with emphasis on quadratic and cyclotomic fields. Units, primes, unique factorization.

MAT 523 Discrete Event Simulation. Semester course; 3 lecture hours. 3 credits. Prerequisites: STA 212 and MAT 309 or their equivalents, or permission of instructor. An introduction to the theory and practice of discrete event simulation. Topics include random variable generation, model development and validation, variance reduction techniques, and statistical analysis of output. Applications will be taken from areas such as queueing theory and manufacturing systems. A high level simulation language will be utilized.

525 Introduction to Combinatorial Mathematics. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 211, 310, or permission of instructor. Introduction to the problems and methods of solution in the enumeration, existence, and construction of some discrete mathematical structures. Discussion of generating functions, recurrence relations, Ramsey's theorem, matching theory, combinatorial designs, Latin squares, and linear coding theory.

527-528 Mathematical Foundations of Operations Research. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: CSC 255 or 201, MAT 310 and 309 (second semester); STA 503 strongly recommended for second semester. Introduction to the mathematical foundations of deterministic and stochastic operations research, including the simplex method for linear programming, nonlinear optimization, dynamic programming, and some stochastic models. Real world applications will be discussed throughout.

530 The History of Mathematics. Semester course; 3 lecture hours. 3 credits. Prerequisite: 17 credits at the 200 level or above in mathematical sciences or permission of instructor. Surveys major trends in the development of mathematics from ancient times through the nineteenth century and considers the cultural and social contexts of mathematical activity. Either MAT 530 or MAT 531 (but not both) may be applied to the master's degree in mathematical sciences or the M.S. degree in computer science. Both MAT 530 and MAT 531 may be applied to the M.Ed. degree in mathematics education.

531 Expositions in Modern Mathematics. Semester course; 3 lecture hours. 3 credits. Prerequisite: six credits at the 400 level or above in mathematical sciences. Studies descriptively several major ideas relevant to present-day mathematics, such as the advent of pure abstraction, difficulties in the logical foundations of mathematics, the impact of mathematics and statistics in the twentieth century, and the computer revolution. Either MAT 530 or MAT 531 (but not both) may be applied to the master's degree in mathematical sciences or the M.S. degree in computer science. Both MAT 530 and MAT 531 may be applied to the M.Ed. degree in mathematics education.

591 Topics in Mathematics. Semester course; 1-3 credits per semester. A study of selected topics in mathematics. See *Schedule of Classes* for specific topics and prerequisites. Open to qualified undergraduates. May be repeated for credit.

COURSES IN STATISTICS (STA)

212 Concepts of Statistics. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 200 and 211. An introduction to the nature of statistical thinking and the application of abstract systems to the resolution of nonabstract problems. Probability models for stochastic events. Parametric representations. Estimation, testing hypotheses and interval estimation with application to classical models. (A core course for mathematical sciences.)

213 Introduction to Statistics. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 101 or MAT/BUS 111 or MAT 131 or a satisfactory score on the Mathematics Placement Test. Description of data, elementary probability, random sampling, estimation, and hypothesis testing for proportions and means; chi-square tests, or some other special application. (Not open to students in mathematical sciences.) Students may not receive degree credit for both STA 213 and BUS 301.

214 Applications of Statistics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: STA 213. A study of the nature and application of statistical methods including analysis of variance, regression, and correlation. Special topics include distribution free methods in various statistical problems. (Psychology majors see PSY 214; sociology, anthropology, and political science majors see SOC 214.)

291 Topics in Statistics. Semester course; 1-3 lecture hours. 1-3 credits per semester. A study of selected topics in statistics. Specific topics may fulfill General Education Requirements. See *Schedule of Classes* for specific topics and prerequisites.

321 Introduction to Statistical Computing. Semester course; 3 lecture hours. 3 credits. Prerequisites: STA 212, CSC 201 or CSC 255, and MAT 200, or their equivalents. An overview of topics central to the applications of computers in statistical

practice: data storage and retrieval, data modification and file handling, use of statistical software (SAS, SPSSX, BMDP, etc.), statistical algorithms, random number generation, and applications.

391 Topics in Statistics. Semester course; 1-3 lecture hours. 1-3 credits per semester. A study of selected topics in statistics. See *Schedule of Classes* for specific topics and prerequisites.

404 Introduction to Statistical Inference. Semester course; 3 lecture hours. 3 credits. Prerequisites: Both STA 212 and MAT 309, or permission of instructor. Framework for statistical inference. Point and interval estimation of population parameters. Hypothesis testing concepts, power functions, Neyman-Pearson lemma, and likelihood ratio tests. Elementary decision theory concepts.

492 Independent Study. Semester course; variable credit, 2, 3, 4 credits per semester; maximum 4 credits per semester; maximum total of 6 credits. Generally open only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course. The student must submit a proposal for investigating some area or problem not contained in the regular curriculum. The results of the student's study will be presented in a report.

503 Introduction to Stochastic Processes. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 307 and 309. A continuation of topics given in MAT 309. An elementary introduction to stochastic processes and their applications, including Markov chains and Poisson processes.

513-514/Biostatistics 513-514 Mathematical Statistics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 307. Probability, random variables and their properties, distributions, conditional distributions, moment generating functions, limit theorems, estimators and their properties, Neyman-Pearson and likelihood ratio criteria for testing hypotheses.

523/Biostatistics 523 Nonparametric Statistical Methods. 3 lecture hours. 3 credits. Prerequisites: any two semesters of statistics or permission of instructor. Estimation and hypothesis testing when the form of the underlying distribution is unknown. One-, two-, and k-sample problems. Tests of randomness, Kolmogorov-Smirnov tests, and coefficients of association.

533 Applied Linear Regression. Semester course; 3 lecture hours. 3 credits. Prerequisites: any two semesters of statistics and one semester of calculus. An introduction to the concepts and methods of regression analysis, including simple linear regression and correlation, multiple regression and correlation. Application of the multiple regression model to the analysis of variance.

541 Applied Statistics for Engineers and Scientists. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAT 200-201 or equivalent and operational knowledge of MS-DOS. An introduction to applied statistics intended primarily for graduate students in Mathematical Sciences and the Cooperative Graduate Engineering Program. The fundamental ideas of the collection and display of information, descriptive statistics and exploratory data analysis, elementary probability theory, frequency distributions, and sampling are covered. Other

topics include tests of hypotheses and confidence intervals for one and two sample problems; ANOVA, principles of one-factor experimental designs including block designs and Latin squares, fixed and random effects, multiple comparisons; correlation and linear regression analysis; control charts; contingency tables and goodness-of-fit. Students may not receive degree credits for both STA 541 and STA 543.

543/BIS 543 Statistical Methods I. Semester course; 3 lecture hours. 3 credits. Prerequisite: graduate standing, or one course in statistics and permission of instructor. Basic concepts and techniques of statistical methods, including: the collection and display of information, data analysis, and statistical measures; variation, sampling, and sampling distributions; point estimation, confidence intervals, and tests of hypotheses for one and two sample problems; principles of one-factor experimental design, one-way analysis of variance, and multiple comparisons; correlation and simple linear regression analysis; contingency tables and tests for goodness of fit. Students may not receive degree credit for both STA 541 and STA 543.

544/BIS 544 Statistical Methods II. Semester course; 3 lecture hours. 3 credits. Prerequisite: STA 541 or STA 543, or equivalent. Introductory treatment of the design of experiments and the statistical analysis of experimental data based on analysis of variance (ANOVA) and multiple-regression models. Block designs, factorial designs, repeated measures designs, response-surface methods, analysis of covariance, and variable selection in multiple-regression problems will be covered. Includes the use of a statistical software package for data analysis.

549 Statistical Quality Control. Semester course; 3 lecture hours. 3 credits. Prerequisites: STA 212 and MAT 309 or their equivalents, or permission of instructor. Methods of statistical quality control, with an emphasis on the probabilistic and statistical foundations used in designing and evaluating the techniques. Includes variables and attributes control charts, CUSUM charts, process capability analysis, design of experiments, and acceptance sampling.

591 Topics in Statistics. Semester course; 3 lecture hours. 3 credits. Prerequisite: Permission of the instructor. Selected topics in statistics. Course open to qualified undergraduates. May be repeated for credit.

See also: **MAT 309 Introduction to Probability Theory.**

COURSES IN MILITARY SCIENCE (MIS)

101 Basic Military Science. Semester course; 2 lecture hours. 2 credits. Study of the United States Defense Department and the organization and structure of the Army.

102 Basic Military Science. Semester course; 2 lecture hours. 2 credits. Examines professional ethics and their relationship to military leadership and operations; decision making; briefing and writing skills; life-saving techniques; drill and ceremony; basic rifle marksmanship; rappelling; and executing a field leadership reaction course.

201 Basic Military Science. Semester course; 2 lecture hours. 2 credits. Examines professional ethics and their relationship to military leadership and operations, decision making; briefing and writing skills; life saving techniques;

drill and ceremony; basic rifle marksmanship; rappelling; and executing a field leadership reaction course.

202 Basic Military Science. Semester course; 2 lecture and 1-1/2 laboratory hours. 2-2 credits. Prerequisites: MIS 201 or permission of the instructor. Examines individual soldier skills and movement techniques; Army doctrine; squad-level tactics; rifle marksmanship; land navigation; physical fitness training; water survival; and requires participation in a one day field training exercise.

203 Basic Military Science. Optional ROTC Basic Camp. 0-6 credits. Six weeks of training at a military installation. Travel pay and salary stipend provided through the military science department. Student not obligated to any military service. Basic Camp graduates are eligible to enroll in advanced military sciences courses.

Prerequisites for enrolling in advanced military science courses are successful completion of three basic military science courses or MIS 203 Basic Military Science for six credits. An approved military history course (preferably HIS 350) is a prerequisite for commissioning as an officer and should be taken prior to beginning the advanced course.

For College of Humanities and Science majors, only three of the eight 300-level military science credits may be used in fulfillment of the 45 upper-level credit requirement for graduation.

301-302 Advanced Military Science. Continuous course; 2 lecture and 1 1/2 laboratory hours. 2-2 credits. Management principles and leadership; instructional methods; organization and function of Army branches; theory and dynamics of unit operations and exercise of command.

303-304 Advanced Military Science. Continuous course; 2 lecture and 1 laboratory hour. 2-2 credits. Staff organization and procedures, orders and operations, training management, logistics, military law, and the exercise of command.

306 Military Science. ROTC Advanced Camp. 0 credits. Prerequisite: MIS 302. The ROTC camp summer practicum is six weeks long. Individual and group experience for application of leadership training. Exposure to leadership situations which require decisions made under physical and mental stress conditions.

COURSES IN PHILOSOPHY (PHI)

101 Introduction to Philosophy. Semester course; 3 lecture hours. 3 credits. An introduction to some of the main branches of philosophy. Some of the issues that might be addressed are: What is knowledge? Is reason or experience the basis for all knowledge? Can we have knowledge of the past, or of the future? What is Truth? Does God Exist? Is there a mental realm separate from the material realm? Are the laws of nature deterministic? Do we have free will? What makes an action morally permissible? What is the proper role of the State in regulating our lives? **This course is directed primarily at first and second year students.**

103 Ancient Greek and Medieval Western Philosophy. Semester courses; 3 lecture hours. 3 credits. A survey of Western Philosophy from the Ancient Greeks (e.g., Socrates,

Plato, and Aristotle) through the medieval period (e.g., Augustine and St. Thomas Aquinas).

104 Modern Western Philosophy. Semester course; 3 lecture hours. 3 credits. A survey of Western Philosophy from the Renaissance to the 19th century (e.g., Hobbes, Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant, Hegel, and Marx).

211 History of Ethics. Semester course; 3 lecture hours. 3 credits. Co-requisite: ENG 200 or equivalent. A philosophical investigation of the main concepts and theories of ethics and their application to fundamental moral questions, as illustrated by the ethical systems of such historically important Western philosophers as Plato, Aristotle, Augustine, Hume, Mill and Kant.

212 Ethics and Applications. Semester course; 3 lecture hours. 3 credits. Co-requisite: ENG 200 or equivalent. A philosophical investigation of the main concepts and theories of ethics, with applications to fundamental moral questions as they arise in different areas. Such problems as abortion, the welfare of animals, world hunger, pornography, capital punishment, nuclear defense, sexual behavior, environmental ethics, and reverse discrimination may be used as illustrations. (PHI 213 may not also be taken for credit.)

213 Ethics and Health Care. Semester course; 3 lecture hours. 3 credits. Co-requisite: ENG 200 or equivalent. A philosophical investigation of the main concepts and theories of ethics, with applications to fundamental moral questions as they arise in health care. The following issues may be used as illustrations: abortion, euthanasia and the right to die, human experimentation, treating mental illness, genetic technologies, the concepts of health and disease, and the funding of health care. (PHI 212 may not also be taken for credit.)

221 Critical Thinking. Semester course; 3 lecture hours. 3 credits. Prerequisite: ENG 101 by course or placement. An introduction to inductive and deductive reasoning, with emphasis on common errors and fallacies.

222 Logic. Semester course; 3 lecture hours. 3 credits. Prerequisite: placement into MAT 101 or above. An evaluation of deductive arguments utilizing the methods of symbolic logic.

291 Topics in Philosophy. Semester course. Variable credit. 1-4 credits. Prerequisite as specified in the schedule of courses or written permission of instructor. An introductory study of an individual philosopher, a particular philosophical problem or a narrowly-defined period or school. See *Schedule of Classes* for specific topic to be offered each semester.

301 Mind and Reality. Semester course; 3 lecture hours. 3 credits. Prerequisites: nine credits in philosophy including PHI 222 and one of PHI 101, 103, or 104 or permission of instructor. An examination of central metaphysical issues, for example, the mind-body problem, free will, causality, action, realism, and the problems of universals.

302 Reason and Knowledge. Semester course; 3 lecture hours. 3 credits. Prerequisites: nine credits in philosophy including PHI 222 and one of PHI 101, 103, or 104 or permission of instructor. An examination of central epistemological issues, for example, the problem of justification, empirical knowledge, perception, rationality, and truth.

303 Philosophy of Language. Semester Course; 3 lecture hours. 3 credits. Prerequisites: nine credits in philosophy including PHI 222 and 6 additional credits, at least 3 of which must be from PHI 101, 103, or 104, or permission of the instructor. An examination of central issues in the philosophy of language; for example, the nature of meaning and reference, reductionism, properties of languages, and the character of artificial symbols systems.

320 Philosophy of Law. Semester course; 3 lecture hours. 3 credits. Prerequisite: Nine credits in philosophy including PHI 222 and one of PHI 211, 212, 213 or permission of instructor. A critical examination of the nature of law and criminal justice in the light of important human values. The following topics will be considered: the nature of law and legal reasoning, the legal enforcement of morality, and such controversies as punishment versus rehabilitation, and the right to due process versus the need for public safety.

326 Existentialism. Semester course; 3 lecture hours. 3 credits. Prerequisite: three credits in Philosophy (exclusive of PHI 221 and PHI 222) or permission of instructor. An examination of the nature of truth, freedom, responsibility, individuality, and interpersonal relations as found in some principal writings of Kierkegaard, Nietzsche, Jaspers, Sartre, Heidegger, Camus, Buber, Marcel.

327 Ethical Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: nine credits in philosophy including PHI 222 and one of PHI 211, 212 or 213. A study of the problems of philosophical ethics, including relativism, egoism, utilitarianism, intrinsic value, and the meaning and justification of ethical principles. Both historical and contemporary thinkers will be considered.

331 Philosophy of Science. Semester course; 3 lecture hours. 3 credits. Prerequisite: three credits of philosophy and six credits of natural sciences courses. An examination of the bases of scientific inquiry in both the natural and social sciences; including a study of such topics as hypothesis formation and testing, and the nature of scientific laws, theories, and explanations.

335 Social and Political Philosophy. Semester course; 3 lecture hours. 3 credits. Prerequisite: nine credits in philosophy including PHI 222 and one of PHI 211, 212, 213, or POS 341 or 342. A critical examination of political power and of the relationship between the individual and his society. Possible topics include: anarchism and the justification of having a state at all; political views about what sort of state is justified (e.g., conservatism, liberalism, communitarianism, feminism, Marxism); private vs collective property; market vs planned economies; democracy vs totalitarianism; and civil disobedience and revolution.

391 Topics in Philosophy. Semester course; variable credit. 1-4 credits. Prerequisite as specified in the schedule of courses or permission of instructor. A study of an individual philosopher, a particular philosophical problem or a narrowly-defined period or school. See *Schedule of Classes* for specific topic to be offered each semester.

408/Religious Studies 408 Indian Tradition. Semester course; 3 lecture hours. 3 credits. A systematic analysis of the major theories of Indian religious and philosophical thought: Vedas, Upanishads, Gita, Charvaka, Jainism, Buddhism, the six systems of Hinduism, and contemporary development.

410/Religious Studies 410 The Chinese Tradition in Philosophy. Semester course; 3 lecture hours. 3 credits. A study of the development of Confucianism, of alternative ways of thought prior to the fall of the Han Dynasty, and of neo-Confucianism. The systems of thought are examined in the light of their social, political, and religious impact on China, Korea, and Japan.

412/Religious Studies 412 Zen Buddhism. Semester course; 3 lecture hours. 3 credits. A study of Zen Buddhism, including backgrounds in Indian philosophy and practice, development in China and Korea, and present day Zen theory and practice in Japan and in Western countries.

421 Aesthetics. Semester course; 3 lecture hours. 3 credits. Prerequisite: three credits in philosophy (exclusive of PHI 221 and PHI 222) or permission of instructor. A critical survey of philosophies of art from antiquity to the twentieth century. Topics include: the nature of art, creativity, aesthetic experience, and aesthetic judgments.

430/Religious Studies 430 Philosophy of Religion. Semester course; 3 lecture hours. 3 credits. Prerequisite: 3 credits in philosophy (exclusive of PHI 221 and PHI 222) or permission of instructor. A critical analysis of such topics as the concept of God, arguments for the existence of God, the problem of evil, the concept of faith, religious language, and the conceptual problems posed by the plurality of religions.

440/Religious Studies 440 Mysticism. Semester course; 3 lecture hours. 3 credits. Prerequisite: one course in philosophy or religious studies. A critical analysis of the varieties of mysticism in world religions. Arguments for and against mysticism will be emphasized. Mysticism will be related to art, psychology, science, philosophy, theology, and magic.

490 Seminar in Philosophy. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for a maximum of 6 credits. Prerequisite: one of PHI 301, 302, 327, 335 or permission of instructor in exceptional cases. Research and analysis of selected philosophical topic in a seminar setting.

492 Independent Study. Semester course; variable credit, maximum 6 credits per semester; maximum total for all independent study courses 12 credits. Open generally only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course. An independent study course to allow interested majors in philosophy to do research, under the direction of a professor qualified in that field, in an area of major interest.

591 Topics in Philosophy. Semester course; variable credit; 1-4 credits. Prerequisite: written permission of instructor or graduate standing. A graduate level, in-depth study of an individual philosopher, a particular philosophical problem or a narrowly-defined period or school. See *Schedule of Classes* for specific topic to be offered each semester.

COURSES IN PHYSICS (PHY)

101 Foundations of Physics. Continuous course; 3 lecture hours. 3 credits. Introduction to the concepts of classical

physics essential to the understanding of modern developments. See PHY 102. Presented within an historical and societal framework. For non-science majors. An optional laboratory may be taken with this course. See PHY L101.

L101 Foundations of Physics Laboratory. Semester course; 2 laboratory hours. 1 credit. Corequisite: PHY 101. An optional laboratory consisting of experiments and activities correlated with PHY 101.

102 Frontiers of Physics. Continuous course; 3 lecture hours. 3 credits. Prerequisite: PHY 101. An introduction to the concepts of modern physics with applications to selected technologies and implications for tomorrow's world. For non-science majors. An optional laboratory may be taken with this course. See PHY L102.

L102 Frontiers of Physics Laboratory. Semester course; 2 laboratory hours. 1 credit. Corequisite: PHY 102. An optional laboratory consisting of experiments and activities correlated with PHY 102.

103 Elementary Astronomy. Semester course; 3 lecture hours. 3 credits. A descriptive approach to astronomy dealing with basic features of our solar system, our galaxy, and the universe. Not applicable toward physics major requirements. An optional laboratory may be taken with this course. See PHY L103.

L103 Elementary Astronomy Laboratory. Semester course; 2 laboratory hours. 1 credit. Corequisite or prerequisite: PHY 103. An optional laboratory course consisting of experiments and activities related to PHY 103.

105 Physical Geology. Semester course; 3 lecture hours. 3 credits. A descriptive approach to physical geology dealing with the history and structure of the earth, catastrophic events, and geology as it relates to the contemporary environment. Not applicable toward physics major requirement. An optional laboratory may be taken with this course. See PHY L105.

L105 Physical Geology Laboratory. Semester course; 2 laboratory hours. 1 credit. Corequisite or prerequisite: PHY 105. An optional laboratory course consisting of experiments and activities related to PHY 105.

201-202 General Physics. Continuous course; 3 lecture and 3 laboratory hours. 4-4 credits. Prerequisite: MAT 101. First semester: basic concepts of motion, waves, and heat. Second semester: basic concepts of electricity, magnetism, light, and modern physics. Designed primarily for life-science majors. Not applicable toward physics major requirement.

207 University Physics I. Continuous course; 4 lecture and 3 laboratory hours. 5 credits. Co-requisite: MAT 200. A vector- and calculus-based introduction to the fundamental concepts of mechanics, heat, and wave motion.

208 University Physics II. Continuous course; 4 lecture and 3 laboratory hours. 5 credits. Prerequisite: PHY 207. Corequisite: MAT 201. A vector- and calculus-based introduction to the fundamentals of electricity, magnetism, and optics.

291 Topics in Physical Science. Semester course; variable credit. 1-3 lecture or laboratory hours. 1-3 credits per semester. Not applicable toward physics major requirements. A

study of a selected topic in physics, astronomy, geology, meteorology, or oceanography. See *Schedule of Classes* for specific topic(s) and possible prerequisites.

301 Classical Mechanics I. Semester course; 3 lecture hours. 3 credits. Prerequisite: PHY 208 and MAT 301. Corequisite: MAT 307. Review of vector calculus. Newtonian mechanics: single particle, oscillations, motion under central forces, dynamics of a systems of particles.

302 Classical Mechanics II. Semester course; 3 lecture hours. 3 credits. Prerequisite: PHY 301 and MAT 307. Motion in noninertial frames, dynamics of rigid bodies, coupled oscillators, continuous systems, wave equations in one dimension.

315/Environmental Studies 315 Energy and the Environment. Semester course; 3 lecture hours. 3 credits. Open to non-physics majors; not applicable to the physics major. Prerequisite: junior or senior standing. A study of society's demands for energy, how it is currently being met, the environmental consequences thereof, and some discussion of alternatives.

320 Modern Physics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 208 and MAT 301. Corequisite: MAT 307. Foundations of modern physics including special relativity, thermal radiation and quantization, wave-particle duality of radiation and matter. Schroedinger equation. Introduction to Atomic, Nuclear and Particle Physics. Molecular structure and spectra. A continuation of PHY 208.

L320 Modern Physics Laboratory. Semester course; 3 laboratory hours. 1 credit. Prerequisite or corequisite: PHY 320. Experimental work correlated with PHY 320.

331 Electronics and Instrumentation for Scientists I. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisites: PHY 208 or permission of instructor. Simple AC and DC circuit. Passive and active circuit elements including semiconductor devices, discrete and integrated linear circuits.

340 Statistical Mechanics and Thermodynamics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 302 and MAT 307 or permission of instructor. Microscopic theory of temperature, heat and entropy, kinetic theory, multicomponent systems, quantum statistics. Mathematical relationships of thermodynamics.

376 Electromagnetism. Semester course; 3 lecture hours. 3 credits. Prerequisite: PHY 302 and MAT 307 or permission of instructor. Electrostatics, magnetism, and electromagnetic properties of matter, Maxwell's equations, electromagnetic waves, boundary conditions, polarization.

380 Quantum Physics I. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 302, PHY 320, and MAT 307. Brief introduction to the correspondence between classical and quantum mechanics. Schroedinger wave equation, operator methods in quantum mechanics, angular momentum and conservation laws, solution to harmonic oscillator and the hydrogen atom, magnetic dipole moments and spin.

391 Topics in Physics. Semester course; variable credit, 1-3 lecture hours. 1-3 credits per semester; maximum total of 6 credits. *Not applicable* toward physics major requirement. In-

depth study of a selected topic in physics or physics-related technology, usually at a level requiring only elementary algebra. See *Schedule of Classes* for specific topic(s), credit, and possible prerequisites.

397 Directed Study. Semester course; variable credit. 1-3 credits per semester; maximum of 3 credits applicable toward physics major requirement; maximum total of 4 credits. Open to nonmajors. Determination of amount of credit and permission of instructor must be obtained before registration for course. Intended to allow nonmajors and majors to examine in detail an area of physics of physics-related technology not otherwise available in upper-level courses. May involve either directed readings or directed laboratory work.

407 Mechanics of Solid Materials. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 302 and MAT 307 or permission of instructor. Analysis of stress and strain, constitutive equations, effect of time and temperatures on mechanical behavior and failure of solid materials; introduction to composite materials; emphasis on engineering applications.

420 Quatum Physics II. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 380 or permission of instructor. Transition rates, addition of angular momentum, multi-electron atoms-Ground state, x-ray and optical excitations, time independent perturbation theory, relativistic hydrogen atom and the structure of atoms, collision theory, nuclear structure, elementary particles and their symmetries.

422 Optics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 376 or permission of instructor. Comprehensive study of propagation of light, including geometrical optics, polarization, interference, diffraction, Fourier optics and quantum optics.

432 Electronics and Instrumentation for Scientists II. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite PHY 331 or permission of instructor. Discrete and integrated digital circuits; basic microprocessor architecture, machine and assembly language for input/output configuration; electronic instrumentation for control and measurement.

440 Introduction to Condensed Matter Physics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 376 and PHY 380. Structure and bonding in solids, phonons, free electron Fermi gas, energy bands, semiconductors, Fermi surface and optical properties. Magnetism.

450 Senior Physics Laboratory. Semester course; 1 lecture hour and 4 laboratory hours. 3 credits. Prerequisites: PHY 320, PHY 376, and PHY 380. Corequisite: PHY 420. Experiments in atomic, condensed matter, nuclear, particle, and plasma physics. Introduction to instrumentation and first experience in the research laboratory.

490 Seminar in Conceptual Physics. Semester course; 1 lecture. 1 credit. Prerequisites: PHY 376 and PHY 420. Attend weekly physics colloquia, practice oral presentation of ideas and problems. Assessment of general physics background.

491 Topics in Physics. Semester course; 3 lecture hours. 3 credits; maximum of 3 credits applicable toward physics major requirement; maximum total of 6 credits. An in-depth study of a selected topic in physics. See *Schedule of Classes* for specific topic(s) and prerequisites.

492 Independent Study. Semester course; variable credit, 1-3 credits per semester; maximum of 3 credits applicable toward physics major requirement; maximum total of 8 credits. Open generally only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course. Independent projects in experimental or theoretical physics.

571 Theoretical Mechanics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 301 and MAT 301 or permission of instructor. An introduction to advanced dynamics involving the Lagrangian and Hamiltonian formalisms.

576 Electromagnetic Theory. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 376 and MAT 307 or permission of instructor. Maxwell's equation of electromagnetism, vector and scalar potentials, electromagnetic waves, and radiation theory.

580 Quantum Mechanics. Semester course; 3 lecture hours. 3 credits. Prerequisites: PHY 380, MAT 307, or permission of instructor. Theoretical quantum descriptions with emphasis upon mathematical techniques. Schrodinger equation, hydrogen atom, eigenfunctions and eigenvalues, angular momentum and spin, and perturbation theory.

591 Topics in Physics. Semester course; variable credit. 1-3 credits. Open to graduate students and undergraduate students with advanced standing. Applicable towards physics major requirements. An in-depth study of a selected topic in advanced physics. See *Schedule of Classes* for specific topic(s) and additional prerequisites.

COURSES IN PORTUGUESE (POR)

101, 102 Elementary Portuguese. Continuous courses; 5 lecture/recitation hours. 4-4 credits. Elementary grammar, reading, and oral skills.

201 Intermediate Portuguese. Semester course; 3 lecture hours. 3 credits. Continuation of the essentials of grammar, with emphasis on achieving proficiency in aural comprehension, speaking, reading and writing skills.

202 Intermediate Portuguese Readings. Semester course; 3 lecture hours. 3 credits. Prerequisite: POR 201 or the equivalent. Designed to increase the student's proficiency through the study of selected cultural and literary texts.

COURSES IN POLITICAL SCIENCE (POS)

103 U.S. Government. Semester course; 3 lecture hours. 3 credits. A study of American national government focusing on its underlying political ideas, constitutional basis, major institutions, and their interaction in the determination of public policy.

105/International Studies 105 International Relations. Semester course; 3 lecture hours. 3 credits. An introductory analysis of interstate relations and world affairs. Attention focuses on theories of international politics, military capabilities and their application, international organizations, global economic trends, domestic sources of state behavior, and other selected issues as appropriate.

201 Introduction to Politics. Semester course; 3 lecture hours. 3 credits. This course examines the basic concepts involved in the study of politics. Topics include nature of the state, purpose of government, justice, power, etc.

214/Sociology 214 Applications of Statistics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: STA 213 or permission of instructor. The application of descriptive and inferential statistics for the social sciences.

301 U.S. Parties and Elections. Semester course; 3 lecture hours. 3 credits. An overview of political parties and elections in the U.S. Topics will include the history, organization, and methods of U.S. political parties, presidential nominations and elections; Congressional elections.

302/ African-American Studies 302 Politics of the Civil Right Movement. Semester course; 3 lecture hours. 3 credits. The main objectives of the course are to introduce and examine the personalities and activities of the modern Civil Rights Movement. The course provides the historical background leading up to the peak years of the struggle for racial equality in America. It has special focus on events of the 1960's and 1970's and, particularly their implication for the current state of Civil Rights in the U.S.

303 Political Attitudes and Behavior. Semester course; 3 lecture hours. 3 credits. Study of the political behavior of individual citizens. Topics include public opinion and its measurement; how political attitudes are created and shaped; the role of the news media in influencing political behavior; political participation.

306 The Congress. Semester course; 3 lecture hours. 3 credits. Prerequisites: POS 101 and 102. A study of the behavior of legislators and the structures and processes of legislative decision-making in the U.S. Congress. Analysis will include both the internal and external environment of congressional policy-making, and an assessment of the impact of congressional policy.

308 U.S. Presidency. Semester course; 3 lecture hours. 3 credits. A political and institutional study of the chief executive, focusing especially on the presidential personality, his relations with Congress, the bureaucracy, the courts, and the shaping of domestic and foreign policy.

310 Public Policy. Semester course; 3 lecture hours. 3 credits. An analytical survey of policy formulation and implementation in the United States, together with an examination of the impact of policy upon individuals and groups in American society.

311/ Environmental Studies 311 Politics of the Environment. Semester course; 3 lecture hours. 3 credits. An exploration of the current controversy about environmental politics and the issues and crisis it centers on. Special attention will be given to the constitutional, political, and geographical factors in the development of environmental policy and the organized effort to deal with governmental actions and inaction and its impact on policy outcomes.

314 U.S. Constitutional Law. Semester course; 3 lecture hours. 3 credits. A survey of the development of the Constitution through judicial interpretation. Topics to be covered include an introduction to the operation of the Supreme Court, decisions on federalism, the powers of Congress, the president, and the judiciary and civil rights, and civil liberties.

315 U.S. Judicial Policymaking. Semester course; 3 lecture hours. 3 credits. Prerequisite: POS 314. A study of theories and models of judicial decision making in the Supreme Court, focusing on judicial structure and procedures, policy-making analysis, political ideology, and judicial activism.

316/Women's Studies 316 Women and the Law. Semester course; 3 lecture hours. 3 credits. This course will introduce students to the history, politics, and status of women under the American legal system. Topics to be covered may include equal protection, sexual violence, the particular rights of women of color and lesbians, reproductive rights, women criminals, and women in the legal profession.

318/Women's Studies 318 African-American Studies 318 Politics of Race, Class and Gender. Semester course; 3 lecture hours. 3 credits. A study of the racial, class and gender influences on the history and development of political values, conflicts, processes, structures and public policy in the United States.

320/Sociology 320 Research Methods in the Social Sciences. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Open to SOA or POS majors or permission of instructor. Current methods of research in the social sciences.

321 Urban Government and Politics. Semester course; 3 lecture hours. 3 credits. An examination of urban political power and influence, governance, and public policy. Topics include: power and influence, governmental structures and the political process, public policy, and service delivery.

322 State and Local Government and Politics. Semester course; 3 lecture hours. 3 credits. An examination of the politics and governance of states and localities. Attention is devoted to political culture, interest groups, political parties, the legislative, executive, and judicial components of state government, along with the structure and political processes of local governments.

323 Virginia Government and Politics. Semester course; 3 lecture hours. 3 credits. An examination of Virginia state government and politics, with appropriate attention given to political culture, interest groups, political parties, the media, and the legislative, executive, and judicial branches of government.

329 Intergovernmental Relations. Semester course; 3 lecture hours. 3 credits. An examination of vertical and horizontal intergovernmental relations. Attention will be given to the major variants of federalism. The role of categorical and block grants in programmatic federalism will be assessed. Trends in intergovernmental relations will be advanced.

331 Public Administration. Semester course; 3 lecture hours. 3 credits. A study of the concepts and practices of public administration in the United States. Particular attention will be given to the administrative procedures and practices of the national government and of the government in Virginia.

334 Public Personnel Administration. Semester course; 3 lecture hours. 3 credits. An analysis of personnel management in government. Recruitment and selection, job and salary classification, work standards and training, and relations of public personnel to the executive and legislative branches of government will be included among the topics to be discussed.

341, 342 History of Political Thought. Semester courses; 3 lecture hours. 3-3 credits. A survey of political thought from the time of Plato to the present. First semester: leading political ideas of the ancient and medieval periods. Second semester: modern and contemporary thought.

343/African-American Studies 343 Black Political Thought. Semester course; 3 lecture hours. 3 credits. An historical and sociological perspective on the political and social ideas of black thinkers from David Walker to the present.

344 Contemporary Political Theory. Semester course; 3 lecture hours. 3 credits. This course provides a survey of recent trends in political theory. It examines updates of the major ideological traditions, arguments about the nature of modernity and recent developments in environment, feminist, and non-western thought.

351/ International Studies 351 Governments and Politics of the Middle East. Semester course; 3 lecture hours. 3 credits. A comparative analysis of political systems in the Middle East including the study of contemporary aspects of traditionalism, the political nature of transition, the instruments of political modernization, and evolution and revolution in the political process of Middle Eastern states. The course will explore the primary bases of cleavage and conflict and the principal forces that shape the policies and political dynamics of the region.

352/ International Studies 352 European Governments and Politics. Semester course; 3 lecture hours. 3 credits. A comparative study of the political systems of selected western and eastern European countries.

353/ International Studies 353 Latin American Governments & Politics. Semester course; 3 lecture hours. 3 credits. A survey of politics characteristic of Latin American systems, including democratic reformism, military authoritarianism, and revolutionary socialism. The course also examines the contemporary problems of fledgling democracies as they cope with economic and debt crises and various opposition challenges.

354/ International Studies 354 Politics of the Former Soviet Union. Semester course; 3 lecture hours. 3 credits. A study of the origins, institutions, and processes, and disintegration of the Soviet political system, and the ongoing reform efforts during the post-Soviet period. Special emphasis is placed on the politics of the transition to a democratic political system and a market economy. Other topics include nationalities issues, social problems, and foreign policy.

355/ International Studies 355 Asian Governments and Politics. Semester course; 3 lecture hours. 3 credits. A comparative analysis of the politics and governments of major Asian states, with a focus on Japan, China, and India.

356/ International Studies 356 African-American Studies / International Studies 356 African Government and Politics. Semester course; 3 lecture hours. 3 credits. This course will introduce the student to the basic outlines of government and politics in Africa. The course will consider such topics as colonialism, elites and nationalism, and modernization strategies. Using the comparative approach, the course will primarily focus on West, East, and Central Africa.

357/African-American Studies 357/International Studies 357 Politics of Southern Africa. Semester course; 3 lecture hours. 3 credits. An examination of racial and political developments in the southern tip of Africa. While South Africa will be the primary focus of analysis, other countries in the region, such as Zimbabwe, Angola, and Mozambique, will be studied.

358/International Studies 358 Comparative Politics. Semester course; 3 lecture hours. 3 credits. Comparative study of politics and governments. Introduces concepts and theories used in the study of political systems. Topics include democratization and democratic governance, the role of the state, one-party and military regimes, revolution, and economic and political development.

361/ International Studies 361 Issues in World Politics. Semester course; 3 lecture hours. 3 credits. An exploration of several significant issues in world politics. Topics may include peace-keeping and collective security, international economic competitiveness, global environmental politics, as well as selected others. Topics will vary with current events and trends in the international arena.

362/International Studies 362 International Organizations and Institutions. Semester course; 3 lecture hours. 3 credits. A study of the background development structure and operations of organizations and institutions such as the United Nations, the European Community, the Organization of American States.

363/ International Studies 364 U.S. Foreign Policy. Semester course; 3 lecture hours. 3 credits. An analytical survey of processes and practices in the formulation of United States foreign policy, including an introduction to the goals, problems of implementation, and current challenges faced by policy-makers.

364/ International Studies 364 Vietnam. Semester course; 3 lecture hours. 3 credits. An analysis of the complete record of the conflict in Vietnam. The primary focus will be on the period of United States involvement. The course will examine closely how and why the U.S. became involved in Vietnam and what impact the Vietnam war has had on political institutions and behavior. In particular, the course will examine what impact the period of U.S. involvement has had upon U.S. foreign policy. The course will also consider additional topics including: public opinion and the war, the relationship between President and Congress in light of the War, and contemporary U.S. politics as a backlash against the political movements of the 1960s.

365/International Studies 365 International Political Economy. 3 lecture hours. 3 credits. A survey of both theoretical and current policy issues in international political economy. Theories to be covered include liberalism, mercantilism, Marxism, regionalism, world systems theory, and others. Policy issues include differing styles of capitalism in the industrialized world, the political economy of development, the politics of international corporate alliances, and others.

391 Topics in Political Science. Semester course; 3 lecture hours. 3 credits; maximum total of 9 credits in all departmental topics courses may be applied to the major. An intensive survey of a specialized field of political interest. See *Schedule of Classes* for specific topics to be offered each semester.

409 Continuity and Change in American Politics. Semester course; 3 lecture hours. 3 credits. Prerequisites: POS 101, 102 or permission of instructor. This course is concerned with the role of cultural, economic, and social variables in shaping American politics and public policy. Particular attention will be devoted to the impact of socioeconomic change upon individual and group behavior, and the structures and processes of American national government.

420 Seminar in Urban Politics. Semester course; 3 lecture hours. 3 credits. Attention will be devoted to concerns bearing on community power and influence, the dynamics of the urban political process, the nature of urban public policy, and metropolitan governmental structure.

425 Public Policy in the States. Semester course; 3 lecture hours. 3 credits. The course focuses primarily upon the policy outcomes of state political systems rather than upon institutional processes. Social, economic, political, and governmental structures and their relationship to state policy are analyzed; means of policy evaluation are considered; and the insights developed are applied to substantive areas of state policy.

432 Public Bureaucracy. Semester course; 3 lecture hours. 3 credits. Prerequisite: POS 331. An analysis of the nature of bureaucracy and bureaucratic phenomena in American governments; the role and involvement of the bureaucracy in politics and the policy-making process. Primary focus on theories and approaches to understanding the central role of bureaucracy in modern society and its use and abuse of power.

448 Scope and Method of Political Science. Semester course; 3 lecture hours. 3 credits. Prerequisites: POS 101, 102, 201, or permission of instructor. A comprehensive and systematic study of the philosophy of political science, various theories seeking to explain political phenomena, and some of the techniques of political analysis.

452/ International Studies 452 Seminar in the Politics of Developing Areas. Semester course; 3 lecture hours. 3 credits. Analysis of the processes of political and economic development. Includes a study of various challenges facing developing countries, such as economic inequalities, environmental degradation, mass political participation, military coups, revolution, and civil war. 1992

468/ International Studies 468 Seminar on Comparative Foreign Policy. Semester course; 3 lecture hours. 3 credits. Prerequisite: POS 201 or permission of instructor. A study of theories, models, and hypotheses of foreign policy behavior in various types of political systems with emphasis on empirical research and analysis of differences and similarities.

491 Topics in Political Science. Semester course; 3 lecture hours. 3 credits; maximum total of 9 credits in all departmental topics courses may be applied to the major. An intensive survey of a specialized field of political interest. See *Schedule of Classes* for specific topics to be offered each semester.

492 Independent Study. Semester course; variable credit, maximum 4 credits per semester; maximum total for all independent study courses 6 credits. Open generally only to students of junior or senior standing who have acquired at least 12 credits in political science. Determination of the amount of credit and permission of the instructor and depart-

ment chairman must be obtained prior to registration for the course. An independent study course which allows a political science major or other student who meets the requirement to do research, under the direction of an instructor qualified in that area, in a subject or field of major interest.

493/Urban Studies 493 Urban Government Internship. Semester course; 150 clock hours in a local legislative body or administrative agency. 3 credits, may be repeated once for a maximum total of six credits; or 300 clock hours, 6 credits. Approval of selection committee required. Under supervision of a faculty committee and a field supervisor, the internship is designed to present opportunities for qualified students to acquire exposure to aspects of public decision-making processes by participation in (1) local legislative bodies of the Richmond metropolitan area; (2) local and regional administrative agencies and commissions; and (3) private organizations that have demonstrated interest in local government and politics.

494 Political Science Internship. Semester course; 3 credits. May be repeated once for a maximum of 6 credits. Designed to provide the student with an opportunity to relate theory to practice through observation and actual experience in the legislative, executive, or judicial branches of government, or in a interest group or political party organization.

498 Political Science Honors. Semester course; 3 lecture hours. 3 credits. Prerequisite: admission to the Honors in Political Science Program or permission of the political science honors coordinator. This course will focus primarily on various approaches to the study of politics and will draw together the diverse strands of political science that are the most representative, coherent, and lively in the field. Its purpose is to acquaint the students with various conceptual frameworks for the study of politics or to develop their understanding of the state of the discipline.

499 Political Science Honors Project. Semester course; 3 lecture hours. 3 credits. Prerequisite: successful completion of POS 498 with a "B" grade or above. This course will entail the planning and execution of a major research project demonstrating a thorough understanding and use of research techniques in political analysis, knowledge of relevant literature, sophisticated writing and research ability under the direction of the honors coordinator.

COURSES IN PSYCHOLOGY (PSY)

101 Introduction to Psychology. Semester course; 3 lecture hours. 3 credits. A prerequisite for upper-level work in the field of psychology. A survey of the basic principles, methods of investigation, and fields of study and application.

NOTE: PSY 101 is a prerequisite for the following courses.

201 Career Development in Psychology. Semester course; 2 lecture hours. 2 credits. Introduction to the discipline of psychology and the career alternatives available in various specialties. Self-assessment, career decision-making skills, educational program planning methods will be covered. Special topics will include graduate/professional school options, opportunities for minority students, and job search strategies for the B.A. or B.S. psychology major.

214 Applications of Statistics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: STA 213.

Frequency distributions, measures of central tendency and variability; sampling, probability, correlation, and significance tests as applied in psychological data.

301 Child Psychology. Semester course; 3 lecture hours. 3 credits. A study is made of the growth and development of the child until puberty. Childlife is viewed in terms of physical, mental, social, emotional, and educational factors. (**PSY 304 Life Span Developmental Psychology may not also be taken for credit.**)

302 Psychology of Adolescence. Semester course; 3 lecture hours. 3 credits. Prerequisite: Either PSY 301 Child Psychology or PSY 304 Life Span Developmental Psychology. A study of mental, moral, social, and physical development from puberty to maturity viewed as in child psychology. Designed for secondary school teachers, youth leaders, and professional psychologists.

303 Personal Adjustment. Semester course; 3 lecture hours. 3 credits. Surveys major theories of personality as a basis for studying theory, research, and intervention into areas that require personal adjustment. Such areas include sense of self, stress and coping, work and career, and several varieties of interpersonal relationships. Positive adjustment and growth as well as problems are discussed.

304 Life Span Developmental Psychology. Semester course; 3 lecture hours. 3 credits. Reviews the basic concepts and principles of physical, cognitive, and social development at each major stage of life—prenatal, infancy, toddlerhood, preschool, middle childhood, adolescence, adulthood, and old age. Consideration is given to the study of development at each stage of life and to different theoretical explanations for development. (**PSY 301 Child Psychology may not also be taken for credit.**)

305/Education 305 Educational Psychology. Semester course; 3 lecture hours. 3 credits. The application of psychological principles to the teaching-learning process with special emphasis on theories of learning and development.

306 Psychology of Adult Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: Either PSY 301 Child Psychology or PSY 304 Developmental Psychology. The life stages and transitions of the young adult, middle age, and young-old phases of the life cycle are considered, following a review of methods of research within life-span development psychology. Topics include the impact of events such as birth of the first child, job relocation, mid-life reevaluation, and anticipated retirement.

308 Stress and Its Management. Semester course; 3 lecture hours. 3 credits. Physiological and psychological aspects of stressors and the stress response. Review of principles, research, and methods of stress management, such as relaxation, self-suggestions, meditation, and biofeedback.

309 Personality. Semester course; 3 lecture hours. 3 credits. The study of the various approaches to understanding human behavior in terms of personality theory. Various theories will be examined for commonality and uniqueness in assumptions, dynamics, and development of personality.

310 Industrial Psychology. Semester course; 3 lecture hours. 3 credits. Application of psychological principles and techniques to problems in personnel management and human engineering; recruitment, selection, training, and placement

in industry; criteria in testing and test development; morale evaluation and improvement, employee counseling; work-management communications; human engineering in equipment design, quality control, working conditions, and safety.

317 Experimental Methods. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: PSY 214. Introduction to experimental procedures and laboratory techniques in psychology. Demonstrations and experiments in sensation, perception, learning, emotion, and motivation.

318 Principles of Psychological Tests and Measurement. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 214. Concepts in psychological measurement and a survey of commonly used tests; testing procedures and rationale underlying these tests; tests of intelligence, aptitude, achievement, interest, and personality critically examined, procedures described for selecting and evaluating specific group tests in these areas.

321 Social Psychology. Semester course; 3 lecture hours. 3 credits. Survey theory and research in social psychology. Topics include interpersonal and social influence processes, attitudes and social cognition, the impact of personality on social behavior, conformity, leadership, and small group behavior.

322/African-American Studies 322 Personality and Behavior of the African-American. Semester course; 3 lecture hours. 3 credits. A study of personality factors such as motivation, ego-functioning, and the socialization processes, with special emphasis on living conditions of Afro-Americans.

323 Interpersonal Relations. Semester course; 3 lecture hours. 3 credits. Analyzes human relations from various theoretical perspectives. Typical topics include the effects of attraction, friendship, love, and dependency on relationships; the evolution of relationships from initiation through termination. Strategies for increasing effectiveness of communication between individuals are also addressed.

324 Psychology of Advertising. Semester course; 3 lecture hours. 3 credits. Psychological factors involved in determining attention, attitudes, and suggestibility as related to consumer preferences and purchasing habits; the role of advertising in influencing consumer behavior.

333/Religious Studies 333 Psychology and Religious Experience. Semester course; 3 lecture hours. 3 credits. Religious belief and experience as viewed by major psychological theorists. How psychological methodology has been used to study religious experience. Topics include personality factors and development, conversion experiences, religious experiences and mental health, and human values.

335/Women's Studies 335 Psychology of Women. Semester course; 3 lecture hours. 3 credits. Overview of issues in psychology relevant to women. Topics include: research methods of women's issues; sex-role socialization; women and hormones; psychological androgyny; personality theory and counseling strategies for women; women and language; women and violence; and rape and abuse.

340 Introduction to the Helping Relationship. Semester course; 3 lecture hours. 3 credits. Overview to the dynamics of communication in a helping relationship. Didactic material includes the principles of empathy, nonverbal behavior, prob-

lem solving, crisis intervention, and interview techniques. Basic paraprofessional counselor skills will be demonstrated and practiced through structured exercises.

341/Sociology 341 Group Dynamics. Semester course; 3 lecture hours. 3 credits. Social and psychological principles and research related to the individual in groups. Specific topics include motivation for individuals forming and joining groups, performance and productivity of group members, group leadership, and majority and minority influence. The group will be examined in relation to the larger society and as a subculture in itself.

401 Physiological Psychology. Semester course; 3 lecture hours. 3 credits. Data from the fields of anatomy and physiology are presented, and their implications for psychology are discussed. The central nervous system, internal environment, vision, audition, reflexes, emotion, learning behavior disorders, and their physiological components. Behavior of human organism is studied from the biopsychological point of view.

404/Sociology 404 Social Psychology of Emotions. Semester course; 3 lecture hours. 3 credits. Prerequisites: PSY 101, SOC 101. An examination of the social shaping of emotion as well as its function in maintaining the social process. Cross-cultural uniformities and diversity in basic emotions and their expression are addressed as well as selected social psychological theories of emotions.

405 Humanistic Psychology. Semester course; 3 lecture hours. 3 credits. A critical examination of "third force" psychology, emphasizing person-centered and growth-oriented frameworks for the analysis of behaviors believed unique to humans. The course addresses theory and research on the psychological foundations of consciousness, self-awareness, intentionality, symbol manipulation, and related topics which may define human nature as distinct from that of other species.

406 Perception. Semester course; 3 lecture hours. 3 credits. Perception of information from sensory systems with concentration on vision and hearing. Research and theories on how we learn and judge color, form, movement, depth, and how we integrate these in object identification.

407 Psychology of the Abnormal. Semester course; 3 lecture hours. 3 credits. Development of personality is discussed, with emphasis on factors leading to maladjustment. Lectures and reading cover the symptom groups of emotional disorders of both psychological and organic origin. Methods of assessing and treating these disorders are surveyed.

410 Principles of Learning and Cognition. Semester course; 3 lecture hours. 3 credits. Comprehensive treatment of learning and cognition with emphasis of humans, from behavioral, cognitive, biological, and developmental viewpoints. Topics include conditioning, information processing, memory, sociobiology, and cognitive and moral development.

412 Health Psychology. Semester course; 3 lecture hours. 3 credits. Prerequisites: PSY 101, PSY 308 or PSY 401, or consent of instructor. Application of the principles and techniques of psychology to the field of medicine, to health maintenance, and to illness. The integration of theoretical, research, and applied issues is emphasized in the analysis of such topics as psychological/behavior factors contributing to and protecting against physical illness (stress, smoking, exercise), factors relating to treatment and recovery (coping,

treatment compliance), psychological problems resulting from illness and injury, and specific techniques and problem areas in health psychology (such as biofeedback, pain management, pediatric psychology, geropsychology, rehabilitation psychology, and lifestyle change.)

426 Child Psychopathology. Semester course; 3 lecture hours. 3 credits. Prerequisite: Either PSY 301 Child Psychology or PSY 304 Life Span Developmental Psychology. Principal childhood behavioral abnormalities. A review of causes, assessment, and diagnostic methods, and treatment, intervention, and prevention approaches.

451 History and Systems of Psychology. Semester course; 3 lecture hours. 3 credits. Prerequisite: Open to PSY major students of junior or senior standing. The history of psychological ideas and theories emphasizing the origins and interrelationships of the major viewpoints and systems from ancient Greece to the present.

491 Topics in Psychology. Semester course; 3 lecture hours. 3 credits; maximum total of 6 credits in topics courses. An in-depth study of selected topics and issues in psychology. See *Schedule of Classes* for specific topics to be offered.

NOTE PSY 492 Independent Study; PSY 493 Field Work: Human Services; PSY 494 Research Internship in Psychology may be repeated for a total of six credits but a maximum of 12 credits total for all three courses is allowed.

492 Independent Study. Semester course; variable credit, 1, 2, or 3 credits per semester; maximum total for all independent study courses 6 credits. Open only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course. Independent study is defined as student-conceived and initiated readings or research project which is supervised by a psychology faculty member. An oral examination or written, comprehensive paper is required at the end of the semester.

493 Field Work: Human Services. Semester course; 1 full day per week. 3 credits. Prerequisite: PSY 340. Students are placed in an agency which will provide supervised work experience in various aspects of helping other people. The setting might be a government or private community agency, or a corporation, depending on the student's goals. The student works one full day a week. This course is designed to enhance the psychology major's career pursuits for either graduate-level training or post-baccalaureate employment.

494 Research Internship in Psychology. Semester course; variable credit, 1, 2, or 3 credits per semester. May be repeated, with advisor's approval, for a total of 6 credits. Permission of faculty research supervisor must be obtained prior to registration. Prerequisites: PSY 214, 317, or permission of supervisor. Students will work on various phases of a research project (design, data collection, data analysis, manuscript writing) under a psychology faculty member's close supervision. This course is designed to enhance the psychology major's career pursuits for either graduate-level training or post-baccalaureate employment.

497 Honors Seminar. Semester course; 1 lecture hour. 1 credit. Prerequisite: Junior standing and admission to the Honors in Psychology Program. Pre- or corequisite PSY 317.

An introduction to the scientific process, particularly as applied to the field of psychology. Prepares students for future research experience, and surveys current research, opportunities for post-graduate study, and professional development in Psychology.

498-499 Honors in Psychology. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: consent of undergraduate committee of the Psychology Department. Discussion will include advanced research strategies, related professional issues, and topics determined by the student's interest. Students are required to develop and complete a senior honors thesis which will be the major emphasis of the second semester.

COURSES IN RELIGIOUS STUDIES (RST)

101 Introduction to Religious Studies. Semester course; 3 lecture hours. 3 credits. This course examines the phenomenon of religion and religious experience. Through a phenomenological approach definitions and descriptions of the major features of the religious experience and of religious establishments, including concepts of the sacred, the numinous, religious language, texts, symbols, rituals and myths are reviewed. In addition the social, political and spiritual dimensions of religion in human culture will also be investigated.

250 Death: Myth and Reality. Semester course; 3 lecture hours. 3 credits. A study of intellectual and emotional responses to death and dying with emphasis upon their role in the development of religious thought and practice. Special attention will be paid to the death theme in literature, funeral practices, and beliefs concerning the afterlife in selected world religions.

301 Introduction to the Old Testament. Semester course; 3 lecture hours. 3 credits. A survey of the Old Testament from its beginning through the post-Exile period. Emphasis given to the literary and historical development of the text.

302 Introduction to the New Testament. Semester course; 3 lecture hours. 3 credits. A survey of the New Testament with particular emphasis given to the historical development of the Canon.

303 Intertestamental Literature and Thought. Semester course; 3 lecture hours. 3 credits. Prerequisite: RST 301 or 302. The period between the Old and New Testaments as seen through the literature of the era, with emphasis on the writings of the Apocrypha, Pseudepigrapha, and Josephus.

304 Introduction to Judaism. Semester course; 3 lecture hours. 3 credits. A general survey of the dynamics and characteristic patterns of Jewish civilization encompassing history, practices, and beliefs.

305 Hebrew Prophets. Semester course; 3 lecture hours. 3 credits. Prerequisite: RST 301. A survey of the literature and history of Israel as seen through the work of the writing prophets. Emphasis will be placed on the second part of the Hebrew Canon and the Book of Daniel.

307/Afro-American Studies 307 Black Religion. Semester course; 3 lecture hours. 3 credits. An analysis of the role of religion in the lives of blacks with an emphasis on African religions and philosophies, the black church in America, and the roles of the various faiths, sects, and cults.

308/History 307 The High Middle Ages. Semester course; 3 lecture hours. 3 credits. A detailed historical analysis of the Gregorian Revolution, the Crusades, the twelfth century Renaissance, the Thomistic World, and the death of medieval civilization.

309/History 309 The Reformation. Semester course; 3 lecture hours. 3 credits. A careful and intensive inquiry into the spiritual and material forces and people involved in the reformation of Christendom in sixteenth century Europe.

311, 312 Religions of the World. Semester course; 3 lecture hours. 3, 3 credits. An investigation of the historical, cultural, and theological foundations and development of major world religions. First semester: Hinduism, Buddhism, Confucianism, Taoism, and Shinto. Second semester: Zoroastrianism, Judaism, Christianity, and Islam.

313 Life and Literature of Paul. Semester course; 3 lecture hours. 3 credits. Prerequisite: RST 302. A survey of the life and literature of Paul as given in Acts and the Epistles, involving special consideration of Paul's contribution to the expansion of Christianity.

314 Jesus in the New Testament Tradition. Semester course; 3 lecture hours. 3 credits. A study of the Christ of faith and the Jesus of history as presented in New Testament literature and as interpreted in the works of selected scholars from the Church fathers to the present.

315, 316/History 301, 302 The Ancient Near East. Semester course; 3 lecture hours. 3, 3 credits. A study of the ancient Near Eastern civilizations of Mesopotamia, Egypt, Anatolia, and Syria-Palestine, from the pre-literary period to that of the Archaemenid Empire of the Persians. First semester: pre-literary period to the end of Kassite rule in Babylonia (c.-1160 B.C.). Second semester: the rise and fall of the great Neo-Assyrian, Neo-Babylonian, Hebrew, and Persian Empires (c.-311 B.C.).

317 Islam. Semester course; 3 lecture hours. 3 credits. A study of the emergence of Islam in Arabia in the 7th century and its subsequent developments, including a look at the Qur'an (the holy book), the Prophetic traditions, the concept of God, as well as mysticism (sufism) and law (shari'ah) as well as an overview of ritual practices, fundamental beliefs, theological principles, and current issues in Islam and international relationship.

318, 319 History 325, 326 History of the Jewish People. Semester courses; 3 lecture hours. 3, 3 credits. A study of the Jewish people from the destruction of the Second Temple in 70 A.D. to the present. First semester: Judea in Roman times, the Diaspora in Islam and in Europe, social and cultural trends, and the impact of the Emancipation. Second semester: the rise of the American Jewish community, the impact of modernism and growth of Reform, the beginnings and growth of Zionism, restoration in Palestine, the Holocaust, the creation of Israel, and the relations of Israel and World Jewry.

320 Taoism. Semester course; 3 lecture hours. 3 credits. A study of one of the most fundamental and influential philosophies of life in Chinese culture, focusing on the theory and practice of the basic principles of Taoism as formulated by the legendary Lao Tzu and further developed by Chuang Tzu.

326/Philosophy 326 Existentialism. Semester course; 3 lecture hours. 3 credits. Prerequisite: three credits in philoso-

phy (exclusive of logic) or permission of instructor. An examination of the nature of truth, freedom, responsibility, individuality, and interpersonal relations as found in some principal writings of Kierkegaard, Nietzsche, Jaspers, Sartre, Heidegger, Camus, Buber, Marcel.

327/History 327 History of Christianity. Semester course; 3 lecture hours. 3 credits. An historical and theological examination of Christianity from its origin to the present. Emphasis will be upon an understanding of leading events, ideas, movements, and persons in their historical settings.

333/Psychology 333 Psychology and Religious Experience. Semester course; 3 lecture hours. 3 credits. Religious belief and experience as viewed by major psychological theorists. How psychological methodology has been used to study religious experience. Topics include personality factors and development, conversion experiences, religious experiences and mental health, and human values.

334 Religion in Contemporary America. Semester course; 3 lecture hours. 3 credits. This course studies the history, literature, belief patterns and unique traits of religion in the United States. The evolution of religion and religious sentiment in a modern pluralistic, democratic society, including the varieties of religious experiences in contemporary America will be reviewed.

335 The American Jewish Experience. Semester course; 3 lecture hours. 3 credits. The religious, social, and cultural structure of American Jewry from the colonial era to the present. Central themes examined are the social and religious characteristics of the American Jewish community, the tension between traditional Jewish values and the demands of the American environment, imported versus indigenous ideologies, regional and denominational variations.

340 Global Ethics and the World's Religions. Semester course; 3 lecture hours. 3 credits. A critical survey of ethical concepts and issues in the thought and practice of major religious traditions. Comparison of ethical perspectives on selected themes and attention to cooperative efforts towards a global ethic.

350 World Classics of Spirituality. Semester course; 3 lecture hours. 3 credits. A critical reading of selected works from among the spiritual classics of Judaism, Christianity, Islam, Hinduism, Taoism, and other religious traditions.

360/Sociology 360 Sociology of Religion. Semester course; 3 lecture hours. 3 credits. A systematic review and assessment of major sociological theories of and empirical research on religious behavior and groups. Topics include the structure of religious organizations; social correlates and functions of religion; denominationalism; religion and social class, social change and population.

361/English 361 The Bible as Literature. Semester course; 3 lecture hours. 3 credits. Literary aspects of the Bible will be considered. Also attention will be given to the history of the English Bible.

407 Modern Jewish Thought. Semester course; 3 lecture hours. 3 credits. A study of the writings of the leading Jewish thinkers of the nineteenth and twentieth centuries. Special reference will be made to the issues arising from the encounter of Judaism with the modern world: the nature of revelation and the authority of the Torah, the nature of God, the impact

of the Holocaust, the meaning of redemption, and the significance of the state of Israel.

408/Philosophy 408 Indian Tradition. Semester course; 3 lecture hours. 3 credits. Prerequisite: PHI 104 or RST 311. A systematic analysis of the major theories of Indian religious and philosophical thought: Vedas, Upanishads, Gita, Charvaka, Jainism, Buddhism, the six systems of Hinduism, and contemporary developments.

410/Philosophy 410 The Chinese Tradition in Philosophy. Semester course; 3 lecture hours. 3 credits. A study of the development of Confucianism, of alternative ways of thought prior to the fall of the Han Dynasty, and of neo-Confucianism. The systems of thought are examined in the light of their social, political, and religious impact on China, Korea, and Japan.

412/Philosophy 412 Zen Buddhism. Semester course; 3 lecture hours. 3 credits. A study of Zen Buddhism, including backgrounds in Indian philosophy and practice, development in China and Korea, and present day Zen theory and practice in Japan and in Western countries.

430/Philosophy 430 Philosophy of Religion. Semester course; 3 lecture hours. 3 credits. Prerequisite: three credits in philosophy (exclusive of PHI 211 and PHI 212) or permission of instructor. An introduction to the major problems and questions of religion and reason. Special reference will be made to the nature of God, the nature of man, the problem of evil, the source of good, immortality, and the basis of authority.

431/Music History and Theory 431 Hymnology. Semester course; 3 lecture hours. 3 credits. A study of hymns and hymn tunes with emphasis on their development, style, and functions. Offered alternate years.

435/Music History and Theory 435 Liturgics. Semester course; 3 lecture hours. 3 credits. A study of the forms of public worship emphasizing the orders in current usage. The planning of weekly and special services. Offered alternate years.

490 Seminar in Religious Studies. Semester course; 3 lecture hours. 3 credits; maximum 6 credits. Prerequisite: 12 hours in RST courses. Research methods and bibliography in the field of religious studies; application of techniques and resources on research topics with classroom guidance and critique.

491 Topics in Religious Studies. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for maximum of 6 credits. Prerequisite: written permission of instructor. An in-depth study of selected ideas or concepts, religious thinkers, or significant movements in the field of religion. See *Schedule of Classes* for specific topic to be offered each semester.

492 Independent Study. Semester course; variable credit, maximum 4 credits per semester; maximum total for all independent study courses 6 credits. Open generally only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of instructor and department chairman must be procured prior to registration for the course. An independent study course to allow interested students in religious studies to do research in an area of major interest under the direction of a professor qualified in that field.

COURSES IN RUSSIAN (RUS)

101-102 Elementary Russian. Continuous course; 5 lecture/recitation hours. 4-4 credits. Elementary grammar, reading, and oral drill.

201 Intermediate Russian. Semester course; 3 lecture hours; 3 credits. Continuation of the essentials of grammar with emphasis on achieving proficiency in aural comprehension, speaking, reading, and writing skills.

NOTE: In order to complete Russian through the intermediate level, a student may elect Russian 202 or 205.

202 Intermediate Russian Readings. Semester course; 3 lecture hours; 3 credits. Prerequisite: Russian 201 or the equivalent. Designed to increase the student's proficiency through the study of selected cultural and literary texts.

205 Intermediate Russian Conversation. Semester course; 3 lecture hours. 3 credits. Prerequisite: RUS 201 or the equivalent. Designed to increase the student's proficiency in the spoken language through audio-oral exercises, dialogues, and free conversation.

301, 302 Survey of Literature. Semester courses; 3 lecture hours, 3 credits. Conducted in Russian. Prerequisite: RUS 201-202 or the equivalent. First semester: nineteenth century; Pushkin, Gogol, Turgenev. Second semester: late nineteenth and twentieth centuries; Dostoyevski, Chekov, and some modern Russian writers.

491 Topics in Russian. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for a maximum of 6 credits. An in-depth study of selected topics in Russian. See *Schedule of Classes* for specific topics to be offered each semester.

COURSES IN SOCIAL SCIENCES (SSC)

291 Issues in Social Science. Semester course; variable credits, 1-3 credits per semester; maximum total 6 credits. An interdisciplinary course structured around social issues pertinent to today's society. See *Schedule of Classes* for particular issue to be covered and the semester credit for which each course will be offered.

303 Marriage and Family Relationships. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or permission of instructor. Marriage and the family in contemporary society. Topics discussed will include the effects of masculine and feminine roles on marital and parent-child relationships, how role problems are resolved, sexual adjustments, financial adjustment, family planning, and retirement.

330 The Psychology and Sociology of Death. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 101 or SOC 101. An interdisciplinary study of the encounter with death, death and personality, the organizational processing of death, and demographic regularities of dying. The course is jointly taught by sociologists and psychologists.

340 Human Sexuality. Semester course; 3 lecture hours. 3 credits. A study of the variety of the forms, sources, and consequences of human sexual behaviors and the attitudes, beliefs, and values associated with them. The data and its

analysis are directed to the significance of sex in human experience.

350 The Construction of Culture. Semester course; 3 lecture hours. 3 credits. An examination, using methods from several disciplines, of the ways in which human beings construct the shared meanings which constitute culture.

COURSES IN SOCIOLOGY (SOC)

101 General Sociology. Semester course; 3 lecture hours. 3 credits. An introduction to the study of human society. The basic concepts of society and culture and their relationships to each other are studied and then used to analyze the major social institutions.

102 Contemporary Social Problems. Semester course; 3 lecture hours. 3 credits. A sociological approach to selected contemporary social problems through use of such analytical concepts as role, social class, and subculture.

104/African-American Studies 104 Sociology of Racism. Semester course; 3 lecture hours. 3 credits. The course will explore the direct and indirect ways in which racial attitudes are acquired, their effect on the individuals and society, and the institutional and ideological manifestations of racism as a "faith system," as exploitation, and as a form of human conflict. The central focus of interest will be on black-white relationships.

214/Political Science 214 Applications of Statistics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: STA 213 or permission of instructor. The application of descriptive and inferential statistics for the social sciences.

303 Sociology of Deviant Behavior. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. An analysis of relationship between social structure, social control, and patterns of social deviance; a survey and critique of present social theories in light of empirical research and application of the theories to selected problems areas.

304/Anthropology 304/Women's Studies 304 The Family. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or ANT 103. The family in its social and cultural context. Analysis of child rearing, marriage, kinship, family crises, and family change in various societies around the world.

305/African-American Studies 305/Women's Studies 305 Sociology of the Black Family. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or permission of instructor. A socio-history of the development of the dynamics of the black family.

310 Social Movements and Social Conflict. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. Theory and practice of social movements, community organizing, and other forms of collective behavior.

315 Education and Society. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. Analysis of education as a social institution in the societal context. Cross-cultural comparative perspectives on education.

318 Social Thought. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. A review of the ideas of major social philosophers whose works are now the foundation of much modern sociology.

320/Political Science 320 Research Methods in the Social Sciences. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: Open to SOA or POS majors or permission of instructor. Current methods of research in sociology.

321 Class, Status, and Power. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. Analysis of social mobility, class, status, and power.

322 Minority Groups in the United States. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. A study of the various racial, religious, and ethnic minority groups. Issues of power, pluralism and assimilation are addressed as well as the relationship between subcultures and the dominant culture.

327 Urban Sociology. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. Origin, character, and significance of urban communities. Ecological and social factors are analyzed as well as changes in urban social organization and their consequences.

328 Russian Society in Transition. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or permission of the instructor. An analysis of Russian culture and social institutions as they are today and in historical perspective. Throughout the course interrelationships among politics, the economy and social life are examined, with particular emphasis on the ideological implications of Russian/Soviet architecture, art, and mass media; on environmental issues and health; on social problems and the legal systems; and on gender, the work world, and family interaction.

331 Juvenile Delinquency. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. Analysis of the biological, cultural, psychological, and social factors involved in juvenile delinquency and their relation to current techniques of treatment, prevention, and control.

333/Women's Studies 333 Sociology of Sex and Gender. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or permission of instructor. A cross-cultural and evolutionary exploration of the interdependence between male and female roles in the following social institutions: family, law, economics, politics, religion, education, and health.

334/Women's Studies 334 Sociology of Women. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or consent of instructor. This course will examine the position and status of women across societies and the social forces that maintain existing patterns and arrangements. The integration of family and work in women's lives will be emphasized.

340 Self and Society. Semester course; 3 lecture hours. 3 credits. Focused discussion of the regularities in human behavior that arise due to man's participation in social groups. Emphasis will be placed on such topics as communications, attitudes, language, interpersonal perception, personal identities, and social interaction.

341/Psychology 341 Group Dynamics. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 101. Social and psychological principles and research related to the individual in groups. Specific topics include motivation for individuals forming and joining groups, performance and productivity of group members, group leadership, and majority and minority influence. The group will be examined in relation to the larger society and as a subculture in itself.

352 Social Change. Semester course; 3 lecture hours. 3 credits. prerequisite: SOC 101. This course provides an analysis of the major theoretical perspectives, sources, processes, patterns, and consequences of social change. It considers factors that stimulate or hinder the acceptance of change and the unintended consequences of change.

360/Religious Studies 360 Sociology of Religion. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. A systematic review and assessment of major sociological theories of and empirical research on religious behavior and groups. Topics include the structure of religious organizations; social correlates and functions of religion; denominationalism; religion and social class, social change and population.

370 Mass Media and Society. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101, MAC 101, or POS 102. A survey of the organization and social impact of the major types of mass media. Potential topics include the media as socializing agents; the effect of media messages on cultural patterns and social values; the impact of technology on social behavior; the role of "audiences" in interpreting media content; political and economic influences on the media industry; and the media as an instrument of social change. The structure and functions of the media in different societies will be compared.

380/Anthropology 380 Drugs, Society, and Culture. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or ANT 103 and at least junior standing. An examination of the anthropological and sociological significance of drugs and drug use from prehistoric cultures through modern societies.

391 Topics in Sociology. Semester course; 3 lecture hours. 3 credits, maximum 6 credits per semester; maximum total of 18 credits in all departmental topics courses which may be applied to the major. A discussion of specialized areas of sociological interest. See *Schedule of Classes* for specific topics to be offered each semester. Check with department for specific prerequisites.

401/African-American Studies 401 Americans and the U.S. Health Care System. Semester course; 3 lecture. 3 credits. Prerequisite AAS 103, AAS 305 or permission of the instructor. Explores issues surrounding the disparity in health status and health outcomes between African-Americans and other groups in the United States. Students are required to participate in an experiential exercise designed to enhance learning.

402 Sociological Theory. Semester course; 3 lecture hours. 3 credits. Prerequisite: At least 18 credits in sociology. A study of the works of the major sociological theorists of the twentieth century.

403 Criminology. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. Analysis of the nature, extent, and

distribution of crime emphasizing theories of and research on causation, prediction, and prevention.

404/Psychology 404 Social Psychology of Emotions. Semester course; 3 lecture hours. 3 credits. Prerequisites: PSY 101, SOC 101. An examination of the social shaping of emotion as well as its function in maintaining the social process. Cross-cultural uniformities and diversity in basic emotions and their expression are addressed as well as selected social psychological theories of emotions.

405 Family Research. Semester course; 3 lecture hours. 3 credits. Prerequisite SOC/ANT/WST 304. Classic and contemporary issues in the scientific study of families, with an emphasis on the examination and evaluation of research.

421 Applied Social Research. Semester course; variable credit; may be repeated for a total of 6 credits. Prerequisites: SOC 214 and 320. A laboratory course providing training in the application of social research methods under laboratory and field situations to problems of mutual interest to community policymakers and professionals in the disciplines of sociology, social psychology, and anthropology. This course is designed to enhance the skills of students in applied social research. With direct supervision by the instructor, individuals or small groups of students will address themselves to the tasks of defining, designing, and executing research projects.

426 Population Dynamics. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. The study of trends in fertility, mortality, population growth, distribution, migration, and composition. The mutual influences of these factors and social organization.

430 Politics, Power, and Ideology. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. Sociological analysis of political organization and behavior. Such subjects as distribution and uses of power, creation and management of group conflict, development and diffusion of political ideologies, and problems of bureaucracy and mass society will be considered.

440 Advanced Social Psychology. Semester course; 3 credits. Prerequisite: SOC 340 (Social Psychology). The study of how human groups create the environment that, in turn, influences their individual behavior. The symbolic interactionist perspective will be thoroughly explored for its contribution to the study of persons, objects, and meaning.

436 Work and Management in Modern Society. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. The study of industrial plants and business organizations as social systems.

445 Medical Sociology. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. A survey of the social, economic, cultural, and social psychological factors in health and illness; the sociology of health and medical care organizations and settings; the sociology of health occupations; and the techniques of research in medical sociology.

446 Sociology of Mental Disorder. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. A survey of selected social, economic, cultural, and social psychological factors in mental health and illness. Such problems as defining mental illness; social factors in the distribution, diagnosis, etiology, and treatment of mental disorders; mental illness as

a social role; and research methods used in the sociology of mental illness will be considered.

470 News Media in a Democratic Society. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. A consideration of the role of the news media in society. The course examines the news industry, including its economic organization and professional norms; news media content; the impact of news media in society, especially on the democratic political process; and the significance of political and economic influences on the functioning of the new media.

475 Organizations and Human Behavior. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. A survey of theory and research in social organizations, including the study of behavior in modern complex human organizations.

476 Labor, Occupations, and Careers. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101. An examination of labor force participation in terms of the individual worker's experience, the work setting, the nature of occupations, and labor force composition.

490 Senior Project. Semester course. 1 credit. Required of all SOA majors with a sociology concentration. Students must register for this course with the permission of an instructor of a regular course offering. Students are required to produce a project report that must be submitted to the faculty of the course as well as to the Director of undergraduate studies for the Department of Sociology and Anthropology prior to graduation.

492 Independent Study. Semester course; variable credit, maximum 6 credits per semester; maximum total for all independent study courses 12 credits. Open generally only to students of junior or senior standing who have acquired at least 12 credits in the departmental discipline. Determination of the amount of credit and permission of the instructor and department chairman must be procured prior to registration for the course. Cannot be used in place of existing courses.

493 Field Research Internship. Semester course; 3 credits, maximum 6 credits. Prerequisite: for sociology and anthropology majors of junior or senior standing. Applications must be approved by a faculty advisor and by the internship coordinator. Students are placed in organizations that offer supervised work or research experience appropriate to their interests. Each student must work 150 clock hours in the organization and write a sociological analysis of experiences using appropriate field work methodological techniques.

498 Honors Research Course. Semester course; 3 credits. Prerequisites: student must be in the honors program of the department and have achieved senior status. This course will entail the planning and execution of major research project demonstrating a thorough understanding and use of research techniques in sociological/anthropological analysis, knowledge of relevant literature, sophisticated writing and research ability under the direction of a faculty mentor.

501 The Foundations of Sociological Theory. Semester course; 3 lecture hours. 3 credits. The foundations of theoretical explanation of the social world are addressed from an historical and philosophical perspective. The emergence of contemporary sociological theory in the nineteenth and twentieth centuries is reviewed.

502 Contemporary Sociological Theory. Semester course; 3 lecture hours. 3 credits. A critical assessment is given of such contemporary theoretical orientations as functionalism, conflict theory, exchange theory, symbolic interactionism, and phenomenology.

COURSES IN SPANISH (SPA)

101-102 Elementary Spanish. Continuous course; 5 lecture/recitation hours. 4-4 credits. Elementary grammar, reading, and oral drills.

201 Intermediate Spanish. Semester course; 3 lecture hours. 3 credits. Continuation of the essentials of grammar, with emphasis on achieving proficiency in aural comprehension, speaking, reading, and writing skills.

NOTE: In order to complete Spanish through the intermediate level, a student may select SPA 202 or 205.

202 Intermediate Spanish Readings. Semester course; 3 lecture hours. 3 credits. Prerequisite: SPA 201 or the equivalent. Designed to increase the student's proficiency through the study of selected cultural and literary texts.

205 Intermediate Spanish Conversation. Semester course; 3 lecture hours. 3 credits. Prerequisite: SPA 201 or the equivalent. Designed to increase the student's proficiency in the spoken language through audio-oral exercises, dialogues, and free conversation.

NOTE: Non Foreign Language majors who wish to take one or two upper-level classes only need to complete SPA 202 or 205, not 295.

295 Gateway to Spanish Major/Minor. Semester course; 1-3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. This course is composed of three discrete modules of 1 credit each: (1 credit) Portfolio Preparation: orientation to career development in Spanish, reviewing criteria of good writing, program goals and self assessment essay to begin identifying areas of interest and strengths; (1 credit) Language Proficiency: practice and review of specifics and general areas of language proficiency; (1 credit) Computer Skills: emphasis on text-processing in Spanish and tutorials for grammar and pronunciation practice.

300, 301 Grammar and Writing I. Semester course; 3 lecture hours. 3, 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. A systematic review of Spanish grammar with emphasis on the elements of style and vocabulary building; translation and composition.

303, 304 Advanced Grammar and Writing. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. A systematic review of Spanish grammar with emphasis on the elements of style and vocabulary building; translation and composition.

305 Spanish Conversation. Semester course; 3 lecture hours. 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. Conducted in Spanish. Practice in the spoken language with emphasis on discussions relating to topics of current interest.

311 Spanish through the Media. Semester course; 3 lecture hours. 3 credits. Prerequisite: Spanish through the intermedi-

ate level or the equivalent. A course designed to develop language proficiency by using material available through the various media: newspapers, magazines, films, slides, and radio broadcasts.

314 Commercial Spanish. Semester course; 3 lecture hours. 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. The course will develop the student's ability to use the Spanish language as a means of oral and written communication in the business world.

320 Civilization of Spain I. Semester course; 3 lecture hours. 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. A treatment of salient manifestations of Spanish culture and civilization from its origins to the present.

321 Latin American Civilization I. Semester courses; 3 lecture hours. 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. Conducted in Spanish. A treatment of salient manifestations of Latin American culture and Civilization from Pre-Columbian times to the present.

330 Survey of Spanish Literature. Semester courses; 3 lecture hours. 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. Conducted in Spanish. A survey of Spanish literature up to the present.

331 Survey of Latin American Literature. Semester courses; 3 lecture hours. 3 credits. Prerequisite: Spanish through the intermediate level or the equivalent. Conducted in Spanish. An introduction to major authors and trends up to the present.

NOTE: SPA 300, 301 or 330, 331 are prerequisite to all of the following courses.

400 Spanish Translation. Semester course; 3 lecture hours. 3 credits. Prerequisite: Completion of 9 credits of Spanish at the 300 level or the equivalent. Conducted in Spanish. Integrates the basic theoretical and practical aspects of translation, focused from a perspective of applied linguistics. The course includes a workshop component and students will practice both written and oral translation of diverse texts.

401/Linguistics 401 Comparative Structures. Semester course; 3 lecture hours. 3 credits. Prerequisite: Completion of 9 credits of Spanish at the 300 level or the equivalent. Conducted in Spanish. A comparison of English and Spanish, with emphasis on pronunciation and problems encountered in the teaching of Spanish.

402 Language Issues in the Spanish-Speaking World. Semester course; 3 lecture hours. 3 credits. Prerequisite: Completion of 9 credits of Spanish at the 300 level or the equivalent. Conducted in Spanish. Through a variety of topics this course explores the links between language and human behavior as exemplified by language phenomena in the Spanish-speaking World. Topics will be drawn mainly from sociolinguistics, language and culture, and education and applied linguistics.

420 Civilization of Spain II. Semester course; 3 lecture hours. 3 credits. Prerequisite: Completion of 9 credits of Spanish at the 300 level, including SPA 320 or 321, or the equivalent. This course explores the cultural diversity and differences of Spain. Topics focus on a particular interdisciplinary theme, such as the formation of cities, ethnicity, and on a particular area of Spain.

421 Civilization of Latin America II. Semester course; 3 lecture hours. 3 credits. Completion of 9 credits of Spanish at the 300 level, including SPA 320 or 321, or the equivalent. This course explores the cultural diversity of Latin America, and the social and political forces behind cultural change. Topics will focus on a specific interdisciplinary theme, such as urban life, the politics of identity, and on a specific area of Latin America.

430 Literary Genres. Semester course; 3 lecture hours. 3 credits. Completion of 9 credits of Spanish at the 300 level or the equivalent. Conducted in Spanish. An in-depth look at the development and expression of varieties of literature in Spanish.

431 Literary Periods. Semester course; 3 lecture hours. 3 credits. Completion of 9 credits of Spanish at the 300 level or the equivalent. Conducted in Spanish. An in-depth synchronic look at movements and their context in literature in Spanish.

485 Spanish Study Abroad. Summer or semester course. Variable credit. Open to Spanish majors, minors and students in other disciplines. This course offers all students the opportunity to improve their oral and written proficiency in Spanish, to enhance their awareness of cultural diversity and to become independent learners of Spanish language and the cultures of its speakers.

491 Topics in Spanish. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for a maximum total of 6 credits. An in-depth study of selected topics in Spanish. See *Schedule of Classes* for specific topic to be offered each semester.

492 Independent Study. Semester course; variable credit, maximum 3 credits per semester; maximum total for all independent study courses in Spanish 6 credits. Open generally only to students of junior or senior standing who have six credits of upper-level Spanish courses and/or have demonstrated a competency in the language. Determination of course content and permission of instructor and department chairman must be obtained prior to registration for the course. A course designed to give students an opportunity to become involved in independent study in a literary or linguistic area or subject in which they have an interest.

495 Spanish Portfolio Seminar. Semester course; 1 lecture hour. 1 credit. Prerequisite: completion of 5 credits at the 300 and 400 levels or the equivalent. This course focuses on self-assessment, compiling a portfolio, career preparation and on the life-long application of skills and knowledge acquired in the program.

COURSES IN STATISTICS (STA)

Statistics is one of the mathematical sciences. See mathematical sciences for course descriptions.

COURSES IN URBAN STUDIES (USP)

116 Introduction to Urban Studies. Semester course; 3 lecture hours. 3 credits. Introduction to the various theories of urbanism and attempts to offer solutions to the problems of urban life in modern civilization. The course will survey the

major works of those who have studied cities during the past century and who have either attempted to explain the problems and potential of cities or offered solutions and alternatives to existing urban structures. The works of noted social reformers, political analysts, economists, and architects as well as urban planners will be examined through lectures, readings, films, slides, discussions, and field trips (when feasible).

240 Introduction to Historic Preservation. Semester course; 3 lecture hours. 3 credits. This course provides a broad overview of the field of historic preservation and the principal issues facing the historic preservation movement today. Students examine the goals, values, and techniques of preservationists; federal, state, and local preservation policies and programs; and the sometimes conflicting roles of architects, historians, archaeologists, planners, bureaucrats, minorities, and developers in the preservation movement. Field trips and guest lectures by professionals engaged in public and private preservation efforts highlight major concepts and topics presented in course readings and class discussion.

241-242 Methods of Community Analysis. Continuous course. USP 241, 3 lecture hours; USP 242, 2 lecture and 2 laboratory hours. 3-3 credits. Prerequisites: MAT 101 or MAT/BUS 111. First semester considers descriptive cartographic and statistical techniques employed in community analysis; second semester advances to techniques which imply a relationship between variables in a community. While addressing sampling, hypothesis testing, correlation, and regression analysis, the student is introduced to computer processing.

245 Housing and Community Revitalization. Semester course; 3 lecture hours. 3 credits. The purpose of this course is to examine housing issues as a major determinant of the make-up and the quality of community life in modern American society. Attention is given to the public and private forces that influence various components of the housing issue, such as: demand for housing; housing availability to various economic and social groups; housing design and quality (including new construction, rehabilitation, historic preservation, and adaptive re-use), housing finance, and the relationship of housing to planning in metropolitan areas.

261 Design of the City. Semester course; 3 lecture hours. 3 credits. Architecture, space, and activities play a special role in the overall design of the city. These elements are analyzed to understand their interrelationships and importance to a city's visual character. Architectural styles, civic art, effects of space on the individual, and methods for designing cities will be discussed. The class is for those who want to understand urban design elements and for those who will be involved in city design.

302/Geography Land Use Capability. Semester course; 3 lecture hours. 3 credits. An introduction to the principles, concepts, and knowledge involved in determining the capacity of land under various conditions to support a variety of uses.

304 Urban Social Systems. Semester course; 3 lecture hours. 3 credits. A study of the growth and development of neighborhoods, cities, and metropolitan systems. Analyzes origins of community interests and factors which affect the ability of communities to further their interests. Particular attention is given to how patterns of service delivery and the placement

of public facilities affect community interest and whether federal or municipal departments are able to set adequate community service standards.

306/Geography The Urban Economic Base. Semester course; 3 lecture hours. 3 credits. Prerequisite: Either STA 213 and BUS 161, 162, 163; or CSE 242 or CSE 243. Explores the nature of work as it is organized in urban businesses, the interdependence of industries, and the reasons why different cities develop different types of economies. Policies and strategies for developing and maintaining healthy urban economies will be discussed in detail. This course is a prerequisite for USP 322 Urban Finance.

310 Introduction to Public Planning. Semester course; 3 lecture hours. 3 credits. Introduction to theory and practice of governmental planning in the U.S. with emphasis on urban and regional planning. Survey of the history of urban planning, the current planning practice at the local level, and the ethical responsibilities of planners. This course is designed to give students an understanding of the meaning and form of governmental intervention into social and economic systems.

313/Geography 313 Urban Research and Field Methods. Semester course; 1 lecture and 4 laboratory hours. 3 credits. Prerequisites: CSE 241 and CSE 242, or CSE 243 or STA 213 and BUS 161, 162, 163; or consent of the instructor. Methods of data collection, organization, and updating; the use of secondary information; applications of elementary statistical analysis and of graphic and cartographic analysis.

315 The Evolution of American Cities. Semester course; 3 lecture hours. 3 credits. A general survey of how cities developed in the United States and the factors which contributed to the process of urbanization. Emphasis is placed on the public attitudes and values that have dominated particular periods of history and how these values affected the efforts to urbanize. The American city is examined as a vital force in the economic, social, and political development of modern America, as the major location for conflict between people of all persuasions, and as the home of much of what is meant by American "civilization."

316 Urban Life in Modern America. Semester course; 3 lecture hours. 3 credits. Examines how a modern city functions, the public services rendered within the city, and the impact of public policy on the city. The city is treated as a system consisting of economic, social, and political activities which influence and are influenced by the physical/demographic environment. Each activity is studied separately with the cause-effect relationships among the activities highlighted by an analysis of public service delivery and, more generally, urban public policy.

322 Urban Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: completion of USP 306 The Urban Economic Base. Treats the local government from a practical management perspective as an organization in a political-economic environment. The nature of city expenditures and sources of revenues are explored. Budgeting and taxing decision-making processes are explored in depth. Economic impacts of these decisions on citizens are analyzed and implications for practice drawn.

331/Environmental Studies 331 Environmental Systems. Semester course; 3 lecture hours. 3 credits. Consists of a broad overview of relevant physical science subjects: clima-

tology, soils science, plant ecology, hydrology, geology, and geomorphology. These subjects are viewed together in a systems framework taking into account the many interactions among environmental systems and between these systems and man.

332/Environmental Studies 332/Geography 332 Environmental Management. Semester course; 3 lecture hours. 3 credits. Provides a framework for developing environmental management objectives and techniques. The focus of the course is on a study of natural hazards in Virginia and a variety of approaches to reducing losses from these hazards.

333 Energy and Conservation Planning. Semester course; 3 lecture hours. 3 credits. An inquiry into the future implications of policy and planning issues arising from alternative strategies for energy conservation and development. The long-term effects of various energy practices on American urban areas, in the social, economic, and environmental context of land use systems.

340/Geography Urban Habitat. Semester course; 3 lecture hours. 3 credits. An examination of urban habitats in a variety of geographical regions, with emphasis on their differences and their common experiences.

350 Culture and Urbanism in Great European Cities. Semester course; 3 lecture hours. 3 credits. Prerequisite: sophomore standing or permission of instructor. Course may be repeated under different topics for a total of six credits. An interdisciplinary course with a dual focus on the origin, expansion, and significance of an important European city and on reflections of urbanism in its culture. Particular emphasis will be placed on relating the physical, social, and economic aspects of the city's growth and development to the cultural dimensions of urbanism, especially as the latter are manifested in major works of literature.

391 Special Topics in Urban Studies. Semester course; 1, 2, or 3 credits. Students will have an opportunity to examine in detail some questions of significance. Due to the changing subject matter to be treated in this course, permission of the instructor is required. Consult the Schedule of Classes for the specific topic to be offered each semester.

392 Independent Study. Semester course; 1 to 3 lecture hours. 1 to 3 credits. Under supervision of a faculty advisor, who must approve the student taking the course, a student studies a topic of interest. Junior or senior standing is required.

397-398 Independent Study. Semester course; 2 or 3 lecture hours. 2 or 3 credits. Under supervision of a faculty advisor, whose consent is required to register, study a topic of concern to the student. Junior or senior standing is required.

413 Policy Implementation. Semester course; 3 lecture hours. 3 credits. An examination of the administrative setting of government and its policy impacts on public programs, policy design and redesign, and evaluation and monitoring.

433 Comparative Urban Experiences in the United States. Semester course; 3 lecture hours. 3 credits. An examination and comparison of selected American cities and metropolitan areas with special focus on those issues relevant to regional variations affecting growth and issues of national patterns of urbanization. The course explores the myth and reality of the

Sunbelt versus the Frostbelt, national fiscal and investment flow, and migration patterns.

440 Senior Seminar: The Good City. Semester course; 3 lecture hours. 3 credits. Prerequisite: senior standing. Readings, discussion, and individual research into "the good city" as it is expressed theoretically and practically. Perspectives from the arts and humanities, as well as the social sciences, are brought to bear on the normative question, "What is the good city?" A research project is a requirement.

493 Urban Government Internship. Semester course; 150 clock hours in a local legislative body or administrative agency. 3 credits, may be repeated once for a maximum total of 6 credits; or 300 clock hours, 6 credits. Approval of selection committee required. Under supervision of a faculty committee and a field supervisor, the internship is designed to present opportunities for qualified students to acquire exposure to aspects of public decision-making processes by participation in (1) local legislative bodies of the Richmond metropolitan area; (2) local and regional administrative agencies, commissions, and boards; and (3) private organizations that have demonstrated interest in local government and politics.

Note: The following graduate level courses are appropriate for undergraduate credit for advanced undergraduate students with permission of instructor.

513/Geography Planning Graphics. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Introduction to the use of graphics as an aid in presenting and analyzing planning ideas, data, reports, maps, and plans. Laboratory fee required—\$25.

521/Geography Cartography and Air Photo Interpretation. Semester course; 2 lecture and 2 laboratory hours. 3 credits. An introduction to the preparation and interpretation of data in cartographic form. Included is the methodology of map making, introductory photogrammetry, object recognition, stereograms, area measurement, and mapping from aerial photos.

525 Site Planning. Semester course; 1 lecture and 2 laboratory hours. 2 credits. Addresses the environmental impacts and capacity of environmental systems in relation to the site requirements of various urban and rural situations. Describes graphic techniques necessary for applying the principles of site analysis and design. Uses actual site planning exercises so students can develop and evaluate site plans at different scales.

541 Urban Public Policy-Making Processes. Semester course; 3 lecture hours. 3 credits. A study of the dynamics of conflict resolution in behalf of and within the urban community; the manner in which competing interests are articulated and aggregated in attempts to shape urban public policy, the various levels and kinds of governmental machinery designed to resolve the conflicts.

552 Urban Transportation Systems. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. An examination of urban requirements for mobility, transportation systems, problems of traffic, mass transit, and new concepts for moving people and goods.

COURSES IN WOMEN'S STUDIES (WST)

201 Introduction to Women's Studies. Semester course; 3 lecture hours. 3 credits. An interdisciplinary and cross-cultural introduction to the perspectives and core concerns of women's studies.

236/English 236 Women in Literature. Semester course; 3 lecture hours. 3 credits. A study of literature by and about women with the intent of exploring images of women as reflected in fiction, poetry, and drama.

301 Feminist Theory. Semester course; 3 lecture hours. 3 credits. This course examines the major theoretical traditions and thinkers of feminist theory from the works of early liberal feminists like Wollstonecraft to the present thought of postmodern and lesbian feminists like Wittig. It examines arguments about human nature, the origins and effects of patriarchy, the conflict between equality and gender difference, and feminist critiques of traditional theories of knowledge.

304/Sociology 304/Anthropology 304 The Family. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or ANT 103. The family in its social and cultural context. Analysis of child rearing, marriage, kinship, family crises, and family change in various societies around the world.

305/African-American Studies 305/Sociology 305 Sociology of the Black Family. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or permission of instructor. A socio-history of the development of the dynamics of the black family.

316/Political Science 316 Women and the Law. Semester course; 3 lecture hours. 3 credits. This course will introduce students to the history, politics, and status of women under the American legal system. Topics to be covered may include equal protection, sexual violence, the particular rights of women of color and lesbians, reproductive rights, women criminals, and women in the legal profession.

318/Political Science 318 Politics of Race, Class and Gender. Semester course; 3 lecture hours; 3 credits. A study of the racial, class and gender influences on the history and development of political values, conflicts, processes, structures and public policy in the United States.

333/Sociology 333 Sociology of Sex and Gender. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or permission of instructor. A cross-cultural and evolutionary exploration of the interdependence between male and female roles in the following social institutions: family, law, economics, politics, religion, education, and health.

334/Sociology 334 Sociology of Women. Semester course; 3 lecture hours. 3 credits. Prerequisite: SOC 101 or consent of instructor. This course will examine the position and status of women across societies and the social forces that maintain existing patterns and arrangements. The integration of family and work in women's lives will be emphasized.

335/Psychology 335 Psychology of Women. Semester course; 3 lecture hours. 3 credits. Overview of issues in psychology relevant to women. Topics include: research methods of women's issues; sex-role socialization; women and hormones; psychological androgyny; personality theory

and counseling strategies for women; women and language; women and violence; and rape and abuse.

339/History 339 History of Women. Semester course; 3 lecture hours. 3 credits. Through lecture, reading, and discussion, this course will attempt to trace and analyze historical changes in the economic, political, legal, and cultural position of women, including such topics as changing employment opportunities, the struggle for suffrage and political rights, and the history of social and sexual reform movements.

382/Criminal Justice 382 Women in the Justice System. Semester course; 3 lecture hours. 3 credits. Surveys the special situation of women in the justice system as offenders, as victims, and as professional practitioners. Applicable laws and public policy are studied in detail. Issues are punctuated by field trips to juvenile/adult programs and institutions.

384/English 384. Women Writers. Semester course; 3 lecture hours. 3 credits. A study of selected literature written by women and about women writers. May be repeated once when different group writers are studied.

391 Topics in Women's Studies. Semester course; 3 lecture hours. 3 credits. May be repeated with different topics for a maximum of 6 credits. An in-depth examination of specialized areas of interest in women's studies.

452/English 452 Language and Gender. Semester course; 3 lecture hours. 3 credits. A study of relationships between the ways women and men use language, relationships between language and power, and ways women and men use language reflects and reinforces cultural attitudes toward gender. May not be used to satisfy the College of Humanities and Sciences requirement in literature.

457/Art History 457 Women, Art and Society. Semester course; 3 lecture hours. 3 credits. A re-examination of a variety of issues concerning women, art, and society: the position assigned women within the history of art as it relates to historical place and the aesthetic values of the canon, the gendering of style, patronage, audience, and gaze. Through a survey of images of and by women, as well as through an analysis of art historical and critical texts, this course addresses the question: "How are the processes of sexual differentiation played out across the representations of art and art history?"

492 Independent Study. Semester course; variable credit. Maximum 4 credits per semester. Maximum total in all independent study courses 4 credits. Open generally only to students of junior and senior standing who have acquired at least 12 credits in women's studies courses. Determination of the amount of credit and permission of the instructor and coordinator must be obtained prior to registration for the course.

COURSE IN UNIVERSITY STUDIES (UNS)

291 Interdisciplinary Topics: Semester course; variable credits; 1-4 credits per semester, maximum total in all university studies courses 8 credits. An *interdisciplinary course* designed to give the student an overview of a topic not associated with a particular discipline.



PART VII

SCHOOL ▼ OF ▼ ALLIED ▼ HEALTH ▼ PROFESSIONS

Thomas C. Barker

Dean

Larrie J. Dean

Associate Dean

Stephen C. Harvey

Director of External Affairs

Debra A. Ropelewski

Assistant Dean for Fiscal Affairs

The School of Allied Health Professions was established on January 1, 1969 within the Medical College of Virginia of Virginia Commonwealth University. This school was fundamentally established to provide an administrative structure for existing educational programs in allied health disciplines and to direct the development of new programs in response to the growing need for allied health manpower. At the outset, the school combined the existing programs in hospital administration, medical technology, physical therapy, radiologic technology, and x-ray technology.

A separate program for nurse anesthesia was created in 1969, and a year later, the educational program in occupational therapy located on the Academic Campus was transferred administratively to the School of Allied Health Professions. The same year, a teaching program in patient counseling, formerly based within MCV Hospitals, was integrated with the school.

In 1979 a B.S. program in clinical radiation sciences and the Master of Science program in nurse anesthesia were added to the school.

In 1985, the existing Department of Gerontology was transferred administratively to the School of Allied Health Professions.

The Commission of the Future of the University in its report approved by the Board of Visitors of the University on September 9, 1993 recommended that the Department of Rehabilitation Counseling be transferred from the School of Community and Public Affairs to the School of Allied Health Professions.

UNDERGRADUATE DEGREE PROGRAMS

Degree programs offered through the School of Allied Health Professions are

Bachelor of Science:

Clinical Laboratory Sciences

Occupational Therapy

Clinical Radiation Sciences

Minor:

Rehabilitation Counseling

For additional information about the Allied Health Professions undergraduate and graduate programs and their requirements for promotion and graduation, consult VCU's Medical College of Virginia Bulletin or Graduate Bulletin.

ACCREDITATION

VCU and its component schools are accredited by the Southern Association of Colleges and

Schools—the general accrediting agency for colleges in the region.

The School of Allied Health Professions is an institutional member of the Association of Schools of Allied Health Professions and the Virginia Association of Allied Health Professions. Each program in the school is approved or accredited by the appropriate national professional or educational organization.

LICENSURE/CERTIFICATION

Graduates of most of the programs offered by the School of Allied Health Professions are required or eligible to take national and state certification or licensure examinations. Requirements of licensing and certifying agencies vary. Some licensure and certification agencies consider people convicted of felonies ineligible for licensure or certification. For specific information, prospective students should contact the licensure or certification agency for their allied health discipline.

PROGRAM IN CLINICAL LABORATORY SCIENCES (formerly Medical Technology)

Although clinical laboratory scientists have been trained at MCV since 1932, it wasn't until 1952 that the Department of Medical Technology was formally established. At that time, the school offered a certificate and/or degree program that met the requirements of the American Medical Association as implemented through the Board of Schools of the American Society of Clinical Pathologists (ASCP).

Today, the department offers a two-year program leading to a baccalaureate degree. The junior year consists of two semesters of didactic education followed by a four-week summer session in a hospital laboratory in Virginia. During the senior year, students spend 15 weeks in the clinical laboratories.

In addition to these clinical experiences, the senior year includes advanced courses in each medical science discipline, and instruction in management, education and computer applications in the clinical laboratory. Certified medical laboratory technicians may complete the program with less class time through the transfer of credits and/or by successfully completing challenge exams for certain courses.

The department also offers a Master of Science degree.

Accreditation

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences. Upon satisfactory completion of the prescribed curriculum, the student is awarded a B.S. degree in clinical laboratory sciences by VCU and is eligible to take the national examinations administered by the Board of Registry of ASCP and the National Certification Agency for Medical Laboratory Personnel.

Academic Admission Requirements

To qualify for admission into this program, a candidate must have completed a minimum of 60 credit hours in any college or university approved by a recognized regional accrediting agency. This collegiate training should include a broad general education in English, the social sciences, the arts, and the humanities.

On entry to the department, the student must have completed 12 hours of chemistry (eight hours of general required; the remaining four hours in order of preference: quantitative, organic, or qualitative; other courses may be accepted); 12 hours of biology (preferred four hours of general, four hours of human physiology, and four hours of human anatomy); three hours of mathematics; six hours of English; and six hours of humanities/social sciences.

Special Admissions. Certified medical laboratory technicians or those eligible for certification, may qualify for special admissions. An MLT applicant must have at least 44 non-MLT semester hours of transferable credit for admission as a full-time student, or 38 non-MLT semester hours for admission as a part-time student. These transfer hours must include eight hours of biology, eight hours of chemistry, three hours of mathematics, and six hours of English.

MLTs admitted under special status are required to complete the science and the humanities/social sciences requirements for regular admission before they qualify for graduation. MLT transfer credits are accepted for some MT courses. Challenge examinations are offered.

For information about additional requirements for admission and the specific procedures for application for admission, consult VCU's *Medical College of Virginia Bulletin* or contact the Office of Admissions, Medical College of Virginia Campus, Virginia Commonwealth University, Richmond, VA 23298-0632.

Curriculum

<i>Preparation</i>		<i>Credits</i>
CLS 201	Introduction to Clinical Laboratory Science (optional).....	1
	*Open to students on the Academic Science/medical technology as a career.	

<i>Junior Year</i>		<i>Credits</i>
CLS 300	Basic Concepts	1.5
CLS 301-302	Hematology and Hemostatis	8.5
CLS 303	Parasitology	1.5
CLS 304	Clinical Microscopy	2
CLS 306	Immunohematology	4.5
CLS 307	Introduction to Pathogenic Microbiology	3
CLS 308	Microbiology	5
CLS 310	Clinical Immunology	4.5
CLS 311-312	Biochemistry	8
CLS 314	Instrumentation	3

<i>Summer Session</i>		
CLS 337	Clinical Education	1
Total		42.5

<i>Senior Year</i>		
CLS 407	Interpretive Immunohematology	2.5
CLS 408	Advanced Microbiology	2
CLS 409	Interpretive Hematology	2
CLS 410	Advanced Biochemistry	2
CLS 411	Principles of Education/Management	3
CLS 412	Clinical Correlations	1
CLS 414	Advanced Instrumentation	1.5
CLS 415	Special Topics in Clinical Laboratory Sciences (7 sections) (optional)	1-6
CLS 438	Research Paper (optional)	1
CLS 483	Biochemistry Practicum	3
CLS 485	Hematology Practicum	3
CLS 493	Microbiology Practicum	3
CLS 494	Miscellaneous Clinical Practicum	1-3
CLS 496	Blood Bank Practicum	3
Total		29-36

For additional information about the Department of Clinical Laboratory Sciences' undergraduate and graduate programs and requirements for promotion and graduation, consult VCU's *Medical College of Virginia Bulletin of Graduate Bulletin*.

PROGRAM IN OCCUPATIONAL THERAPY

Initiated in 1942 at VCU's precursor, Richmond Professional Institute, this program became a department in the School of Allied Health Professions in 1970. The graduate program which leads to a M.S. degree in basic professional education in occupational therapy was initiated in 1965.

Since the primary focus of occupational therapy is the development of adaptive skills and performance capacity, its chief concern is with factors which act as barriers or impediments to the patient's ability to function, as well as those factors which promote and enhance performance.

Occupational therapy provides service to people whose abilities to cope with tasks of daily living are threatened or impaired by developmental deficits—aging, poverty, cultural differences, physical injury, illness, or psychological and social disability.

Accreditation

Both the undergraduate and professional master's degree programs in occupational therapy at VCU are accredited by the Accreditation Council for Occupational Therapy Education, 4720 Montgomery Lane, P.O. Box 3122, Bethesda, MD 20824-1220.

ADMISSION REQUIREMENTS

Students who wish to earn a B.S. degree in occupational therapy through the School of Allied Health Professions may be admitted after two years of college work. For entrance into this professional curriculum, a student needs 62 semester credits from an accredited college or university. Criteria for admission include suitable GPA, writing skills, volunteer or paid employment, and personal qualities. Preference is given to students who exhibit good potential for occupational therapy. An interview with members of the Admissions Committee is also required.

Prerequisites for Admission

<i>Courses</i>	<i>Credits</i>
English	6
Must include 3 credits composition	
Biological Sciences	12
Must include laboratory courses in human physiology and anatomy	
Psychology	12
Must include developmental psychology and abnormal psychology	
Sociology	6
Statistics	2

These are considered minimum requirements. Students are encouraged to pursue further study in liberal arts and sciences which develop intellectual competence, enrich interest areas, and promote an awareness of social and cultural values.

For information about additional requirements for admission and specific procedures for application for admission, consult VCU's *Medical College of Virginia Bulletin* or contact the Office of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0632.

Curriculum

<i>Junior Year, Fall Semester</i>		<i>Credits</i>
ANA 525	Functional Human Anatomy	5
OCT 301	Communications and Group Dynamics	3
OCT 303	Developmental Tasks and Occupationa Roles I.....	3
OCT 309	Skills Laboratory I	3
OCT 414	Research Methods in Occupational Therapy	1
Total		15

<i>Junior Year, Spring Semester</i>		
ANA 529	Neuroanatomy	3
OCT 305	Physical Dysfunction and Occupational Therapy I	3
OCT 306	Psysical Dysfunction and Occupational Therapy II	3
OCT 307	Psychosocial Dysfunction and Occupational Therapy I	5
Total		14

<i>Senior Year, Fall Semester</i>		
OCT 403	Developmental Tasks and Occupational Roles III	2
OCT 405	Physical Dysfunction and Occupational Therapy III	5
OCT 409	Skills Laboratory III	3
OCT 411	Theories of Occupational Therapy	2
OCT 414	Research Methods in Occupational Therapy	2
Total		14

<i>Senior Year, Spring Semester</i>		<i>Credits</i>
OCT 310	Skills Laboratory II	2
OCT 407	Psychosocial Dysfunction and Occupational Therapy III	5
OCT 412	Administration and Supervision of Occupational Therapy	3
OCT 418	Occupational Therapy in Health Care	3
	Elective	3
Total		16

Fieldwork Sessions

OCT 493	Fieldwork: Psychosocial Dysfunction	9
OCT 494	Fieldwork: Physical Dysfunction	9
OCT 495	Fieldwork: Specialty (Optional) ...	6-9

Upon successful completion of the program, students are eligible to take the national certification examination administered by the American Occupational Therapy Certification Board. Certification is required by most employers as proof of professional competence.

Graduates of the program are eligible to take the national certification examination. Certification is required as proof of professional competence.

Correspondence relating to the curriculum in occupational therapy should be addressed to Chairman, Department of Occupational Therapy, Medical College of Virginia Campus, Virginia Commonwealth University, Richmond, VA 23298-0008.

Requests for applications and catalogues, should be addressed to the Office of Admissions, Medical College of Virginia Campus, Virginia Commonwealth University, Richmond, VA 23298-0632.

DEPARTMENT OF RADIATION SCIENCES

Radiologic technology education began at Medical College of Virginia in the 1930s with a one-year training program in Radiography. This program has undergone a number of changes through the years to evolve into the current baccalaureate educational program.

A concentration in Nuclear medicine Technology was added in 1984 and in Radiation Therapy in 1992. Degree completion programs have been added to provide an opportunity for certified technologists and therapists to complete requirements for the baccalaureate degree.

Further information on these programs can be found in VCU's *Medical College of Virginia Bulletin*.

The Department of Radiation Sciences offers a Bachelor of Science in Clinical Radiation Sciences with the following areas of concentration: Radiography, Nuclear Medicine Technology, and Radiation Therapy. These programs are designed to provide the academic and technical knowledge for people who wish to become certified in one of the areas of concentration.

Accreditation

The Radiography and Radiation Therapy programs are accredited by the Joint Review Committee on Education in Radiologic Technology. The Nuclear Medicine Technology program is accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. Upon completion of one of the concentrations, the graduate is eligible for the relevant national certification examination administered by the American Registry of Radiologic Technologists. Gradu-

ates of the Nuclear Medicine Technology program are also eligible for the certification examination administered by the Nuclear Medicine Technology Certification Board.

Admission Requirements

Candidates for admission to any of the three programs must have completed high school or have passed a GED examination, and have completed the following post-secondary courses:

- 3 semester credits of college algebra
- 3 semester credits of general psychology
- 6 semester credits of composition and rhetoric
- 8 semester credits of human anatomy and physiology
- 8 semester credits of college physics

Transcripts of high school and postsecondary work and Scholastic Aptitude Test (SAT) scores must be submitted with the application. Candidates must also submit personal references and complete an interview with a member of the admissions committee. Applicants are encouraged to obtain some knowledge of the concentration to which they are applying by observing in the appropriate hospital department or by working as a hospital volunteer.

Curriculum Radiography Concentration

	<i>Semester Hours</i>	
	<i>Fall</i>	<i>Spring</i>
<i>Sophomore Year</i>		
CSC 150 BASIC Computer Concepts		3
BIO 200 Biological Terminology	1	
HCM 300 Health Care Organization and Services	3	
STA 213 Introduction to Statistics	3	
CRS 203-204 Survey of Medical and Surgical Disease I and II	3	3
CRS 206 Cross-sectional Anatomy		2
* CRS 208 Foundations of Patient Care		3
* CRS 232 Radiation Safety		2
Humanities Elective	3	
General Elective	3	3
Totals	16	16

<i>Summer I</i>		
* CRS 201 Introduction to Radiographic Imaging	2	
* CRS 211 Radiographic Procedure I	2	
Total	4	

	<i>Fall Spring</i>	
<i>Junior Year</i>		
* CRS 311 Radiographic Procedures II	4	
* CRS 312 Radiographic Procedures III		2
* CRS 320 Principles of Radiographic Imaging		3
* CRS L320 Principles of Radiographic Imaging Lab		1
CRS 341 Radiation Physics	4	
CRS 390 Research Methods in the Radiation Sciences	2	

* CRS 393-394 Clinical Education I and II ...	3	4
Restricted Electives	3	6
Totals	16	16

<i>Summer II</i>		
* CRS 395 Clinical Education III	5	
Total	5	

	<i>Fall Spring</i>	
<i>Senior Year</i>		
* CRS 330 Radiobiology		2
* CRS 402 Pathophysiology for Radiographers		2
* CRS 421 Radiographic Imaging Equipment	2	
* CRS 451 Quality Control Methods in Radiography		3
CRS 488 Senior Seminar		1
CRS 498 Senior Project	3	
* CRS 493-494 Clinical Education IV and V	5	5
Restricted Electives	3	6
Totals	16	16

Final Total	105
* Requires grade of "C" or better	

Curriculum Radiation Therapy Concentration†

	<i>Semester Hours</i>	
	<i>Fall</i>	<i>Spring</i>
<i>Sophomore Year</i>		
CSC 150 BASIC Computer Concepts		3
BIO 200 Biological Terminology	1	
HCM 300 Health Care Organization and Services	3	
STA 213 Introduction to Statistics	3	
CRS 203-204 Survey of Medical and Surgical Disease I and II	3	3
CRS 206 Cross-sectional Anatomy		2
* CRS 208 Foundations of Patient Care	3	
* CRS 232 Radiation Safety		2
CRS 341 Radiation Physics	4	
Humanities Elective		3
General Elective	1	
Totals	15	16

<i>Summer I</i>		
* CRS 201 Introduction to Radiographic Imaging	2	
* CRS 305 Orientation to Radiation Therapy	1	
Total	3	

	<i>Fall Spring</i>	
<i>Junior Year</i>		
HED 487 Coping and Adaption		3
* CRS 309 Oncologic Patient Care	2	
* CRS 314 Pathology and Treatment Principles I		4
* CRS 323 Radiation Therapy Techniques and Applications	4	
* CRS 330 Radiobiology		2
CRS 342 Physics for Radiation Therapy ..		3
CRS 390 Research Methods in the Radiation Sciences	2	
* CRS 393-394 Clinical Education I and II ...	4	4
General Elective	3	3
Totals	15	16

<i>Summer II</i>		
* CRS 395 Clinical Education III	5	

CRS 315 Pathology and Treatment Principles II	3	
Total	5	
<i>Senior Year</i>		<i>Fall Spring</i>
* CRS 455 Theory and Practice of Quality Assurance for Radation Therapy	2	
CRS 488 Senior Seminar		1
* CRS 493-494 Clinical Education IV and V	5	5
CRS 498 Senior Project	3	
General Electives	6	
Restricted Electives		9
Totals	15	15

Final Total 103

† Certified radiographers with an associate degree or equivalent can complete the curriculum in two years; please contact the Department for further information.

* Requires grade of "C" or better

Curriculum Nuclear Medicine Technology Concentration†

		<i>Semester Hours</i>	
		<i>Fall</i>	<i>Spring</i>
<i>Sophomore Year</i>			
CHE 101-102 General Chemistry	5	5	
CSC 150 BASIC Computer Concepts			3
BIO 200 Biological Terminology	1		
STA 213 Introduction to Statistics	3		
CRS 203-204 Survey of Medical and Surgical Disease I and II	3	3	
* CRS 208 Principles of Patient Care			3
* CRS 232 Radiation Safety			2
CRS 341 Radiographic Physics	4		
Totals	16	16	

Summer I

* CRS 303 Orientation to Nuclear Medicine Clinic	2	
Total	2	

Junior Year

		<i>Fall</i>	<i>Spring</i>
PHI 213 Ethics and Health Care	3		
HCM 300 Healthcare Organization and Services	3		
CLS 320 Basic Laboratory Techniques	1		
CRS 206 Cross-sectional Anatomy			2
* CRS 317 Clinical Nuclear Medicine: Imaging Techniques	3		
CRS 322 Nuclear Medicine Instrumentation and Computer Techniques			4
CRS 344 Physics for Nuclear Medicine ...	3		
CRS 390 Research Methods in the Radiation Sciences	2		
* CRS 393-394 Clinical Education I and II ...	4	4	
Restricted Elective			3
Totals	16	16	

Summer II

* CRS 313 Clinical Nuclear Medicine: Non-imaging Techniques	3	
* CRS 395 Clinical Education III	5	
Total	8	

Senior Year

		<i>Fall</i>	<i>Spring</i>
CRS 330 Radiobiology			2
* CRS 404 Pathophysiology for Nuclear Medicine			2
CRS 453 Theory and Practice of Quality			

	Assurance for Nuclear Medicine	3	
* CRS 461 Radiopharmaceutical Preparation and Quality Control		3	
CRS 488 Senior Seminar			1
* CRS 493-494 Clinical Education IV and V	5	5	
CRS 498 Senior Project	3		
General Electives	1		6
Totals	15	16	

Final Total 105

† Certified radiographers with an associate degree or equivalent can complete the curriculum in two years; please contact the Department for further information.

* Requires grade of "C" or better

Degree Completion Programs

Full or part-time opportunities to complete a baccalaureate degree are offered for technologists or therapists certified by the American Registry of Radiologic Technologists and/or the Nuclear Medicine Technology Certification Board. In addition to general education and professional coursework, the student selects electives from a wide variety of courses, allowing the design of a program that best meets the goals and interests of the individual technologist. For further information, please contact the department.

DEPARTMENT OF REHABILITATION COUNSELING

The Department of Rehabilitation Counseling was established in 1955 to provide graduate education in the professional field of rehabilitation counseling. The department offers a Master of Science in Rehabilitation Counseling and, in cooperation with the School of Education, an Advanced Certificate in Professional Counseling. Departmental Faculty also work cooperatively with other doctoral programs in related or interdisciplinary areas at VCU.

In 1974 the undergraduate program in rehabilitation services was established to provide a broad general background for students at the undergraduate level. From 1974 to 1994, the department offered a Bachelor of Science in Rehabilitation Services. With the development of national certification groups and licensure laws in most states, professional counseling has become a predominantly graduate-level profession. The department no longer offers the Bachelor's Degree in Rehabilitation Services but continues to offer undergraduate courses in Rehabilitation Services in interdisciplinary cooperation with other majors. For a select few, however it is still possible to obtain a baccalaureate degree with a

focus in some aspect of rehabilitation services through the interdisciplinary Bachelor of General Studies Degree Program at VCU.

Courses in Rehabilitation Services

Courses in Rehabilitation Services provide a basic understanding of people with mental and physical disabilities and how to help them lead more productive lives. The courses are not only relevant to future graduate study in the profession of rehabilitation counseling but to a number of other rehabilitation-related professions such as clinical and counseling psychology, social work, special education, corrections, therapeutic recreation, occupational therapy, and physical therapy. Although baccalaureate employment is possible under the supervision of graduate-trained professionals in most of these disciplines, the desirable ultimate goal for most students would normally be a graduate-level degree.

A variety of majors are desirable to consider for a combination with elective courses in Rehabilitation Services for baccalaureate-level employment under supervision or future graduate study in rehabilitation counseling or a rehabilitation related-profession. The student should consider a major that includes a broad liberal arts foundation. For students with client services interests, a major in pre-physical therapy, pre-occupational therapy, occupational therapy, psychology, social work, sociology, special education, juvenile justice (criminal justice), or therapeutic recreation (recreation, health, and physical education) would be highly suitable. Students with organizational, political, or legal interest who want to have a different type of impact on the needs of people with disabilities may want to consider a major in business administration, economics, urban studies and planning, political science, or legal studies (criminal justice). The latter students might want to consider graduate study in such areas as human resources management, health administration, public administration, urban and regional planning, or law.

Possible baccalaureate-level employment opportunities under supervision with elective courses in Rehabilitation Services with the various combination of majors indicated above could include intake interviewing and screening, interpersonal communications and crisis intervention, community outreach and case development activity, vocational evaluation and adjustment, job development and placement, supported employment and career development, case management and coordination of services, client advocate and

public relations work, and human resources planning and program development. Institutional possibilities include organizations or agencies, public or private, concerned with physical disability, developmental disabilities, crisis intervention, mental illness, geriatrics, corrections, drug addiction, alcoholism, employment, manpower development, manpower planning, community-based youth employment, and recreation.

Students should consult their academic advisors in their major concerning elective courses in rehabilitation services that would be relevant to their interests and future plans. The student may want to consider a concentration of elective courses in either general rehabilitation or alcohol and drug rehabilitation:

General Rehabilitation. Courses in general rehabilitation provide an introduction to the rehabilitation of people with physical or mental disabilities. Practicum activities will provide the opportunity for a student to focus on a particular activity such as interpersonal communications, case management, vocational evaluation, job development, supported employment, advocacy, human resources planning, etc. or a particular disability such as mental retardation, spinal cord injury, deafness, visual impairment, brain injury, mental illness, etc. Students should consult the University bulletins and schedule books for descriptions of courses and available offerings.

Alcohol and Drug Rehabilitation. This concentration of courses provides educational experiences at a variety of intensity levels in addiction treatment and prevention. The full concentration allows a student to fulfill the education requirements for state and national certification. Didactic and experiential learning also prepare students as gatekeepers and explorers who can apply addiction knowledge and skills in a variety of living and occupational settings as well as support self-awareness of their own relationship with alcohol/drugs. Generic addiction concepts are emphasized but the concentration also provides students with the framework, guidance, and materials to explore/research in depth specific addictions or specific populations of particular interest to them. There are several pathways for entering the concentration while seeking a degree in another school or department. Students should contact the department for further details.

Bachelor of General Studies Degree (Rehabilitation Service Focus)

The interests of most students should be met by the interdisciplinary combination of electives in

rehabilitation services with another major. However, a few students may better benefit from the interdisciplinary Bachelor of General Studies Degree with a focus in a rehabilitation services area if they meet the following criteria: (1) Above average academic achievement (at least a 2.7 GPA or higher in a minimum of 30 semester hours of previous study); (2) Maturity in judgment and learning; (3) High motivation to develop a unique interdisciplinary program; and (4) Interest in graduate study in rehabilitation counseling or a related field.

Possible rehabilitation services focus area examples for the interdisciplinary Bachelor of General Studies Degree could be:

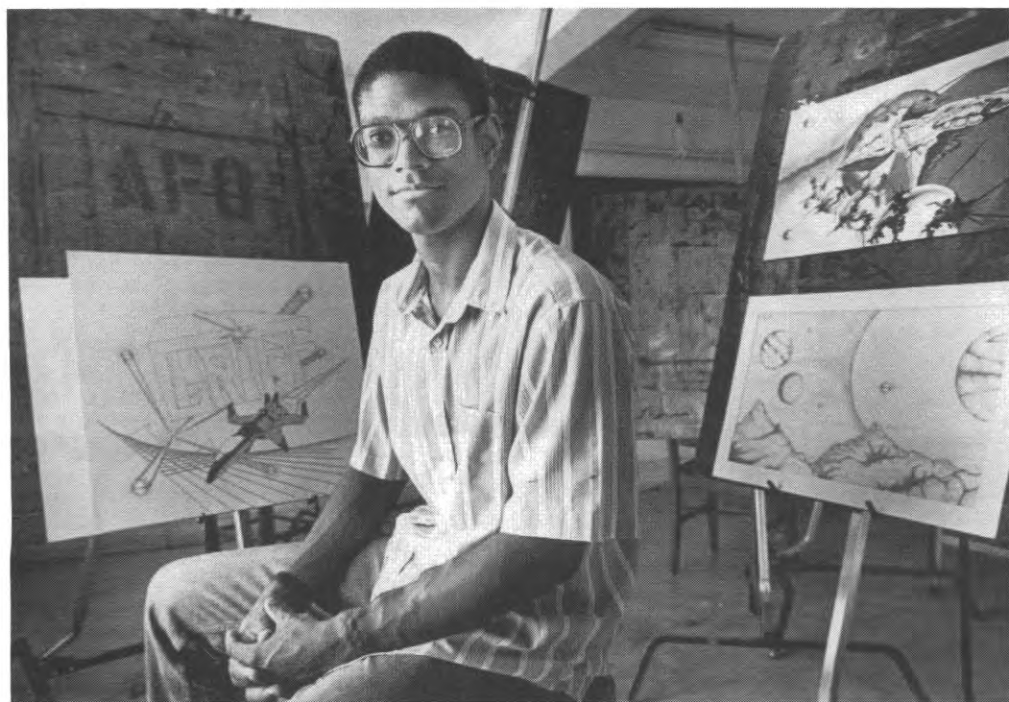
Substance Abuse in Geriatrics (with gerontology), Deaf Rehabilitation and Services (with psychology), Employee Assistance and Organization (with business administration and psychology), Arts and Crafts Rehabilitation (with therapeutic recreation and art), Rehabilitation Teaching with Visual Impairments (with special

education), Client Advocacy and Rehabilitation Services (with legal studies and political science), Community Services Coordination in Rehabilitation (with social work), and Supported Employment for Mental Retardation (with special education and psychology). Programs are designed to meet the general guidelines of the National Council on Rehabilitation Education's Position Statement on Undergraduate Rehabilitation Education, the only formally articulated national standard on baccalaureate rehabilitation education.

Prospective students interested in the Bachelor of General Studies Degree should contact the Office of Nontraditional Studies at VCU.

For further details on admission and the program, consult VCU's *Medical College of Virginia Bulletin* or contact the Office of Admissions, Medical College of Virginia Campus, Virginia Commonwealth University, Richmond, Virginia 23298-0632.





PART VIII

SCHOOL ▼ OF ▼ THE ▼ ARTS

Thomas H. DeSmidt

Acting Dean

Paul E. Petrie

Acting Associate Dean

Daniel J. Reeves

Assistant Dean and Director of Graduate Studies

Lydia C. Thompson

Assistant Dean

Steven High

Director, Anderson Gallery

John Bryan

Faculty Research and Development

The School of the Arts at Virginia Commonwealth University began in 1926 as a single course offered in sculpture. Two years later, a one-faculty art department was born under the guiding hand of Miss Theresa Pollak. Since then the school has grown to its present stature, achieving national and international recognition through its quality programs in visual and performing arts.

In 1969, the Department of Dramatic Art and Speech and the School of Music, until that time independent departments within VCU combined with the School of Art to form the present School of the Arts.

The visual arts programs of the school are accredited by the National Association of Schools of Art and Design. The Department of Music is accredited by the National Association of Schools of Music and the Department of Interior Design is accredited by the Foundation for Interior Design Education Research.

The School of the Arts offers distinctly professional programs in which students devote the greater portion of each day to professional courses in the arts. As part of an urban university, art students are provided with the advantages of comprehensive facilities, as well as professionally competent faculty. It is the only state-supported professional school of the arts in the South, and one of the few in the country, offering a professional curriculum within a combined academic and professional environment.

The purpose of the School of the Arts is to enliven and enrich literacy in the visual and performing arts through the advanced thought and perception of its students and faculty. It intends to develop innovative approaches to the making and comprehension of works of art which elaborate on the complexities of contemporary people. These works of art clarify and give meaning to the uncertainty of the human condition. To sustain inquiry into the nature of being and becoming and to strengthen the artistic process and the products that reflect that inquiry, constitute two of the major objectives of the school.

Each department within the school contributes to meeting these objectives by encouraging students to approach and resolve aesthetic, intellectual, and technical problems with scholarly analysis, experimentation, informed discrimination, and environmental awareness. In short, the School of the Arts stimulates students to develop a highly professional attitude toward their work and to solve significant creative problems.

DEGREE PROGRAMS

Baccalaureate programs within the School of the Arts prepare creative people for careers in the visual and performing arts. The school emphasis the development of individual competencies in the arts through the following departments:

- Art Educator
- Art History
- Communication Arts and Design
- Crafts
- Dance/Choreography
- Fashion
- Interior Design
- Music
- Painting and Printmaking
- Photography (no undergraduate degree offered)
- Sculpture
- Theater

The School of the Arts offer graduate programs culminating in the Master of Fine Arts, Master of Art Education, Master of Arts, and Master of Music degrees with major and minor concentrations in various departments. Detailed information on these programs appears in the VCU *Graduate Bulletin*.

TRANSFER STUDENTS

Departmental faculty committees determine placement in all upper-level courses after evaluating the student’s record, performance, audition, and/or creative work. The student should contact the appropriate department chairman at the time of acceptance to arrange for this evaluation before actual enrollment.

SPECIAL CHARGES

All full-time majors enrolled in the School of the Arts are charged a \$150 comprehensive fee each semester; part-time students are charged a \$75 fee per semester. The money is prorated to the individual departments which determine the expenditures, resulting in a rebate to the students through materials, services and/or equipment, and may include models, field trips, or special lectures. Students enrolled in any of the numerous courses which require an additional outlay for materials will be billed for those individual fees by the Office of Student Accounting.

INTERNSHIPS AND COOPERATIVE EDUCATION

Qualified students may enter a limited number of carefully selected internships offered by several departments within the school. Further information about internship availability and necessary qualifications is available through the department offices.

The School of the Arts also participates in the Cooperative Education Program. Qualifying students can take part in this program through most departments. A full description of the program appears in Part XVIII of this bulletin.

ACADEMIC REQUIREMENTS

All majors in the School of the Arts must earn a minimum grade of “C” in all major work in order to remain in their departments.

The department and the student’s advisor periodically evaluate the record of each student. If, at any time during undergraduate studies, the department faculty concludes a student is not demonstrating adequate progress in the area of concentration, the student will be advised to withdraw from that department.

GENERAL, EDUCATION REQUIREMENTS

All students seeking the baccalaureate within the School of the Arts are required to fulfill specific general education requirements. These requirements are to be distributed as follows:

General Requirements	<i>Credits</i>
A. English 101, 200	6
B. Restricted Electives. At least three credits must be earned as electives in each of the following areas unless they are required elsewhere in the curriculum:	
1. Natural Sciences/Mathematics	
All students who have not started or completed the mathematics sequence indicated in their curriculum must take the Math Placement Test	3
2. Social/Behavioral Sciences	3
3. Humanities	3

Students majoring in any program in the School of the Arts should become familiar with the approved departmental restricted elective requirements in their department. The student’s faculty advisor has a complete list of approved departmental restricted electives.

GENERAL EDUCATION EXPECTATIONS

The School of the Arts faculty has developed General Education Expectations for the students of the School of the Arts. The General Education expectations listed below reflect the four University Commitments and seven Curricular Elements amplified to reflect the Baccalaureate degrees offered by the School of the Arts.

UNIVERSITY COMMITMENTS

To Teach Thinking. Clear, analytical and creative thinking requires the synthesis of visual and physical stimuli and data which can contribute to the logical development of a thesis or be the result of immediate response to stimuli. The creative process is integral to all School of the Arts courses and is illustrated by the works created in each course.

To Teach Information Retrieval. Students in the School of the Arts conduct research using established academic methods, including electronic transfer, to evaluate, document and synthesize both visual and non-visual data.

To Foster Life-Long Learning. The creative process requires continued self examination and constant searching for the most expressive and inventive solution. This search for expression and invention does not end with commencement.

To Offer Issues-Oriented Courses. Progressive ideas within a complex cultural and social environment are among the issues explored in the courses of the School of the Arts.

CURRICULAR ELEMENTS

Communicating. School of the Arts courses require students to understand technical, professional and theoretical materials. Students must be able to articulate and write about visual and physical stimuli. Communication vehicles in the arts are complex and are integrated throughout the curricula of the programs in the School.

Ethics. The School of the Arts curriculum includes specific courses intended to address the study of aesthetics, critical analysis, social norms and the needs and values of our culture and others. The appreciation and understanding of many different aesthetics, philosophies and ethical values are essential in order to achieve meaningful artistic expression. Issues of ethics are

included in freshman level courses and throughout all levels of coursework.

Quantity and Form. School of the Arts students use quantifiable methods to present documents, concepts and calculations related to the preparation, construction and articulation of class requirements. Students are required to express symbolic language in order to calculate size, proportion, rhythm, order and the visual and physical impact of a concept.

Science and Technology. School of the Arts students have exposure to scientific issues throughout the curriculum and are required to use science and technology in the development and production of works of art. This is an important aspect of many departments as students producing art forms require the understanding of physical space, forces, light, color, acoustics, harmony, properties of materials, proportion and organization.

Interdependence. The School of the Arts curriculum design includes projects and research that requires students to develop an understanding of the importance and impact of worldwide economic, international and social interdependencies.

The Visual and Performing Arts. Appreciation for the contribution of the arts and its application and its ability to improve the quality of life is a critical and fundamental principle upon which the School of the Arts curricula are constructed.

Humanities and Sciences. Curricula in the School of the Arts require that students have exposure to a broad range of cultural, social and environmental issues. These requirements provide students with an appreciation for the complexities of human life. Understanding of these issues is essential for meaningful artistic expression.

GENERAL INFORMATION

Students who have matriculated in a professional curriculum receive enrollment preference for courses in their program. However, unless otherwise indicated, all courses are open to any student in the university.

Because of the sequence in which course work is arranged, only transfer students will be considered for midyear admission. With the exception of art history courses, all courses must be taken in their numerical sequence unless approved by the chairman of the department in which they are listed.

In many of the courses, a considerable amount of work is done outside the classroom. This work

is done in addition to the work done in the scheduled classes students are required to attend. Departments within the school reserve the right to retain examples of student work for permanent collections. Before enrollment, students should contact the appropriate department chairman for a more detailed curriculum outline than that which appears in this bulletin.

UNDERGRADUATE CREDIT BY EXAMINATION

Recognizing that VCU enrolls students of varying backgrounds and experiences, the School of the Arts provides its students the opportunity to accelerate their education through "credit-by-examination." the conditions under which credit-by-examination may be given and the procedure are outlined in Part V of this bulletin.

HONORS PROGRAM

The VCU Honors Program was established to attract gifted students and to provide them with a challenging opportunity to achieve their highest academic potential. This program is open to all qualified undergraduate students. For a detailed description of qualifications and requirements see Part II of this bulletin.

ARTS FOUNDATION PROGRAM

Charles F. Bleick
Director

All beginning and transfer students in the visual arts, when necessary, must enroll in the Art Foundation Program. This program is the prerequisite which provides the basic concepts, skills, and experiences necessary for admittance to advanced professional studio work in each department.

Students accepted and placed in the Art Foundation Program do not achieve departmental affiliation until after the screening of portfolios during the spring semester of the freshman year. At that time the student can apply to the department of his or her choice. Departmental acceptance is based on individual student performance and competency in the chosen area.

Art Foundation Curriculum

	Credits	
	1st Sem	2nd Sem
Studios		
AFO 101-102 Communication and Presentation	2	2
AFO 103-104 Communication Vehicles ...	2	2
AFO 109-110 Drawing Vehicles	2	2
AFO 111-112 Drawing Studio	2	2
General Studies		
AFO 105-106 Survey of World Art	4	4
AFO 107-108 Introduction to the Arts		
OR Electives	1	1
ENG 101 Composition and Rhetoric	3	
Academic Elective		3
	<hr/>	<hr/>
	16	16

ART EDUCATION

A. James Wright

Acting Chairman of the Department

Charles F. Bleick
Alan L. Landis

David Burton
Sally Shumard

The Department of Art Education offers an undergraduate program which leads to The Bachelor of Fine Arts degree. The program gives the student the opportunity to specialize in art education while emphasizing a strong background in the arts to help the student develop artistic sensitivity, critical analysis, perception and interpretation of art forms. The program assists in developing expertise in the utilization of electronic media in an increasingly technological world.

The Art Education program is an Approved Teacher Preparation Program that complies with the professional standards of the Virginia Department of Education and the Southern Association of Colleges and Schools. It is further accredited by the National Council for Accreditation of Teacher Education and the National Association of Schools of Art and Design. All of these agencies assure the highest professional program standards.

Most art education students enter the teaching profession and teach art in either elementary, middle or high school. Other pursue further education to work as art consultants, art therapists, arts administrators, museum personnel, college teachers, and in other art-related business positions. Graduates of the program are eligible for teacher licensure in grades NK-12. Reciprocity agreements with many states greatly expand job opportunities throughout the country.

Admission to the Art Education program follows successful completion of the freshman foundations program, or, in the case of transfer student, equivalent preparation from other institutions.

Degree Requirements in Art Education

	<i>Credits</i>
Foundation Program Studios	16
Professional Education	
Includes Art Education Methods,	
Human Development, and Student Teaching	37
Studios and Approved Electives	39
General Studies	
Includes English, Art History, Literature,	
Introduction to the Arts, Mathematics,	
Laboratory Science, American History,	
Social Science and Humanities	39
Health and Physical Education	4
Total	135

ART HISTORY

Bruce M. Koplin

Chairman of the Department

Charles E. Brownell	Ann G. Crowe
James D Farmer	Steven High
Sharon J. Hill	Robert C. Hobbs
Fredrika H. Jacobs	Babatunde Lawal
Richard E. Phillips	Regenia A. Perry
Howard Risatti	(Professor Emeritus)

Part-Time Faculty—

Barbara Ames	Gary Inman
Michael Jones	Trent Nicholas
Donald Schrader	Rosemary Smith
Ida Trusch	

The Department of Art History offers its majors a program which acquaints them with the humanistic discipline of art historical inquiry. While providing students with the opportunity for a broad education drawing on the liberal arts and humanities, the department also emphasizes a close bond with the studio and performing arts and enjoys a close relationship with the other departments in the School of the Arts.

Recognizing the diverse interests of undergraduate students and the varied practical applications of art history, the department offers its majors a choice among four distinct curricula culminating in either the Bachelor of Arts (B.A.) or the Bachelor of Fine Arts (B.F.A.) degree. The B.A. degree (curricula A, B, or C) focuses on academic disciplines in the liberal arts, while the B.F.A. degree (curriculum D) integrates the study of art history with art studio.

Curriculum A is a program with a liberal arts curriculum composed of an academic course of study exposing the student to the scholarship and

research methods of not only art history, but related disciplines in the humanities. This program gives students the best possible background for future graduate work in art history.

Curriculum B, with strong liberal arts and studio components, is a comprehensive architectural history program which emphasizes the study of both Western and non-Western architecture. This program affords the student an excellent background for graduate work in architectural history and/or art history, as well as career opportunities in the field. Given the region's rich and diverse architectural resources, this program provides an unusual opportunity for on-site studies. By providing the student with additional training in art history, studios—such as architectural presentation graphics and urban studies and planning, this program offers a well-rounded knowledge of architectural history.

Curriculum C is a program with a museum studies orientation which uses the superb resources in Richmond and throughout the state. It is a unique program because it provides the student with the opportunity to intern at a regional museum.

Curriculum D, with a studio focus, permits the student to study art history with simultaneous involvement in the studio areas. The opportunity to delve into the interrelationships between the study of art and the actual creation of art is an ideal program for the artist who is deeply interested in discovering the past and understanding the present.

Along with these curricula, the department also offers a minor in art history, consisting of 18 credits in the minor field. These credits must include either six in the Survey of Western Art, or eight in the Survey of World Art; plus 12 credits in 4 additional period courses. The student must select one course each from the following categories: (1) Classical, (2) Medieval, (3) Renaissance, (4) Baroque/18th C., (5) 19th and 20th C., and (6) non-Western.

DEGREE REQUIREMENTS IN ART HISTORY

	<i>Credits</i>
Art Historical Curriculum A	
Studios	7
Art History	42
Aesthetics or Criticism	3
General Studies	
English 101, 200	6
Literature	6

German or applicable Romance language	14
History	15
Archaeology, Religion, Anthropology, or Cultural Geography	9
Electives to include three credits in natural sciences/mathematics	24
Total	126

Architectural History Curriculum B

Studios	
Foundation Program	8
Interior Design Graphics	6
Photography	4
Architectural History	24
Art History	18
Aesthetics or Criticism	3
General Studies	
German or applicable Romance language	14
History	12
English 101, 200	6
Literature 201-202	6
Anthropology 103	3
Archaeology 105	3
Science	
Physics 101, L101	4
Geology 105, L105	4
Religious Studies 311 or 312	3
Urban Studies 116, 240, 513	8
Electives	6
Total	132

Museum Studies Curriculum C

Studios	
Fine Arts	6
Photography	2
Art History	33
Museum Studies	15
Aesthetics or Criticism	3
General Studies	
English 101, 200	6
Literature	6
German or applicable Romance language	14
History	12
Archeology, Religion, Anthropology or Cultural Geography	12
Business Environment 121	3
Urban Studies 116, 240	6
Electives to include three credits in social behavioral sciences and three credits in natural sciences/ mathematics	9
Total	127

Art Historical/Studio Curriculum D

Studios	
Foundation Program	16
Fine Arts	56
Art History	29
Introduction to the Arts	2
Aesthetics or Criticism	3
General Studies	
English 101, 200	6
Literature	6
German or applicable Romance language	10
History	6
Electives to include three credits in natural sciences/mathematics	6
Total	140

COMMUNICATION ARTS AND DESIGN

John DeMao

Chairman of the Department John Malinoski

John Malinoski

Associate Chairman of the Department

Dennis Rexroad

Assistant Chairman of the Department

Nicolas A. Apgar (Professor Emeritus)	William O. Bevilacqua (Professor Emeritus)
Alex Bostic	Robert C. Carter
David Colley	Ben Day
Durwood Dommissie	Robert L. Foster
John T. Hilton (Professor Emeritus)	Bob Kaputof
Roy McKelvey	Mary Anna LaFratta
Robert Meganck	Mary McLaughlin
Akira Ouchi	Philip B. Meggs
Kathleen F. Quarterman	Jeff Price
Charles B. Scalin	Nancy L. Strube
Part-Time Faculty—	
Jerry Bates	Richard Moore
Pam Turner	

The Department of Communication Arts and Design, in close cooperation with the Department of Photography, offers intense study of visual communications and design. The program focuses on the development of innovative thinking and creative problem-solving abilities required for professional excellence. The curriculum is oriented toward understanding visual form and structure, professional skills, and social and environmental awareness. The information/communication orientation of contemporary society relies on this discipline to create visual images and concepts, connecting people to their economic, social, cultural, and political lives.

To face the challenges in this era of rapid technological change, the department prepares students for future societal needs by fostering a spirit of experimentation and inquiry, and by integrating computer and electronic media study into the program.

After completing the Art Foundation Program, a sophomore core program further develops fundamental design and drawing skills and introduces the major areas of visual communications—art direction, graphic design, electronic media, illustration, and photography. In the junior and senior years, students select an area of emphasis from one of the following:

Advertising Art Direction. This concentration explores the creative synthesis of aesthetic and business objectives for the purposes of effective communication. Emphasis is placed on conceptual development of communication ideas,

the development of communication strategy involving the use of media, and the coordination of creative activities.

Design. This concentration explores the design of visual communications. Intended primarily for those who wish to study graphic design, typography, and information architecture, emphasis is placed on visual design as a means to bring order and clarity to communications. In addition to traditional print media, students may take courses in three-dimensional design and computer-assisted design.

Electronic Media. This concentration prepares students who desire major study in video, computer graphics, and audio-visual communications. Emphasis is on the artistic potential and communicative uses of kinetic media in contemporary society.

Illustration. This concentration stresses the creation of images for communication, exploring a variety of traditional and experimental media. Drawing and the development of a personal approach to visual communications are emphasized.

Photography. This concentration focuses on the creative and technical aspects of photography. It is designed for students who wish to explore photography as a personal language for artistic expression and as a means of creating images for visual communications.

Multi-Disciplinary Program. Students with clearly defined personal goals may develop an individual program of study after their sophomore year. A program plan encompassing two of the above emphasis areas is developed in close cooperation with the faculty advisor. To allow for sufficient in-depth study in the two chosen areas, successful completion of an additional 16 credits in upper-level studio courses is required. These courses are divided between the selected areas and must be taken in "emphasis area studios." An additional semester beyond what would normally be taken to fulfill requirements may be needed to complete this option. The individual program proposal requires the approval of the department chairman.

Degree Requirements in Communication Arts and Design

	<i>Credits</i>
Studios	
Foundation Program	16
Visual Communications Fundamentals	24
Emphasis Area	32
Technical Workshops	8
General Studies	
Introduction to the Arts	2
English 101-102	6

English 201, 202, 203, 204, 205, or 205	6
Art History and Theory	20
Approved Electives to include three credits in social/behavioral sciences and three credits in natural sciences/mathematics	12
Open Electives	6
Total	132

Advancement in this department is based on completion of prerequisite courses. Successful completion of the Art Foundation Program is required as a prerequisite for all 200-level studio courses in the Department of Communication Arts and Design. Because of enrollment pressures, admission is by portfolio review administered only once yearly during the spring semester. Transfer student must also submit a portfolio to the department before acceptance will be granted. Acceptance into and successful completion of the foundation program or transfer equivalent does not guarantee entry into the department. Twenty-four credits of visual communications fundamentals must be completed before entering 300- and 400-level studio courses. Specific prerequisites for professional courses are in the course listings. Nonmajors who have completed the foundation program can take courses in the department with the permission of the Assistant Chairman when space is available.

Equipment, materials, and supplies in this program may cost in excess of \$1,000 per year, depending on the course of study.

CRAFTS

Nancy K. Thompson
Chairman of the Department

Allan A. Eastman (Professor Emeritus)	Bill Hammersley John Hawthorne
Kent Ipsen	Susan Iverson
C. James Meyer	Allan Rosenbaum

The Department of Crafts offers a professionally oriented program that leads to a B.F.A. degree in ceramics, fiberwork/fabric design, glassworking, metalsmithing/jewelry, wood working/furniture design. Within these areas of specialization, courses are designed to assist students in developing concepts, personal directions, and the necessary skills and technical competencies, enabling them to pursue a professional career or graduate study. In addition to the major area of study, students have the opportunity for a diverse education in the liberal arts and humanities. Students are encouraged to select courses in

other schools on the Academic Campus that will add to their general knowledge. A student may elect a minor area of study in any department or program offering a minor. The minor can be used to fulfill career objectives or to investigate a discipline of secondary interest.

Career opportunities for craft majors include setting up an independent studio or gallery, restoration or repair work, teaching or participating in the Artist-in-Residence programs in the public schools, and consulting and designing for industry. Courses in the department are open to all students at the university but must be taken in sequence starting at the 200 level.

Degree Requirements in Crafts

The Bachelor of Fine Arts curriculum in Crafts requires a minimum of 130 credits including 51 in the major. A minimum of 45 of the 130 credits must be 300-400 level courses. To enroll in an advanced level craft (CRA) course, majors must have earned a "C" grade or better in all (CRA) courses prerequisite for that course.

	<i>Credits</i>
Studios	
Foundation Program	16
Basic Crafts	16
Orientation to Crafts	1
Advanced Crafts	32
Painting/Printmaking or Sculpture Studio	8
General Studies	
Introduction to the Arts	2
English 101, 200	6
Literature	6
Art History and Theory	14
Approved Electives to include three credits in social/behavioral sciences and three credits in natural sciences/mathematics	18
Senior Seminar	2
Open Electives	9
Total	130

Minor in Crafts

Successful completion of the Art Foundation Program is a prerequisite for the minor concentration which consists of a minimum of 18 credits in crafts courses. Of these 18, a minimum of nine credits must be in upper-level courses.

DANCE/CHOREOGRAPHY

Martha Curtis

Acting Chairman of the Department

- | | |
|----------------|-------------------------------|
| Chris Burnside | Audrey Jung |
| Sharon Kinney | Melanie Richards |
| Judith Steel | Frances Wessells |
| | (Associate Professor Emerita) |

Part-Time/Adjunct Faculty—

- | | |
|-----------------|----------------|
| Bruce Berryhill | Jim Bennett |
| Karen Kessler | Frances Kimmel |
| Leland Lew | Arnott Mader |
| John Massey | Cas Overton |
| Faye Walker | |

The Mission of the Department of Dance and Choreography is to create an atmosphere in which the student experiences the demands and challenges of the professional dancer/choreographer. In a community setting where communication, mutual respect and self motivation are encouraged, classes provide the student with disciplined training that will maximize their potential to become dancers of technical excellence, choreographers with original and powerful voices and thinkers with high academic standards.

Students are trained to be performers, choreographers, and teachers in this curriculum which emphasizes modern dance and offers dance courses in modern, improvisation, composition, choreography, music for dancers, and dance history, as well as ballet, jazz, tap, folk, Afro-Caribbean, ballroom, contact improvisation, T'ai Chi, kinesiology, video/choreography, lighting design, and dancer as teacher. Additionally, the program provides a variety of experiences in performance, choreography, and production. These offerings enable students to develop as sensitive, expressive artists with professional training in dance technique, a knowledge of dance philosophies, and a foundation in history, enabling them to function as independent and creative artists in the field of dance.

Degree Requirements in Dance and Choreography

	<i>Credits</i>
Dance Technique	
Modern	*24 or 28
Ballet	*12 or 16
Tap	2
Ballroom and Folk, African-Caribbean, T'ai Chi or Jazz	2
Dance Workshop	8
Improvisation	4
Dance Composition	6
Repertory	3
Music for Dancers	3
Music Appreciation	3
Dancer as Teacher	3
Dance Production Workshop	2
Elective in Theatre	3
Choreography Performance	6
Senior Project	3
Dance History and Theory	
Contemporary Dance Perspectives DAN 107	2
Dance History DAN 308	3
Dance in Non Western Culture DAN 313	3
Approved Dance Electives	2 or 3

Contact Improvisation or Video Choreography Workshop	
General Studies	
English 101-102	6
Kinesiology	3
Art History 103 or 104	3
Social Behavioral Science Elective	3
Math Natural Sciences Elective	3
Approved Electives in General Education	3
Humanities or Social/Behavioral Science Elective	
Open Electives	<u>14 or 15</u>
Total	134

*Total for modern and ballet must be 40.

The B.F.A. degree program in dance/choreography requires 134 credits, with 88 of those credits as the core curriculum. Dance majors are encouraged to take two technique classes daily, including the required modern technique class. The continuous study of ballet is a strong component of the curriculum, and dance majors are required to take 12-16 credits in ballet. Beyond the first level of technique, students progress to the higher levels through audition or with permission of the instructor. Within the core are opportunities for independent study, including a possible semester spent in an intensive investigation of a dance-related subject in the field.

Before graduation, students must complete a Senior Project which is a practical presentation in both performance and choreography.

Within the School of the Arts, dance students have frequent opportunities to work collaboratively with other students in the arts. Possibilities include the visual arts, participation in multimedia events, and productions outside the dance department.

Any dance major can perform in numerous formal concerts, informal showings, and lecture-demonstrations produced by the department.

Opportunities are also available for training in teaching, but students interested in earning state certification should consult their advisors.

An audition is required for acceptance into the dance program. Applicants for the B.F.A. in dance/choreography will follow the admissions guidelines for arts students as described in the earlier portion of this section of the bulletin.

Minor in Dance

Any VCU student can declare a minor in dance. The minor consists of 27 credits. Fourteen of those credits must be taken in approved dance technique—a combination of modern, ballet, tap, T'ai Chi, contact improvisation, and African Caribbean. Dance minors must also take DAN 105-106 Improvisation, DAN 205 Composition, DAN 206

Composition or DAN 319-320 Video/Choreography, and DAN 307 or 308 Dance History.

THE DEPARTMENT OF FASHION DESIGN AND MERCHANDISING

Christina Lindholm

Chairman of the Department

Nancy Scott

Assistant Chairman

Donald Earley

Howard McCoy

Janus Watson

Otti Windmueller

(Professor Emerita)

Karen Guthrie

Henry Swartz

Sandra B. Wilkins

Adjunct Faculty —

Leslie B. Derby, III

The Department of Fashion Design and Merchandising offers two curricula: Fashion Design, leading to a B.F.A. degree; and Fashion Merchandising, leading to a B.A. degree.

The Fashion Design curriculum offers technical courses which provide skills required in the areas of ready-to-wear and haute couture. Individual designs are presented in two-dimensional form, developed and perfected through techniques used in the fashion industry, and then executed in final three dimensional form in fabrics appropriate to the design. Expenses for fabrics and equipment average from \$200 to \$600 a year.

The major in Fashion Merchandising represents a strong background from business and specialized professional course with an emphasis on globalism. Students are directed toward assignments that will develop their skills in critical and analytical thinking. Graduates find career opportunities in fashion forecasting, product development, advertising, promotion, retail management and international marketing.

All fashion programs are extremely time consuming. Students are expected to put class attendance and study time above other campus activities or employment.

Students in these programs must take classes in the sequence prescribed by the department and adhere to all prerequisites and course descriptions. Failure to comply can lengthen the number of semesters necessary for completion of degree requirements and maybe considered a *breach* of the University Ethics Policy.

Fashion students are strongly encouraged to sign up for summer internships which provide them with experience and industry contacts.

Degree Requirements in Fashion Design

	<i>Credits</i>
Foundation Program	
Studios	16
Professional Courses	
Construction Methods, Design, Draping, Patternmaking, Drawing, Tailoring, Textiles	70
General Studies	
English, Art History, Literature, Intro to the Arts, Fashion History, Fashion Seminar	22
Approved Electives to include three credits in social/behavioral science and three credits in natural sciences/mathematics	18
Total	<u>126</u>

Degree Requirements in Fashion Merchandising

	<i>Credits</i>
General Studies	
English 101, 200	33
Professional Education	49
Business Courses	24
Approved Electives	20
Total	<u>126</u>

Minor in Fashion Merchandising

Students from any department in the university may declare a minor in fashion merchandising, which consists of 18 credits in the minor field. At least nine of those credits must be taken in upper-level fashion courses. A student must maintain a minimum GPA of 2.0 in the minor. A department faculty advisor will counsel every student.

INTERIOR DESIGN**Camden Whitehead**

Acting Chairman of the Department

Ben D. Gunter (Professor Emeritus)	J. Jewett Field (Professor Emeritus)
Dorothy T. Hamilton (Associate Professor Emerita)	Chaoyi Gao M. Buie Harwood Robert F. Hester (Professor Emeritus)
Ki-Jeong Jeon	Craig Marlow
James T. Long	
Ringo Yung	

The Department of Interior Design offers a FIDER-accredited, professionally oriented program which seeks to produce competent creative designers whose realistic design solutions are based on human needs in the contemporary environment. Mastery of design techniques, knowledge of resources, and an awareness of interrelating disciplines equip the student with the tools and expertise necessary to pursue creative design positions or to enter programs of advanced study.

Admission to the degree program follows successful completion of the freshman foundation

program, or, in the case of transfer students, equivalent preparation at other institutions. Sophomore level students are required to purchase a laptop computer and software. The make of the computer and the software is determined by the department and the total cost will not exceed \$3,500.00.

Students in the department are required to attend field trips—an important part of some of the departmental courses. The expense of these trips, above tuition costs, should not exceed \$250 a year.

The department has two scholarships available to full-time interior design students at the junior or senior level: the Roger Baugh Scholarship and the Hamilton-Field Scholarship. For more information contact the department chairman.

Degree Requirements in Interior Design

	<i>Credits</i>
Studios	
Foundation Program	16
Creative Design	28
Technical Knowledge	18
Communication Skills	15
General Studies	
English 101, 200	6
English	6
Introduction to the Arts	17
*Art History to include IDE 251, 252, 253	
Approved Electives to include three credits in Social/Behavioral Sciences and three credits in Natural Sciences/Mathematics	21
Business Procedures	3
Total	<u>132</u>

MUSIC**David Cordle**

Chairman of the Department

Terry Austin	L. Wayne Batty
Donald Bick ¹	Francile Bilyeu
Landon Bilyeu	Christopher Brooks
Loran Carrier	Melanie Day
Cynthia Donnell	Sandra Guerard
John Guthmiller	Bruce Hammel
Ardyth Lohuis	Melissa Wusfich Marrion
Edward A. Mirr ¹	Robert Murray
Dika Newlin	John Patykula
Douglas Richards	J. Lawrence Robinson
Frantisek Smetana (Professor Emeritus)	(Professor Emeritus) Sonia Vlahcevic
Charles West	

Part-Time Faculty—

Ronald Baedke ¹	Paul Bedell
Cory Blake	Jennifer Combs ¹
T. Howard Curtis	John D'Earth
Barry Dove	Rolla Durham ¹

Michael Ess	Mary Jane Fitzpatrick
Edward R. Fraedrich	George Gales
Anne Guthmiller	Michelle Gulick
Paul Hanson	Bob Hallahan
Charles Moeser	Joanne Kong
Alan Paterson ¹	Timothy Olbrych
Ronda Plessinger-Coltrane	Joseph Scott
Clarence Seay	Philip Teachey ¹
Douglas Thiele	David Toussaint
Russell Wilson ¹	Rui Zhang ¹

¹ Member, Richmond Symphony Orchestra

The Department of Music is committed to the advancement of western art music and jazz as academic disciplines, as fields of professional endeavor, and as a viable presence in the community. Entrance and graduation requirements comply with the National Association of Schools of Music guidelines. An audition and written general musicianship examination and interview are necessary for admission. Students must also meet the general admission requirements of the university. For audition information contact Dr. David Cordle, Chairman, Department of Music P.O. Box 842004, 922 Park Avenue, Virginia Commonwealth University, Richmond, VA 23284-2004.

All freshmen entering the department are classified as music foundation majors for their first year. Following completion of freshman-level theory and aural skills, and upon completion of specific performance achievement levels established by the various degree tracks, students may apply for admission into a specific Bachelor of Music degree track (performance, music education, or composition) or the Bachelor of Arts in Music degree program.

The Bachelor of Music degree is the initial professional degree in music. Its primary emphasis is on development of the skills, concepts, and sensitivities essential to the professional life of the musician. At the center of the instructional program for the Bachelor of Music degree is the "core curriculum," comprising 30 credits of instruction in aspects of musicianship fundamental to all music degree programs. Included are courses in basic music theory, aural skills, music history, conducting, and advanced theoretical skills.

The Bachelor of Music/Music Education track incorporates requirements necessary to qualify for the state of Virginia's Collegiate Professional Certificate to teach music in the public schools. Reciprocity between Virginia and numerous other states makes it possible for those music education students who become certified to teach in Virginia to obtain certification in those other states.

The Bachelor of Arts in Music degree is designed for students who desire a program with a strong emphasis in music, combined with a strong liberal arts component, and a minor in an area other than music. Included are courses in basic theory, aural skills, music history, applied music, as well as restricted and free music electives.

Electives in Music

Students majoring in a field other than music may register for ensembles, private or class lessons, and a variety of classroom courses in music. Class lessons in voice, piano and guitar, Music Appreciation, African-American Music, Introduction to Writing Music, Basic Music Skills, and Special Offerings in Music are specifically designed for the nonmusic major. Other courses are open to those who have adequate background.

Minor in Music

Any VCU student may declare a minor in music. The music minor comprises 22 credits distributed among the areas of music history/theory, ensemble performance, private lessons, and music electives. A music faculty advisor counsels every minor about the selection of appropriate courses based on the student's competence and interest. Using the guidelines below, students have several options to meet their minor requirements.

Music history and theory selected from MHT 106, 120, 135, 136, 243, 250, 421, or 422 for a total of nine credits.

Large ensemble for four credits.

Private lessons for four credits. One credit per semester; all credits to be earned on a single instrument. Students must earn Achievement Level I. Music electives for a total of five credits. MHT 117, MHT 201, and music literature courses are suggested.

Graduate Study

The department offers graduate degrees in solo performance, composition, conducting, and music education. See *VCU Graduate Bulletin* for courses and curricula.

Fees

All students registering for private music lessons pay an applied music fee. This fee is additional to the comprehensive fee charged only to majors in the School of the Arts. The cost for private lessons is \$130 per semester for one credit and \$260 per semester for two or three credits.

Community School of the Performing Arts

Pre-college, university, and adult students may receive private or class instruction through the Community School of the Performing Arts, an adjunct to the Department of Music. Registration information and fee schedules can be obtained from Dr. Glenn Winters, coordinator of the Community School, at 828-2772. No degree credit is granted for either private or class lessons taken through the Community School.

Degree Requirements in Music

Applied Music Achievement Levels. Eight achievement levels have been established for applied instrumental and vocal study. These levels are explicit in terms of expected repertoire, musicianship/style, technique, and sight-reading. "Honors" may be earned by students in any area who go beyond the eighth level. While freshmen normally earn Level I at their first semester juries, transfer students may be awarded a higher level based on their entrance auditions. The table below indicates the achievement levels required for graduation.

Bachelor of Music

Performance	VIII
(all areas except synthesizer and jazz)	
Synthesizer	VIII in principal area: III in secondary keyboard
Jazz	IV in classical studies VI in jazz
Music Education	VI
Composition	VI in Composition IV in Performing Medium
Bachelor of Arts in Music	
All areas	IV

Recital Convocation Attendance. All undergraduate majors are required to pass four semesters of recital/convocation attendance for graduation. During each semester of enrollment, the student must attend a minimum of ten concerts or recitals plus 75 percent of all departmental convocations in order to earn credit.

Master Class. This consists of participation in weekly master classes in the student's applied major area. For students in the Bachelor of Music program, eight semesters are required for performance and composition tracks; six semesters for the music education track. Students in the Bachelor of Arts in Music program must complete four semesters of master class.

Ensemble Requirements

To ensure consistent skill development in ensemble settings, only one large ensemble credit

per semester will be counted toward a student's large ensemble requirements. Students whose principal performing medium (major instrument) is a band or orchestral instrument or voice must satisfy the large ensemble requirement by performing in a large ensemble on that principal performing medium. An exception is made in the case of jazz studies majors whose principal instrument is saxophone. Jazz saxophone majors may elect to satisfy the large ensemble credit on another woodwind instrument. Bachelor of Music/Performance pianists must satisfy the ensemble electives by completing four of the six elective credits as pianists (i.e. by playing the piano in ensembles). Bachelor of Music/Performance organists must satisfy the large ensemble requirement through credit earned in a large choral ensemble. Bachelor of Music/Performance voice majors may elect to substitute Opera Theater for a large ensemble in the semester in which the Senior Recital is presented. Bachelor of Arts in Music students must earn six ensemble credits, which are not restricted with regard to large or small ensemble.

Bachelor of Music/Performance

Core Curriculum for all areas

	<i>Credits</i>
Integrated Theory	12
Aural Skills I-V	7
Form and Analysis I	2
Conducting	2
Core Electives selected from Aural Skills VI-VIII, and any MHT or MUC 300- or 400-level course not otherwise required. Jazz Studies requires only four credits of core electives	7

The following courses are also required of majors in the areas specified:

Brass, Percussion, Strings, Woodwinds

Large Ensembles**	7(4)
Ensemble Electives***	5(8)
Keyboard Skills	4
Pedagogy	2
Principal Performing Medium	24
Secondary Performing Medium†	4
Recital Convocation Attendance (four semesters)	0
Master Class (eight semesters)	0
Junior Recital	0
Senior Recital	0
General Studies	
English 101, 200	6
History 101-102	6
Introduction to Musical Styles	2
Survey of Music History	6
Mathematics/Natural Sciences Elective	3
Social/Behavioral Sciences Elective	3
Non-Music Electives	4
Open Electives	<u>22</u>
Total	128

†The secondary performance area requirements must be fulfilled with studies on a different instrument.

**Large ensemble requirements for guitar majors are 4 credits.

*** Ensemble elective credits for guitar majors are 8 credits.

Organ

Large Ensembles (Choral)	6
Ensemble Electives	2
Accompanying	4
Keyboard Skills (APM 273-274, 373-374)	4
Pedagogy	2
Principal Performing Medium	24
Secondary Performing Medium†	4
Organ Literature and Design	2
Service Playing	2
Recital Convocation Attendance (four semesters)	0
Master Class (eight semesters)	0
Junior Recital	0
Senior Recital	0
General Studies	
English 101, 200	6
History 101-102	6
Introduction to Musical Styles	2
Survey of Music History	6
Acoustics	3
Mathematics/Natural Sciences Elective	3
Lyric Diction	6
Social/Behavioral Sciences Elective	3
Open Electives	15
Total	130

†The secondary performance area requirements must be fulfilled with studies on a different instrument.

Piano

Large Ensembles	2
Ensemble Electives (4 as pianists)	6
Accompanying	4
Keyboard Skills (APM 273-274, 373-374)	4
Pedagogy	2
Principal Performing Medium	24
Secondary Performing Medium†	4
Jazz Improvisation	3
Piano Literature	2
Recital/Convocation Attendance (four semesters)	0
Master Class (eight semesters)	0
Junior Recital	0
Senior Recital	0
General Studies	
English 101, 200	6
History 101-102	6
Introduction to Musical Styles	2
Survey of Music History	6
Mathematics/Natural Sciences Elective	3
Social/Behavioral Sciences Elective	3
Non-Music Electives	4
Open Electives	19
Total	130

†The secondary performance area requirements must be fulfilled with studies on a different instrument.

Synthesizer

Large Ensembles	5
Ensemble Electives	7
Keyboard Skills (APM 173-174, 273-274)	4

Performing Medium—synthesizer	18
Performing Medium—piano, organ, or harpsichord	9
Computers in Music	3
MIDI Programming and Synthesis	3
Synthesizer and Composition	3
Recital Convocation Attendance (four semesters)	0
Master Class (at least two semesters in keyboard, six in synthesizer)	0
Junior Recital	0
Senior Recital	0
General Studies	
English 101, 200	6
History 101-102	6
Introduction to Musical Styles	2
Survey of Music History	6
Media Arts Survey CDE 223	4
Sound Communications CDE 331	2
Mathematics/Natural Sciences Elective	3
Social/Behavioral Sciences Elective	3
Open Electives	18
Total	132

Voice

Large Ensembles***	7
Ensemble Electives	3
Opera Theatre**	2
Keyboard Skills (APM 173-174, 273-274)	4
Pedagogy	2
Principal Performing Medium	24
Secondary Performing Medium*	4
Lyric Diction	6
Song Literature	2
Recital Convocation Attendance (four semesters)	0
Master Class (eight semesters)	0
Junior Recital	0
Senior Recital	0
General Studies	
English 101, 200	6
Foreign Language 101-102	8
History 101-102	6
Introduction to Musical Styles	2
Survey of Music History	6
Mathematics/Natural Sciences Electives	3
Social/Behavioral Sciences Electives	3
Open Electives	14
Total	132

* The secondary performance area requirements must be fulfilled with studies on a different instrument.

** THE 107 or DAN 101 can be substituted with departmental approval.

***In the semester of the senior recital, voice majors may substitute Opera Theatre for one large ensemble credit.

Jazz Studies

Large Ensembles	4
Jazz Ensembles	9
Keyboard Skills (APM 173-174, 273-274)	4
Performing Medium	24
Jazz Improvisation	6
Jazz Arranging	6
Composition, (Advanced Jazz Arranging)	2
Recital/Convocation Attendance (four semesters)	0
Master Class (eight semesters)***	0
Junior Recital	0
Senior Recital	0

General Studies	
English 101, 200	6
History of Jazz	3
Introduction to Musical Styles	2
Survey of Music History	6
Mathematics/Natural Sciences Electives	3
Social/Behavioral Sciences Electives	3
Non-music Electives	7
Open Electives	18
Total	130

***Four semesters classical; four semesters jazz.

Bachelor of Music/Composition

Core Curriculum	
Integrated Theory	12
Aural Skills I-V	7
Form and Analysis I	2
Conducting	2
Core Electives selected from Aural Skills VI-VIII, and any MHT or MUC 300- or 400-level course not otherwise required	5
Keyboard Skills (APM 173-74, 273-74, 373-74)	6
Class Composition	2
Private Composition	13
Performing Medium	12
Counterpoint I	3
MIDI Programming and Synthesis	3
Orchestration	3
Form and Analysis II	2
Large Ensembles	5
Ensemble Electives	7
Recital/Convocation Attendance (four semesters) 0	
Master Class (eight semesters, four of which are in performing medium and composition)	0
Senior Recital	0
General Studies	
English 101, 200	6
History 101-102	6
Introduction to Musical Styles	2
Survey of Music History	6
Foreign Language	8
Mathematics/Natural Sciences Elective	3
Social/Behavioral Sciences Elective	3
Open Electives	14
Total	132

Bachelor of Music/Music Education

	<i>Instrumental</i>	<i>Vocal</i>
General Studies	<i>Major</i>	<i>Major</i>
English 101, 200, Literature	9	9
Mathematics	3	3
Mathematics or Science Elective	3	3
American History 103 or 104	3	3
Social Sciences Electives	9	9
Physical Education	1	1
Computers in Music or Math Elective	3	3
Acoustics or Lab Science Elective	3	3
Introduction to Musical Styles	2	2
Survey of Music History	6	6

Professional Education

Human Development and Learning	3	3
Music in General Education	2	2
Conducting and Rehearsal Techniques	3	3
Observation in Music Education	1	1

Processes of Music Education	3	3
Student Teaching	12	12

Music Coursework

Core Curriculum	
Integrated Theory	12
Aural Skills I-V	7
Form and Analysis I	2
Conducting (APM 381)	2
Conducting Lab Ensembles	1
Lyric Diction*	0
Class Instruments APM 181, 183 184, 185, 187, 193**	6
Keyboard Skills (APM 173-174, 273-274)	4
Principal Performing Medium	21
Secondary Performing Medium	3
Large Ensembles	7
Junior Recital	0
Master Class (six semesters)	0
Recital/Convocation Attendance (four semesters)	0
Open Electives	8
Total	139

*Required of vocal majors only.

**Required of vocal majors only.

Bachelor of Arts in Music

	<i>Credits</i>
Music Coursework	
Integrated Theory	12
Aural Skills	4
Introduction to Musical Styles	2
Survey of Music History	6
Principal Performing Medium*	12
Ensembles	6
Recital/Convocation (four semesters)	0
Master Class (four semesters)	0
Keyboard Skills	2
Electives (MHT & MUC 300-400: APM 381) ...	6

General Studies

English 101, 200, Literature	12
Foreign Language**	14
Natural Science	7
Mathematical and Computer Science	9
(at least one course in each area)	
History 101-102	6
Minor or Secondary Concentration***	18
Open Electives	8
Total	124

*Achievement Level IV required.

**4 semesters of one language or two semesters and Lyric Diction APM 161-162.

***Selected from one of the established minor programs in the university or planned as a coherent series of studies.

PAINTING AND PRINTMAKING

Michael H. Drought

Chairman of the Department

Ruth Bolduan

James A. Bradford

Jewett Campbell
(Professor Emeritus)
Ann Renee Gower
Bernard Martin
(Professor Emeritus)
Thersea Pollak
(Professor Emeritus)
Javier Tapia
Philip S. Wetton

Gerald A. Donato
David Freed
Richard Kevorkian
(Professor Emeritus)
James Miller
Milo Russell
(Professor Emeritus)
Barbara Tisserat
Morris Yarowsky

The Department of Painting and Printmaking supplies a solid foundation for the creative person who wants to become a professional painter or printmaker.

As the students progress, they are given increasing freedom. As they demonstrate their acquisition of skill and insight, they are encouraged to explore all areas of their creative work more individually. During their junior and senior years, most students concentrate in either painting or printmaking.

Degree Requirements in Painting and Printmaking

	<i>Credits</i>
Studios	
Foundation Program	16
Sculpture or Crafts	4
Sculpture	4
Painting	16
Drawing	12
Printmaking	12
Senior Seminar	2
General Studies	
English 101, 200	6
Literature	6
Introduction to the Arts	2
Art History	17
Approved electives to include three credits in the social/behavioral sciences and three credits in the natural sciences/mathematics	12
Open Electives	11
Painting and Printmaking Electives	10
Total	130

Minor in Painting and Printmaking

Successful completion of the Art Foundation Program is a prerequisite for the minor which consists of at least 18 credits in painting and printmaking courses. Of these 18, at least nine credits must be in upper-level courses.

PHOTOGRAPHY AND FILM

Dale Quarterman
Chairman of the Department

David M. Bremer John N. Heroy
Joan Strommer

The Department of Photography and Film contributes to both the School of the Arts and the university as a whole. The department offers basic and intermediate courses in black and white photography, in color photography for those who already have two years of coursework or a sound photographic background, and advanced black and white and color workshops.

Beginning courses cover fundamentals and techniques and develop the visual senses. Advanced courses expand on the student's knowledge of the visual senses and help the student put together a well-developed portfolio.

On the intermediate and advanced levels, the department offers a limited number of classes in Super 8 and 16mm filmmaking techniques. No undergraduate degree is offered in photography or film.

Minor in Photography Film

Successful completion of the Art Foundation Program is a prerequisite for the minor which consists of at least 18 credits in photography/film courses. Of these 18, at least nine credits must be in upper-level courses.

SCULPTURE

Joseph H. Seipel
Chairman of the Department

Myron Helfgott Charles R. Henry
Elizabeth King Carlton Newton
Lester Van Winkle

The Sculpture Department's mission is to create an environment of high expectation regarding self-motivation, intellectual capacity, and responsibility, in order to establish those conditions that promote the student's ability to construct a thinking self. Our students explore technology's parameters, and discover applications to new and traditional modes of expression. By encouraging our students to take a wide range of courses within the univeristy we continue to stress the links between art, science, the humanities, and the conditions of the world. Our goal is to provide students with the seeds of discernment, vocabulary, and skills of analysis and synthesis to become participants in the dialogue of our age.

Within this context, students strive to measure up to the best performances modeled for them by their peers and by faculty who engage in vital research.

Degree Requirements in Sculpture

	<i>Credits</i>
Studios	
Foundation Program	16
Sculpture	40
Painting and Printmaking	14
General Studies	
Introduction to the Arts	2
Art History	14
English 101, 200	6
Literature	6
Approved Electives to include three credits in social/behavioral sciences and three credits in natural sciences/mathematics	10
Open Electives	<u>22</u>
Total	130

Minor in Sculpture

Successful completion of the Art Foundation Program is a prerequisite for the minor which consists of at least 18 credits in sculpture. Of these 18, at least nine credits must be in upper level courses.

THEATRE

Chair of the Department

George Black	Kenneth Campbell
Maurice L. Erickson	Paul T. M. Hemenway
Elizabeth W. Hopper	Gary C. Hopper
Ronald E. Keller	James W. Parker
Janet Rodgers	Louis J. Szari

The Department of Theatre provides students with the professional and cultural foundations essential for achieving the highest standards of the art. Applicants are admitted based on demonstration of ability, genuine interest determined during an interview, and audition and/or portfolio presentation.

The department offers two B.F.A. degrees: one in theatre with emphasis on either performance or design/production; the other in theatre education which leads to the certification required for teaching theatre, speech, and English in the public schools.

Because of the environment that exists in these pre-professional programs, all aspects of theatre—as art, craft, business, and education—are experienced together. The curriculum immerses students in the practicalities of theatre. Throughout the four years, the performer works daily with voice, body, and imagination, while the designer/technician is involved in studio classes and practical application. Prospective theatre educators engage in intensive teacher training activities that lead to certification.

The department also serves students throughout the university with offerings in speech communication.

Degree Requirements in Theatre

	<i>Credit</i>
Performance Emphasis	
Acting	24
Voice	18
Movement	8
Theatre Design and Crafts	14
General Studies	
English 101, 200	6
Literature	12
Arts History	12
Approved Electives to include three credits in social/behavioral sciences and three credits in natural sciences/mathematics	6
Open Electives	<u>30</u>
Total	130

Design/Technical Emphasis

Art Foundation	8
Acting	6
Theatre Design and Crafts	20
Design/Tech Electives	41
General Studies	
English 101, 200	6
Literature	21
Arts History	12
Approved Electives to include three credits in social/behavioral sciences and three credits in natural sciences/mathematics	6
Open Electives	<u>10</u>
Total	135

Theatre Education

Acting	6
Voice/Speech	9
Movement	4
Theatre Design and Crafts	15
Directing/Practicum in Theatre	6
General Studies	
English	12
Literature	24
Arts History	6
Social Science	12
Math/Science	11
Professional Education/Health	<u>30</u>
Total	135

COURSES IN ARTS (ART)

Unless otherwise indicated, courses must be taken in numerical sequence.

001 Open Studio Workshop. Semester course; hours to be arranged. No credit.

190 Advanced Workshop, Drawing. Semester course; 1 lecture and 6 studio hours. 3 credits. Special summer work in drawing for the freshman applicant whose work shows potential worthy of consideration for advanced placement in Sep-

tember. Must be taken concurrently with ART 191 and 192. Students are admitted only by invitation of the dean of the School of the Arts.

191 Advanced Workshop, Design. Semester course; 1 lecture and 9 studio hours. 4 credits. Special summer work in design for the freshman applicant whose work shows potential worthy of consideration for advanced placement in September. Must be taken concurrently with ART 190 and 192. Students are admitted only by invitation of the dean of the School of the Arts.

192 Advanced Workshop, Art History. Semester course; 2 lecture hours. 2 credits. Special summer work in art history for the freshman applicant whose work shows potential worthy of consideration for advanced placement in September. Must be taken concurrently with ART 190 and 191. Students are admitted only by invitation of the dean of the School of the Arts.

392 and 492 Independent Study. Semester courses; 3 to 18 studio hours. 1 to 6 credits. Prerequisite; consent of department head and instructor. This course will be limited to those few students who have demonstrated an unusual level of ability and intense commitment to a particular area. The student must be enrolled in a regularly scheduled 300-level studio course. Offered to School of the Arts major only.

370, 371 Topics in Art. Semester courses; 3 lecture or 9 studio hours (or combinations thereof). 3, 3 credits. An in depth study of a selected topic in art. See Schedule of Classes for specific topics to be offered each semester.

430 Guided Study Afield. 1-9 credits. Permission of instructor required. Designed to enhance the student's knowledge by providing first-hand experience with the most significant contribution of aesthetic import within the geographic areas traveled.

COURSES IN ART FOUNDATION (AFO)

101-102 Communication and Presentation. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. A foundation course with the emphasis on conceptualization, sensing, and knowing. This course includes studies in preconceptions, value systems, visual semantics, attitudes, criticism, and analysis of visual phenomena. This course is also an introduction to the concepts and nature of materials. For beginning students in the School of the Arts. Offered to art majors only.

103-104 Communication Vehicles. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. A foundation course with emphasis on systems and nonsystems of spatial order, as well as color applications and theory. For beginning students in the School of the Arts. Offered to art majors only.

105-106 Survey of World Art. Continuous course; 4 lecture hours. 4-4 credits. A survey of the history and development of painting, sculpture, architecture, and related visual arts of major world cultures, including European, American, Oriental, African, Islamic, and Pre-Columbian. For beginning students in the School of the Arts only.

107, 108 Introduction to the Arts. Semester courses; 1 lecture hour. 1, 1 credits. An orientation course designed to provide a comprehensive understanding of the role of the

visual arts as a significant contributing factor in the creation of a meaningful human environment. Attendance at selected music and theatre department performances required. For beginning students in the School of the Arts. Offered to art majors only.

109-110 Drawing Vehicles. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. A foundation course with the emphasis on traditional drawing, including perspective, anatomy, and artistic judgment. For beginning students in the School of the Arts. Offered to art majors only.

111-112 Drawing Studio. Continuous course, 1 lecture and 3 studio hours. 2-2 credits. A foundation course with the emphasis on invention and imagination. This course is designed to challenge and develop the student's facility for combining known phenomena and personal imagery. For beginning students in the School of the Arts. Offered to art majors only.

121-122 Introduction to Drawing. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. An introduction to the fundamentals of freehand drawing with an emphasis on representational drawing skills, perception, and traditional drawing materials. Not for art majors. Does not fulfill Art Foundation Program core requirements.

COURSES IN ART EDUCATION (AEN)

121-122 The Individual In the Creative Process. Continuous course; 1 lecture, 1 seminar, and 2 studio hours. 3-3 credits. Analysis of creative processes via reflection on the self-in-action. Participation in art experiences as a means to the interpretation and enjoyment of art forms, and the implication of art for society. The course aims to increase perceptual openness, sensitivity to, and understanding of the artistic experience. Not offered for credit to art majors.

250 Computer Graphics. Semester course; 2 lecture and 3 studio hours. 3 credits. prerequisite: Permission of instructor. Students will gain competency in using a computer as a tool for creating electronic imagery and as a filtering mechanism for traditional media. Scanning and manipulating photos will be explored, as will the potential and limitations of computers as they pertain to art. Successfully integrating computers into visual arts classrooms will be addressed.

301-302 Art for Elementary Teachers. Continuous course; 1 lecture, 1 seminar, and 2 studio hours. 3-3 credits. The nature of art and its function in the lives of individuals and society is considered in addition to materials and methods for guiding the visual expression of children.

310 Concepts of Art Education I: Foundations of Art in Education. Semester course; 4 lecture hours. 4 credits. An examination of art education within the curricular structure of educational programs. Students will develop an understanding of the historical, philosophical, and sociological foundations of art in education, including art education's development and current roles. For art education majors only, or by approval of the department chairman.

311 Concepts of Art Education II Curriculum and Instructional Procedures. Semester course; 3 lecture and 3 studio hours. 4 credits. A study of the principles of learning, instruction, and curriculum in art education programs. Stu-

dents will develop teaching competencies through micro teaching experiences, analysis of instructional methods, and teaching styles. For art education majors only, or by approval of the department chairman.

340 Exploring the Visual Arts. Semester course; 1 lecture 1 seminar, and 2 studio hours. 3 credits. Exploration of the nature and history of the arts, to include direct involvement in creative studio processes and experiences designed to increase aesthetic awareness, analysis, and evaluation skills.

353 Art and Perceptual Communication. Semester course; 3 lecture hours. 3 credits. A study of the function of art as communicative media through the senses. Emphasis will be placed on the analysis of the principles of art and design which affect the perception of various art forms.

401 Concepts In Art Education III: Elementary Materials and Practicum. Semester course; 3 lecture and 3 studio hours. 4 credits. A preparatory experience with observation and participation in art programs in elementary grades and non traditional settings prior to student teaching. This course explores art materials and techniques suitable for this level, examines developmental performance levels and analyzes evaluation methods appropriate for art. For art education majors only, or by the approval of the department chairman.

402 Concepts In Art Education IV: Secondary Materials and Practicum. Semester course; 3 lecture and 3 studio hours. 4 credits. A preparatory experience with observation and participation in art programs in middle school, secondary school, and nontraditional settings prior to student teaching. This course explores art materials and techniques suitable for these levels, examines developmental performance levels, and analyzes evaluation methods appropriate for art. For art education majors only, or by approval of the department chairman.

404 Student Teaching Seminar. 3 seminar hours; 3 credits. A seminar concurrent with student teaching which gives students an opportunity to discuss and evaluate their progress in teaching assignments and other related activities. For art education majors only.

406 Art Education Seminar. 3 seminar hours; 3 credits. Students will focus upon the future of art education by reviewing and projecting changes in philosophy, curriculum development, and evaluation. Students will examine important issues and problems confronting education in general and the art program/teacher in particular. As future educators, the students will explore pragmatic strategies for consideration and potential implementation.

408 Two-Dimensional Art Experiences. Semester course; 1 seminar and 4 studio hours. 3 credits. The course explores the media, techniques, and concepts of drawing, painting, and printmaking. Not offered for credit to art majors.

409 Three-Dimensional Art Experiences. Semester course; 1 seminar and 4 studio hours. 3 credits. Exploration of sculptural concepts with three-dimensional materials such as wood, metal, clay, fiber, plaster, plastic, and glass. Not offered for credit to art majors.

411-462 Fashion Media. Continuous course; 1 lecture and 4 studio hours. 3-3 credits. Exploration of design concepts, media techniques, and actual execution in fabrics, jewelry,

and ceramics with considerations for application to fashion design. For fashion design majors.

420 The Related Arts In Education. Semester course; 1 lecture, 1 seminar, and 2 studio hours. 3 credits. Investigation of contemporary patterns of expression which combine the visual and performing arts and their implications for elementary, middle, and secondary schools. Involvement in aesthetic experiences will serve as a vehicle for analysis of interrelationships among expressive forms and provide concepts for developmental growth in relation to curriculum designing. Open to all majors.

430 The Arts and Humanities in Education. Semester course; 1 lecture, 1 seminar, and 2 studio hours. 3 credits. Exploration of the perceptual and creative facets of arts and humanities curricula design in middle and secondary schools. The course establishes common denominators of human experience as a basis for integrating traditional disciplines into new patterns for aesthetic experiences through the students' direct involvement in a wide range of artistic activity. For teacher education majors only.

450 Art for the Exceptional Student. Semester course; 2 lecture and 3 studio hours. 3 credits. A study of the unique characteristics of exceptional students as related to involvement in the arts. The course examines disabled, aged, gifted, talented, and other exceptional learners, and may include practicum and field experiences. Open to all majors.

491 Special Topics. Semester course; variable credit. May be repeated for a maximum of nine credits. A seminar and/or workshop offered on a variety of art education issues not included in the regular curriculum. See *Schedule of Classes* for particular topic covered each semester.

COURSES IN ART HISTORY (ARH)

103,104 Survey of Western Art. Semester courses; 3 lecture hours. 3,3 credits. First semester: Prehistoric through Gothic. Second semester: Italian Renaissance through Modern. Illustrated lectures.

145,146 Survey of Oriental Art. Semester courses; 3 lecture hours 3, 3 credits. First semester: the art of India, Southeast Asia, and the Middle East. Second semester: the art of China, Korea, and Japan. Illustrated lectures.

207 Introduction to Non-Western Art. Semester course; 3 lecture hours 3 credits. Art will be presented as an integral aspect of each culture from the areas of China, Japan, Africa, Oceania, Native America, and Pre-Columbian Central and South America. Aesthetic appreciation will be enhanced through a presentation of various philosophies, customs, and values.

209, 210 American Art and Literature. Semester course; 3 lecture hours. 3, 3 credits. A general survey of the form and content of American art and literature with special emphasis on the relationships between visual and literary works. First semester: before 1865. Second semester: since 1865.

211, 212 Western World Art and Literature. Semester courses; 3 lecture hours .3,3 credits . A general survey of the form and content of Western world art and literature with special emphasis on the relationships between visual and

literary works. First semester: ancient Greece through the sixteenth century. Second semester: seventeenth century to the present.

270,271 History of the Motion Picture. Semester courses; 3 lecture hours 3,3 credits. The history of development of the motion picture from its early beginnings to the present, with both technical and aesthetic consideration. Appropriate films are shown in addition to lectures.

300 Prehistoric and Ancient Art and Architecture. Semester course; 3 lecture hours. 3 credits. A survey of the artistic expressions of the major prehistoric and ancient cultures of Europe, the near East, Egypt, and the Aegean.

301 Art and Architecture of Ancient North America. Semester course; 3 lecture hours. 3 credits. A survey of the major artistic traditions of ancient America, north of Mexico, including woodlands, Mississippian, plains, Eskimo, Northwest Coast, and the Southwest.

305 Classical Art and Architecture. Semester course; 3 lecture hours. 3 credits. A survey of the development of Greek, Etruscan, and Roman architecture, sculpture, painting, and the minor arts from their beginnings to the early fourth century A.D.

310 Medieval Art and Architecture. Semester course; 3 lecture hours. 3 credits. Survey of Western art and architecture between 300 and 1400 A.D.

315 Renaissance Art and Architecture. Semester course; 3 lecture hours. 3 credits. An examination of the Renaissance in Italy and Northern Europe. Painting, sculpture, and architecture of the fourteenth, fifteenth, and sixteenth centuries.

316 Northern Renaissance Art and Architecture. Semester course; 3 lecture hours. 3 credits. Painting, architecture, and sculpture during the North European Renaissance.

317, 318 History of Architecture. Semester courses; 3 lecture hours. 3,3 credits. First semester: major architectural forms from ancient Egypt through Medieval period. Second semester: architecture in Europe and America from the Renaissance to the present.

320 Baroque and Rococo Art and Architecture. Semester course; 3 lecture hours. 3 credits. The art and architecture of Italy and northern Europe between 1600 and 1750.

325 Nineteenth Century Art and Architecture in Europe. Semester course; 3 lecture hours. 3 credits. ARH 103, 104 Study of European art and architecture between 1770 and 1900.

330 Twentieth Century Art and Architecture. Semester course; 3 lecture hours. 3 credits. A survey of twentieth century art with emphasis on architecture, painting, and sculpture.

335 Pre-Columbian Art and Architecture. Semester course; 3 lecture hours. 3 credits. A study of the major artistic traditions of ancient America (i.e. Maya, Aztec, and Inca). The course concentrates on Meso-America and the Audean Region.

338 Art and Architecture of Latin America. Semester course; 3 lecture hours. 3 credits. A study of the major artistic traditions in Latin America from the 16th to the end of the 18th century.

340 Art and Architecture of the United States. Semester course; 3 lecture hours. 3 credits. A survey of painting, sculpture, and architecture from the Colonial period to the present.

342/AAS 342 Afro-American Art. Semester course; 3 lecture hours. 3 credits. A study of the art forms produced by Americans of African origin from the seventeenth century to the present with an emphasis on contemporary trends in black art.

350/AAS 413 African and Oceanic Art. Semester course; 3 lecture hours. 3 credits. A study of the artifacts of some of the major art-producing tribes of Africa and Oceania.

355 Symbolic Expression in the Visual Arts. Semester course; 3 lecture hours. 3 credits. The nature of myth and allegory is presented through an introduction to central themes in Western art, such as saints, heroes, gods, and archetypes with some comparisons to non-Western art.

358/AAS 358 African Art and Architecture. Semester course; 3 lecture hours. 3 credits. A study of African art and architecture from prehistoric times to the present. Special emphasis is placed on form, content, function and meaning, as well as the impact of african art on modern and African American Art.

360 Introduction to Conservation. Semester course; 3 lecture hours. 3 credits. An introduction to the art and science of art conservation. The course is designed to acquaint artists and art historians with the basic methods of deterioration, examination, and treatment of works of art.

370 History of Animated Film. Semester course; 3 lecture hours. 3 credits. The history of animation as an art form, from early experimental to popular culture to independent animation. Design, structure, and technique are considered.

401 Art and Architecture of the Ancient Near East. Semester course; 3 lecture hours. 3 credits. Prerequisite: 3 hours of art history or permission of instructor. An in-depth analysis of the artistic developments in Mesopotamia, Iran, Anatolia, and the areas peripheral to these cultural centers from ca. 6000 B.C. to Ca. 300 B.C.

402 Art and Architecture of Ancient Egypt. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An in-depth analysis of the development of Egyptian styles from the origins of ancient Egyptian culture to its absorption in the Roman Empire. The major iconographical themes, both religious and secular, will be studied,

404 Studies in Prehistoric and Ancient Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of six credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

405 Studies in Greek, Etruscan, and Roman Art and Architecture. Semester course; 3 lecture hours, 3 credits.

May be repeated to a maximum of six credits. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

412 Early Medieval Art and Architecture. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An investigation of medieval concepts of the late Roman and Byzantine Empires, and the art of Migrations. Subsequent developments in Carolingian, Ottonian, and Romanesque art and architecture are the main topics to be considered.

413 Gothic Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. Origins and developments of the Gothic style with emphasis on the architecture and sculpture of France.

414 Studies in Medieval Art and Architecture. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

415 Early Italian Renaissance Art and Architecture. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An investigation of painting, sculpture, and architecture of the Duecento, Trecento, and Quattrocento in Italy.

417 The High Renaissance. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. Intensive consideration of the great masters of Italian art in the early sixteenth century.

419 Studies in Renaissance Art and Architecture. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

420, 421 The Baroque In Northern Europe; The Baroque In Southern Europe. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: three hours of art history or permission of instructor. First semester: an investigation of the painting, sculpture, and architecture of France and the Low Countries. Particular emphasis will be given to the diverse characteristics of the aristocratic and bourgeois stylistic trends of the period. Second semester: an investigation of the painting, sculpture, and architecture of Italy, Spain, Germany, and Austria. The relationship of church and state will be a primary theme of the course.

422 Spanish Painting: El Greco through Picasso. Semester course; 3 lecture hours, 3 credits. This course addresses the question of the "Spanishness" of Spanish art. The careers of El Greco, Ribera, Zurbarán, Murillo, Velázquez, Goya, Dalí, Miró and Picasso are examined in relation to the traditional xenophobia of Spanish culture and the paradox of Spanish openness to the art of Italy, Flanders and France. Prerequisite: ARH 103, 104 or AFO 105, 106 or by permission of the Instructor.

423 Rococo and Other Eighteenth Century Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An in-depth analysis of Rococo painting, sculpture, and architecture in Central Eu-

rope and a study of major movements of this period in France and England.

424 Studies in Baroque and Rococo Art and Architecture. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

425, 426 Neoclassicism, Romanticism, Realism, and Impressionism through Fin-de-Siecle. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: three hours of art history or permission of instructor. First semester: a detailed analysis of European art during the first half of the nineteenth century with special emphasis on French and English painting. Consideration will also be given to artistic and cultural interrelationships marking the transition from the eighteenth to the nineteenth century. Second semester: a detailed analysis of European art during the latter nineteenth century. Consideration will also be given to artistic and cultural interrelationships heralding the transition to the twentieth century.

427 Renaissance, Baroque, and Rococo Art and Architecture of Mexico, Central America, and the Caribbean. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An in-depth study of the major monuments produced in this region from the 16th century through the 18th century.

428 Renaissance, Baroque, and Rococo Art and Architecture of South America. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. A study of the major artists and movements of Peru, Bolivia, Colombia, Ecuador, Argentina, and Brazil in the 16th, 17th, and 18th centuries.

429 Studies in Nineteenth Century Art. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected art and issues of the period. See Schedule of Classes for specific subject to be offered each semester.

430 Modern Painting. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An analysis of the major movements in twentieth century painting.

431 Modern Sculpture. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. The evolution of twentieth century sculpture considering major movements and artists.

433 Modern Architecture. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An investigation of major architectural periods and achievements in commercial and residential designs from 1850 to the present; tracing the development of the International Style, traditional architecture, the evolution of the skyscraper, Art Nouveau, and the works of Henry Hobson Richardson, Louis Sullivan, and Frank Lloyd Wright.

435, 436 Contemporary Art I, II. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: three hours of art history or permission of instructor. First semester: an in-depth examination of art from 1940-1960. Will include discussion of background and context. Second semester: a continuation of detailed analysis of art from 1960 to the present.

437 Modern and Contemporary Art and Architecture of Latin America. Semester course; 3 lecture hours. 3 credits. A study of 19th and 20th century art in Latin America focusing on the major movements and artists of Mexico, the Caribbean, Central and South America.

438 The Roots of Modernism. Semester course, 3 lecture hours, 3 credits. This course focuses on the revolutionary period in art and society (1884-1930) which follows the transformation of Neo-classicism by J. L. David. The development of the Modern tradition: Realism, Impressionism, Post-impressionism, Cubism, Fauvism, Dada and Surrealism, is examined against the forces of the larger world in which it occurs. Prerequisite: ARH 103, 104 or AFO 105, 106, or by permission of the Instructor.

439 Studies in Twentieth Century Art. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected art and issues of the period. See *Schedule of Classes* for specific subject to be offered each semester.

440/AAS 440 Contemporary Art and Architecture of Africa. Semester course; 3 lecture hours. 3 credits. A study of impact on African art and architecture of Colonialism, urbanization, and modernization. Special emphasis is placed on the search for a new identity by contemporary African Artists.

441 Architecture of the United States. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An in-depth investigation of major architectural developments from the Colonial period to the present, including an analysis of European prototypes.

442 Architecture in Richmond. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. History and origins of Richmond area architecture.

443 Folk Art of the United States. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An examination of the development and history of three centuries of tradition in folk art applicable to the five major areas: painting, sculpture, furniture, decorated household objects, and architectural decoration.

444 Studies In the Art of the United States. Semester course; 3 lecture hours. 3 credits. May be repeated. An in depth examination of selected art and issues of the period. See *Schedule of Classes* for specific subject to be offered each semester.

445 The Art of India. Semester course; 3 lecture hours. 3 credits. Prerequisite: general background in art, history, or religion of the area. The Indus Valley civilization through Maurya, Sunga, Kushana, Andhra, Gupta, and Pallava periods.

447 The Art of Southeast Asia. Semester course; 3 lecture hours. 3 credits. Prerequisites: ARH 145, 146, or general background in the art, history, or religion of the area. The art of Burma, Malaya, Thailand, Cambodia, Indochina, and Indonesia.

449 Studies in Asian Art. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected art and issues of the period. See *Schedule of Classes* for specific subject to be offered each semester.

450 Art and Architecture of Mesoamerica. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art

history or permission of instructor. An in-depth study of the artistic traditions of Mesoamerica (i.e. Maya, Aztec, and Olmec).

451 Art and Architecture of Andean America. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An in-depth study of the Pre-Columbian art production of the Andean region (i.e. Chavin, Moche, and Inca art).

452 Studies in Pre-Columbian Art and Architecture. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of six credits. An in-depth examination of selected art and issues of the period (Ancient America). See *Schedule of Classes* for specific subject to be offered.

454 Studies In African and Oceanic Art. Semester course; 3 lecture hours. 3 credits. May be repeated to a maximum of six credits. An in-depth examination of selected art and issues of the period. See *Schedule of Classes* for specific subject to be offered each semester.

455 Aesthetics and Modern Theories of Art. Semester course; 3 lecture hours. 3 credits. An investigation of modern aesthetic theories and concepts in art with a foundation in pre modern aesthetics.

456 Ideas and Criticism in Art. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. An in depth examination of modern concepts in the literature of art criticism with particular emphasis on the principle writings of leading American critics.

457/WST 457 Women, Art and Society. Semester course; 3 lecture hours. 3 credits. A re-examination of a variety of issues concerning women, art and society: the position assigned women within the history of art as it relates to historical place and the aesthetic values of the canon, the gendering of style, patronage, audience, and gaze. Through a survey of images of and by women, as well as through an analysis of art historical and critical texts, this course addresses the question: "How are the processes of sexual differentiation played out across the representations of art and art history?"

459 Studies in Aesthetics, Theory, and Criticism of Art. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected topics. See *Schedule of Classes* for specific subject to be offered each semester.

469 Studies in Museum Methods. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. An in-depth examination of selected topics. See *Schedule of Classes* for specific subject to be offered each semester

470 History of Animated Feature Film. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An analysis of selected animated feature films, including animation combined with live action. Both American and foreign films will be considered.

471 Film Theory. Semester course; 3 lecture hours. 3 credits. Theories and criticism dealing with the medium, form, function, and psychology of film. Students will examine the medium through reading and discussion of such film theorists and aestheticians as Munsterberg, Eisenstein, Arnheim, Bazin, Kracauer, Burch, and Langer as well as through a comparison of film and the other arts.

472 History of Photography. Semester course; 3 lecture hours. 3 credits. Prerequisite: three hours of art history or permission of instructor. An investigation of the basic trends in the history of photography. This course will deal with the chronological development of the art, the role of the photographer, the properties of photography which make it unique, and those which ally it to the other visual arts.

474 Studies in Film. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth examination of selected topics. See *Schedule of Classes* for specific subject to be offered each semester.

489 Topics in Advanced Art History. Semester course; 3 lecture hours. 3 credits. May be repeated. An in-depth study of a selected topic in art history not included in the curriculum. See *Schedule of Classes* for specific topics to be offered each semester.

493 Museum Internship. Semester course; 9 to 18 studio hours. 3 to 6 credits. Course may be repeated with changing content to a maximum of 12 semester credits. Prerequisites: ARH 469 and permission of chairman of the art history department. Field work in a local or regional museum.

497 Directed Research Project. Semester course; 3 credits. Prerequisite: permission of instructor and department chairman. Advanced individual work on subject to be formulated in writing by student and instructor.

COURSES IN COMMUNICATION ARTS AND DESIGN (CDE)

191 Studio Topics in Communication Arts and Design. Semester course; 3-9 studio hours 1-3 credits. Open to non-majors. May be repeated with different topics to a maximum of 9 credits. Topical studio focusing on visual exploration and the creation of expressive imagery in conjunction with functional communications. See *Schedule of Classes* for specific topic to be offered.

201 Introduction to Typography. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: completion of Art Foundation Program. An introductory study of typography as a tool for visual communication. Not open to communication arts and design majors.

211 Typographics I. Semester course; 3 lecture and 3 studio hours 4 credits. An introduction to communication problem solving through the visual media of language. The fundamentals of typography and typographic design are explored in experimental and practical projects.

212 The Design Process. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 211. An introduction to communication design principles. The fundamentals of communication theory and the creation and manipulation of signs are explored in experimental and practical projects.

224 Introduction to Illustrative Drawing. Semester course; 3 lecture and 3 studio hours. 4 credits. An intermediate drawing course with emphasis on drawing methods and illustrative techniques to prepare the student for upper-level study in communication arts and design.

225 Visual Thinking. Semester course; 3 lecture and 3 studio

hours. 4 credits. An exploration of systems processes and media for expressing mental concepts in visual terms.

238 Computer Graphics I. Semester course; 3 lecture and 3 studio hours. 4 credits. An introduction to and exploration of the use of the computer as a tool and medium for visual communication and personal expression.

252 Twentieth Century Visual Communications I. Semester course; 3 lecture hours. 3 credits. An investigation of contemporary visual communications concepts, media, and images and their role in contemporary society.

253 Twentieth Century Visual Communications II. Semester course; 3 lecture hours. 3 credits. An historical overview of the development of twentieth century visual communications as specifically defined by technological advancements and media concerns.

291 Studio Topics in Communication Arts and Design. Semester course; 3-9 studio hours. 1-3 credits. Open only to majors in the School of the Arts. May be repeated with different topics to a maximum of 9 credits. Topical studio focusing on visual exploration and the creation of expressive imagery in conjunction with functional communications. See *Schedule of Classes* for specific topic to be offered.

301 Print Production. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 211. A study of the tools and processes used in preparing a design for reproduction.

302 Graphics Processes and Techniques. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 211. A workshop in graphics lab equipment and materials as design tools. Emphasis is on image creation and processing.

303 Two-Dimensional Comping. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 211. A technical workshop which explores the techniques, materials, and procedures of making comprehensives.

304 Sound Communication. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 233. A technical workshop in the basic theory and production of audio tapes.

305 Line Techniques for Illustration. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 224. A workshop exploring various line drawing techniques as used in illustration.

306 Anatomical Aspects of Illustration. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 224. An advanced investigation of human structure and motion as applied to illustration. In addition to assigned readings, students will execute a series of anatomical drawings.

308 Computer Techniques for Graphic Design. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 212. Must be taken concurrently with, or before CDE 311 and CDE 312. A workshop in microprocessor hardware operations and software procedures necessary for contemporary typography and graphic design practice.

309 Introduction to Video. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 238 or permission of instructor. A study of the processes and equipment necessary for producing and editing work with videotape.

311 Graphic Design I. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 212. Must be taken concurrently with, or after CDE 308. A course in designing visual communications exploring various design strategies, conceptual approaches, and form/content relationships. Projects stress theory, application, and the computer as a design process tool.

312 Typographics II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 212. Must be taken concurrently, or after CDE 308. An intermediate exploration of typography as an expressive and functional communication vehicle. Emphasis is placed on defining effective design criteria to meet the reader's needs and the communicator's intent, and the designer's formal sensibilities.

321 Illustration Media and Techniques I. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 224. A fundamental course exploring various traditional wet media techniques in depicting representational form in illustration.

322 Illustration Media and Techniques II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 224. A fundamental course exploring various mixed media techniques, including both two-dimensional and three-dimensional approaches to unusual and innovative solutions.

323 Figure in Illustration I. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 224. An introduction to the visual representation of the human form as it applies to illustration.

324 Figure in Illustration II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 224. An advanced course investigating visually expressive modification of the human form as it applies to illustration.

334 Electronic Animation I. Semester course; 3 lecture and 3 studio hours. 4 credits. An introduction to various video and electronic animation techniques.

336 Video I. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 309. A comprehensive course in video communication exploring conceptual approaches and form/content relationships. Projects stress theory and application.

338 Computer Graphics II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 238. Study of the computer and its potential for electronic image making. Emphasis is placed on form-content relationships and expressive sequences of images.

339 Media Presentation. Semester course; 3 lecture and 3 studio hours. 4 credits. An introduction to the synthesis of sound and visual imagery for creating effective media presentation.

341 Art Direction I. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 212. An introduction to the integrated activities of strategy, conceptual development, and design.

342 Art Direction II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 341. Concept, layout, and design of a corporate advertising campaign based on the evaluation of research, market analysis, and planning.

343 Advertising Concepts I. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 212. A course focusing on creative thinking and the development of concepts and ideas in problems of art direction.

344 Broadcast Art Direction. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 341. A course concentrating on both the concept and planning aspects of broadcast mediums.

351 Origins of Visual Communications. Semester course; 3 lecture hours. 3 credits. A history of visual communications and design from prehistoric times to the twentieth century.

352 Print Mediums. Semester course; 3 lecture hours. 3 credits. Prerequisite: Junior standing in the department. An overview of print production processes and techniques including electronic make-up, printing processes and production control and their relative merits as delivery mechanisms.

353 Electronic Mediums. Semester course; 3 lecture hours. 3 credits. Prerequisite: Junior standing in the department. An overview of electronic production processes and techniques. video and audio pre-production, production, editing and post-production, estimating, and production control.

354 Theoretical and Philosophical Aspects of Contemporary Communication Arts and Design. Semester course; 3 lecture hours. 3 credits. A study of current theoretical and philosophical issues having an impact on the understanding of communication arts and design.

355 Design Methods in Visual Communication. Semester course; 3 lecture hours. 3 credits. An in-depth investigation of the theoretical aspects of the design process within the context of designing effective visual communications.

356 Studio Management. Semester course; 3 lecture hours. 3 credits. A study of business and management factors that relate to creative design. Topics include marketing, structure and organization, financial factors, ethical and legal aspects, and management of design, illustration, photography studios.

391 Topics in Design. Semester course; variable credit, 1-3 credits per semester. May be repeated to a maximum of nine credits. Topical lectures in design issues and visual communications.

392 Research/Individual Study. Semester course; 1 to 2 lecture and 3 to 6 studio hours. 2 to 4 credits. The structuring, research, execution, and presentation of an independent project in visual communications under the direction of a faculty advisor. The student will be encouraged to become a self-generating problem seeker and solver with the ability to carry out self-stated goals. May be repeated for credit.

401 Electronic Pre-press. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 308. A study of electronic tools, processes, and techniques, their integration with traditional production methods, and their use in preparing design work for production.

403 Senior Studio. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: senior status in the Department of Communication Arts and Design. Critical analysis and development of the student portfolio with emphasis upon an assessment of personal philosophy and objectives.

407 Senior Portfolio. Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: Senior status, Advertising Art Direction Emphasis. A course oriented toward the creation of a professional corporate advertising portfolio and resume.

408 Multimedia Communication Systems. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 308 or CDE 309 or permission of instructor. Corequisite: CDE 437. A technical workshop that explores hardware, software, and interconnectivity as it relates to the creation of complex multimedia communication/information delivery systems.

409 Video Editing. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: CDE 336 or permission of instructor. Co-requisite: CDE 436. A technical workshop focusing on the operational skills necessary for working with time-coded footage, computer assisted controllers and digital image units.

411 Graphic Design II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311 and 312. An advanced course in visual communications and computer graphics exploring multicomponent graphic design problems that convey complex information.

412 Typographics III. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311 and 312. Advanced study in typographic design which focuses on the development of comprehensive and functional approaches to solving complex typographic problems.

413 Package Design. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311 and 312. A workshop in three-dimensional structures and two-dimensional graphics applied to problems of package design.

414 Exhibition and Environmental Graphic Design. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 411 and 412. Study of the presentation of information in large-scale, three-dimensional formats. Exploration of exhibition and environmental design, including developing imagery and typography, understanding the use of "wayfinding" and human factors, communicating of programmed content.

415 Systems in Design. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311 and 312. An investigation of the application of systems to various aspects of the design process in the field of visual communications.

416 Motivational Graphics. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311 and 312. Study in the development of visual communication performance criteria and practical strategies which influence audience attitudes and behavior.

417 Interdisciplinary Team Design. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311 and 312. Advanced projects in visual communication in which student design teams solve complex problems requiring collaboration.

418 Design Center. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311, 312, and portfolio review by faculty. Course may be repeated for credit. A professional studio to give students practical experience working with faculty on design projects for university clients and nonprofit community organizations.

419 Electronic Imaging. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 311, CDE 321, or CDE 338. An advanced exploration into the use of the computer and other electronic peripheral devices in the creation of expressive imagery and functional communications.

421 Illustration for Business Communications. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 324 and 325. An advanced course developing illustrations appropriate for business communications.

423 Editorial Illustration. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 321 and 311. An advanced course developing the student's skill at interpreting an author's manuscript. The major emphasis is given to illustrations appearing in books and magazines.

424 Visual Journalism in Illustration. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: CDE 321 and 324. An advanced course developing the student's skill in commenting upon contemporary issues and themes independently of existing manuscripts.

425 Experimental Illustration. Semester course, 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 321. An advanced course encouraging the student to discover unusual techniques and to develop innovative solutions. The course stresses experimentation with novel media and surfaces.

427 Imagery for Children. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 321. An advanced course developing illustrations intended for the preschool and elementary child.

429 Personal Style and Directions in Illustration. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: permission of faculty. An advanced course to refine, strengthen, and focus the visual style and concepts inherent within the student. Emphasis will be upon developing personal insights, viewpoints, and a conceptual basis for illustrative form.

434 Electronic Animation II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 334. Students will work with advanced techniques and have the opportunity to design and produce their own project.

436 Video II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 336. An advanced exploration of video as an expressive and functional communication vehicle.

437 Interactive Video. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 308 or CDE 309 and senior standing. corequisite: CDE 408. An advanced course investigating interactive video technology and its application to communication design problems.

438 Computer Graphics III. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 338. Advance study of time-dependent imagery generated with the computer. Emphasis is on sequencing and transitions in creating visual communications.

439 Media Synthesis. Semester course; 3 lecture and 3 studio hours. 4 credits. An in-depth exploration of complex mixed-media presentations, installations, performance and experiences.

441 Art Direction III. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 342. An advanced exploration of art direction based on positioning of the corporation that carries over several different channels of communication.

442 Art Direction IV. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 342. An advanced course in art direction including the development of integrated business advertising plans.

443 Advertising Concepts II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 343. An advanced course in art direction focusing on the successful integration of strategy and creativity.

444 Advertising for Non-Profit Organizations. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: CDE 342. Advanced concept, layout, and design under the delimitation of precise environmental or social agenda and limited budgets.

451 Management Aspects of Art Direction. Semester course; 3 lecture hours. 3 credits. Prerequisite: Junior standing in the department. An in-depth analysis of agency management, operations, and the function of art direction.

491 Studio Topics in Communication Arts and Design. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: Completion of junior-level study and permission of instructor. Topical studio focusing on research and experimentation in specialized visual communication media. May be repeated for a maximum of 8 credits.

492 Communication Arts and Design Internship. Semester course; 2-4 credits. Prerequisites: Completion of junior year and 3.0 GPA in major. Permission of intern coordinator and chairman required. May be repeated to a maximum of 4 credits. CDE majors only. Supervised pragmatic work experiences. Training is provided under the direction and supervision of qualified professional practitioners.

COURSES IN CRAFTS (CRA)

201-202 Metalsmithing. Continuous course; 2 lecture and 6 studio hours. 4-4 credits. Investigation of metal forming processes such as forging, raising, and construction. Research in contemporary and historical metal forms.

211-212 Jewelry. Continuous course; 2 lecture and 6 studio hours. 4-4 credits. Investigation of jewelry making processes such as construction, repousse/chasing, surface embellishment, stone setting, and casting. Research in contemporary and historical jewelry forms.

221 Woodworking Techniques. Semester course; 2 lecture and 6 studio hours. 4 credits. May be repeated for maximum of 8 credits with permission of chair. Introduction to techniques of woodworking. Includes the use of hand tools; hand and machine joinery; shaping and carving; finishing; and techniques involving jigs and fixtures. Students participate in studio work.

241 Ceramics: Handbuilding. Semester course; 2 lecture and 6 studio hours. 4 credits. Basic construction techniques for fabricating ceramic objects. Includes mold-making, slip casting, and press-molding as well as the use and application

of low-fire slips, underglazes, glazes, and the firing of these objects in kilns.

242 Ceramics: Wheelthrowing. Semester course; 2 lecture and 6 studio hours. 4 credits. Introduction to the use of the potter's wheel. The objective is to develop the skill, dexterity, and coordination required to use the wheel as one tool of the ceramic forming process. Includes the properties and uses of high-fire clays and glazes. Students participate in kiln firings.

251, 252 Introduction to Glassworking. Semester courses; 2 lecture and 6 studio hours. 4,4 credits. An investigation of techniques, tools, equipment, materials involved in hot and cold glassworking processes. First semester covers basic molten glass furnace techniques such as blowing and casting, mold-making, and Pate de Verre (fusing crushed glass in a mold) Second semester explores colored glass fusing, use of enamels and glazes, mold-making for slumped forms, and stained glass.

261, 262 Beginning Textiles. Semester courses; 2 lecture and 6 studio hours. 4,4 credits. In the first semester, techniques of tapestry, weaving, spinning, chemical dyeing, feltmaking, and basketry are covered. Second semester focuses on appliqué, papermaking, trapunto, embroidery, fabric collage, and piecing and quilting. Materials, tools, history, and modern application of each technique will be examined through lectures, demonstrations, and studio work.

282 Orientation to Crafts: Semester course; 1 lecture hour. 1 credit. Discussion of a variety of approaches to study within the craft media, stressing elements of creative activity which are basic to any involvement in making visually-oriented objects.

301, 302/401, 402 Advanced Metalsmithing or Jewelry. Semester courses; 2 lecture and 6 or 12 studio hours. 4 or 6 credits per semester. Prerequisite: CRA201-202 or 211-212. This course offers opportunity for specialization and development of techniques.

320 Furniture Design. Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: CRA 221. May be repeated for maximum of 8 credits. The course explores the development of ideas through drawings, mock-ups and the planning and execution of a small furniture object utilizing basic and specialized woodworking techniques.

321,322/421,422 Advanced Woodworking and Furniture Design. Semester courses; 2 lecture and 6 or 12 studio hours. 4 or 6 credits per semester. Prerequisite: CRA 221 and 320. Advanced design and construction investigation of varied materials, and machine processes.

341, 342/441, 442 Advanced Ceramics. Semester courses; 2 lecture and 6 or 12 studio hours. 4 or 6 credits per semester. Prerequisites: CRA 241 and 242. Advanced problems in the design and production of functional and nonfunctional ceramic products.

351, 352/451, 452 Glassworking. Semester courses; 2 lecture and 6 or 12 studio hours. 4 or 6 credits per semester. Prerequisite: CRA 251 and 252. Opportunity for further investigation and specialization in glassworking design and technical mastery.

361, 362/461, 462 Advanced Textiles. Semester courses; 2 lecture and 6 or 12 studio hours. 4 or 6 credits per semester.

Prerequisites: CRA 261 and 262 or permission of instructor. Emphasis on development and concentrated studio work in contemporary and traditional loom techniques along with continuing individual pursuit of the other textile techniques.

363-364 Fabric Design. Continuous course; 2 lecture and 6 studio hours. 4-4 credits. Exploration of pattern as a design concept and the development of technical skills for silk screening on fabric.

367, 368 Tapestry. Semester courses; 2 lecture and 6 studio hours. 4, 4 credits. Origins of tapestry forms and execution of techniques.

369 Ancient Peruvian Textile Techniques. Semester course; 2 lecture and 6 or 12 studio hours 4 credits. An examination of textile techniques perfected in ancient Peru and their application to contemporary fiber work. Pre-Columbian cultures will be studied to understand textile development. Course includes student duplication of techniques to better understand "structure" and the production of a personal object(s) utilizing these techniques and information.

409 Summer Metal and Jewelry Workshop. Semester course; variable credit, 1, 2, 3 credits per course. 3, 6, 9 studio hours. Prerequisite: permission of instructor. Exploration of specific metal processes and techniques, such as fabrication, forging, forming, casting, enamelling, and electroforming. May be repeated for credit. See *Schedule of Classes* for specific course offerings.

429 Summer Woodworking Workshop. Semester course; variable credit, 1, 2, 3 credits per course. 3, 6, 9 studio hours. Prerequisite: permission of instructor. Exploration of specific woodworking processes and techniques, such as joinery methods, laminate bending, steambending, etc. May be repeated for credit. See *Schedule of Classes* for specific course offerings.

445 Technological Developments in Ceramics. Semester course; 3 lecture hours. 3 credits. An examination of significant developments in the design and technology of ceramics from the prehistoric period to the present. The historical outline will include ceramics of Europe, the Orient, and the Americas. Illustrated lectures.

446 Glaze Technology. Semester course; 3 lecture hours. 3 credits. Development, formulation, and application of ceramic glazes. The technology includes high, medium, and low firing ranges as well as color and analysis of glaze materials.

447 Ceramic Technology: Clay, Claybodies, and Slips. Semester course; 3 lecture hours. 3 credits. Study of clay from geological origins to practical application. Course includes development and application of clay bodies in different firing ranges, englobes, and slips.

448, 449/548, 549 Ceramic Workshop. Semester course; 9 studio hours. 3, 3 credits. Exploration in specific ceramic techniques such as raku, salt glaze, primitive firing, low temperature glazing.

455, 456 Survey of Glass. Semester courses; 3 lecture hours. 3, 3 credits. An examination of significant technological developments in glass from the past to present. First semester:

ancient to sixteenth century. Second semester: seventeenth to contemporary. Illustrated lectures.

459 Summer Glassworking Workshop. Semester course; variable credit, 1,2,3 credits per course.3,6,9 studio hours. Prerequisite: permission of instructor. Exploration of specific glassworking processes, such as forming molten glass, casting, and coldworking techniques. May be repeated for credit. See *Schedule of Classes* for specific course offerings.

463, 464 Fabric Design. Semester courses; 2 lecture and 6 studio hours. 4,4 credits. Development of a personal direction and examination of direct color application techniques such as batik, airbrush, and fabric painting.

469 Summer Textile Workshop. Semester course; variable credit, 1,2,3 credits per course.3,6,9 studio hours. Prerequisite: permission of instructor. Exploration of specific textile techniques and processes, such as multi-harness weaving, pulled warp, special dye processes, and designing for printed fabrics. May be repeated for credit. See *Schedule of Classes* for specific course offerings.

482 Senior Seminar. Semester course; 2 lecture hours. 2 credits. Resume and portfolio preparation, promotion of creative work and selling, exhibition opportunities and process, career options, setting up a studio, and other subjects appropriate to the artist/craftsperson.

491 Topics in Crafts. Semester course; 1 -3 credits. May be repeated for a maximum of nine credits. Prerequisite: permission of instructor. A seminar or workshop on a selected issue or topic in the field of crafts. See *Schedule of Classes* for specific topic(s) to be offered each semester.

493, 494 Fieldwork. Semester courses; 6, 6 credits. Prerequisite: senior standing in the major and permission of chair. Opportunity for practical work experiences. Senior students are placed in professional organizations that offer supervised work or research experience appropriate to their major interests. Participation requires the approval of both the department chair and field supervisor. Students must work 270 clock hours and maintain a daily log of their experiences. Field supervisor will plan student's work and evaluate performance.

COURSES IN DANCE/CHOREOGRAPHY (DAN)

101-102 Modern Dance Technique I. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Dance major or permission of chair. Co-requisite: DAN L101-L102. Beginning study and training in principles of modern dance technique. Emphasis is on body alignment, spatial patterning, flexibility, strength, and kinesthetic awareness.

L101-L102 Modern Dance Technique I Laboratory. Continuous course; 3 studio hours. 1-1 credit. An extension of DAN 101-102. Required of dance majors, concurrent with DAN 101-102.

105-106 Improvisation. Continuous course; 1 lecture and 2 studio hours.2-2 credits. An exploration of spontaneous body movement with the purpose of increasing body awareness, movement invention, and movement creativity.

107 Contemporary Dance Perspectives. Semester course; 2 lecture hours. 2 credits. Prerequisites: Dance major or permission of chair. An introduction and orientation to various aspects of contemporary dance as an art form. This course will include lecture, discussion, viewing of videos and concert attendance.

109, 110/209, 210/309, 310/409, 410 Dance Workshop. Semester courses; 2 studio hours. 1 credit. Prerequisite: dance major or permission of instructor. Group exploration of techniques related to all areas of dance.

111-112 Ballet Technique I. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Beginning study of the principles of ballet technique. Emphasis upon vocabulary terms, body alignment, spatial patterning, flexibility, strength, and kinesthetic awareness to move the body in the ballet style.

113 Ballet Technique I. Semester course; 1 lecture and 2 studio hours. 2 credits. Prerequisite: DAN 111 - 112 or permission of instructor. A continuation of study of ballet technique at the beginning level. Emphasis upon a stronger, more exact performance of the basic ballet steps, focusing on correct alignment, development of the body, and rhythmic and kinesthetic awareness. This course may be repeated for a maximum of 4 credits on the recommendation of the chairman.

114, 214, 314, 414 Summer Dance Workshops. Semester courses; variable credit. 1, 3 credits per semester. Flexible course offerings in dance technique, improvisation, composition, rhythmic training, and repertory. May be repeated for credit. See *Schedule of Classes* for specific course offerings.

121, 122/African-American Studies 121, 122 Tap Technique I. Semester courses; 1 lecture and 2 studio hours. 2, 2 credits. Beginning study and training in the principles of tap technique with emphasis upon style, body alignment, spatial patterning, flexibility, strength, and kinesthetic awareness to move the body in the style required for tap dancing.

126, 127/African-American Studies 126, 127 African-Caribbean Dance I. Semester courses; 1 lecture and 2 studio hours. 2, 2 credits. Dance based on the movements and rhythms of Africa and the Caribbean.

131 Folk Dance. Semester course; 2 studio hours. 1 credit. A study of folk dances indigenous to European and early American culture, including the learning and performing of the steps accompanied by their traditional music and a discussion of the culture from which they sprang. Also stressed is the knowledge of how to transcribe written versions of these dances and how to set them to their appropriate music.

141, 142 Ballroom Dancing. Semester courses; 2 studio hours. 1, 1 credits. A study of basic ballroom dance steps and practice in their performance.

151/152/Afro-American Studies 151, 152 Jazz Dance Technique I. Semester courses; 1 lecture and 2 studio hours. 2, 2 credits. Prerequisite: DAN 102 or permission of instructor. Study and training in the principles and concepts of jazz technique. Emphasis on body alignment, flexibility, balance, rhythmic awareness, and mastery of isolated movements of body parts. The course includes the exploration of the relationship between jazz music and jazz dance.

161, 162/261, 262/361, 362/461, 462 Rehearsal and Performance. Semester courses; hours arranged. 1 to 3 credits. Open to nonmajors by permission of instructor. Dance rehearsals and production work for a major dance concert. Each student is expected to devote a minimum of 50 hours per credit per semester to receive credit.

171, 172 T'ai Chi. Semester courses; 1 lecture and 2 studio hours. 2 credits. Study and practice of T'ai Chi, a Chinese exercise form, which is designed to bring one to full potential through balancing, aligning, and breathing exercises. The short Yang form, based on Taoist principles, strengthens the body while allowing for deep relaxation to take place. Application of T'ai Chi to creative dance technique is explored as a springboard for improvisation.

181-182 Movement for Actors I. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Prerequisite: Theatre major or permission of instructor. Basic movement training for the actor with emphasis on developing body awareness, movement range and physical, expressive clarity.

183-184 Introduction to Modern Dance Technique. Semester course; 1 lecture and 2 studio hours. 2, 2 credits. Experiential introduction to basic movement principles, body alignment and the elements of modern dance. For non-dance majors.

201-202 Modern Dance Technique II. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Prerequisite: DAN 102 or permission of instructor. Corequisite: DAN L201 L202. Further study and training in the principles of modern dance technique on a low intermediate level with the expectation of better coordination of all elements into a sense of dance. This course may be repeated for a maximum of 8 credits on the recommendation of the chairman.

L201-L202 Modern Dance Technique II Laboratory. Continuous course; 3 studio hours. 1 - 1 credit. Prerequisite: DAN 102 and DAN L 102 or permission of instructor. Corequisite: DAN 201-202. An extension of DAN 201-202. This course may be repeated for a maximum of 4 credits on the recommendation of the chairman.

205-206 Composition. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. Prerequisite: DAN 105-106 Improvisation and Music Appreciation MHT 243, or permission of instructor. An introduction to the basic elements of choreography.

211-212 Ballet Technique II. Continuous course, 1 lecture and 2 studio hours. 2-2 credits. Prerequisite: DAN 112 or permission of instructor. Further training and practice in ballet technique. Emphasis upon a stronger, more exact performance of the ballet steps, focusing still on correct alignment, development of the body, and kinesthetic awareness. This course may be repeated for a maximum of 8 credits on the recommendation of the chairman.

221, 222 Tap Technique II. Semester courses, 1 lecture and 2 studio hours. 2, 2 credits. Prerequisite: audition or permission of instructor. Further study and training in the principles of tap technique.

226 African-American Studies 226 African-Caribbean II. Semester course; 1 lecture and 2 studio hours. 2 credits.

Prerequisite: DAN 126, 127, audition, or permission of instructor. Further training and study in dances based on the movements and rhythms of Africa and the Caribbean.

232 Music for Dancers. Semester course; 3 lecture hours, 3 semester credits. Prerequisites: MHT 243 and DAN 101 or permission of instructor. An examination of the various traditional and nontraditional concepts which the dancer uses in collaboration with music. Course includes lecture, reading, listening, and movement assignments. Focus will be on the dancer's intelligent and justifiable choice of music through movement analysis.

243 Dynamic Alignment. Semester course; 1 lecture and 2 studio hours. 2 credits. Study of the basic principles of mechanical balance and postural alignment. Practice in the application of the major theories of alignment and techniques of realignment. Corrective exercises, breathing techniques, relaxation, guided imagery, self-awareness exercises, and Body Image work will be learned and practiced.

251, 252 Jazz Technique II. 1 lecture and 2 studio hours. 2, 2 credits. Prerequisites: DAN 151, 152 or permission of instructor. An in-depth study of movement styles and qualities in jazz dance. Advanced work on integrating music and movement with focus upon chronology of jazz music and corresponding dance forms.

260 Dance Production Workshop. Semester course; 2 lecture hours. 2 credits. Prerequisite: Dance major or permission of instructor. An introduction to the basic principles of dance lighting and technical theatre through lecture, practical demonstration and discussion.

271, 272 T'ai Chi II. Semester course; 1 lecture and 2 studio hours. 2 credits. Prerequisite: DAN 171 or 172, or permission of instructor. Extended training and in-depth application of T'ai Chi with special attention to development of improvisational form by each individual student.

281-282 Movement for Actors II. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Prerequisite: DAN 181-182. Further movement study and training for the actor with emphasis on body awareness, movement range, skill and style, and physical, expressive clarity.

301-302 Modern Dance Technique III. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Prerequisite: DAN 202 or permission of instructor. Corequisite: DAN L301 L302. High intermediate study and training in principles of modern dance technique. Movement studies demanding greater strength and flexibility. Spatial patterns demanding increased coordination, kinesthetic awareness, and aesthetic sensitivity. This course may be repeated for a maximum of eight credits on the recommendation of the chairman.

L301-L302 Modern Dance Technique III Laboratory. Continuous course; 3 studio hours. 1-1 credit. Prerequisite: DAN 202 and DAN L202 or permission of the instructor. Corequisite: DAN 301-302. An extension of DAN 301-302. This course may be repeated for a maximum of 4 credits on the recommendation of the chairman.

303/304 Choreography/Performance. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. Prerequisite: Composition DAN 205-206 and Music for Dancers DAN 232, or permission of instructor. The craft of choreography and

performing techniques are explored extensively as students develop solo and group pieces while rotating in the roles of choreographer/director and performer.

307-308 Dance History. Continuous course; 3 lecture hours. 3-3 credits. A study and analysis of the history of dance including motivations, philosophies, and styles as well as specific dancers in their relationships with one another and to history.

311-312 Ballet Technique III. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Prerequisite: DAN 212 or permission of instructor. Continued development in the skills and aesthetics of ballet. This course may be repeated for a maximum of 12 credits on the recommendation of the chairman.

313 Dance in Non-Western Cultures. Semester course; 2 lecture and 2 studio hours. 3 credits. Students learn dance styles of non-western countries as they study cultural traditions and how they are expressed in movement. No dance experience necessary.

315, 316 Contact Improvisation. Semester course; 1 lecture and 2 studio hours. 2 credits. Prerequisite: DAN 101, 102 or permission of instructor. Exploration of the technique of partnering and the exchange of weight in an improvisational format. Emphasis is on a shared process that explores gravity, lifting, and the give and take of body weight.

319, 320 Video/Choreography Workshop. Semester course; 2 lecture and 2 studio hours. 3,3 credits. Prerequisite: experience in movement, performance, and/or video/film, or permission of instructor. Students gain practical skills as well as basic theoretical foundation in the principles of working with video and choreography.

343 Body Imagery. Semester course; 2 lecture and 2 studio hours. 3 credits. Prerequisite: permission of instructor. The study of body/mind imagery as a source of exploration that includes movement qualities, dynamics, and vocabularies. Students gain insight into their inner resources as a base for outer expression.

371, 372 Repertory. Semester courses; 2 lecture and 2 studio hours. 3,3 credits. Prerequisites: DAN 101-102 and permission of instructor. Study and rehearsal of roles in choreography produced by the faculty and/or guest artists, with the objective of achieving a performance level.

401-402 Modern Dance Technique IV. Continuous course; 1 lecture and 2 studio hours. 2-2 credits. Prerequisite: DAN 302 or permission of instructor. Corequisite: DAN L401 L402. Advanced study and training in modern dance technique. This course may be repeated for a maximum of 12 credits on the recommendation of the chairman.

L401-L402 Modern Dance Technique IV Laboratory. Continuous course; 3 studio hours. 1-1 credit. Prerequisite: DAN 302 and L302 or permission of the instructor. Corequisite: DAN 401-402. An extension of DAN 401-402. This course may be repeated for a maximum of 4 credits on the recommendation of the chairman.

407 The Dancer as Teacher. Semester course; 2 lecture and 2 studio hours. 3 credits. Prerequisite: permission of instructor. The student learns to analyze and communicate move-

ment in a variety of teaching situations. The student will have an opportunity to observe different teaching techniques and to practically apply learned teaching concepts and theories.

450 Professional Project. Semester course; 3-9 credits. An individualized program in research and/or practicum within a professionally-oriented organization subject to approval of the department faculty. May be repeated for a maximum of 12 credits.

451 Careers in Dance. Semester course; 3 lecture hours. 3 credits. Realistic aspects of the dance profession, as performer, teacher, and researcher. student's learning experience in a final project which enhances and challenges the student in both areas of performance and choreography. The project must attain public performance status.

490 Senior Project. Semester course; 3 lecture hours. 3 credits. Prerequisite: DAN 303-304 and approval of the chair. The culmination of the student's learning experience in a final project which enhances and challenges the student in both areas of performance and choreography. The project must attain public performance status.

491 Topics in Dance. Semester course; 1-4 credits. Prerequisite: Permission of instructor. A seminar or workshop on a selected issue or topic in the field of dance. See *Schedule of Classes* for specific topic(s) to be offered each semester. May be repeated for a total of 8 credits.

COURSES IN FASHION (FDE)

NOTE: Students must complete all 100- and 200-level course requirements before they can advance to 300- and 400-level classes. Courses must be taken in the order prescribed by the department.

131-132 Drawing Techniques for Fashion Merchandising. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. An introductory course to develop drawing skills that will be used in the fashion industry. Emphasis will be on drawing techniques used to create the fashion figure.

190 Introduction to the Apparel Industry. Semester course; 3 lecture hours. 3 credits. A survey of the apparel industry covering the role of the designer and the various stages of production of men's, women's and children's apparel.

201-202 Garment Construction for the Professional. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. The basic principles involved in garment construction with emphasis on professional design-room practices in sewing, pressing, and finishing of garments. Knowledge of basic sewing skills is advisable.

205-206 Patternmaking. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Basic principles of patternmaking, developing various styles from master pattern, and creating designs to be constructed in muslin.

207-208 Fashion Drawing I. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Basic drawing of the fashion figure. An anatomical study using various media.

210 Visual Merchandising. Semester course; 3 lecture hours. 3 credits. Theory and practical application of visual merchandising

techniques in the fashion industry. Development of design concepts, fixuring, layout and presentation for retail, manufacturing, and special events. Use of computer-aided design.

211-212 Garment Construction. Semester courses; 1 lecture and 2 studio hours. 2, 2 credits. Students are exposed to basic sewing with emphasis on detailed construction, basic fitting, and pressing techniques. Simple garments will be constructed from commercial patterns. Not open to fashion design majors.

213-214 Design Theory. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Basic principles of design: line, color, and texture are employed to develop styles in two dimensional form for specific markets within the garment industry. Exposure to various sources for design inspiration will be encouraged.

215-216 Draping. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Basic principles of draping muslin on the dress form, the three-dimensional technique of making patterns.

218 Fashion Ad Art I. Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: Completion of Art Foundation Program. Introduces drawing formulas and techniques used to create the fashion figures (men, women and children) according to industry standards and guidelines. Work in various black and white media.

219 Fashion Ad Art II. Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: CDE 201 and FDE 218. Combines information and skills learned in FDE 218 and CDE 201 to explore fundamental design problems involving type and fashion imagery. Work with color and explore graphic techniques and processes.

231-232 Fashion Model Life Drawing I. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Prerequisite: Art Foundation Program. Introduction to the interpretation of the fashion figure from the live model.

240 Introduction to Fashion Merchandising. Semester course; 3 lecture hours. 3 credits. An analysis of the retail environment exploring store characteristics, merchandising practices, and buying theories.

243 Supervision and Management. Semester course; 3 lecture hours. 3 credits. The study of human relations as it applies to the fashion industry. Emphasis is placed on basic leadership skills to effectively supervise people from a variety of cultures. Topics include team building, negotiation, time and stress management, and communication.

290 Textiles for the Fashion Industry. Semester course; 2 lecture hours and 1 laboratory hour. 3 credits. This course is designed to develop an understanding of the factors which influence the tactile behaviors of fabrics during garment design, manufacture and wear. Apparel fiber construction, finish and properties both natural and man-made will be analyzed.

301-302 Advanced Draping I. Continuous course; 1 lecture and 6 studio hours. 3-3 credits. Prerequisites: FDE 202, 206, 208, 214, and 216. Corequisite: 303-304. Advanced methods of draping on the dress form, development of designs from

sketches, and the creation of original designs. Frequent critique of student designs.

303-304 Advanced Design I. Continuous course; 2 lecture hours. 2-2 credits. Prerequisite: junior standing with completion of all sophomore FDE studio requirements. Development of fashion designs related to the apparel industry. Weekly assignments of original ideas are presented in 2D sketches for discussion and critique. Development of a collection is analyzed. Extensive research in design and also fabrication of design(s) will be stressed. Classroom participation is imperative.

305-306 Advanced Patternmaking. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Prerequisite: FDE 202 and 206. Methods of developing and grading professional patterns. Production techniques used in the garment industry will include layout, marking, cutting, and construction of designs.

313-314 Fashion Drawing II. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Prerequisite: FDE 208. Advanced drawing and rendering techniques of apparel on the fashion figure.

319 Twentieth Century Fashions. Semester course; 3 lecture hours. 3 credits. An in-depth study of twentieth century fashions from the historical and socioeconomic point of view. An analysis of current trends.

321-322 Fashion Illustration I. Continuous course; 2 lecture and 3 studio hours. 3-3 credits. Prerequisite: FDE 219. Students concentrate on accurately drawing the fashion figure: proportions, color, tone, texture, and pattern of fabric using gouache, mixed media, brush and ink wash techniques.

323-324 Fashion Ad Design. Continuous course; 2 lecture and 6 studio hours. 4-4 credits. Prerequisites: FDE 219 and CDE 201. Composition of fashion figures and related merchandise (accessories, hard-line goods, etc.) in layout form. Advertising campaigns, promotional layouts and related ad design with respect to the design and reproduction in various types of publications.

331-332 Fashion Model Life Drawing II. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Prerequisites: FDE 219 and 232 or equivalent. A continuation of FDE 232. A progression from realistic drawing of the figure to fashion proportions of the figure as used in the industry. Drawing from live models will be used in most studio classes.

340 Computer Techniques for Fashion Art and Advertising. Semester course; 1 lecture and 3 studio hours. 2 credits. Introduction to the computer and its use as a tool and medium in the design and production of materials for fashion advertising.

341 Merchandise Planning and Control. Semester course; 3 lecture hours. 3 credits. Theory and mathematical application of the major elements of retail buying and merchandising. Discussion covers planning and control of inventory, profit analysis, merchandise pricing, and purchase negotiation.

342 Retail Buying Simulation. Semester course; 3 lecture hours. 3 credits. Prerequisite: FDE 341. Practical application of retail buying skills in relation to the calculations for a six *month buying plan* for a department within a department

store. The simulation includes projection of sales, stock levels, markdowns, purchases, gross margin, markup, etc.

343 Fashion Forecasting. Semester course; 3 lecture hours. 3 credits. Using basic principles to identify, track and analyze current trends, students will develop a fashion forecast. Demographic, economic, social, and historical forces of behavior will be evaluated.

350 Fashion Promotion. Semester course; 3 lecture hours. 3 credits. Prerequisite: Junior standing. Through lecture and field experience, students are exposed to technical and creative aspects of fashion promotion and public relations. A variety of media is utilized. Students may be required to spend time outside the classroom on promotional activities.

360 Importing and Exporting Fashion. Semester course; 3 lecture hours. 3 credits. Prerequisites FDE 190 and FDE 240. An overview and introduction to import/export theory, government regulations and global sourcing. Students will gain insight of the dynamics and cultures of the international fashion marketplace.

391 Fashion Workshop. Semester course; variable credits 12 per semester; may be repeated for maximum total of 6 credits. A topical workshop offered in various areas of fashion not included in the regular curriculum. See *Schedule of Classes* for particular area to be covered each semester.

401-402 Advanced Draping II. Continuous course; 2 lecture and 6 studio hours. 4-4 credits. Prerequisites: FDE 302, 304, 306, and 314. Corequisites: 413-414. Advanced methods and techniques for the designer of haute couture. Individual creativity and uniqueness of style are encouraged. Frequent critique of student designs.

403-404 Fashion Drawing III. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Prerequisite: FDE 314. First semester: emphasis on a variety of media and rendering techniques to communicate students' designs. Second semester: development of a portfolio.

405 Tailoring I. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: FDE 202 or equivalent. Construction techniques unique to tailoring.

413-414 Advanced Design II. Continuous course; 2 lecture hours. 2-2 credits. Prerequisite: senior standing with completion of all junior FDE studio requirements. Development of fashion design related to the apparel industry. Weekly assignments of original ideas are presented in 2D sketches for discussion and critique. Extensive research and classroom participation are imperative.

421-422 Portfolio Development. Continuous course; 2 lecture and 6 studio hours. 4-4 credits. Prerequisites: FDE 322. Students work in a variety of media and rendering techniques to develop an individual style for inclusion in their portfolios.

423-424 Fashion Advertising Techniques. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. An in-depth analysis of the diverse techniques used in the field.

431-432 Fashion Model Drawing III. Continuous course; 1 lecture and 3 studio hours. 2-2 credits. Prerequisite: FDE 332 or equivalent. A continuation of FDE 332 with emphasis on developing individual style.

443 Supervision and Management in Fashion Merchandising. Semester course; 3 lecture hours. 3 credits. This course will develop leadership skills needed by first-line supervisors. The study of human relations in the management hierarchy of the fashion industry will be emphasized.

445 Advanced Application In Store Development. Semester course; 3 lecture hours. 3 credits. Prerequisites: FDE 341. Studies operational functions as related to the objective and decision making procedures inherent in successful small business retailing. Quantitative strategies will be applied as students develop a model plan for a retail business.

490 Fashion Seminar. 2 lecture hours. 2 credits. A professional seminar for senior fashion majors. Lectures will cover career opportunities, job preparation, and other topics according to the needs of the class.

493 Fashion Internship. 1-3 credits. Open to junior and senior level fashion majors only. A practicum in which students apply on-the-job the formal classroom and studio training they have received in their option (design, illustration, merchandising) on campus. It may be a single internship for three credits or several (maximum three) totaling three credits.

COURSES IN INTERIOR DESIGN (IDE)

103-104 Introductory Studio Course. Continuous course; 1 lecture and 2 laboratory hours. 2-2 credits. A practical course in which the student becomes familiar with fundamentals of interior design through work with floor plans, furniture selection and arrangement, floor and wall composition, color harmony, wall paper, and other aspects of design. Not open to interior design majors. Offered evenings only.

201 Interior Design Studio I. Semester course; 9 studio hours. 3 credits. Identification and applications of fundamental interior design issues through applied projects: problem definition and expansion, analysis, design processes, behavior and perception. Interior design majors only.

202 Interior Design Studio II. Semester course; 9 studio hours. 3 credits. Prerequisites: IDE201 and IDE221. Discussion and application of design theories and techniques with emphasis on interior design through applied projects: design processes and procedures, spatial and functional analysis and design, applied human factors, behavior and perception, the selection of materials and furnishings. Interior design majors only.

211 Introduction to Interior Design I. Semester course; 3 lecture hours. 3 credits. Contemporary theory and technique in interior design: manipulation of space, form, and light, behavior, anthropometrics, ergonomics.

212 Introduction to Interior Design II. Semester course; 3 lecture hours. 3 credits. Contemporary theory and technique in interior design: research methods and programming.

221-222 Interior Design Graphics. Continuous course; 1 lecture and 6 studio hours. 3-3 credits. Introduction to the various presentation media and techniques using the drawing board and the computer to provide basic communication skills such as drafting, rendering, perspective drawing, layout organizations, and model making for professional graphic presentations.

251 Design in Historic Interiors and Architecture I. Semester course; 3 lecture hours. 3 credits. Prerequisites: AFO 105-106 or ARH 103, 104. A survey of the major styles in interior and exterior architecture and furnishings from antiquity through the Baroque Period.

252 Design in Historic Interiors and Architecture II. Semester course; 3 lecture hours. 3 credits. Prerequisites: AFO 105-106 or ARH 103, 104. A survey of the major styles in interior and exterior architecture and furnishings from the Rococo to the turn of the twentieth century.

301 Interior Design Studio: Retail and Exhibition Design. Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisites: IDE 202, IDE 212, and IDE 222. Design is emphasized within retail and exhibition interior design. Interior design majors only.

302 Interior Design Studio: Office and Institutional Design. Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisites: IDE 202, IDE 212, and IDE 222. Design is emphasized within office and institutional environments. Interior design majors only.

303 Interior Design Studio: Hospitality and Public Spaces. Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisites: IDE 202, IDE 212, and IDE 222. Design is emphasized in hospitality and public space interior design. Interior design majors only.

321 Advanced Interior Design Graphics I. Semester course; 1 lecture and 6 studio hours. 3 credits. Prerequisites: IDE 202 and 222. Study of advanced interior design graphic communication skills, including working drawings and interior details.

322 Advanced Interior Graphics II. Semester course; 1 lecture and 6 studio hours. 3 credits. Prerequisites: IDE 202 and 222. Study of advanced interior design graphic communication skills including complex three-dimensional space delineation and experimentation with a variety of techniques and media.

323 CAD for interior Design. Semester course; 1 lecture and 6 studio hours. 3 credits. Introduction to computer-aided design, its uses and applications for interior design. Interior design majors only.

351 Design In Twentieth Century Interiors and Architecture. Semester course; 3 lecture hours. 3 credits. prerequisite: AFO 105-106 or ARH103,104. Investigation and analysis of the major design theories and movements of the twentieth century and the growth of the profession of interior design.

401 Advanced Interior Design. Semester course, 2 lecture and 6 studio hours. 3 credits. Prerequisites: IDE301, IDE302, IDE 303, IDE 332, and IDE 441. Problems exploring period and contemporary design and their relationships are planned to meet the needs of specific clients. To prepare students for the professional world, the problems are as varied as possible. Interior design majors only.

431 Business Procedures. Semester course; 3 lecture hours. 3 credits. Study of interior design business practices. Interior design majors only.

441 Color and Light. Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: IDE 202 and IDE 222. Basic

electricity and illumination and color and their influence on interior spaces; theory and practical applications.

442 Materials and Systems. Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: IDE 202 and IDE 222. Contemporary theory and technique in the design of buildings as related to interior design. Structural, HVAC, sound and water systems, and the nature of materials.

443 Furniture Design I. Semester course; 1 lecture and 6 studio hours. 3 credits. Prerequisite: IDE 222. Original student designs are developed for cabinetmaking and millwork in interior design.

444 Furniture Design II. Semester course; 1 lecture and 6 studio hours. 3 credits. Prerequisite: IDE 222. Original student designs are developed through the study of structure and materials. Design for mass production is explored.

445 Furnishings and Interior Materials. Semester course; 3 lecture hours. 3 credits. Investigation and practical application of furnishings and materials in the interior environment. Interior design majors only.

446 Textiles for Interior Design. Semester course; 3 lecture hours. 3 credits. Investigation and practical application of soft materials in the interior environment.

491 Topics in Interior Design. Semester course; 1-4 credits. May be repeated for a total of 8 credits. Prerequisite: permission of the instructor. An in-depth study of a topical issue in interior design. See *Schedule of Classes* for specific course offerings.

493 Interior Design Internship. Semester course; 3 credits. Prerequisite: consent of coordinator and department chair man. Supervised practical work experiences are coordinated with professional interior designers in the field. Interior design majors only.

COURSES IN APPLIED MUSIC (APM)

Upper-division undergraduate students may enroll for selected 500-level graduate courses with permission of the department chairman and instructor. See *VCU Graduate Bulletin* for course descriptions.

161-162 Lyric Diction. Continuous course; 3 lecture hours. 3-3 credits. A study of English, Italian, ecclesiastical Latin, French, and German stage diction with practical experience in singing and phonetic transcription using the International Phonetic Alphabet.

165-166 Aural Skills I-II. Continuous course; 1 lecture and 2 laboratory hours, 2-2 credits. Development of skills in melodic and rhythmic dictation, harmonic identification, and sight-singing. Open to non music majors by permission of department chairman.

173-174/273-274 Keyboard Skills. Continuous course; 2 laboratory hours, 1-1 credit. Acquisition of keyboard performance skills with emphasis on reading, keyboard harmony, and improvisation. Open only to music majors.

181-182 Class Lessons in Strings. Continuous course, 2 laboratory hours. 1-1 credit. Achievement of performance

competencies and teaching knowledge on violin, viola, cello, or string bass. Acquisition of basic techniques on two additional string instruments. Designed for Music Education majors.

183-184 Class Lessons in Woodwinds. Continuous course; 2 laboratory hours. 1-1 credit. Achievement of performance competencies and teaching knowledge on flute, clarinet, oboe, bassoon, and saxophone. Designed for Music Education majors.

185-186 Class Lessons in Brass. Continuous course; 2 laboratory hours. 1-1 credit. Achievement of performance competencies and teaching knowledge on trumpet, baritone, tuba, trombone, or French horn. Acquisition of basic techniques on two additional brass instruments. Designed for Music Education majors.

187-188 Class Lessons in Percussion. Continuous course; 2 laboratory hours. 1-1 credit. Achievement of performance competencies and teaching knowledge on snare drum. Acquisition of basic techniques on xylophone or timpani. Designed for Music Education majors.

191-192 Class Lessons in Piano. Continuous course; 2 laboratory hours. 1-1 credit. Achievement of performance competencies at the keyboard with emphasis on finger dexterity and reading. No prior knowledge of music required. Not open to music majors.

193-194 Class Lessons in Voice. Continuous course; 2 laboratory hours. 1-1 credit. Achievement of performance competencies in voice including vocal production, diction, solo, and group performance.

195-196 Class Lessons in Guitar. Continuous course; 2 laboratory hours. 1-1 credit. Acquisition of performance competencies in guitar including chording, single-string technique, plectrum, and finger styles.

197-198 Class Lessons in Organ. Continuous course; 2 laboratory hours. 1-1 credit. Prerequisite: permission of instructor. Achievement of performance competencies in organ including pedal technique, coordination of hands and feet, and registration.

199 Recital/Convocation Attendance. Semester course; no credit. Course may be repeated without limit. Attendance at weekly departmental convocations and ten additional concerts or recitals each term. Music majors only.

251 Jazz Improvisation I. Semester course; 3 lecture hours. 3 credits. A study of basic compositional techniques that can be used in creating a musically effective improvised solo in the jazz medium.

252 Jazz Improvisation II. Semester course; 3 lecture hours. 3 credits. Prerequisite: APM 251 or permission of instructor. Advanced melodic, harmonic, and rhythmic improvisational techniques as applied to contemporary jazz compositions.

265-266/365-366/465-466 Aural Skills III-VIII. Continuous course; 2 laboratory hours. 1-1 credits. A continuation of APM 166. Open to nonmusic majors by permission of department chairman.

271 Sight Reading. Semester course; 1 lecture hour. 1 credit. A practical course for singers and instrumentalists designed to develop facility in sight reading.

282 Conducting Lab Ensembles. Semester course, 1 laboratory hour. 5 credit. May be repeated once for credit. Reading and conducting experience with a band, chorus, or orchestra. Literature emphasized will be appropriate for elementary through secondary school groups. Offered only in the spring semester.

299 Master Class. Semester course; no credit. Course may be repeated without limit. Participation in weekly master classes in student's applied major area.

300-Level Private Instruction: Principal and Secondary Performing Mediums. Semester courses, repeatable with out limitations; one half-hour or one hour private lesson per week. 1 to 3 credits. Extra fee required. One hour practice daily for each credit. Lessons are available in the following areas: bassoon, carillon (1 credit only), cello, clarinet, composition (by permission of instructor, double bass, drum set (undergraduate, 1 credit only), euphonium, flute, French horn, guitar, harp, harpsichord, oboe, organ, percussion, piano, saxophone, synthesizer, trombone, trumpet, tuba, viola, violin, and voice. In order to register for any private lesson, nonmusic majors must obtain correct course number in either Room 132, Performing Arts Center, or at the music table in the Mosque during registration; music majors need to consult their advisors.

351 Jazz Improvisation III. Semester course; 3 lecture hours. 3 credits. Prerequisite: APM 252 or permission of instructor. Techniques of thematic improvisation, stating a melody, and improvising on contemporary jazz compositions. Availability contingent upon student demand and faculty resources.

352 Jazz Improvisation IV. Semester course, 3 lecture hours. 3 credits. Prerequisite: APM 351 or permission of instructor. Special emphasis on non-tonal and pan-tonal improvisation. Availability contingent upon student demand and faculty resources.

362 Service Playing. Semester course; 1 lecture and 2 laboratory hours. 2 credits. The development of skills necessary for church service playing: transcription of piano and orchestral scores; accompanying and hymn playing; conducting from the console; the accompaniment of chant. Offered alternate years.

370 Large Ensembles. Semester course; 3 laboratory hours. 1 credit. An audition is prerequisite for sections 1, 3, and 4. Sections: (1) orchestra, (2) University Band, (3) symphonic wind ensemble, (4) Commonwealth Singers, (5) Choral Arts Society. Each section may be repeated up to eight times for credit.

373-374 Advanced Keyboard Skills. Continuous course; 2 laboratory hours. 1-1 credit. Prerequisite: APM 274 or permission of instructor. Emphasis is on harmonization with correct style and voice-leading, reading figured bass and lead sheets, improvisation, and reducing scores at the keyboard.

375-376 Score Reading. Continuous course; 2 laboratory hours. 1-1 credit. Prerequisite: APM 274 or equivalent. Acquisition of skill in reducing scores at the keyboard,

beginning with simple three-part works and progressing to full instrumentation.

381-382 Conducting. Continuous course; 1 lecture and 2 laboratory hours. 2-2 credits. Prerequisites: APM 266 and MHT 236. Development of fundamental gestural skills for conducting instrumental and choral ensembles including simple and compound meters, multimetric music, and aleatoric music. Emphasizes score reading, aural analysis skills, and terminology. Open to music majors only.

383, 384 Musical Theater. Semester course; 4 laboratory hours. 2, 2 credits. Prerequisite: APM 193 or equivalent. An exploration of the fundamentals of musical theater including production, staging, and performing. Each course may be repeated for credit three times.

385 Opera Theater. Semester course; 1 lecture and 4 studio hours. 2 credits. Permission of instructor required. Explores aspects of opera through study, written research, and fully staged public performances of operatic scenes and/or one-act operas. May be repeated four times for credit.

390 Small Ensembles. Semester course; 2 or 3 laboratory hours. 0.5 or 1 credit. Auditions required for all sections. Each section may be repeated up to eight times for credit. Sections: (1) Ensemble for New Music, (2) The Madrigalists, (3) Collegium Musicum, (4) Women's Chorus, (5) vocal ensembles, (6) piano ensembles, (7) accompanying, (8) Percussion Ensemble, (9) Percussion Lab Ensemble, (10) wood wind ensembles, (11) brass ensembles, (12) chamber orchestra, (13) string ensembles, (14) guitar ensembles, (15) small jazz ensembles, (16) Jazz Orchestra I, (17) Jazz Orchestra II, (18) Jazz Orchestra III, (19) Basketball Pep Band.

393 Junior Project. No credit. Individual research project in the student's major field under the supervision of faculty.

394 Junior Recital. No credit. Public presentation of a half length recital.

463-464/563-564 Pedagogy. Continuous course; 2 lecture hours, 2-2 credits. A study of the musical, physiological, and psychological aspects of teaching instruments or voice. Second semester will include practical experience in teaching students under faculty supervision. Sections: (1) piano, (2) voice, (3) organ, (4) percussion, (5) brass, (6) woodwinds, (7) strings, (8) guitar. 463 is offered alternate years, APM 464 availability is contingent upon student demand and faculty resources.

485 Percussion Laboratory/Seminar. Semester course; 2 laboratory hours. 1 credit. Advanced course in specialized percussion techniques and literature designed for the performer, composer, and educator. Topics may include surveys of literature, notational problems, mallet making, and instrumental maintenance. Topics will vary from semester to semester depending on the needs and interests of the class. May be repeated up to four times for credit.

493 Senior Project. No credit. Individual research project in the student's major field under the supervision of faculty.

494 Senior Recital. No credit. Public presentation of a full length recital.

COURSES IN MUSIC COMPOSITION (MUC)

111 MIDI Programming and Synthesis. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A study of MIDI (Musical Instrument Digital Interface) programming techniques as applied to synthesis and composition on electronic musical instruments.

112 Synthesizer and Composition. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: MUC 111 or permission of instructor. An in-depth use of the MIDI (Musical Instrument Digital Interface) synthesizer as an instrument for performance and composition. Projects will involve utilization of the computer in conjunction with synthesizers.

201 Class Composition I. Semester course; 2 lecture hours. 2 credits. Prerequisites: APM166, MHT136, and permission of instructor. Open to all music majors and required of potential composition majors; the emphasis of this class will be on simple rhythmic and melodic studies.

202 Class Composition II. Semester course; spring semester; 2 lecture hours. 2 credits. Prerequisite: MUC 201 or permission of instructor. An extension of Class Composition I and an introduction to two-part vocal and instrumental writing, improvisational studies, and modal and synthetic scales. The emphasis throughout will be on original composition. Availability contingent upon student demand and faculty resources.

311 Introduction to Digital Synthesis. Semester course; 3 lecture hours. 3 credits. Prerequisites: MUC 112, MHT 117, and CDE 331 or permission of instructor. A study and application of digital sampling and sound modification for the production of multi-track recordings. Availability contingent upon student demand and faculty resources.

312 Digital Synthesis. Semester course; 3 lecture hours. 3 credits. Prerequisite: MUC 311 or permission of instructor. A study and application of digital synthesis and advanced techniques in sound modification through computer control. Availability contingent upon student demand and faculty resources.

315 Counterpoint I. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 236. This class concentrates on two-part writing, canons, species, exercises, short two-voiced pieces, and inventions.

316 Counterpoint II. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 236. Three- and four-part writing, forms based on the chorale; contrapuntal variation forms, and fugue will be studied. Availability contingent upon student demand and faculty resources.

405 Twentieth Century Techniques. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 236 or permission of instructor. Composition in and analysis of techniques associated with late Romanticism, Impressionism, Neo-Classicism, Expressionism, Serialism, and current avant-garde music. No degree credit for graduate composition majors.

406 Orchestration. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 236. Application of idiomatic scoring devices for orchestral instruments and voices in both

large and small combinations. No degree credit for graduate composition majors.

425, 426 Projects in Electronic Music. Semester courses; 412 laboratory hours. 2, 6 credits. Prerequisite: permission of instructor. Each course may be repeated for a maximum of 12 credits. Completion of selected projects in electronic module design and/or electronic music composition.

450 Composition Seminar. Semester course; 1 lecture hour. 1 credit. A forum for performance, discussion, and critical evaluation of student compositions. May be repeated for a maximum of four credits.

COURSES IN MUSIC EDUCATION (MUE)

Upper-division undergraduate students may also enroll in the following graduate courses with permission: MUE 597 Human Response to Music; MUE 595 Music and the Exceptional Individual. See *VCU Graduate Bulletin* for course descriptions.

281 Basic Music Skills. Semester course; 3 lecture hours. 3 credits. Development of basic creative and performance competencies for instructional purposes and the integration of music with other subject areas. Not open to music majors.

290 Music in General Education. Semester course; 1 lecture and 2 laboratory hours. 2 credits. The role of music in general educational curricula with emphasis on trends in music education, philosophy, learning theories as they apply to music, concepts of curriculum and music in the educational environment. Laboratory hours will involve observations of selected school environments.

331 Multiple Choir Program. Semester course; 3 lecture hours. 3 credits. The organization of multi-choir programs in the church; children's choir methods and materials; handbell choirs. Offered alternate years.

383 Observation in Music Education. Semester course; 2 laboratory hours. 1 credit. Prerequisite: MUE 290. Observations and field experiences in public/private schools and in class discussion and analysis of observed techniques and procedures.

391 Processes of Music Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: MUE 290. Study of current methods and materials of music in education. Orff, Dalcroze, Kodaly, Manhattanville, and other modern music education systems will be discussed, observed, and demonstrated.

392 Conducting and Rehearsal Techniques. Semester course; 2 lecture hours and 2 laboratory hours. 3 credits. Prerequisite: APM 381 and MUE 290 or permission of instructor. Development of enhanced conducting and rehearsal skills for school instrumental and choral performing group. Emphasizes developing conducting technique, pacing, selecting appropriate materials, and developing age appropriate musical goals.

479 Music Instrument Repair. Semester course; 2 laboratory hours. 1 credit. A study of problems related to intonation and tone quality in band and orchestra instruments; the relationship of mouthpieces and reeds to intonation; empha-

sis on acquiring knowledge and skill in the care and repair of music instruments.

483 Special Workshop in Music Education. Semester course; 0.5-3 credits. Flexible term courses on selected aspects of music education. See *Schedule of Classes* for specific offerings each term

COURSES IN MUSIC HISTORY LITERATURE, AND THEORY (MHT)

100/200 Special Offerings in Music. Flexible term course; variable credit. 1-3 credits. Course may be repeated. Semester or short-term course designed for non-music majors which deals with a variety of subjects in music. Subject matter will change from term to term and may involve lecture and/or laboratory. See *Schedule of Classes* for specific offerings each semester.

105-106 Introduction to Writing Music. Continuous course; 3 lecture hours. 3-3 credits. Creating and harmonizing melodies, principles of notation, and elementary music theory. Second- semester emphasis is on creative aspects. For nonmusic majors only.

110 Elements of Music. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A study of music notation, scale, and triad forms. Aural skill development will parallel the theoretical studies. Intended to prepare music majors for core curriculum study; no degree credit for music majors.

117 Computers in Music. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Study and application of music software on mainframe and personal computers. The student will be expected to demonstrate competence in the high-level languages, PASCAL and BASIC. Projects will focus on programming for educators and composers.

120 Introduction to Musical Styles. Semester course; 1 lecture and 2 laboratory hours. 2 credits. A study of the major styles and forms of Western music with emphasis on aural perception.

135-136/235-236 Integrated Theory. Continuous course; 3 lecture hours. 3-3 credits. The first year is a study of diatonic harmony with emphasis on melodic structure, harmonization and analysis. The second year continues with the study of chromatic harmony, modulation, and an introduction to twentieth-century harmony, melody, and rhythm. Open to nonmusic majors by permission of department chairman.

201 Acoustics. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Recommended prerequisite: MAT 101. Physical properties of sound and wave mechanics applied to the study and analysis of music and musical instruments. Topics will include instrumental and vocal sound production and perception, timbral characteristics, and pitch theory.

243 Music Appreciation. Semester course; 3 lecture hours. 3 credits. Designed to encourage intelligent listening and understanding of finer music from all periods. Not open to music majors.

250/African-American Studies 250 Introduction to African-American Music. Semester courses; 3 lecture hours. 3, 3 credits. An introductory survey of black involvement with

the development of music in America from 1607 to the present. Afro-American musical styles will be studied from many aspects, including their African roots and contemporary popular expression.

271 Jazz History and Literature. Semester course; 3 lecture hours. 3 credits. An historical and analytical survey of each major jazz era. Primary focus is on the contributions and improvisational styles of the principle soloists.

280 Survey of Twentieth Century American Popular Music. Semester course; 3 lecture hours. 3 credits. A stylistic and historical survey of representative styles and trends of American popular music, from the turn of the century to the present. Performance practices will be analyzed through selected recordings and live performances.

302 Late Romantic Harmony. Semester course; 3 lecture hours. 3 credits. A review of common practice harmony and a study of chromatic harmony in the nineteenth and twentieth centuries.

303, 304 Piano Literature. Semester courses; 2 lecture hours. 2, 2 credits. A survey of stringed keyboard literature. Historical, formal, and stylistic considerations of the various periods and composers of keyboard music. Listening and reading assignments included.

305 Form and Analysis I. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 236. A study of the traditional musical forms utilized in the late baroque, classic, and early romantic periods.

306 Form and Analysis II. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT 305 or permission of instructor. An analytical study of musical forms and salient features of melody, harmony, rhythm, and timbre of late romantic and twentieth-century compositions.

311 Jazz Arranging I. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 236 or permission of instructor. A study of the basic harmonic, melodic, notational, and orchestration techniques needed to draft a successful jazz arrangement. The final project will be to write an arrangement for a 12-piece jazz ensemble.

312 Jazz Arranging II. Semester course; 3 lecture hours. 3 credits. Prerequisite: MUC 311 or permission of instructor. Advanced harmonic, melodic, and orchestration techniques applied to writing for the small jazz ensemble, vocal group, and large jazz orchestra.

320 Music in Films. Semester course; 3 lecture hours. 3 credits. Significant film music from the 1930s to the present. The course will focus on techniques for listening and evaluation. Functional, social, technical, and aesthetic considerations of film music will be examined. Students will prepare a critical analysis of each of the films viewed in class based on their perceptions as listeners/viewers. Music reading ability not required.

336 Organ Literature and Design. Semester course; 2 lecture hours. 2 credits. Prerequisite: MHT201 or permission of instructor. A survey of organ music with correlating studies in the design and construction of pipe organs from 1500 to the present.

350 African-American Studies 350 Studies in the Music of the African Continent and Diaspora. Semester course; 3 lecture hours. 3 credits. Prerequisite: MHT 243, MHT/AAS 250 or permission of instructor. May be repeated for a maximum of six credits. An in-depth examination of selected topics and issues in African-derived musical and cultural traditions. See *Schedule of Classes* for specific offering.

380 Survey of the Music Industry. Semester course; 3 lecture hours. 3 credits. Commercial aspects of the music industry. Topics include copyright, music production and technology, management, radio and television, live venues and recording.

401 Seminar in Music History. Semester course; 2 lecture hours. 2 credits. Research and discussion of selected topic, in music history and literature. May be repeated for a maximum of six credits.

407 Arranging Modern Popular Music. Semester course; 3 lecture hours. 3 credits. Adapting and scoring music for ensembles incorporating popular commercial performance styles.

411 Jazz Arranging III. Semester course; 3 lecture hours. 3 credits. Techniques of arranging for the contemporary pop medium. Availability contingent upon student demand and faculty resources.

412 Jazz Arranging IV. Semester course; 3 lecture hours. 3 credits. A study of the techniques used in modal, blues, and other forms of contemporary jazz composition. Availability contingent upon student demand and faculty resources.

413 Arranging. Semester course; 3 lecture hours. 3 credits. Practical, technical, and conceptual considerations of arranging and transcribing for vocal and instrumental groups will be explored. Students will demonstrate competence in these creative areas to the optimum level of school and/or church music organization.

421, 422 Survey of Music History. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: MHT 120 or 243. A study of Western music in an historical context from antiquity to the present. First semester will conclude with the baroque era; second semester will commence with the classic period.

431/Religious Studies 431 Hymnology. Semester course; 3 lecture hours. 3 credits. A study of hymns and hymn tunes with emphasis on their development, style, and functions. Offered alternate years.

434 Choral Literature. Semester course; 2 lecture hours. 2 credits. A survey of part-music for mature voices including both sacred and secular works. Primary emphasis will be on mixed-voice repertoire.

435/Religious Studies 435 Liturgics. Semester course; 3 lecture hours. 3 credits. A study of the forms of public worship emphasizing the orders in current usage. The planning of weekly and special services. Offered alternate years.

441 American Music. Semester course; 2 lecture hours. 2 credits. The growth and development of music in the United States from 1607 to the present. While the chief concentration will be upon art music and church music, folk music, jazz and the other forms of popular expression will be included.

442 Twentieth Century Music. Semester course; 2 lecture hours. 2 credits. Impressionistic, expressionistic, neoclassic, and neoromantic influences and styles of music. Development of new sound-generating techniques and methods for ordering the new total materials.

450 Performance Practice. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A study of performance practices including ornamentation, instrumentation, and stylistic considerations. Topics and emphases will change from term to term. Course may be repeated up to four times.

451, 452, Orchestral Repertoire. Semester courses; 1 lecture hour (1 credit) or 1 lecture and 2 laboratory hours (2 credits). Performance and study of selected major symphonic historical, analytical, and stylistic perspective. Research reports will include comparisons of interpretations. Repertoire will consist of basic audition pieces selected by orchestras. Laboratory sessions will utilize available instrumentation for performance.

465, 466 Song Literature. Semester courses; 2 lecture hours. 2, 2 credits. A survey of the vocal literature of Germany, France, England, and other countries. Students will perform material.

491 Topics in Music. Semester course; variable credit; 1-3 credits per semester. May be repeated for a maximum of nine credits. Flexible term courses in selected aspects of music performance, theory, literature, or history. See *Schedule of Classes* for specific topics to be offered each semester.

COURSES IN PAINTING AND PRINTMAKING (PAP)

155-156 Drawing and Painting, Basic. Semester course; 3 studio hours. 1 - 1 credit. Introduction to painting with emphasis on learning basic techniques. Discussion of materials and their use. Models—both nude and clothed are used.

203, 204 Painting and Design, Basic. Semester courses; 9 studio hours. 3, 3 credits. Painting and structure are discussed in terms of space, form, and content. Work may be carried on out-of-doors or indoors. (Summer School offering only.)

205 Painting, Basic Composition. Semester course; 2 lecture and 6 studio hours. 4 credits. May be repeated up to eight credits. An introduction to the use of paints with an emphasis on the organization of the artistic image, through the use of plastic form and color, coupled with analysis of historical and contemporary work.

207 Painting Techniques. Semester course 2 lecture and 6 studio hours. 4 credits. An investigation of pigments, glazes, underpainting, mixed media, materials, and other studio techniques.

209 Materials: Printmaking. Semester course; 2 lecture and 6 studio hours. 4 credits. An introduction to three principal printmaking techniques: etching, lithography, and screenprinting.

214 Printmaking, Basic. Semester course; 1 lecture and 6 studio hours. 3 credits. Fundamentals of printmaking. Introduction of basic problems of techniques and composition. (Summer School offering only.)

221 Drawing, Basic. Semester course; 9 studio hours. 3 credits. May be repeated up to six credits. Drawing instruction with attention to extension of the student's knowledge of the tools of drawing. Materials and techniques will be related to pictorial organization.

223,224 Drawing, Basic. Semester courses; 1 lecture and 6 studio hours.3,3 credits. Course introducing drawing fundamentals and spatial relationships. Concern is given to materials and the development of the students' visual perceptions. (Summer School offering only.)

255-256 Drawing and Painting, Basic. Continuous course; 1 lecture and 6 studio hours. 3-3 credits. Development of basic skills; exploring structure, color, form, and image. Students will be exposed to class critiques as a means of analyzing their creative works.

303, 304 Painting, Intermediate. Semester courses; 1 lecture and 6 studio hours.3,3 credits. Prerequisite: three credits of basic painting or permission of instructor. Primary emphasis on the development of an individual direction in the context of contemporary ideas and images in painting. (Summer School offering only.)

305 Painting, Intermediate. Semester course, 2 lecture and 6 studio hours. 4 credits. Prerequisite: four credits of basic painting or permission of instructor. May be repeated up to eight credits. Primary emphasis on the development of an individual direction in the context of contemporary ideas and images in painting.

312 Printmaking, Intermediate (Lithography). Semester course; 9 studio hours. 3 credits. Prerequisite: 3 credits of basic printmaking or permission of instructor. Investigation of techniques and technical printing problems. Stones and plates are used. (Summer School offering only.)

313 Printmaking, Intermediate(Etching). Semester course; 9 studio hours. 3 credits. Prerequisite: 3 credits of basic printmaking or permission of instructor. Techniques and technical problems in the printmaking area are investigated. (Summer School offering only.)

314 Printmaking, Intermediate (Screenprinting). Semester course; 1 lecture and 6 studio hours.3 credits. Prerequisite: basic or beginning printmaking. Investigation of techniques and technical problems in the printmaking area. (Summer School offering only.)

315 Printmaking, Intermediate(Etching). Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: PAP 209 or permission of instructor. May be repeated up to eight credits. Investigation etching printmaking, drypoint, engraving, aquatint, soft grounds, and related techniques.

317 Printmaking, Intermediate (Lithography). Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: PAP 209 or permission of instructor. May be repeated up to eight credits. Investigation of techniques and technical printing problems in lithographic printing process from stones and plates.

319 Printmaking, Intermediate (Screenprinting). Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: PAP 209 or permission of instructor. May be repeated up to eight credits. An investigation of cut, hand-drawn, and

photographic stencil techniques and printing on a variety of surfaces.

321 Drawing, Intermediate. Semester course; 9 studio hours. 3 credits. Prerequisite: three credits of basic drawing or permission of instructor. May be repeated up to six credits. Drawing for advanced students with special emphasis on creative response to the drawing as a work of art.

324 Drawing, Intermediate. Semester course; 9 studio hours. 3 credits. Prerequisite: three credits of basic drawing or permission of instructor. Drawing for intermediate students with emphasis on problematic thinking and dealing with drawing as an aesthetic form. (Summer School offering only.)

326 Color. Semester course; 3 lecture hours. 3 credits. A course examining the concepts governing the use of color. Historical and contemporary concepts and methods of application will be explored.

329 Life Drawing. Semester course; 6 studio hours. 3 credits. Prerequisite: foundation drawing. May be repeated up to nine credits. Explores the structural and muscular systems of the human body with emphasis upon proportional relationships, chiaroscuro, contour, volume, and fore-shortening.

355-356 Drawing and Painting, Intermediate. Semester course; 9 studio hours. 3-3 credits. Prerequisite: three credits of basic drawing or painting or permission of instructor. Intermediate instruction in drawing and painting. Models, both nude and clothed, and still life are used.

403, 404 Painting, Advanced. Semester courses; 1 lecture and 6 studio hours. 3, 3 credits. Prerequisite: three credits of intermediate painting or permission of instructor. More ambitious projects with the aim of developing in the senior student a highly professional approach and achievement in his work. Individual as well as group discussions. (Summer School offering only.)

405 Painting, Advanced. Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: four credits of intermediate painting or permission of instructor. May be repeated up to 20 credits. More ambitious projects with the aim of developing in senior students a highly professional approach and achievement in their work. Individual as well as group discussions.

412 Printmaking, Advanced (Lithography). Semester course; 9 studio hours. 3 credits. Prerequisite: three credits of intermediate printmaking or permission of instructor. Specialization in one medium. Aesthetic suitability of the design to a particular medium is emphasized. (Summer School offering only.)

413 Printmaking, Advanced (Etching). Semester course; 9 studio hours. 3 credits. Prerequisite: three credits of intermediate printmaking or permission of instructor. Concentration on one medium with emphasis on creative techniques. (Summer School offering only.)

414 Printmaking, Advanced (Screenprinting). Semester course; 1 lecture and 6 studio hours. 3 credits. Prerequisite: three credits of intermediate printmaking or permission of instructor. Cut, hand-drawn, and photographic stencil techniques are explored. Printing will be done on a variety of surfaces. (Summer School offering only.)

415 Printmaking, Advanced (Etching). Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: four credits of intermediate printmaking or permission of instructor. May be repeated up to 20 credits. Specialization in one medium with emphasis upon technical research and aesthetic suitability of the design to the particular medium used.

417 Printmaking, Advanced (Lithography). Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: four credits of intermediate printmaking or permission of instructor. May be repeated up to 20 credits. Further investigation of techniques and technical printing problems in the lithographic printing process from stones and plates.

419 Printmaking, Advanced (Screenprinting). Semester course; 2 lecture and 6 studio hours. 4 credits. Prerequisite: four credits of intermediate printmaking or permission of instructor. May be repeated up to 20 credits. Further exploration of cut, hand-drawn, and photographic stencil techniques and printing on a variety of surfaces.

421 Drawing, Advanced. Semester course; 9 studio hours. 3 credits. Prerequisite: three credits of intermediate drawing or permission of instructor. May be repeated up to 15 credits. A studio for drawing with individual criticism. Special attention is given to contemporary concepts.

423 Experimental Printmaking. Semester course, 2 lecture and 6 studio hours. 4 credits. Repeatable to eight credits. Prerequisite: three credits of intermediate printmaking or permission of instructor. Relief printing, collographs, monoprints, photoengraving, and mixed media will be investigated.

424 Drawing, Advanced. Semester course; 9 studio hours. 3 credits. Prerequisite: three credits of intermediate drawing or permission of instructor. A studio drawing course set up with individual criticism dealing with contemporary concepts. (Summer School offering only.)

448-449 Mural Painting. Continuous course; 2 lecture and 6 studio hours. 4-4 credits. Prerequisite: permission of instructor. An investigation of the concepts and procedures involved in mural painting. The class will execute at least two murals during the year.

455-456 Drawing and Painting, Advanced. Continuous course; 9 studio hours. 3-3 credits. Prerequisite: three credits of intermediate drawing or painting or permission of instructor. Advanced instruction in drawing and painting. Models, both nude and clothed, and still life are used. The following courses may be taken by undergraduates for degree credit: 525 Issues in Contemporary Visual Art 527, 528 Art and Critical Theory

490 Senior Seminar. Semester course; 3 lecture hours. 2 credits. Information to help graduating seniors in the Painting and Printmaking Department meet the professional requirements involved in exhibiting and promoting their creative work and in functioning as an artist.

491 Topics in Painting and Printmaking. Semester course; 1-4 credits. May be repeated with different topics to a maximum of 12 credits. Topical course focusing on creative expression and research in the areas of painting and printmaking. See *Schedule of Classes* for specific topics to be offered.

COURSES IN PHOTOGRAPHY AND FILM (PTY)

233 Media Arts Survey. Semester course; 3 lecture and 3 studio hours. 4 credits. A survey of the artistic and communication uses of media in contemporary society. Cinematography, video, and computer graphics technology will be introduced.

233/Photography 233 Media Arts Survey. Semester course; 3 lecture and 3 studio hours. 4 credits. A survey of the artistic and communication uses of media in contemporary society. Cinematography, video, and computer graphics technology will be introduced.

243-244 Photography. Continuous course; 1-2 lecture and 3 studio hours. 2-3 credits. PTY 243 is prerequisite to 244. Study of fundamental camera techniques and basic photographic processes in relation to visual communication. An emphasis will be placed on photography's expressive possibilities. Adjustable camera required.

245 Design Photography I. Semester course; 3 lecture and 3 studio hours. 4 credits. A comprehensive beginning class covering an introduction to the camera, the process of exposure, developing, and black and white printmaking. The emphasis is on proper procedures in the darkroom, as well as providing an introduction to the photographic and visual concepts, critiques, and experience with shooting a variety of subjects. For Art Majors only.

301 Mass Communications Photography. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Study of fundamentals of photography and techniques of camera use in relation to the fields of journalism and visual communications. Adjustable camera required. Offered for Mass Communications Majors only.

305-306 The Zone System. Continuous course; 1 lecture hour and 3 studio hours. 2-2 credits. Prerequisites: PTY 345 or 350. Lectures deal with the testing of camera, lens, film, and printing methods to allow the student to previsualize images made in the camera. Application of principles will be evaluated in the studio and laboratory allowing the students to test photographic materials and refine technical concepts as they relate to their particular photographic equipment. Emphasis is placed upon the individual investigative of these concepts.

307 Photographic Processes and Techniques. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: PTY 245 or 301. An in-depth, and concentrated exploration of various photographic techniques. Emphasis is placed upon image creation and processing.

309 View Camera Operations and Processing. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: PTY 245 or 301. A course exploring and using the view camera for optimum photographic results. Emphasis is on the understanding how the camera functions and learning processing techniques associated with the medium.

341, 342 Concepts in Photography. Semester course; 3 lecture and 3 studio hours. 4, 4 credits. Prerequisites: PTY 345, 350 or permission of instructor. A course that affords the student the opportunity to develop a personal approach to the photographic medium. Twentieth century concepts presented in the course include documentary style, the street photography aesthetic, the photograph as a metaphor and postmodernism. Adjustable camera required.

345 Design Photography II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: 245. Class problems in advanced photographic techniques: lectures, demonstrations, and assignments introduce the student to relevant photographic materials, studio lighting, serial imagery, print lay out, and minimalism. Emphasis is placed on individual solutions to photographic design problems. Students work with both black and white and color transparency materials. Course restricted to arts majors.

348 Underwater Photography. Semester course; 1 lecture and 3 studio hours. 2 credits. Prerequisite: Valid Basic Scuba Certification Card. (Tanks, regulators, underwater camera, and weights will be supplied.) Basic photography principles, selection and care of equipment, and how to make underwater photographs. Basic scuba equipment (mask, fins, snorkel, B.C. vest) required.

350 Intermediate Photography. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: PTY 243-244 or 301 or permission of instructor. Expanding photographic knowledge through lectures that examine contemporary and historical ideas to encourage the development of photographic style. Emphasis is placed upon refinement of technical processes, and expanded use of photographic materials to produce exhibition quality black and white photographs.

371, 372 Cinematography. Semester courses; 3 lecture and 3 studio hours. 4, 4 credits. The production of motion picture films with emphasis on fundamental shots and transitional elements. Students usually work with 16mm film and equipment.

373 16mm Camera Systems. Semester course; 2 lecture hours. 2 credits. Study of 16mm camera systems used for motion picture photography.

374 Film Pre-Production and Post-Production. Semester course; 2 lecture hours. 2 credits. An overview of techniques in planning and producing an independent film.

375 Filmmaking I. Semester course; 3 lecture and 3 studio hours. 4 credits. Techniques for production of silent films. Not open to CDE majors.

376 Filmmaking II. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: PTY 375 or PTY 233. Emphasis on technical aspects of film production.

377 The Film Image. Semester course; 3 lecture hours. 3 credits. An examination of production techniques and problems encountered by the filmmaker in creating the motion picture image. A selected number of entertainment films, documentaries, topical films, and others will be viewed as source material and will be dealt with from a production point of view.

PTY 392-393 Film Animation. Continuous course; 3 lecture and 3 studio hours. 4-4 credits. Techniques for the production of short animated films.

PTY 441-442 Studio Photography. Semester course; 3 lecture and 3 studio hours. 4-4 credits. Prerequisites: PTY 341, 350, 309 or permission of instructor. A course that explores various studio applications of photography through the utilization of tungsten and strobe lighting. Lectures and studio assignments will explore table top still life, food

photography, studio portraiture, and architectural photography. Assignments will be produced in black and white and color. Professional standards are stressed.

445 Color Photography. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: PTY 341, 342, 350 or permission of instructor. A course that stresses technical proficiency and aesthetic awareness of the creative uses of color photography. Emphasis is placed in negative to positive printing through the exploration of films, papers, and processes. Lectures relating to historical development, color theory, composition, color perception, and professional application are an integral part of this course. May be repeated for maximum of 8 credits.

475-476 Filmmaking Workshop. Continuous course; 1 lecture and 6 studio hours. 3-3 credits. Permission of instructor required. The production of a motion picture to be directed by faculty with the assistance of students in the various production crew roles.

481 Filmmaking III. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisite: PTY 376. Techniques for production of sound motion pictures.

482 Filmmaking IV. Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: PTY 481 and permission of instructor. Advanced projects in film production.

490-491 Motion Picture Special Effects. Continuous course; 1 lecture and 6 studio hours. 3-3 credits. Prerequisite: PTY 376 or permission of instructor. An exploration of special effects for film production which may be created both in the camera and with a printer.

500 Photographic Studio and Seminar. Semester course; 1 lecture and 6 studio hours. 3 credits. Prerequisite: permission of instructor. Experimentation in the studio with various processes for creating the photographic image, leading to producing a cohesive body of work. The seminar examines the technical and aesthetic components of these processes and the language and theories of photographic criticism.

COURSES IN SCULPTURE (SCU)

209,210 Introduction to Sculpture. Semester courses; 2 lecture and 3 studio hours. 3, 3 credits. The course will offer an opportunity for students to work with some of the ideas and materials of sculpture through slides, lecture, and studio involvement.

211,212 Sculpture. Semester courses; 2 lecture and 6 studio hours. 4, 4 credits. The primary goal of this course is the effective expression of ideas. The student is introduced to the basic tools, materials, and techniques with attention given to problem solving.

217,218, Sculptural Concepts. Semester courses; 3 lecture and 3 studio hours. 4, 4 credits. Prerequisite: permission of instructor. A study of contemporary technology, philosophy, criticism, and their relation to material resources and technical practices.

311,312 Sculpture. Semester courses; 3 lecture and 6 studio hours.4,4 credits. The emphasis in this course is on creative independence. The student is encouraged to utilize a variety

of materials in order to express his ideas. May be repeated for a maximum of eight credits.

313,314/413,414 Dimensional Concepts. Semester courses; 2 lecture and 6 studio hours. 4, 4 credits. An opportunity for the sculpture student to extend and expand upon traditional methods of expression and to explore new areas.

411,412 Sculpture. Semester courses; 2 lecture and 6 studio hours. 4, 4 credits. The majority of the student's activities occur in his own studio with emphasis on the development of a personal style. May be repeated for a maximum of 16 credits.

417 Seminar in Contemporary Sculpture. Semester course; 3 lecture hours. 3 credits. A forum for consideration and discussion of recent developments. May be repeated for a total of 12 credits.

419 Professional Studio Practicum. Semester course; 9 studio hours. 3 credits. Prerequisite: permission of chairman. A studio class that provides a continuation of the student's work in sculpture. This course will be recorded as an elective for a sculpture major. May be repeated.

491 Topics in Sculpture. Semester course; 1-4 credits. Prerequisite: permission of instructor. A seminar or work shop on a selected issue or topic in the field of sculpture. See *Schedule of Classes* for specific topic(s) to be offered each semester. May be repeated for a total of 16 credits.

COURSES IN THEATRE (THE)

103 Stagecraft. Semester course; 3 lecture hours. 3 credits. The fundamental methods, materials, and techniques of set construction for the stage. Participation in departmental productions.

104 Costume Construction. Semester course; 3 lecture hours. 3 credits. The fundamental methods, materials, and techniques of costume construction for the stage. Participation in departmental productions.

107, 108 Introduction to Stage Performance. Semester courses; 3 lecture hours. 3, 3 credits. A survey and application of the basic elements in stage performing; acting, scene study, voice, and movement. For non-theatre majors.

113-114 Acting, I. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. Development of personal resources; an exploration of performance skills through theatre games, role playing, improvisation, and work on basic script units. Open only to theatre majors upon satisfactory audition.

201-202 Stage Voice and Speech. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. A study of the basic elements of voice and speech to include International Phonetic Alphabet, ear training, sound production, breathing, and application of voice and speech elements to prose and poetry. Open only to theatre majors upon satisfactory audition.

211-212 Introduction to Drama. Continuous course; 3 lecture hours. 3-3 credits. Analysis and critical examination of plays for methods of interpretation and production qualities.

213-214 Acting II. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. Prerequisite: THE 113-114 or equivalent.

A practical application of the psychophysical basis of acting through exploration, improvisation, scoring, and performance of scenes. Open only to theatre majors upon satisfactory audition.

221 Basic Scene Design. Semester course; 3 lecture hours. 3 credits. A study of the basic techniques used in designing space for theatre productions. Participation in departmental productions.

L221 Basic Scene Design Laboratory. Semester course; 2 studio hours. 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

223-224 Practicum in Theatre Technology. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: THE 103, 104. Advanced problem solving in one or more areas of technical theatre.

L223, L224 Practicum in Theatre Technology Laboratory. Semester courses; 2 studio hours. 1, 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

225 Basic Stage Electronics-Lighting. Semester course; 3 lecture hours. 3 credits. A study of the properties and basic principles of electricity as they relate to the utilization of light on the stage. Participation in departmental productions.

L225 Basic Stage Electronics-Lighting Laboratory. Semester course; 2 studio hours. 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

227-228 Basic Stage Costuming and Makeup. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. Prerequisite: THE 104 or permission of instructor. A study of the techniques used to dress the performer, including design theory and makeup application. Participation in departmental productions.

L227, L228 Basic Stage Costuming and Makeup Laboratory. Semester courses; 2 studio hours. 1, 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

229 Introduction to Lighting Design. Semester course; 2 lecture and 2 studio hours. 3 credits. Basic elements of lighting design, composition, orchestration, and color. Participation in departmental productions.

L229 Introduction to Lighting Design Laboratory. Semester course; 2 studio hours. 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

251, 252/351, 352/451, 452 Rehearsal and Performance. Semester courses; 2, 4, or 6 studio hours. 1, 2, or 3 credits. Work in acting, management, design, or technical areas within a Theatre VCU production.

300 The Enjoyment of Theatre. Semester course; 3 lecture hours. 3 credits. An exploration of how theatre as an art form and as popular entertainment has evolved, its role in society, and its reflection in contemporary media.

301-302 Advanced Stage Voice and Speech. Continuous course; 2 lecture and 2 studio hours. 3-3 credits. May be repeated for a maximum of 6-6 credits. First semester: study and practice in the use of voice and speech applied to the plays of Shakespeare. Second semester: study of major stage dialects. Open only to theatre majors upon satisfactory audition.

303/African-American Studies 303 Black Theatre. Semester course; 3 lecture hours. 3 credits. A study of the major developments in the evolution of black theatre through readings and studio performances in black-related and black theatre dramaturgy.

305, 306 Scene Design. Semester courses; 1 lecture and 4 studio hours. 3,3 credits. Prerequisite: THE 221 and permission of instructor. A study of the techniques and methods of scenic design. Participation in departmental productions.

L305, L306 Scene Design Laboratory. Semester courses; 2 studio hours. 1, 1 credit. The practical application in production of the ideas, principles, and theories discussed in design technical courses.

307-308 History of the Theatre. Continuous course; 3 lecture hours. 3-3 credits. A study and analysis of theatre history: the architecture, the performer and performances, the stage, the production methods, and the audience.

309, 310 History of Costumes. Semester courses; 3 lecture hours. 3, 3 credits. Illustrated lectures on the history of costume from primitive times to the present.

313-314 Actor's Studio I. Continuous course; 1 lecture and 4 studio hours. 3-3 credits. Prerequisite: THE 213-214 or equivalent. Alternative forms of script analysis and character study. Concentrated work on specific acting problems. Open only to theatre majors upon satisfactory audition.

315 Audition. Semester course; 4 studio hours. 2 credits. Prerequisite: THE 214 and permission of instructor. A course designed to instruct students in the various techniques of auditioning as a discrete skill; to include choice, preparation, performance, and evaluation of audition material. Open only to theatre majors.

321, 322 Research Techniques for Costume Design. Semester courses; 2 lecture and 2 studio hours. 3, 3 credits. Prerequisite: permission of instructor. A seminar in research and design of costumes for the theatre, including discussion of fabrics and special construction methods used in stage costuming. Participation in departmental productions.

L321, L322 Research Techniques for Costume Design Laboratory. Semester courses; 2 studio hours. 1, 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

323-324 Practicum in Advanced Theatre Technology. Continuous course; 6 studio hours. 3-3 credits. Prerequisite: permission of instructor. Advanced problem solving in technical theatre, with special emphasis on multimedia and new design materials.

L323, L324 Practicum in Advanced Theatre Technology. Semester courses; 2 studio hours. 1, 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

325 Stage Management. Semester course; 2 lecture and 2 studio hours. 3 credits. Prerequisite: permission of instructor. The fundamental responsibilities and techniques of professional stage management.

326 Basic Stage Electronics-Sound. Semester course; 3 lecture hours. 3 credits. A study of the basic techniques used to create sound for theatre productions. Participation in productions.

L326 Basic Stage Electronics-Sound Laboratory. Semester course; 2 studio hours. 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

327 Technical Drawing. Semester course; 3 lecture hours. 3 credits. Prerequisites: THE 221 and permission of instructor. A practical approach to drafting for the theatre, preparation and presentation, including perspective, rotation, development, and graphic solutions pertaining to theatrical construction problems. Open to theatre majors only.

330, 331/430, 431 Production. Semester courses; 1 or 2 lecture and 4 or 8 laboratory hours. 3 or 6 credits per semester. The design, rehearsal, and performance of dramatic works. Open only to theatre majors.

340,341/440,441 Theatre Projects. Semester courses; 1 or 2 lecture and 4 or 8 laboratory hours. 3 or 6 credits per semester. Individual or group projects in acting, directing, costume design, stage design, or dramaturgy. Open only to theatre majors.

361-362 Directing. Continuous course; 3 lecture hours. 3-3 credits. Lectures and discussions on the theories of stage direction; problems involved in the production of period plays and a study of modern theories. Open only to theatre majors.

403,404 History of Dramatic Literature. Semester courses; 3 lecture hours. 3, 3 credits. Study and analysis of dramatic literature. First semester: Aeschylus through Shakespeare. Second semester: Corneille to Ibsen.

407 Advanced Scenic Technique. Semester course; 1 lecture and 4 studio hours. 3 credits. Prerequisite: THE 221 or permission of instructor. An intensive involvement in contemporary theory and practice of scenic techniques. Participation in departmental productions.

L407 Advanced Scenic Technique Laboratory. Semester course; 2 studio hours. 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

413-414 Actor's Studio II. Continuous course, 1 lecture and 4 studio hours. 3-3 credits. Prerequisite: THE 313-314 or equivalent. Advanced character and script analysis. Concentrated work on personal performance limitations and acting problems of each student.

421, 422 Advanced Costume Design. Semester courses; 2 lecture and 2 studio hours. 3,3 credits. Prerequisite: THE 321, 322, or permission of instructor. An advanced study of the techniques, methods, and problems of costume design for the student who plans to enter the field professionally.

L421, L422 Advanced Costume Design Laboratory. Semester courses; 2 studio hours. 1, 1 credit. The practical application in production of the ideas, principles, and theories, discussed in design/technical courses.

423, 424 Modern Drama. Semester courses; 3 lecture hours. 3, 3 credits. Intensive study of major continental and American plays.

429 Advanced Lighting Design. Semester course; 2 studio hours. 3 credits. A study of light as a method of creating mood within stage settings. Participation in departmental productions.

L429 Advanced Lighting Design Laboratory. Semester course; 2 studio hours. 1 credit. The practical application in production of the ideas, principles, and theories discussed in design/technical courses.

461, 462 Advanced Directing. Semester courses; 3 lecture hours. 3, 3 credits. Prerequisite: THE 361-362. Further study in direction techniques, especially the problems of the full length play.

490 Senior Seminar. Semester course; 3 lecture hours. 3 credits. Prerequisite: permission of instructor. Research and/or creative project in the drama major's area of special interest pursuant to graduate study or professional work in the student's chosen field.

491 Topics in Theatre. Semester course; variable credit. 1-3 credits per semester. May be repeated for a maximum of nine credits. Flexible term course in selected aspects of performance, theory, literature, or history. See *Schedule of Classes* for specific topics to be offered each semester.

493, 494 Professional Internship. Semester courses; 3-9 credits. A practicum in theatre conducted in cooperation with selected professional or semi-professional theatre organizations.

496 Practicum in Creative Dramatics. Semester course; 1 lecture and 4 studio hours. 3 credits. May be repeated. A study

of the theory of creative dramatics as it applies to elementary and secondary school education. A supervised practicum in the application of theory to classroom methods.

With permission of instructor, the following courses may be taken by undergraduates for degree credit:

501-502 Stage Voice and Speech
505-506 Stage Design
508 Scene Painting
513-514 Acting Styles

COURSES IN SPEECH (SPE)

103 Voice and Diction. Semester course; 1 lecture hour. 1 credit. Principles and techniques of effective production of the speaking voice and articulation of the sounds of American English.

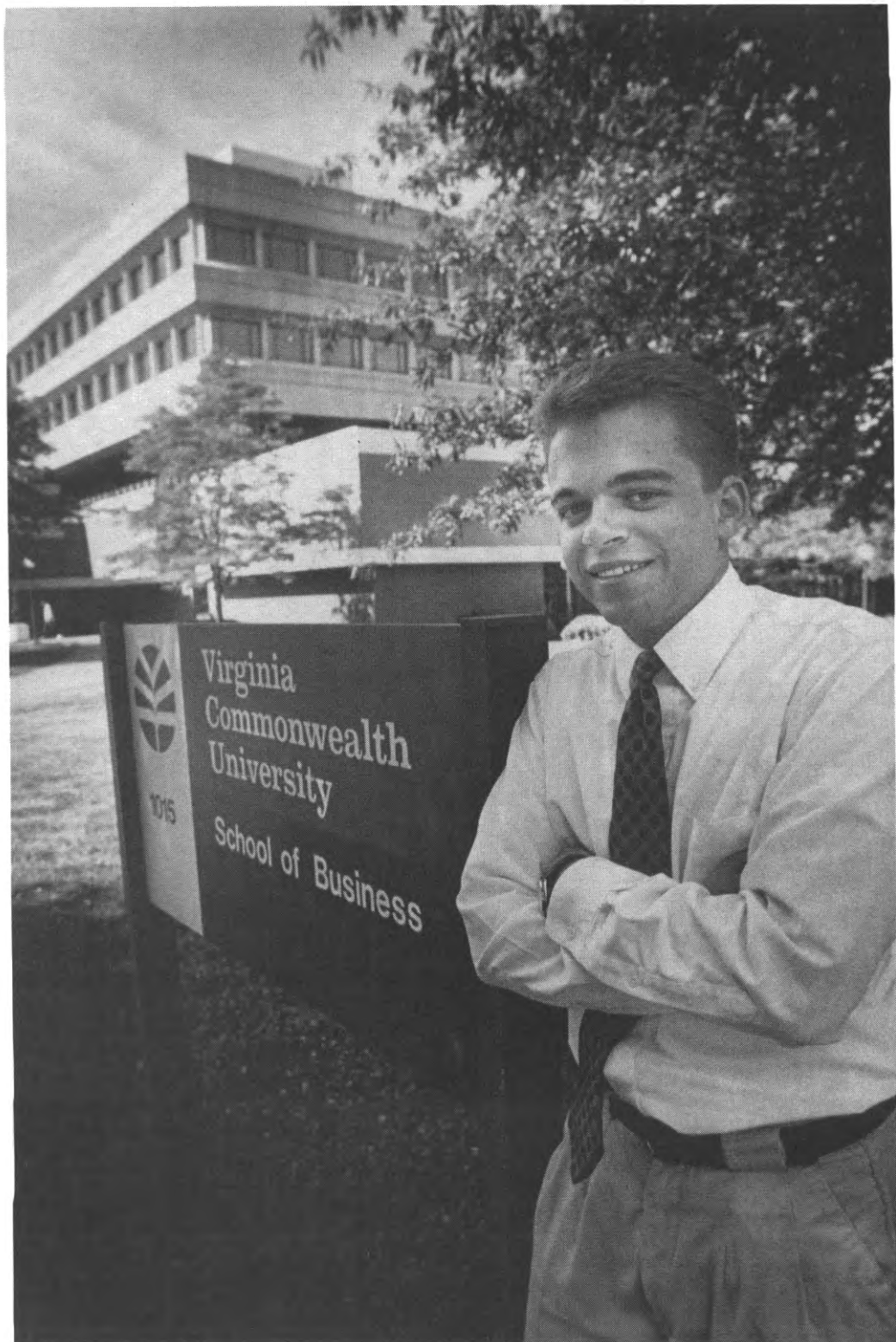
121 Effective Speech. Semester course; 3 lecture hours. 3 credits. Structured speaking and critical listening experiences within the basic forms of speech communication: interpersonal, small group, and public.

262 Speech for Broadcast News. Semester course; 3 lecture hours. 3 credits. Theory and application of oral communication skills necessary to produce an effective general American speech pattern suitable for radio and television.

321 Speech for Business and the Professions. Semester course; 3 lecture hours. 3 credits. Theory and practice in the oral communication process. Organization and presentation of informative and persuasive subject matter in professional contexts related to the student's major area of interest.

401-402 Oral Interpretation of Literature. Continuous course; 3 lecture hours. 3-3 credits. Theory and practice in the analysis and oral presentation of prose, poetry, and dramatic literature.





1015

Virginia
Commonwealth
University
School of Business

PART IX

SCHOOL ▼ OF ▼ BUSINESS

Howard P. Tuckman

Dean

E. G. Miller

Associate Dean for Administration

Iris W. Johnson

Associate Dean for Undergraduate Studies

Edward L. Millner

Associate Dean for Graduate Studies

Charles J. Gallagher

Associate Dean for External Affairs

The primary objective of the School of Business is to prepare students for professional careers in business, government, research, and education. Under this objective, the School of Business renders service to the business community, engages in and encourages research in business related fields, provides service to other schools in the university, and contributes to identifying and solving problems related to the university's urban mission.

General requirements taken by business students provide a broad knowledge of the liberal arts in general and of business in particular. Major requirements furnish business students with an opportunity for extensive study in specific fields.

The school offers degree programs in accounting, business administration, economics, finance, human resources management/industrial relations, information systems, management, marketing, production/operations management, and real estate and urban land development.

Finance majors choose a specialization in finance or insurance/risk management. Majors in

management can choose a specialization in entrepreneurship and small business, or general management.

ACCREDITATION

The School of Business is accredited by the American Assembly of Collegiate Schools of Business (AACSB) which accredits programs of professional education in business at the collegiate level. The AACSB evaluates curricula, faculty credentials, library facilities, physical plant and equipment, and financial support of the institution.

SCHOLARSHIPS AND AWARDS

In addition to university scholarships, business students are eligible to apply and compete for the following scholarships awarded by the various School of Business programs.

A. Kemp Rowe Memorial Real Estate Group Scholarship, American Institute of Real Estate Appraisers Scholarship, Ann/Leola Robertson Scholarship, Charles G. Thalheimer Family Scholarships, Central Fidelity Scholarship, Crestar Scholarships, Davis Ratcliffe Insurance Award, Dennis Scholar, Department of Management Scholarship, Eskimo Pie Scholarship, Frasier Accounting Scholarship, Howard Klugman Award, Insurance Women of Richmond Scholarship, J. Sydnor Mitchell Award, John A. Levering Memorial Real Estate Scholarship, John B.

Sperry Scholarship, Mid-Atlantic Coca-Cola Bottling Company Scholarships, National Association of Home Builders/Home Builders Association of Virginia Scholarships, National Association of Industrial and Office Parks Scholarship, NationsBank Scholarships, Nelco Scholarship, Northern Virginia Board of Realtors Scholarship, Real Estate Educators Association Harwood Memorial Scholarship, Richmond Chapter of the Society of ChFc and CLU Scholarships, Richmond Mortgage Bankers Association Scholarships, Risk and Insurance Managers Society Annual Award, S and K Scholarship, Society of Real Estate Appraisers Scholarship, State Fair of Virginia Scholarships, Tanner A. Slayden Scholarship, and William O. Edwards Scholarship.

Several nonmonetary awards are presented in recognition of scholastic achievement and service. These include the Dean's Scholars, the Delta Sigma Pi Scholarship Key, Virginia Society of Certified Public Accountants Award of Achievement, and the Wall Street Journal Award. The School of Business Honors Program recognizes outstanding students, faculty, and alumni at its annual Honors Program.

HONORARY AND PROFESSIONAL ORGANIZATIONS

VCU's business school seeks to improve the quality of its programs and to provide educational development opportunities for its students through active chapters of honorary and professional organizations.

Beta Gamma Sigma is a national scholarship society founded to encourage and reward scholarship and accomplishment among business students. The upper five percent of the junior class and the upper ten percent of the senior class are eligible for election into the society.

Beta Alpha Psi, a national accounting honorary society, elects its members on the basis of scholarly achievement in accounting courses; the National Honor Society of Omicron Delta Epsilon recognizes scholarship in economics; Alpha Mu Alpha is the national honor society in marketing; and the Financial Management Association is an international honor society in finance.

Business students are encouraged to participate in student professional organizations such as The Accounting Society; the Data Processing Management Association; Delta Sigma Pi, an international fraternity that contributes to the development of students in all business disciplines; Gamma Iota Sigma, a national fraternity for students interested

in insurance; Rho Epsilon, a national fraternity for students interested in real estate; the American Marketing Association; the Society for Advancement of Management; the Society for Human Resource Management; the Jennings Society for students interested in economics; and the VCU Entrepreneurs Club.

HONORS PROGRAM

The University Honors Program provides academic and other opportunities for academically superior students. Qualified business students may follow a program of study that leads to graduation in the Honors Program, a complete description of which is given in Part II of this bulletin.

COOPERATIVE EDUCATION AND INTERNSHIPS

Business students are eligible for the University Cooperative Education Program. Qualified students placed with an employer will either alternate one semester of full-time study with one semester of full-time work or combine study with part-time work during the same semester. The School of Business also offers internships, allowing advanced students to pursue part-time work assignments with area employers.

INTERNATIONAL BUSINESS

Students interested in international business are encouraged to participate in programs available in the School of Business and in other divisions of the university. The international dimensions of business are discussed in a number of courses required of business students. Additionally, the School of Business offers specialized courses that address specific international topics. A minor in international studies is offered through the College of Humanities and Sciences.

VCU students can also participate in the International Student Exchange Program (ISEP), which allows a student to complete some course work toward a degree while attending a foreign institution. The university also organizes specialized travel and study abroad programs through the Center for International Programs.

BUSINESS COUNCIL

The Business Council of the School of Business is composed of leading business executives. The council meets periodically to advise and assist the dean and faculty in the development of the total educational program and to help in the school's continuing efforts to maintain academic excellence.

ACADEMIC POLICIES

School of Business degree programs are organized into two components—the foundation program and the advanced program.

Students admitted to the School of Business as freshmen or sophomores enroll in the foundation program. Continuing students who meet the academic standards are admitted to the advanced program—the majors—at the beginning of their junior year. Transfer applicants can also be considered for admission to the foundation and advanced programs.

Acceptance into a major is competitive and based on academic performance. To maintain the quality of its educational programs, the number of students admitted in any semester depends on the resources available to the school. All students admitted to a major must meet a 2.25 cumulative grade point average (CGPA) requirement and must have completed, prior to enrollment in the advanced program, at least 54 credits in the foundation program or its equivalent. Transfer students must also meet the 2.25 CGPA for courses taken at their former institutions. The 54 required credits must include the following courses or their equivalents: ENG 101-102 (200), BUS 111-112, ECO 210-211, and BUS 203-204.

Applications and information for admission to all undergraduate programs in the School of Business can be obtained from Office of Admissions, Virginia Commonwealth University, 821 West Franklin Street, Richmond, VA 23284-2526.

ADMISSION DEADLINES

Prospective freshmen for the School of Business must follow the application submission dates for the university as stated in Part II of this bulletin. Readmission and transfer applicants must submit applications by January 1 for fall enrollment and by October 1 for spring enrollment.

Students currently enrolled in degree programs at VCU who seek a change of major to any School of Business program must file the request before the end of the eighth week of classes during the fall and spring semesters or by July 1 during the summer. If approved, the change of major becomes effective at the beginning of the following semester.

A student completing the business foundation program must apply for admission to the advanced program by requesting a change of major. The request must be filed by the above dates during the semester before desired enrollment in the advanced program courses.

ACCELERATED PROGRAM

The School of Business Accelerated Program enables students to earn both a bachelor's and a master's degree in one of the business disciplines within four years. Students with at least a 1270 SAT score and a high school class rank in the upper 15 percent are eligible to apply for the program. To remain in the program, students must maintain a 3.5 GPA or better.

In addition to saving time and money, students in this program receive a number of opportunities and privileges, including contacts with business leaders, paid internships, scholarships, guaranteed admission to a master's program, study abroad in English for credit, and eligibility to enter the University Honors Program—a program which offers a number of its own special privileges. Students wishing to apply to the accelerated program should contact the School of Business Undergraduate Studies Office, Room 3119.

GUARANTEED ADMISSION

VCU students who receive their undergraduate degrees in business are guaranteed admission into a VCU School of Business master's degree program if they have a minimum SAT score of 1270, an undergraduate CGPA of at least 3.5, a GMAT prior to entry into the master's program, and an on-campus interview.

ENROLLMENT IN BUSINESS COURSES

Business students who register during the first six weeks of advance registration are guaranteed space in business classes for which they are

eligible with the possible exception of classes taught in the computer laboratories. This guaranteed space does not apply to a specific course section.

All VCU students can enroll in freshman and sophomore business courses (all 100-200 level courses with BUS or ECO prefixes) provided prerequisites are met.

Only juniors, seniors, and graduate students admitted to a major field within the university and special students with a bachelor's degree are eligible for enrollment in upper division courses (all 300-400 level courses with BUS or ECO prefixes). Students without these qualifications may enroll in the following upper division courses if the prerequisites are met:

BUS 301-302	Business Statistics
BUS 305	Tax Planning for Individuals
BUS 315	Personal Financial Planning
BUS 316	Principles of Real Estate
BUS 333	Risk and Insurance
BUS 358	Introduction to Structured Programming
BUS 360	Business Information Systems
BUS 362	Computer Hardware and Software
BUS 421	Small Business Management
BUS 428	Employee Benefit Planning

LIMITATION ON TOTAL CREDITS EARNED BY NONBUSINESS MAJORS

The number of credits that nonbusiness majors may accumulate from enrollment in classes offered by the School of Business is limited to a maximum of 25 percent of the total credits required for graduation in their programs. Students who wish to present more than 25 percent of their course work in business and/or economics must be admitted to a major in the School of Business, must complete a minimum of 27 credits from the School of Business advanced program after acceptance into the major, and must meet all graduation requirements of the school. This does not limit the number of courses in economics for economics majors in the College of Humanities and Sciences.

TRANSFER POLICIES

In addition to meeting the general requirements of the university and the School of Business, transfer students who plan to enroll in an undergraduate program in business must comply with the following:

1. Calculation of the CGPA requirement for admittance into the School of Business advanced program is based on grades earned at **all** institutions attended.
2. Transfer of business and economics courses from two-year institutions is limited to courses offered by the School of Business in the lower division (freshman and sophomore years).
3. Transfer of business and economics courses from institutions offering bachelor's degrees is limited to courses offered at levels no lower than the levels of comparable courses offered by the School of Business.

STUDENT ADVISING

Every student admitted to a major is assigned a faculty advisor from that major field of study. Students enrolled in the foundation program are assigned advisors to assist them until the foundation program is completed. The advisors assist students in planning course work, becoming familiar with university services, interpreting university rules and procedures, and clarifying career objectives.

While the faculty of the School of Business provides timely and accurate information and advice, **the student is ultimately responsible for knowing and satisfying the degree requirements of his or her program.** Students should familiarize themselves with curriculum requirements, appropriate sequencing of courses and course prerequisites, and academic regulations covered in Part V of this bulletin.

GENERAL REQUIREMENTS FOR BACHELOR OF SCIENCE IN BUSINESS

To complete this degree, a minimum of 126 credits is required, with no more than four of those credits in physical education, and no more than another four credits from BUS 160 through BUS 168 courses. The foundation program specifies course work required during the freshman and sophomore years. Students who successfully complete a minimum of 54 credits in the foundation program—including ENG 101-102 (200), ECO 210-211, BUS 111-112, and BUS 203-204—meet the course requirements for admission into a major in the School of Business.

The advanced program details the course requirements for students admitted to a major in the

school. Candidates for the bachelor's degree in business must complete the 126 credits outlined in the combination of the foundation and advanced programs.

	(BUS 302 and a maximum of 4 credits from the BUS 160 series can be used as nonbusiness electives.)	
4. School of Business Core		
BUS 203-204 Introduction to Accounting		6
Total		63

FOUNDATION PROGRAM

	<i>Credits</i>
1. General Requirements (21 credits)	
ENG 101-102 (200) Composition and Rhetoric .	6
ECO 210-211 Principles of Economics	6
BUS 111-112 or MAT 111-112	6
SPE 121 or 321 Effective Speech or Speech for Business and the Professions (only one of these courses may be used to fulfill degree requirements)	3
2. Restricted Electives (24 credits)	
a. Natural Science	6
One of the following six credits:	
BIO 109-110 General Biology, or	
BIO 109 General Biology and	
BIO 103 (114) Environmental Science, or	
CHE 101-102 General Chemistry (eight credits), or	
CHE 103-104 Introduction to Modern Chemistry, or	
PHY 101 Foundations of Physics and PHY 102 Frontiers of Physics, or	
PHY 103 Elementary Astronomy and PHY 105 Physical Geology, or	
PHY 201-202 General Physics	
A recommended laboratory one-credit course is optional in conjunction with all courses above except PHY 201-202 where the lab is required.	
b. Human Behavior	6
Any combination of six credits in psychology, sociology, and anthropology, excluding PSY 214 Applications of Statistics and SOC 214 Applications of Statistics—neither of which may be taken for degree credits by business majors.	
c. Institutional Studies (Accounting majors must take political science courses)	6
One of the following six credits:	
POS 101,102 American Government, or	
HIS 101,102 Introduction to European History, or	
HIS 103,104 Introduction to American History, or any six credits from:	
POS 103 U.S. Government,	
POS 105 International Relations, and	
POS 201 Introduction to Politics.	
d. Literature or Language	6
Any combination of six credits from:	
ENG 201,202 Western World Literature,	
ENG 203,204 English Literature,	
ENG 205,206 American Literature,	
ENG 241 Introduction to Shakespeare, and	
PHI 103,104 Introduction to the History of Western Philosophy	
OR	
Any two-course sequence (six to eight credits) in one foreign language.	
3. Non-School of Business Electives	12

ADVANCED PROGRAM

1. School of Business Core (30 credits)	
BUS 301 Business Statistics	3
BUS 308 Introduction to Marketing	3
BUS 311 Financial Management	3
BUS 319 Organizational Behavior	3
BUS 320 Production/Operations Management ..	3
BUS 323 Legal Environment of Business (Accounting majors must take BUS 481 in place of BUS 323)	3
BUS 325 Organizational Communication	3
BUS 360 Business Information Systems	3
BUS 434 Strategic Management	3
ECO 303 Managerial Economics	3
2. Major Requirements (27 credits)—listed under the major requirement section of each department ...	27
3. Business and/or nonbusiness electives	6
Students who intend to go to graduate school in business should take BUS 302; finance, and marketing majors must take BUS 302; and accounting majors should consult recommended electives under the accounting major requirements. All School of Business students entering junior-level BUS and ECO courses are expected to have competency in computer-based word processing and spreadsheet skills such as those taught in BUS 160, 161, and 162.	
Total	63
TOTAL Foundation and Advanced Programs	126

Minor in General Business

The minor in general business is for nonbusiness majors and consists of the following 21 credits: ECO 203 Introduction to Economics, BUS 202 Accounting for Nonbusiness Majors, BUS 308 Introduction to Marketing (prerequisites: ECO 203 and junior standing), BUS 311 Financial Management (Prerequisite: junior standing), BUS 319 Organizational Behavior (prerequisite: junior standing), BUS 323 Legal Environment of Business (prerequisite: junior standing), and BUS 360 Business Information Systems. A cumulative GPA of 2.0 must be attained in these courses.

ACCOUNTING

Ruth W. Epps
Interim Chair of the Department

- | | |
|-------------------|-------------------|
| Edward N. Coffman | Wayne L. Edmunds |
| John O. Everett | Charles L. Holley |
| Rita P. Hull | James E. Hunton |

Ruth Ann McEwen
Bill N. Schwartz
Roxanne M. Spindle
Benson Wier

Philip R. Olds
Edward C. Spede
Rasoul H. Tondkar

The accounting program prepares students for careers as professional accountants in public practice, industry, and government. Students are encouraged to sit for a professional examination at the completion of the degree requirements.

Major Requirements

	<i>Credits</i>
BUS 303-304 Intermediate Accounting I and II ...	6
BUS 306 Cost Accounting	3
BUS 307 Accounting Systems	3
BUS 404 Advanced Accounting	3
BUS 405 Tax Accounting	3
BUS 406 Auditing	3
BUS 407 Advanced Auditing, OR	
BUS 410 Advanced Tax Accounting	3
BUS 411 Accounting Opinions and Standards	3
Total	<u>27</u>

Recommended Electives

- BUS 401 Governmental and Not-For-Profit Accounting
- BUS 407 Advanced Auditing, OR
- BUS 410 Advanced Tax Accounting
- BUS 482 Law for Accountants II

POST-BACCALAUREATE CERTIFICATE IN ACCOUNTING

This certificate is designed for people who have earned a bachelor's degree in a field other than accounting and wish to continue their education but do not aspire to a master's degree. A complete description of this program is given in the *VCU Graduate Bulletin*. For more information about this program contact the Associate Dean for Graduate Studies, School of Business, 1015 Floyd Avenue, Richmond, VA 23284-4000.

ECONOMICS

John H. Bowman
Chair of the Department

Larry G. Beall	Douglas D. Davis
Charles J. Gallagher	David W. Harless
William B. Harrison	George E. Hoffer
Edward L. Millner	Shannon K. Mitchell
Dennis M. O'Toole	Stephen J. Perez
Steven P. Peterson	Michael D. Pratt
Robert J. Reilly	Howard P. Tuckman
James N. Wetzel	

The economics major offers an introduction to the fundamentals of business and economics, with

a concentration on methods of economic analysis in the third and fourth years. This curriculum prepares students for positions in business and government and for graduate or professional study. The department also offers courses in economics to meet the needs of students in other VCU curricula.

A major in economics is also offered by the College of Humanities and Sciences. That curriculum is designed for students who prefer a liberal arts core.

Major Requirements

	<i>Credits</i>
ECO 301 Microeconomic Theory	3
ECO 302 Macroeconomic Theory	3
ECO 307 Money and Banking	3
ECO 489 Senior Seminar in Economics	3
ECO Electives	12
BUS 302 Business Statistics	3
Total	<u>27</u>

Minor in Economics

A minor in economics is offered through the College of Humanities and Sciences.

FINANCE, INSURANCE, AND REAL ESTATE

Neil B. Murphy
Chair of the Department

Sam G. Berry	James H. Boykin
Kenneth N. Daniels	Jerry T. Ferguson
Elbert Hubbard	E. G. Miller
Phyllis S. Myers	Richard Phillips
Daniel P. Salandro	Tai S. Shin
David E. Upton	

Finance

The major in finance prepares students for graduate level study of finance and for careers in corporate finance, the securities industry, banking, and insurance. Students choose a concentration in one of two tracks—finance or insurance/risk management. (Courses directly related to risk, insurance, and employee benefits are approved for 42 Virginia insurance continuing education credits for insurance agents. Contact the Director of Insurance Studies for further information.)

Major Requirements

	<i>Credits</i>
BUS 312 Intermediate Financial Management ..	3
BUS 314 Investments	3
BUS 333 Risk and Insurance	3
BUS 437 Funds Management in Financial Institutions	3
Select one of the two tracks (15 credits)	<u>15</u>
Total	<u>27</u>

Finance Track

BUS 414 Security Analysis and Portfolio Management	3
BUS 416 International Financial Management ..	3
BUS 417 Cases in Financial Management	3
BUS 455 Options, Futures, and Swaps	3
Approved Finance Elective	3
Total	15

Approved Electives for the Finance Track

BUS 303 Intermediate Accounting I	
BUS 306 Cost Accounting	
BUS 413 Comparative Financial Systems	
BUS 424 Property and Liability Insurance	
BUS 426 Life and Health Insurance	
BUS 429 Real Estate Finance	
BUS 491 Topics in Business (approved finance topics)	
BUS 493 Internship	
ECO 307 Money and Banking	
ECO 402 Business Cycles and Forecasting	

Insurance/ Risk Management Track

BUS 424 Property and Liability Insurance	3
BUS 428 Employee Benefit Planning	3
Choose two of the following:	6
BUS 426 Life and Health Insurance	
BUS 430 Social Insurance	
BUS 432 Insurance Law	
Approved Insurance/Risk Management Elective	3
Total	15

Approved Electives for the Insurance/Risk Management Track

BUS 305 Tax Planning for Individuals	
BUS 331 Human Resource Management	
BUS 350 Tort Law	
BUS 413 Comparative Financial Systems	
BUS 416 International Financial Management	
BUS 417 Cases in Financial Management	
BUS 493 Internship	
ECO 307 Money and Banking	
ECO 421 Government and Business	
SRA 440 Incident Investigation	
SRA 430 Systems Safety	

Real Estate and Urban Land Development

The major in real estate and urban land development prepares students for careers in land development, brokerage, valuation and investment counseling, site analysis and selection, real property management, mortgage lending, and bank trust and corporate real estate departments, as well as other real estate related careers in the public and private sectors.

Major Requirements

	<i>Credits</i>
BUS 316 Principles of Real Estate	3
BUS 317 Real Property Management	3
BUS 326 Real Estate Law	3
BUS 423 Real Estate Brokerage	
OR	
BUS 431 Advanced Real Estate Appraisal	3
BUS 425 Real Estate Appraisal	3

BUS 429 Real Estate Finance	3
BUS 437 Funds Management in Financial Institutions	
OR	
ECO 307 Money and Banking	3
plus any two of the following three courses:	
BUS 310 Introduction to Marketing Research	
BUS 318 Real Estate Negotiating	
BUS 423 Real Estate Brokerage	
BUS 431 Advanced Real Estate Appraisal	
USP 302 Land Use Capability	6
Total	27

POST-BACCALAUREATE CERTIFICATE IN REAL ESTATE AND URBAN LAND DEVELOPMENT

This post-baccalaureate certificate is designed for people who have earned a bachelor's degree in a field other than real estate and urban land development and who wish to continue their education but do not aspire to a master's degree. A complete description of this program is given in the *VCU Graduate Bulletin*. For further information about this program contact the Associate Dean for Graduate Studies, School of Business, 1015 Floyd Avenue, Richmond, VA 23284-4000.

INFORMATION SYSTEMS

Richard T. Redmond
Interim Chair of the Department

Peter H. Aiken	Robert L. Andrews
Edwin E. Blanks	Donna Byrd
George C. Canavos	Richard J. Coppins
F. Paul Fuhs	Jean B. Gasen
Glenn H. Gilbreath	Amita Goyal
Michael J. Hine	Geoffrey Hubona
Robert I. Mann	Don M. Miller
Josephine F. Morecroft	Subhash C. Narula
J. William Reihl	Michael A. Spinelli
Annie Stith-Willis	John W. Sutherland
H. Roland Weistroffer	A. James Wynne

The major in information systems is designed to prepare students for professional careers in data processing. Through required and elective courses, students will be prepared for positions of programmer, systems analyst, or software analyst. The department also offers courses in information systems to meet the needs of students in other curricula offered by the university.

Major Requirements

	<i>Credits</i>
BUS 358 Introduction to Structured Programming	3
BUS 359 Advanced Program Design Techniques	3

BUS 361 Systems Analysis	3
BUS 362 Computer Hardware and Software	3
BUS 363 COBOL Programming	3
BUS 365 System Design	3
BUS 464 Database Systems	3
Two electives from the following group	6
Total	27
BUS 366 Computerware Analysis	
BUS 460 Assembler Programming	
BUS 461 Systems Project Planning	
BUS 462 Object-Oriented Technology	
BUS 463 Selected Information Technologies	
BUS 466 Applications Programming	
BUS 467 Distributed Data Processing and Telecommunications	
BUS 468 Direction and Coordination of Information Systems Organizations	
BUS 469 Information and Decision Systems in Organizations	
BUS 470 Local/Area Networks	
BUS 491 Topics in Business (approved information systems topics)	
BUS 493 Internship	

**POST-BACCALAUREATE CERTIFICATE
IN INFORMATION SYSTEMS**

The post-baccalaureate certificate in information systems is designed for students who have earned a baccalaureate degree in a field other than information systems and who desire to continue their education beyond the undergraduate level but do not aspire to a master's degree. A complete description of the program is given in the VCU *Graduate Bulletin*. For information relating to the certificate program, contact the Associate Dean for Graduate Studies, School of Business, 1015 Floyd Avenue, Richmond, VA 23284-4000.

MANAGEMENT

Darrel R. Brown
Chair of the Department

R. Jon Ackley	Randolph T. Barker
Charles M. Byles	Guy J. DeGenaro
George R. Gray	Eugene H. Hunt
Iris W. Johnson	Wallace R. Johnston
Ibrahim Kurtulus	Kim Melton
Marianne Miller	Elliott Minor
Donald W. Myers	C. Glenn Pearce
Michael W. Pitts	George W. Rimler
Randall G. Sleeth	Charles H. Smith
Robert R. Trumble	D. Robley Wood

This department offers majors in business administration, human resources management/ industrial relations, management, and production/operations management.

Business Administration

The business administration major provides a broad education in business by allowing students to take courses in several subject areas.

Major Requirements

The business administration major requires core courses and a choice of four courses as specified below:

	<i>Credits</i>
A. Core Courses (15 credits)	
BUS 302 Business Statistics	3
BUS 331 Human Resource Management	3
BUS 339 Management Science	3
BUS 419 Managing Dynamic Organizations	3
BUS 489 Managerial Applications and Skills Development	3
B. Select four courses from the following six areas. At least one course must be taken in each of three different areas.	
Total	12
	27

Finance

- BUS 312 Intermediate Financial Management
- BUS 314 Investments
- BUS 414 Security Analysis and Portfolio Management
- BUS 417 Cases in Financial Management
- BUS 437 Funds Management in Financial Institutions

Insurance/Risk Management

- BUS 333 Risk and Insurance
- BUS 424 Property and Liability Insurance
- BUS 426 Life and Health Insurance
- BUS 428 Employee Benefit Planning
- BUS 430 Social Insurance
- BUS 432 Insurance Law

Entrepreneurship and Small Business

- BUS 421 Small Business Management
- BUS 436 New Venture Initiation

Human Resources Management/Industrial Relations

- BUS 420 Seminar in Industrial Relations
- BUS 427 Labor and Employment Relations Law
- BUS 433 Compensation Management
- BUS 435 Seminar in Human Resource Management

Production/Operations Management

- BUS 385 Production/Operations Management II
- BUS 439 Quality I
- BUS 440 Forecasting Methods and Process
- BUS 441 Production Planning and Control Systems

Real Estate and Urban Land Development

- BUS 316 Principles of Real Estate
- BUS 317 Real Property Management
- BUS 326 Real Estate Law
- BUS 423 Real Estate Brokerage
- BUS 425 Real Estate Appraisal
- BUS 429 Real Estate Finance
- BUS 431 Advanced Real Estate Appraisal

Human Resources

Management/Industrial Relations

The major in human resources management/industrial relations gives students a broad overview of the educational and application aspects of human resources management/industrial relations. Students in this program pursue an in-depth study of a variety of topical areas, including human resource management, labor and employment relations law, compensation management, and employee benefits. Students are encouraged to broaden their knowledge base by taking electives in industrial psychology. After completing this program, students are prepared to enter the public and private sectors in compensation, employee benefits, incentive awards programs, and human resources.

Major Requirements

	<i>Credits</i>
BUS 331 Human Resource Management	3
BUS 419 Managing Dynamic Organizations	3
BUS 420 Seminar in Industrial Relations	3
BUS 427 Labor and Employment Relations Law ...	3
BUS 433 Compensation Management	3
BUS 435 Seminar in Human Resource Management	3
BUS 489 Managerial Applications and Skills Development	3
Restricted Electives (Students planning to attend graduate school should complete BUS 302 as one of the two restricted electives or as a free elective.)	6
Total	27

Choose two of the following approved electives:

- BUS 302 Business Statistics
- BUS 428 Employee Benefit Planning
- ECO 431 Labor Economics

Management

The major in management consists of two tracks.

The entrepreneurship and small business track enables students to develop skills in working with small firms and eventually starting small firms of their own. After completion of this program, students are ready to accept a variety of positions in the functional areas of business.

The general management track provides students a broad-based management education, giving the students flexibility in many types of management-level positions sought upon graduation. Students who complete this program are equipped to enter private or public employment in a variety of entry-level positions.

Students who select the management major must complete a three-course core and then an additional six courses in the chosen track.

Major Requirements

	<i>Credits</i>
A. Major Core (nine credits)	
BUS 331 Human Resource Management	3
BUS 419 Managing Dynamic Corporations	3
BUS 489 Managerial Applications and Skills Development	3
B. Select one of the two tracks (18 credits)	18
Total	27
1. Entrepreneurship and Small Business Track	
BUS 306 Cost Accounting	3
BUS 421 Small Business Management	3
BUS 436 New Venture Initiation	3
Approved Electives	9
Total	18

Approved Electives (Choose three)

- BUS 316 Principles of Real Estate
- BUS 333 Risk and Insurance
- BUS 346 Technical Systems for Staff and Management
- BUS 376 Dynamics of Retail Management
- BUS 385 Production/Operations Management II

2. General Management Track

- BUS 346 Technical Systems for Staff and
Management
- BUS 418 International Management
- BUS 433 Compensation Management
- Management Environment Electives
- Management Applications Elective (Students planning
to attend graduate school should take BUS 302 as
either a Management Applications Elective or a free
elective.)
- Total**

Management Environment Electives (Choose two)

- BUS 324 Legal Aspects of the Management Process
- BUS 339 Management Science
- BUS 421 Small Business Management

Management Applications Electives (Choose one)

- BUS 302 Business Statistics
- BUS 316 Principles of Real Estate
- BUS 333 Risk and Insurance
- PHI 214 Ethics and Business

Production/Operations Management

Production/operations is the transformation of resources into either tangible products or services. Thus, it is the core function of a business organization, encompassing such areas as quality, manufacturing and service strategy, scheduling, materials and inventory management, purchasing, and forecasting. Majors in production/operations management tend to be comfortable with mathematics, and they like to work with people as well as with numerical data and quantitative methods. Positions in production/operations are found in both manufacturing and service organizations.

Major Requirements

	<i>Credits</i>
A. Core Courses (15 credits)	
BUS 302 Business Statistics	3
BUS 331 Personnel Management	3
BUS 339 Management Science	3
BUS 385 Production/Operations Management II	3
BUS 439 Quality I	3
B. Select four courses from the following list for a total of 12 credits	12
Total	27
BUS 306 Cost Accounting	
BUS 386 Logistics and Physical Distribution	
BUS 440 Forecasting Methods and Process	
BUS 441 Production Planning and Control Systems	
BUS 483 Purchasing and Materials Management	
BUS 491 Topics in Business (approved topic)	
Approved Elective—choose one from:	
PSY 310 Industrial Psychology	
BUS 324 Legal Aspects of the Management Process	
BUS 361 Systems Analysis	
BUS 419 Managing Dynamic Organizations	
BUS 420 Seminar in Industrial Relations	

MARKETING AND BUSINESS LAW

Dennis R. McDermott
Chair of the Department

Deborah L. Cowles	William H. Daughtrey, Jr.
Frank J. Franzak	Walter S. Griggs, Jr.
Pamela Kiecker	Michael W. Little
Carol D. Rasnic	Alfred L. Smith, Jr.
David J. Urban	Heiko deB. Wijnholds
Van R. Wood	

Marketing

The major in marketing endows the student with a broad working knowledge of contemporary marketing philosophy and practice. Students can choose from a variety of courses that most closely meet their interests and career aspirations. Graduates of this program will find career opportunities in marketing management, advertising, sales, marketing research, public relations, retailing, and management of nonbusiness organizations.

Major Requirements

	<i>Credits</i>
BUS 309 Marketing in the Changing World	3
BUS 310 Introduction to Marketing Research	3
BUS 378 International Marketing	3
BUS 476 Marketing Management	3
Select five electives from the following list:	15
Total	27

BUS 371 Promotion and Advertising Strategy
 BUS 372 Product Development and Management
 BUS 373 Buyer Behavior
 BUS 374 Marketing Research: Field Work

BUS 376 Dynamics of Retail Management
 BUS 377 Channel Systems
 BUS 472 Trends in Retailing
 BUS 474 Personal Selling and Sales Management
 BUS 475 Services Marketing
 BUS 478 International Marketing Strategy
 BUS 491 Topics in Business
 BUS 492 Independent Study
 BUS 493 Internship

SAFETY AND RISK ADMINISTRATION

Michael McDonald
Coordinator

New applicants are currently not being accepted into the Safety and Risk Administration (SRA) baccalaureate degree program. Students previously admitted to the university as degree seeking students with a SRA major may complete their degree as outlined in their effective bulletin.

Please consult the *Schedule of Classes* registration book to determine those SRA courses currently offered, or contact the SRA program coordinator.

DOUBLE MAJORS

A double major fulfills the requirements of two majors concurrently. To earn a degree with a double major, the student must fulfill all the requirements of the degree programs of which the majors are a part. Students declare a double major in the School of Business through the change-of-major process in the Office of Records and Registration. The request of a double major should be approved before the student begins courses in the second major. For a second major in the School of Business, the student must complete all courses required for each major. If more than one course overlaps both majors, the student must complete additional courses to reach a minimum of 24 credits in the second major. The chair of the department in which the second major is offered must approve all second major courses at the time the student declares the double major. Students admitted to the double major are assigned an advisor in each major.

PREPARATION FOR THE STUDY OF LAW

Carol D. Rasnic
Department of Marketing and Business Law, Advisor

Husain Mustafa

Department of Political Science, Advisor

James L. Hague

Department of Criminal Justice, Advisor

Few law schools list specific undergraduate courses as prerequisites for admission. Therefore, the student considering law school may major in virtually any department in the College of Humanities and Sciences or the School of Business. However, students are encouraged to obtain a broad liberal arts background with emphasis on the social sciences and English. The advisors to prelaw students maintain continual contact with law school admissions offices and will assist any interested student who has questions about curriculum, financial assistance, application procedure, or the law school admissions test.

GRADUATE PROGRAMS IN BUSINESS AND ECONOMICS

Edward L. Millner

Associate Dean for Graduate Studies

The School of Business offers graduate work leading to the degrees of Master of Business Administration, Master of Science in business, Master of Arts in economics, Master of Accountancy, Master of Taxation, and the Doctor of Philosophy in business. These programs prepare candidates for responsible participation in business, industry, government, and education. Details of these programs are presented in the VCU *Graduate Bulletin*. To receive the graduate bulletin write to the Associate Dean for Graduate Studies, School of Business, Virginia Commonwealth University, 1015 Floyd Avenue, Richmond, VA 23284-4000.

A student cannot enroll in graduate courses offered by the School of Business without first being formally admitted into a VCU graduate program. Exceptions to this policy are made only with the written permission of the associate dean for graduate studies in business.

EXTERNAL AFFAIRS

Charles J. Gallagher

Associate Dean for External Affairs

Mary Scott Swanson

Director of Development

The associate dean for external affairs has primary responsibility for coordinating all School

of Business activities that reach out into the community. This office monitors the overall direction of the activities of the Virginia Council on Economic Education; the noncredit aspects of real estate, insurance, and small business programs; and other external activities not directly related to academic degree programs. The associate dean for external affairs also assists the School of Business Alumni Association with its activities and programs and coordinates fundraising projects for the school.

Alfred L. Blake Chair of Real Estate

This chair, endowed by the Virginia Realtors Foundation, ranks third in the nation in its amount of funding. It provides financial assistance to the endowed chairholder for research and support services. Its purpose is to promote an understanding of real estate operations by offering both credit and noncredit courses.

Information Systems Research Institute

The mission of the institute is to develop partnerships between the School of Business and the information systems professionals in the Richmond business community. The institute provides a diversity of services through such activities as continuing professional education seminars, presentations, and workshops by information systems faculty and via satellite teleconferencing. In addition, the institute conducts sponsored research projects; provides consulting and technical assistance; and investigates the application of new technologies.

Insurance Studies Program

This program educates and promotes awareness in the areas of risk management, insurance, and financial services, and also offers academic and professional programs in conjunction with area insurance professionals.

Small Business Development Program

Participating students in this program consult, counsel, and research problems of a particular business. Students are encouraged to design extensive plans to implement their solutions.

Virginia Council on Economic Education

The council encourages and promotes a better understanding of economics and the American economy among Virginia school administrators, teachers, community leaders, and the general public. VCU is one of nine statewide centers on economic education.

Virginia Family Business Forum

The Forum addresses many of the unique problems encountered by family firms. It provides family business owners and key personnel with valuable information and timely educational programs in a practical, usable format in an atmosphere that allows for interaction with similar firms.

The Forum offers three seminars per year featuring leading experts and family business owners who address current issues of importance to family firms. It provides business owners the opportunity to benefit from the experiences of their peers.

The Forum also holds quarterly educational breakfast meetings and publishes a quarterly newsletter.

Virginia Labor Studies Center

The Virginia Labor Studies Center is committed to developing leadership for the improvement of labor-management relationships in the Commonwealth. The center endeavors to develop an improved public perception of labor-management relations and improve productivity through more advanced labor-management relations.

The planning and administering of its various outreach efforts are done through work with both the labor and management community as well as other interested organizations and individuals. The center assists both labor and management in developing research and education programs.

Virginia Real Estate Center

The center provides information on current market trends to educators, real estate professionals, and the general public. The center conducts extensive research on land developing, real estate marketing and financing, and home and business construction. It also publishes quarterly and annual reports summarizing its findings that are available to the public.

Finally, the center seeks innovative ideas of improving future real estate markets.

COURSES IN BUSINESS (BUS)

111/Mathematics 111 Basic Mathematics for the Behavioral, Social, and Management Sciences. Semester course; 3 lecture hours. 3 credits. Prerequisites: one year of high school algebra and a satisfactory score on the Mathematics Placement Test. Topics include sets, functions, exponents, logarithms, mathematics of finance, matrix algebra, systems of equations, and linear programming. Students may not receive degree credit for both BUS/MAT 111 and MAT 101.

112/Mathematics 112 Elements of Calculus for the Behavioral, Social, and Management Sciences. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 101 or BUS/MAT 111. Differential calculus, integral calculus.

121 The Business Environment. Semester course; 3 lecture hours. 3 credits. Concepts and issues in contemporary business. (Not open to juniors and seniors in the School of Business.)

145 Keyboarding. Semester course; 3 lecture hours. 3 credits. Includes the development of skill and proper techniques in keyboarding using the microcomputer. Emphasis is on the touch method of keyboarding, including introduction to both the alphabetic and numeric keys. Formatting correspondence and reports is also stressed. May not be taken for credit by persons who have received credit for as much as two semesters of prior instruction in keyboarding/typewriting at any level, except with permission of the department chair.

160 Introduction to Windows/DOS-Based Operating Systems. Five-week course; 1 lecture hour. 1 credit. Familiarizes students with basic computer terminology and concepts and introduces them to a microcomputer environment. Topics include the history of computers, an introduction to hardware and software, computer applications, and hands-on experience on a windows-based microcomputer system. This course requires no prior knowledge of computers, and it provides the necessary foundation for introductory computer programming and applications courses.

161 Introduction to Microcomputer-Based Word Processing Packages. Five-week course; 1 lecture hour. 1 credit. Prerequisites: BUS 160 or equivalent knowledge. Introduces student to fundamental use of microcomputer-based word processors. Topics include word wrap, indentation, font selection, point size, bolding, indenting, underlining, spacing, and block commands. The course will help students prepare documents and papers that other VCU coursework may require. Students may not receive degree credit for both CSC 150 and BUS 161.

162 Introduction to Microcomputer-Based Spreadsheet Packages. Five-week course; 1 lecture hour. 1 credit. Prerequisite: BUS 160 or equivalent knowledge. Introduces students to fundamentals of spreadsheet processing on the microcomputer. Topics include the entering of text, numbers, and formulas, formatting, moving, copying, recalculation, graphing, retrieving, saving, and printing. The course will help students prepare financial analyses and products other VCU coursework may require. Students may not receive degree credit for both CSC 150 and BUS 162.

163 BASIC Computer Programming. Five-week course; 1 lecture hour. 1 credit. Prerequisite: BUS 160 or equivalent. Introduces students to introductory level programming on microcomputers using the BASIC programming language. This course is designed for students who have not previously studied a procedure oriented programming language. Students may not receive degree credit for both CSC 150 and BUS 163.

164 Introduction to Mainframe Computing. Five-week course; 1 lecture hour. 1 credit. Introduces students to logon procedures, text editing, and program development facilities on IBM/370 mainframe systems and on systems using the UNIX operating system. Topics include the use of the ISPF/

PDF system and the WYLBUR system for text editing and program development on IBM/370 systems, the use of the vi editor under UNIX, and system utilities for file maintenance on both systems. This course is for students who have no experience on large computer systems and who will be using mainframe and minicomputers in their courses.

165 Intermediate Microcomputer-Based Spreadsheet Packages. Five-week course; 1 lecture hour. 1 credit. Prerequisite: BUS 162 or equivalent. Familiarizes students with the creation and use of macros, menu building, and package building. Students are introduced to the use of database functions and the creation of tables from databases. This course is designed for those students with some prior experience with computer-based spreadsheet packages.

166 Introduction to Microcomputer-Based Database Packages. Five-week course; 1 lecture hour. 1 credit. Prerequisite: BUS 160 or equivalent knowledge. Provides hands-on experience with a selected popular database management package in the personal computer market.

167 Introduction to Microcomputer-Based Statistical Packages. Five-week course; 1 lecture hour. 1 credit. Prerequisite: BUS 160 or equivalent knowledge. Familiarizes students with the application of microcomputer-based statistical packages. The course includes hands-on experience using a set of raw data for analysis in support of business decisions and research.

168 Introduction to Microcomputer-Based Presentation Packages. Five-week course; 1 lecture hour. 1 credit. Prerequisite: BUS 160 or equivalent knowledge. Familiarizes students with the application of microcomputer-based presentation packages. The course will help students to prepare presentations and products other VCU course work may require.

202 Accounting for Nonbusiness Majors. Semester course; 3 lecture hours. 3 credits. A nontechnical introduction to the principles of financial and managerial accounting with emphasis on the use and interpretation of financial reports, managerial planning and control. The course is for the individual who seeks a basic knowledge of accounting and its uses. It is designed for the user of accounting information rather than the preparer. The course is open only to nonbusiness students. This course cannot be substituted for BUS 203, 204, or 205.

203-204 Introduction to Accounting. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: BUS/MAT 111 or equivalent. Theoretical and technical facets of financial and managerial accounting for business. Accumulation, analysis, interpretation, and uses of accounting information.

205 Introductory Accounting Survey. Semester course; 3 lecture hours. 3 credits. An accelerated course covering theoretical and technical facets of financial and managerial accounting for business. Accumulation, analysis, interpretation, and uses of accounting information. Restricted to students in the Post-Baccalaureate Certificate in accounting program. May not be counted toward any of the B.S. programs offered by the School of Business.

291 Topics in Business. Variable credit (maximum of 3 credits per topic). Prerequisite: permission of instructor. An in-depth study of selected business topics. The election to use the pass/fail grading option is at the discretion of the offering department.

301-302 Business Statistics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: BUS 111-112 or MAT 111-112. Statistical methods employed in the collection and analysis of business and economic data and applications in decision making. First semester: statistical thinking, concepts of variability, process studies, data collection, descriptive measures, probability, and introduction to statistical inference. Second semester: continuation of statistical inference, regression, and correlation analysis with emphasis on problem formulation and interpretation. Students may not receive degree credit for both BUS 301 and STA 213.

303-304 Intermediate Accounting I and II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisites: BUS 160, 161, 162 or equivalent competency, BUS 204, and junior standing. Grade of "C" or higher in BUS 303 is required to take BUS 304. Theoretical standards and procedures for accumulating and reporting financial information about business. Classification, valuation, and timing involved in determination of income and asset/equity measurement.

305 Tax Planning for Individuals. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 203. Not open to accounting majors. Credit will not be given for both this course and BUS 405. A general course in tax accounting concepts and procedures for students with a minimum of previous work in accounting. Emphasis is on aspects of taxation affecting the individual: federal and state income, estate, inheritance, gift, excise, and payroll taxes; fundamentals of tax planning.

306 Cost Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 160, 161, 162 or equivalent competency, BUS 204, and junior standing. Cost accumulation for inventory pricing and income determination. Cost behavior concepts for planning and control. Job order and process cost systems, standard costs, budgets, and special topics in relevant costs for managerial decisions.

307 Accounting Systems. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 160, 161, 162 or equivalent competency, BUS 204, and junior standing. Examines design and evaluation of manual and computerized accounting information systems. Emphasis on the system of internal controls and the impact of computers on those controls.

308 Introduction to Marketing. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 (or ECO 203 for nonbusiness majors) and junior standing. An introduction to the activities involving the exchange of goods, services, and ideas for the satisfaction of human wants. Marketing is examined as it relates to the other functions of the organization, to consumers, and to society.

309 Marketing in the Changing World. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, BUS 308, and junior standing. A study of the uncontrollable forces which shape the markets in which firms operate. Includes consideration of the social, political, legal, technological, and economic environments and emphasizes the challenges and opportunities confronting marketing managers as they adapt to change.

310 Introduction to Marketing Research. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 302 and junior standing. Pre- or Corequisite: BUS 308. Students are introduced to the marketing research process. Includes methodol-

ogy, data collection, sampling, and analysis. Students learn to plan basic research studies and to apply findings to marketing decisions.

311 Financial Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 204 (or BUS 202 for nonbusiness majors) and junior standing. Principles of optimal financial policy in the procurement and management of wealth by profit-seeking enterprises; the application of theory to financial decisions involving cash flow, capital structure, and capital budgeting.

312 Intermediate Financial Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 302, BUS 311, and junior standing. Advanced topics in financial management with emphasis on the theoretical bases for the valuation of the firm.

314 Investments. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 301 and BUS 311, or permission of chair, and junior standing. An analysis of the market for long-term corporate securities. Emphasis is given to the valuation of bonds, common stocks, options, and convertible securities and portfolio concepts. Designed to provide an understanding of the functioning of an efficient market.

315 Personal Financial Planning. Semester course; 3 lecture hours. 3 credits. Designed to assist households and those providing financial services and advice to households in making complex financial decisions. Units include income and expenditure, credit, borrowing, banking, savings, insurance, home buying, investment, and estate planning.

316 Principles of Real Estate. Semester course; 3 lecture hours. 3 credits. Principles and practices of real estate development, financing, brokerage, appraisal, legal instruments, and governmental land use influences.

317 Real Property Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Real property economics and planning, marketing, and management of leased properties.

318 Real Estate Negotiating. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Introduces principles and techniques of negotiating in the marketing and financing of real estate.

319 Organizational Behavior. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Introduction to the determinants and consequences of human behavior and task performance in an organizational setting. Topics include motivation, job design, group development, organizational design, communication, leadership, and change.

320 Production/Operations Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 301, BUS 319, and junior standing. Discipline of management and the management process within the operations of an organization. Planning and controlling of operations through decision analysis, forecasting, aggregate planning, inventory management, and quality management.

323 Legal Environment of Business. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Basic legal concepts applicable to business, including the legal aspects of operating a business, contracts, employment rela-

tionships, sales, bailments, and commercial paper, along with ethical considerations and social and political influences. Students may not receive degree credit for both BUS 323 and BUS 481.

324 Legal Aspects of the Management Process. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 323, or permission of instructor, and junior standing. Legal aspects of partnerships and corporations; management rights, powers, and responsibilities. Students may not receive degree credit for both BUS 324 and BUS 482.

325 Organizational Communication. Semester course; 3 lecture hours. 3 credits. Prerequisites: ENG 101-102 and junior standing. A study of writing for interpersonal, group, and organizational communication, including the preparation of standard business documents.

326 Real Estate Law. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 323, or equivalent, or permission of instructor, and junior standing. Legal fundamentals of real estate including contracts, concepts of title, title examination, easements, conveyances, liens, and recording statutes.

327/English 327 Business and Technical Report Writing. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Development of critical writing skills used in business, science, technology, and government, including instructions, descriptions, process explanations, reports, manuals, and proposals. The course will include such topics as communication theory, technical style, illustrations, formats for proposals, reports, and manuals.

331 Human Resource Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Basic problems of employment, selection, and placement; employee rating systems of a diverse workforce, and management of diversity through recognition of employee uniqueness and positive contributions of various cultures to the organization culture; wage levels and methods; job studies and descriptions; training methods and programs.

333 Risk and Insurance. Semester course; 3 lecture hours. 3 credits. Nature of risk; insurance and other risk handling methods; insurance as an institution; examination of basic life, health, property, and liability principles and coverages.

339 Management Science. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 301 and junior standing. Concepts and techniques of management science as they apply to solving business problems, with a focus on applications. Includes linear programming, transportation method, PERT/CPM, queueing models, and simulation.

346 Technical Systems for Staff and Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Study of office automation systems that enhance the productivity of employees at all levels—managerial, professional/technical, and administrative services. Interrelatedness and intergration of word, data, voice, and image processing for managing and channeling information are emphasized. Key concepts related to the interaction of people, processes, and technologies are examined.

350 Tort Law. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 323 and junior standing. Basic concepts of tort law with emphasis on intentional torts, negligence,

causation, proximate cause, strict liability, vicarious liability, nuisance, tort and contract, misrepresentation, defamation, privacy, and domestic relations.

358 Introduction to Structured Programming. Semester course; 3 lecture hours. 3 credits. Pre- or corequisite: BUS 362. Introduction to computer programming using C Language, including data types, control constructs, input/output and file operations, algorithm and program development, and program testing. Basic concepts and principles are introduced to provide a foundation for further study in information systems.

359 Advanced Program Design Techniques. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 358 and junior standing. An advanced programming course giving special attention to techniques for program design and the evaluation and selection of data structures and algorithms.

360 Business Information Systems. Semester course; 3 lecture hours. 3 credits. Provides an understanding of the importance of computer-based information in the success of the firm. Emphasis is on the role of information systems within each of the functional areas of business. Major concepts include data management, decision support, and management information systems.

361 Systems Analysis and Design I. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 360 and junior standing. Examines the concepts, tools, and techniques used to develop and support computer-based information systems. Topics covered include systems planning, analysis, and design; data, process and network modeling; data analysis; process analysis and design; file and database design; input, output, and user interface design; and program design.

362 Computer Hardware and Software. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 160 and BUS 163 or permission of instructor. Principles of computer hardware and software architecture, organization, and operation. Basic concepts are introduced via assembly language programming.

363 COBOL Programming. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 163, or BUS 358, or permission of instructor, and junior standing. Introduction to the basic concepts of computer program design using the COBOL programming language, including data structures, fundamental operations on data structures, and algorithmic structures.

365 System Analysis and Design II. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 361 and junior standing. The student's behavioral and technical skills developed in BUS 361 are challenged by participating in a team systems development project. Topics covered include computer assisted software engineering, project management, fact-finding techniques, feasibility analysis, and interpersonal skills.

366 Computerware Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 362 and junior standing. Surveys the performance characteristics of representative computer and related software systems, of communications systems, and of peripheral equipment which may be considered in systems design and for installation planning.

371 Promotion and Advertising Strategy. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308, or permission of chair, and junior standing. Overviews the various steps in the development of an advertising strategy. Special stress placed on the study of the creative philosophies and work of leading advertising agencies.

372 Product Development and Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, BUS 308, and junior standing. Study of price theory and policy relevant to goods and services. Introduction to basic product strategy, focusing on new product development, management of existing products, and elimination of marginal offerings. Various concepts will be addressed including product differentiation, the product life cycle, product design packaging, branding, positioning, and related concepts.

373 Buyer Behavior. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308 and junior standing; PSY 101 and SOC 101 recommended. Study of the relevant psychological, sociological, and anthropological variables that shape buyers' activities and motivations in household and organizational decision making. Throughout the course, students consider the issue of why consumers behave as they do in the marketplace and the nature of their choices as individual, family, and institutional buyers.

374 Marketing Research: Field Work. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 310 and junior standing. The development and evaluation of research projects. Students develop a research proposal and carry out a field project.

376 Dynamics of Retail Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308 and junior standing. A comprehensive view of retailing and an application of marketing concepts in a practical retail managerial environment. Students learn to evaluate retail firms and to identify their strengths and weaknesses.

377 Channel Systems. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308 and junior standing. Concerns the development, complexities, benefits, and pitfalls of channel of distribution systems.

378 International Marketing. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308, or permission of chair, and junior standing. This course is designed to orient students toward global marketing and to develop an understanding of the differences among foreign marketing environments. Subject areas emphasized are the differences and similarities between domestic and international marketing and changes in the international marketing environment. This course also introduces students to international marketing policies.

385 Production/Operations Management II. Semester course; 3 lecture hours. 3 credits. Pre- or corequisite: BUS 320, or permission of the instructor, and junior standing. Analyzes operations in organizations through consideration of product and process design, location, layout, job design, work measurement, productivity, scheduling, and maintenance.

386 Logistics and Physical Distribution. Semester course; 3 lecture hours. 3 credits. Pre- or corequisite: BUS 320, or permission of the instructor, and junior standing. Introduction to the logistics function and its analysis. Topics include the logistics environment, facility design and location, production

scheduling, transportation and distribution analysis. Emphasis is on decision analysis and its management implications.

401 Governmental and Not-For-Profit Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 303-304, and junior standing. The role of accounting in the management of resources entrusted to government and non-profit entities, including accounting and reporting standards. Accounting in municipalities and nonprofit entities such as hospitals, charitable and health organizations, and colleges and universities.

404 Advanced Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisites: Grade of "C" or higher in BUS 304 and junior standing. Financial accounting for complex business relationships, including home office-branch accounting, business combinations, consolidated financial statements, partnerships, and governmental funds.

405 Tax Accounting. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 161, 162 or equivalent competency, BUS 204, and junior standing. Income tax legislation and the concept of taxable income; federal income tax law applicable to individuals.

406 Auditing. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 301, grade of "C" or higher in BUS 304 and 307, and junior standing. A study of the conceptual, theoretical, and practical procedures applicable to auditing—both external and internal. Primary emphasis is placed upon the theory of audit evidence; the objectives, techniques, and procedures for financial and operational audits; and the meaning and purpose of the various audit reports.

407 Advanced Auditing. Second semester; 3 lecture hours 3 credits. Prerequisites: BUS 406 and junior standing. An in-depth analysis of advanced topics in auditing. Topics include statements on auditing standards, unaudited statements, advanced statistical sampling applications, and auditing in computer environments. Emphasis is given to preparing students for the auditing section of the CPA examination.

410 Advanced Tax Accounting. Second semester; 3 lecture hours. 3 credits. Prerequisites: BUS 405 and junior standing. Complex tax problems of the trust, partnership, and corporation. Particular emphasis is given to tax planning.

411 Accounting Opinions and Standards. Semester course; 3 lecture hours. 3 credits. Prerequisites: Grade of "C" or higher in BUS 304 and junior standing. A technical course concerned with pronouncements of the public accounting profession. The course objective is to familiarize students with present and proposed accounting opinions and standards.

413 Comparative Financial Systems. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 311 and junior standing. An analysis of the structure and functioning of financial systems in different parts of the world. Emphasis is on the evolution of such systems in relation to the U.S. financial system. Different regions of the world may be studied in different semesters.

414 Security Analysis and Portfolio Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 302, BUS 314, and junior standing. A detailed analysis of stocks and bonds as well as options and futures. Emphasis is on models for portfolio selection, revision, and performance evaluation.

416 International Financial Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 311 and junior standing. Financial management of business in an international environment. Emphasis on tools and techniques to prepare financial managers of multinational firms to effectively respond to the challenges of the international environment.

417 Cases in Financial Management. Second semester; 3 lecture hours. 3 credits. Prerequisites: BUS 311 and junior standing. Cases involving financial decisions for various forms of business enterprises.

418 International Management. Second semester; 3 lecture hours. 3 credits. Prerequisite: junior standing. Management attitudes and concepts of other nations, cultures, or geographic regions compared with the United States.

419 Managing Dynamic Organizations. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 320 and junior standing. The application of macro organization theory to organization design. The design of structure and process to improve effectiveness. Relationships between technology and structure; strategy and environment; power and politics; culture and organization; and growth, decline, and revival.

420 Seminar in Industrial Relations. Second semester; 3 lecture hours. 3 credits. Prerequisites: BUS 331, or permission of instructor, and junior standing. Managerial decision-making in labor management relationships; the collective bargaining process and the administration of labor agreements; the impact of public policy and labor legislation.

421 Small Business Management. Semester course; 3 lecture hours. 3 credits. The importance, problems, and requirements of small businesses; establishing policies for prices, promotion, control, and credit; regulations, taxes, records, and record keeping.

423 Real Estate Brokerage. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Considers administrative principles and practices of real estate brokerage, financial control and marketing of real property.

424 Property and Liability Insurance. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 333, or permission of instructor, and junior standing. Property and liability risk identification and measurement. Major commercial lines coverages including fire, marine, automobile, general liability, worker's compensation, fidelity, and surety bonds.

425 Real Estate Appraisal. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Designed for persons who have completed a course in principles of real estate or its equivalent, or have experience in the real estate field. Topics include neighborhood and site analysis using cost, market, and income approaches. Students may apply to write AIREA examinations upon completion of this course.

426 Life and Health Insurance. Second semester; 3 lecture hours. 3 credits. Prerequisite: junior standing. The function, nature, and uses of life and health insurance and annuities; operational aspects of life insurance companies. (Full-time students who pass this course can receive credit for the CLU HS323 examination from the American College. See instructor for details.)

427 Labor and Employment Relations Law. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 323, or permission of instructor, and junior standing. A survey of legislation and court and administrative body decisions affecting the employer/employee relationship.

428 Employee Benefit Planning. Semester course; 3 lecture hours. 3 credits. Management of group life, health, disability, and retirement plans. New developments in employee benefits, plan design, administration, cost, funding, regulation, and tax considerations.

429 Real Estate Finance. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Instruments, techniques, and institutions of real estate finance; the mortgage market; financing process; mortgage risk analysis; creative financing; emphasis on policies and procedures used in financing residential and commercial properties.

430 Social Insurance. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. Societal and individual financial problems encountered as the result of disability, unemployment, aging, and death. Insurance solutions through governmental and private techniques.

431 Advanced Real Estate Appraisal. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 425 or permission of instructor and junior standing. Provides a comprehensive study of the principles and concepts underlying the income approach to investment property appraisal and the mathematics of yield capitalization. Students may apply to write AIREA examinations upon completing this course.

432 Insurance Law. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. The legal concepts and doctrines applicable to insurance. Fundamental legal aspects of life, health, property, and liability insurance.

433 Compensation Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 331 and junior standing. The methods and techniques of obtaining job descriptions, job characteristics and measuring scales, job rating, and the awarding of wage increments.

434 Strategic Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: senior standing in a School of Business major and completion of all 300-level School of Business core courses. Integrative course to analyze policy issues at the overall management level, involving functional areas such as production, finance, and marketing, in context with the economic, political, and social environment.

435 Seminar in Human Resource Management. First semester; 3 lecture hours. 3 credits. Prerequisites: BUS 331, or permission of instructor, and junior standing. A critical study of selected problems in human resource management.

436 New Venture Initiation. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 421, or permission of instructor, and junior standing. Students engage in the development of a comprehensive business plan. Various strategies for success are explored and factors in entrepreneurial competency are discussed.

437 Funds Management in Financial Institutions. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 311 and junior standing. Funds management techniques for se-

lected financial institutions including investment companies (mutual funds), life and casualty insurers, savings and loans, mutual savings banks, commercial banks, pension funds.

439 Quality I. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 301, or STA 212 and permission of instructor, and junior standing. Quality concepts and tools with a focus on the use of statistical thinking in leading organizations; collection and use of data to direct actions for improvement; introduction to analytic studies; the role of process stability; statistical tools for assessing stability and improving processes.

440 Forecasting Methods and Process. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 302, or equivalent, and junior standing. An application-oriented presentation of forecasting process and forecasting methods to support planning and decision making. Statistical forecasting methods are emphasized, including exponential smoothing, decomposition, and regression. Also includes experience with computer software.

441 Production Planning and Control Systems. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 320, BUS 339, and junior standing. Production planning and control systems, focusing on manufacturing firms. Topics covered include forecasting, statistical inventory control, material requirements planning, and aggregate production planning.

445 Options, Futures, and Swaps. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 312, or 314, and junior standing. Analysis and valuation of speculative securities and markets, including options, futures, and swaps with emphasis on their use for hedging and speculative purposes. Major valuation models and term structure models are discussed with applications to problems in finance considered.

460 Assembler Programming. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 358 and junior standing. Develops ability to code, test, and debug assembler language programs.

461 Systems Project Planning. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 365 and junior standing. Concentrated study of planning methods and techniques required for information systems projects. On completion, students should be able to apply knowledge of systems analysis and programming to plan and carry out a complete systems project.

462 Object-Oriented Technology. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 359, BUS 361, and junior standing. Develops ability to analyze, design, and program application systems using object-oriented concepts. Object modeling, Functional modeling (DFDs), and Dynamic modeling are integrated in the analysis and design methodology presented. C++ is introduced and used as the programming medium.

463 Selected Information Technologies. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 358 and junior standing. Consists of technologies, including 3rd and 4th generation languages, in which the student becomes familiar with tools used in practice and has the opportunity to develop applications using these tools under supervision. Selection of technologies is determined each semester.

464 Database Systems. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 359, BUS 365, and junior standing. Designed to prepare students for development of systems involving databases and database management.

466 Applications Programming. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 363 and junior standing. Covers development of typical data processing programs in COBOL. Includes job control language, debugging, random access files, and other subjects necessary for the implementation of applications programs.

467 Distributed Data Processing and Telecommunications. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 358, 361, and 362, or equivalent, and junior standing. Technology and concepts of telecommunications and distributed processing, including managerial concerns and interests, hardware, systems design, and operation factors.

468 Direction and Coordination of Information Systems Organizations. Semester course; 3 lecture hours. 3 credits. Pre- or corequisites: BUS 461, or permission of instructor, and junior standing. A study of management techniques as applied to direction and coordination of information systems personnel and organizations. Involves readings, group discussion, and case study/assignments.

469 Information and Decision Systems in Organizations. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 361, BUS 362, BUS 365, or permission of the department chairman, and junior standing. The ways in which information and decision system technologies affect the management of complex organizations. Emphasis on the impact of computer-aided decision and control processes on planning, financial, production, marketing, and other subsystems.

470 Local Area Networks. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 467, or permission of the instructor, and junior standing. Provides an introduction into design, implementation, and management of Local Area Networks (LAN's) and the integration of LAN's into wide-area corporate enterprise networks. A case-study orientation is used throughout to emphasize design options in practical situations.

472 Trends in Retailing. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308 and junior standing. BUS 376 recommended. An examination of current and developing trends that will affect the future posture of retailing.

474 Personal Selling and Sales Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 308. Restricted to senior-level business majors or to students having permission of chairman. Examines the fundamental nature of personal selling in the promotion mix, including the sales process and the techniques used in performing the selling function. Explains the diverse decisions and the activities necessary to manage the outside sales force efficiently and effectively to achieve the organization's overall goals.

475 Services Marketing. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308 and 309, or permission of instructor, and junior standing. Students develop both a theoretical and practical understanding of "the service product," including the role of the customer service in retail and industrial settings. Students learn techniques for analyzing

and improving service system design. Students develop an understanding of "quality" as it relates to service products, and they exercise a number of approaches for assessing and improving perceived service quality.

476 Marketing Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: restricted to senior-level marketing majors who have completed a minimum of 15 credits of marketing courses (in addition to BUS 308). A case course requiring the senior marketing student to apply his or her knowledge to the solving of marketing managerial problems.

478 International Marketing Strategy. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 308, or permission of chair, and junior standing. This course offers students the opportunity for an in-depth study of marketing strategy in a particular region of the world. Reference will be made to the trade problems experienced by U.S. companies exporting to and importing from the region. Recent changes in the international business environment will also be discussed.

481-482 Law for Accountants I and II. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: senior accounting major or permission of instructor. Provides detailed examination of laws which are of particular importance to accountants, along with ethical considerations and social and political influences. First semester: contracts, sales, agency, commercial paper, secured transactions, and bankruptcy. Second semester: security regulations, antitrust, partnerships, corporations, suretyship, insurance, wills, and trusts. Students may not receive degree credit for BUS 481-482 and for BUS 323-324.

483 Purchasing and Materials Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 320, or permission of the instructor, and junior standing. An application oriented course dealing with effective management of the supply function in an organization. Current management trends toward world class competitiveness, elimination of waste, total quality (in purchasing management), MRP, and reverse marketing are among the topics covered in this course.

489 Managerial Applications and Skills Development. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 319-320 and senior standing or permission of instructor. Application, testing, and critical analysis of management theories, concepts, and skills. Team building and organizational culture assessment.

491 Topics In Business. Semester course; variable credit, maximum three credits per topic course; maximum six credits for all topic courses. Prerequisite: junior standing. An in-depth study of a selected business topic, to be announced in advance.

492 Independent Study. Semester course; 1-3 credits. Maximum total of three credits. Prerequisites: junior or senior standing as a major in a business curriculum, approval of advisor and department chairman prior to registration. Intensive study under supervision of a faculty member in an area not covered in depth or contained in the regular curriculum.

493 Internship. Semester course; 3 credits. Prerequisites: senior standing in the major offering the internship and permission of the department chairman. Intention to enroll must be indicated to the instructor prior to or during advance registration for semester of credit. Involves students in a meaningful experience in a setting appropriate to the major.

For the listing of graduate courses in the School of Business, see the *VCU Graduate Bulletin*.

COURSES IN ECONOMICS (ECO)

101 Introduction to Political Economy. Semester course; 3 lecture hours. 3 credits. Seminar on the development of critical thought and economic analysis of policy issues. Focus is on how policy choices affect society and the individual, the economic methodology that guides policy choices, and the institutional and political environments within which policy is derived. Issues cover a broad range of topics including environmental issues, tax policy, inflation expectations, unemployment, foreign trade, and the effectiveness of fiscal and monetary policies.

203 Introduction to Economics. Semester course; 3 lecture hours. 3 credits. A survey of economic principles, institutions, and problems. The course is designed to provide basic economic understanding for students who do not expect to major in economics or in the School of Business. (No degree credit for economics and business majors.)

210-211 Principles of Economics. Continuous course; 3 lecture hours. 3-3 credits. Prerequisite: MAT 001 or satisfactory score on the Mathematics Placement Test. A course designed to acquaint the student with a theoretical and practical understanding of the economic institutions and problems of the American economy. First semester: Microeconomics. Second semester: Macroeconomics.

301 Microeconomic Theory. First semester; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. Analysis of the principles that govern production, exchange, and consumption of goods and services. Topics include demand analysis, production and cost theory, price and output determination, theory of markets, and distribution theory.

302 Macroeconomic Theory. Second semester; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. A general survey of national income analysis and macroeconomic theory. Detailed study of public policies affecting price levels, employment, economic growth, and the balance of payments.

303 Managerial Economics. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, BUS 111-112, and junior standing. Application of tools of economic analysis to allocation problems in profit and nonprofit organizations. Models for evaluating revenue, production, cost, and pricing will be presented. Emphasis on developing decision rules for turning data into information for solving problems.

305 Public Finance—State and Local. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210, or ECO 203, and junior standing. An economic analysis of state and local government budgeting, revenue sources, and expenditures.

306 Public Finance—Federal. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210, or ECO 203, and junior standing. An economic analysis of the fiscal decision process, revenue sources, and expenditures at the federal level.

307 Money and Banking. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, or ECO 203, and junior standing. A study of money, financial markets, and the

financial structure with emphasis on commercial banks and the Federal Reserve System. Relationships between economic activity and money supply are introduced.

308 Economic Geography. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. A study is made of the earth's natural and physical resources with emphasis placed on the relationship of these resources to actual and potential economic development of various nations.

310/Afro-American Studies 310 Economics and Poverty. Second semester; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, or ECO 203, and junior standing. An analysis of the causes of income inequality, the incidence and characteristics of poverty, and the economics of public policies designed to counteract poverty.

313 Economics of Transportation. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210, or ECO 203, and junior standing. An economic analysis of the transportation industry with special emphasis on regulation, public policy, and urban transportation.

315/Afro-American Studies 315 Economic Development. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210, or ECO 203, and junior standing. Introduction to the process of economic development. Surveys development theory and experiences of underdeveloped countries of Africa, Asia, Latin America and the Caribbean, and of developed countries. Explores obstacles to development and policies and tools for stimulating economic development.

318/History 340 Origins and Development of Capitalism. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, or ECO 203, and junior standing. A study of the fundamental changes that occurred in early modern times and which were associated with the "birth of capitalism" is followed by an examination of the evolution of Western market economies. A review of some main paradigms of capitalistic development parallels observations about the growth and internationalization of the institutions of capitalism.

319/History 377 Economic History of the United States. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, or ECO 203, and junior standing. An analysis of the developmental factors from the American colonial period to the present. Includes quantitative research topics in American economic history.

320/History 335 Economic History of Europe. First semester; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, or ECO 203, and junior standing. Studies of the origins and development of western capitalistic economies with emphasis on transitional factors and institutional changes.

321/Urban Studies 321 Urban Economics. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210, or ECO 203, and junior standing. An introduction to urban economics, with an emphasis on the economics of agglomeration and the role of externalities in the urban economy. Economic analysis of the provision of urban public services and urban public financing, especially in politically fragmented areas.

325 Environmental Economics. Semester course; 3 lecture hours. 3 credits. Prerequisite: junior standing. The application of economic analysis to externalities such as air and water pollution, pesticide control, land use planning and other environmental issues. The role of cost/benefit analysis in the

decision making process is developed. Efficiency and equity issues are evaluated.

329 International Economics. Second semester; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. An analysis of economic and political influences on exports and imports, balance of payments, foreign investment, exchange rates, and international monetary systems.

401 Introduction to Econometrics. First semester; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211, BUS 301 or STA 213, and junior standing. Sources and uses of economic data; includes the application of statistical methods and regression analysis to time series and cross section data to test hypotheses of micro and macro economics.

402 Business Cycles and Forecasting. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. An examination of repetitive variations in business activity. The measurement and analysis of economic fluctuations and how they affect the business environment. Stresses modern forecasting techniques.

403 Introduction to Mathematical Economics. Semester course; 3 lecture hours. 3 credits. Prerequisites: BUS 112 or MAT 200, ECO 210-211, and junior standing. The application of mathematical techniques to economic theory and economic models.

412 Regional Economics. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. A course to familiarize students with sources and uses of standard data on employment, income, and population and to provide an introduction to economic base theory as used in regional economics. Application of theory. To make and analyze economic and demographic projections for regions in Virginia. Analysis of operation and impact of area economic development programs.

419/History 333 History of Economic Thought. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. A survey of the ideas of major economic contributors to modern economic thought. Theories of value, growth, and distribution from the eighteenth through the twentieth centuries will be presented.

421 Government and Business. Semester course; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. The application of economic analysis to the behavior of business, industry, and government regulation. Topics include the causes and exercise of monopoly power, antitrust enforcement, public utilities, and industry studies.

431 Labor Economics. Second semester; 3 lecture hours. 3 credits. Prerequisites: ECO 210-211 and junior standing. Analysis of labor markets and institutions to gain an understanding of the process of wage and employment determination. Both historic and current topics are included.

489 Senior Seminar in Economics. Second semester; 3 lecture hours. 3 credits. Prerequisites: ECO 301 and 302 or permission of instructor. Papers on current research of enrolled students, faculty, and guests. Analysis of economic theory and problems on advanced level.

491 Topics in Economics. Semester course; variable credit, maximum three credits per topics course; maximum six credits for all topics courses. Prerequisite: junior standing. An

in-depth study of a selected economic topic, to be announced in advance.

492 Independent Study. Semester course; 1-3 credits. Maximum total of three credits. Prerequisites: junior or senior standing as an economics major, approval of advisor and department chair prior to registration. Intensive study under supervision of a faculty member in an area not covered in depth or contained in the regular curriculum.

For the listing of graduate courses offered by the Department of Economics, see the *VCU Graduate Bulletin*.

COURSES IN SAFETY AND RISK ADMINISTRATION (SRA)

145 Introduction to Safety, Security, and Health. Semester course; 3 lecture hours. 3 credits. Provides an introduction to the professional fields of occupational safety, security, and health; includes a comprehensive overview of the safety/loss-control enterprise; assesses the extent and impact of accident, injury, and loss problems; reviews transportation systems and hazards and considers fire protection and occupational safety and health programs in both private and public sectors; discusses history, philosophy, and practice of safety measures; and evaluates career opportunities in safety and risk administration professions.

255 Introduction to Legal Studies. Semester course; 3 lecture hours. 3 credits. Overview of the American legal system, processes, terminology; analysis of historical and philosophical bases of law. Examines the systems that adjudicate the criminal and civil; considers the role of law in the functioning of the justice system.

300 Regulatory Aspects of Safety and Risk Control. Semester course; 3 lecture hours. 3 credits. Examines political, scientific and social concepts of risk which influence the regulation of certain societal hazards and threats. Includes a survey of federal and state laws, regulations and standards which impact upon employment, the environment, industrial security, consumer protection, and occupational safety and health.

320 Controlling Workers' Compensation and Product Liability Losses. Semester course; 3 lecture hours. 3 credits. Prerequisite: BUS 430 or permission of instructor. Analyzes and evaluates the roles and responsibilities of the safety and risk-control professional in planning, implementing, and administering workers' compensation and product liability loss control programs. Emphasis is placed on the philosophy, principles, and techniques used by private and public sector organizations.

340 Emergency Planning. Semester course; 3 lecture hours. 3 credits. Emphasizes theory and principles of emergency planning and response to natural and technology based disasters. Responsibilities and legal requirements found at the federal, state and local levels will be studied as will be functions and strategies of emergency planning within private and public sector organizations.

350 Transportation Planning and Management. Semester course; 3 lecture hours. 3 credits. Contemporary and future problems of traffic and transportation planning and management are addressed; critical issues affecting the motor-vehicle, rail, air, water, and pipeline modes of transportation are

evaluated; emphasis given to strategies for managing transportation system hazards and threats.

360 Safety and Health Technology. Semester course; 3 lecture hours. 3 credits. Principles and methods for identification, evaluation, control, and monitoring of physical hazards in the work environment; includes the study and application of engineering principles to physical layout and design of work environments, equipment, and tools; addresses mechanical and electrical systems, materials handling and storage, personal protective equipment, transportation systems, and special work environments.

380 Research Methods in Justice and Risk Administration. Semester course; 3 lecture hours. 3 credits. Prerequisites: CSE 241 and 242 or permission of instructor. Designed to familiarize the student with current and applied research methods in justice and risk administration, including the application of data and information processing techniques and procedures; analyzes research in justice and risk administration journals and government reports, enhances the capability to evaluate contemporary research; students apply research techniques to specific problem topics and use research methods from professional fields.

390 Industrial Hygiene. Semester course; 3 lecture hours. 3 credits Prerequisite: BIO 109; BIO L109 or permission of instructor. An introduction to the principles of industrial hygiene, including the recognition, evaluation, and control of chemical and physical agents; topics include elements of toxicology and occupational disease, airborne contaminants, radiation, noise and vibration, and heat stress; relevant standards will be surveyed; laboratory and field industrial hygiene and toxicology exercises will stress industrial, transportation, and environmental situations.

411 Fire Administration. Semester course; 3 lecture hours. 3 credits. Analyzes the risk management factors of fire hazards as determined through current administrative practices, procedures, and controls. Enables the student to understand how to minimize the loss of human, natural, and physical resources through prudent program assessment and direction.

420 Hazardous Materials Management. Semester course; 3 lecture hours. 3 credits. Prerequisite: CHE 103-104; CHE L103-104. A survey of the nature and characteristics of hazardous materials; covers control technologies, transportation and storage methods, compatibility of multiple materials, waste disposal, and the protection of personnel; emphasis given to federal and state hazard communication and right-to-know legislation and trends.

430 System Safety. Semester course; 3 lecture hours. 3 credits. Addresses the concepts and practices of system safety; included are basic system concepts, application of system safety techniques, qualitative and quantitative applications such as fault-free, failure-mode-and-effects, MORT, and cost-benefits analyses.

440 Incident Investigation and Analysis. Semester course; 3 lecture hours. 3 credits. Reviews various conceptual and analytical models used in accident/incident investigation strategies and reporting systems, report formats, data collection methods, causal inferences, problem identification, and data analysis; in-depth case studies and epidemiological reviews of recent events will be emphasized.

450 Human Factors/Ergonomics. Semester course; 3 lecture hours. 3 credits. Study of the human factors and ergonomic principles which promote the safe interaction within and between the four major components of occupational and consumer systems. The principal risk factors and common interventions associated with humans, their tools and machines, environment and management subsystems are emphasized. Current critical issues and recent research are explored.

460 Information Management and Data Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: SRA/AJP 380 or permission of instructor. Demonstrates various approaches to collecting, storing, retrieving, and analyzing loss data for management use; topics include report formats, manual and computerized storage systems, BLS data pools, and report generation; emphasis will be given to statistical analysis techniques, hazard/threat identification, risk assessment procedures, and microcomputer data base applications.

468 Economic Offenses and Organized Crime. Semester course; 3 lecture hours. 3 credits. Analysis of the types of offenses which occur in the business and governmental world and the consequences of illegal practices; primary attention will address the public sector through the methods used to detect and investigate criminal activities affecting governmental units; relationships to organized crime will be described for each of the specific topics and techniques.

470 Comparative Safety and Risk Control. Semester course; 3 lecture hours. 3 credits. Study of national and international safety and risk-control systems with emphasis on historic, cultural, and operational comparisons. Examines public, private and international sector policies and management practices for the control of safety and health threats and risks associated with environmental, occupational, consumer, transportation and emergency or disaster issues.

480 Seminar in Safety and Risk Administration. Semester course; 3 lecture hours. 3 credits. Addresses contemporary issues in safety/risk administration and management; evaluates issues and emerging trends which promise to affect the future. Research papers are to be prepared on selected administration/management issues; students will assess their own career capabilities and develop a career plan.

491 Topics Seminar. Semester course; 3 lecture hours. 3 credits. In-depth examination of a selected risk administration topic related to occupational safety and health, security and loss control management, fire services management, or transportation safety.

492 Directed Individual Study. Semester course; 3 credits. Provides an independent study opportunity for the adult student who is (or was) employed in criminal justice, safety, or risk administration position and who does not require internship or volunteer experience. This course is also available to seniors with a 3.0 GPA (with permission of the department chairman) as a substitute for an elective option course.

493 Internship. Semester course; 3 or 6 credits. Field internship allows the student to relate theory to practice through observation and experience; must be performed in an approved agency or organizational setting under the supervision of the instructor.



PART X

SCHOOL ▼ OF ▼ DENTISTRY

Lindsay M. Hunt, Jr.

Dean

James H. Revere, Jr.

Executive Associate Dean

Marshall P. Brownstein

Assistant Dean for Student Affairs and Admissions

Thomas C. Burke

Assistant Dean for Development and Continuing Education

Betsy A. Hagan

Assistant Dean for Clinical Affairs

James E. Hardigan

Assistant Dean for Administrative Affairs

Harvey A. Schenkein

Assistant Dean for Research

The School of Dentistry offers the first professional degree program leading to the Doctor of Dental Surgery degree and an undergraduate program leading to the Bachelor of Science degree in dental hygiene. For additional information see VCU's *Medical College of Virginia Bulletin*.

DENTAL HYGIENE PROGRAM

Janet L. Scharer

Director, Division of Dental Hygiene

Established in 1969, this program draws on courses offered by the School of Dentistry and leads to a B.S. degree in dental hygiene. The program requires two years of liberal arts study, with a minimum of 60 credits, followed by a two-

year concentration in dental hygiene. Upon successful completion of this program, which is accredited by the Commission on Accreditation of the American Dental Association, graduates are eligible for regional, state, and national licensing examinations.

The Dental Hygiene Program reflects the belief that the modern practicing dental hygienist needs a broad range of skills to function effectively. Training in specific clinical/technical skills, while essential, is not sufficient to meet increasing social demands for comprehensive oral health care at all societal levels. In this program, the graduate in dental hygiene is seen as a key agent, not only in helping the dental profession respond to changing demands, but also in promoting change itself.

ACADEMIC ADMISSION REQUIREMENTS

Two years of liberal arts study from an accredited two- or four-year institution, with a minimum of 60 credits, are required.

A. Courses

1. Specific Courses

- a. English—two semesters
- b. Biology—one semester with lab
- c. Chemistry—one semester with lab
- d. Anatomy and Physiology—two semesters with labs
- e. Microbiology—one semester
- f. Introductory Sociology

- g. Introductory Psychology
 - h. Introductory Speech
 - i. Basic Statistics
2. Approved electives fulfilling the distribution requirements of the liberal arts college or university the student currently attends.

B. At least a "C" average in all work undertaken.

C. A personal interview, arranged by appointment, may be requested during the admissions process.

For information about additional requirements for admission and the specific procedures for application for admission, consult the *VCU Medical College of Virginia Bulletin* or contact the School of Dentistry, Division of Dental Hygiene, Virginia Commonwealth University, P.O. Box 980566, Richmond, VA 23298-0566.

JUNIOR AND SENIOR YEAR CURRICULUM

The Dental Hygiene Program includes study of the basic biomedical, dental, and clinical sciences through lectures, laboratories, and clinical and community experiences. It runs approximately 64 weeks, spanning two academic years, and emphasizes skills relative to the delivery of patient health care.

<i>Junior Year, First Semester</i>	<i>Credits</i>
ANA 301 Head and Neck Anatomy	5
ANA 302 Microscopic Anatomy	3
MIC 365 Infection and Immunity	3
ORP 301 Dental Radiology	0.5
GEP 311 Dental Anatomy & Occlusion	3
DEH 301 Dental Hygiene Theory I	5
GEP 302 Dental Materials	2
Total	21.5

<i>Junior Year, Second Semester</i>	<i>Credits</i>
DEH 342 Nutrition	3
ORP 524 Oral Pathology	3
DEH 302 Dental Hygiene Theory II	2
DEH 312 Preventive Oral Health Education	3
DEH 322 Dental Radiology Seminar and Rotation	1.5
DEH 325 Periodontics	3
DEH 327 Clinical Dental Hygiene I	3
Total	18.5

<i>Senior Year, First Semester</i>	<i>Credits</i>
PMC 441 Pharmacology	5
DEH 401 Dental Hygiene Theory III	2
DEH 411 Community Dental Health I	2
DEH 437 Clinical Dental Hygiene II	4
DEH 430 Biostatistics & Research Design	2
DEH 413 Special Patient Care	3
Total	18

<i>Senior Year, Second Semester</i>	<i>Credits</i>
DEH 402 Dental Hygiene Theory IV	1
DEH 412 Community Dental Health II*	3
DEH 422 Current Issues, Law Ethics	2
DEH 432 Special Patient Care Practicum*	3
DEH 442 Intro to Dental Hygiene Education*	2
DEH 447 Clinical Dental Hygiene III	5
Total	12

*Students enroll in one of these courses.

Introduction to Dentistry is open to all undergraduate students interested in dentistry.

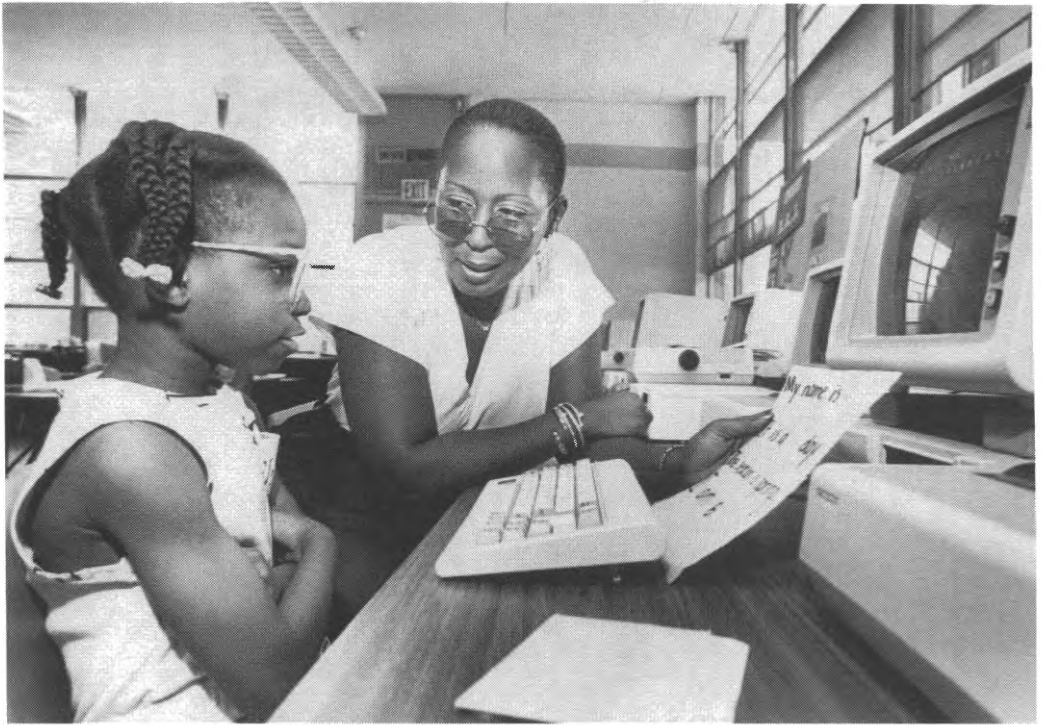
DEN 101 Introduction to Dentistry. Semester course; one lecture hour, one credit (pass-fail). Presentation and discussion of dentistry, including an introduction to each of the dental specialties. Description of the different types of dental practices with information on the business aspects of a practice. Field trips with hands-on experiences at both local dental offices and at the School of Dentistry. Information on the admissions process for dental school, including application procedure, dental aptitude testing, prerequisites and recommended courses, financial aid, and scholarships. Lectures are given on the Academic Campus.

ADDITIONAL INFORMATION

For further details on the requirements for promotion and graduation from the Dental Hygiene Program, write to Admissions, Division of Dental Hygiene, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0566, or call (804) 828-9096.

For application information write to the Office of Admissions, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0632, or call (804) 828-0488 or call The Division of Dental Hygiene.





PART XI

SCHOOL ▼ OF ▼ EDUCATION

John S. Oehler, Jr.

Dean

Diane J. Simon

Assistant Dean

Thomas A. Hephner

Director, Continuing Education

The School of Education provides professional preparation for students planning to teach in schools and other education settings. In addition, several professional programs are available for students who seek careers in human and community services. All programs combine comprehensive studies in the liberal arts and sciences with professional preparation and concentration in specialized fields of study. Practical applications and field experiences are an integral part of these programs. Each program is designed to contribute to the personal and professional growth of the prospective teacher.

TEACHER PREPARATION PROGRAMS

Bachelor's Degree Programs in Education

The School of Education awards Bachelor of Science degrees in health and physical education. The School of the Arts offers Bachelor of Arts degrees in art and theatre education, as well as a Bachelor of Music Education degree. All other programs include a Bachelor of Arts or a Bachelor of Science degree from the College of Hu-

manities and Sciences and a Master of Teaching degree from the School of Education.

Extended Teacher Preparation Programs

The School of Education offers extended teacher preparation programs in early, middle, secondary and special education. Five-year courses of study, these programs culminate in the simultaneous awarding of both a bachelor's degree from the College of Humanities and Sciences and a master's degree from the School of Education.

A student who enters one of these programs must select an undergraduate major in the College of Humanities and Sciences. These curricula also include professional education course work. A full description of these programs appears in the Division of Teacher Education section. Students in the program are expected to obtain a student account with Academic Computing in Cabell Library.

NON-TEACHER PREPARATION PROGRAMS

Bachelor of Science Degree Programs

The School of Education awards the Bachelor of Science in Recreation, Parks, and Tourism and the Bachelor of Science in Health or Physical Education. Within each of these programs distinct professional specialties exist. The specialties have been designed to meet the criteria for professional certification in a variety of employment fields.

MISSION

The School of Education is committed to excellence in the initial preparation and continuing development of professionals for leadership, teaching, service, and scholarly inquiry in culturally diverse settings across the life span. The School emphasizes early childhood through secondary education and lifelong learning; scholarship that extends knowledge and improves practice; and collaboration that connects the School of Education to the field of practice and supports schools and relevant educational and human service agencies.

THE SCHOOL OF EDUCATION, AS AN INTEGRAL PART OF A MAJOR URBAN RESEARCH UNIVERSITY, SUBSCRIBES TO AND PROMOTES THE FOLLOWING VALUES.

1. The School as an example of the highest quality teaching and learning.
2. The School as a diverse community of learners and scholars who, guided by democratic principles of participation, demonstrate a commitment to:
 - a. High professional standards and sustained faculty development.
 - b. A collaborative approach to teaching, scholarship, and service both within and across disciplines.
 - c. Inquiry that results in the scholarship of application, integration, and teaching, as well as the scholarship of discovery.
 - d. Nurturing national and international relationships.
3. The School as a leader providing quality education for students with individual and diverse needs. The Schools' graduates:
 - a. Demonstrate a body of knowledge from a foundational core appropriate to their specialization(s).
 - b. Exhibit values and behaviors appropriate for effective professional practice in a democratic society.
4. The School as a partner with public and school communities in addressing today's educational challenges.

DEGREE PROGRAMS IN THE SCHOOL OF EDUCATION

Responsibility for the programs of study lies with the three divisions in the School of Education as follows:

- I Division of Educational Studies
 - Educational Foundations
- II Division of Health, Physical Education, and Recreation
 - B.S. Programs in Health Education
 - Teacher Education (Middle/Secondary, 6-12)
 - Athletic Training
 - Athletic Training/Pre-Physical Therapy
 - Kinesiotherapy
 - Kinesiotherapy/Pre-Physical Therapy
 - Community Wellness
 - B.S. Programs in Physical Education
 - Teacher Education (Elementary/Middle/Secondary K-12)
 - Teacher Education (Middle/Secondary, 6-12)
 - Sport Management
 - B.S. Programs in Recreation, Parks, and Tourism
 - Recreation and Park Management
 - Travel and Tourism
 - Therapeutic Recreation
 - Therapeutic Recreation/Pre-Physical Therapy
 - Therapeutic Recreation/Pre-Occupational Therapy
- III Division of Teacher Education
 - Extended Programs:
 - Early Education, NK-4
 - Middle Education, 4-8
 - Secondary Education, 8-12
 - Special Education, K-12
 - Post-Baccalaureate Certificate in Teaching

GENERAL DEGREE REQUIREMENTS

A student in one of the *four-year teacher preparation programs* must maintain a minimum cumulative grade-point average (GPA) of 2.5 to be eligible to participate in clinical experiences, and complete a minimum of 129 credits.

A student in any one of the four *extended teacher preparation programs* must complete a minimum of 160 credits. The student must maintain a cumulative GPA of 2.5 for admission to teacher preparation, and upon completion of at least 90 credits a minimum cumulative GPA of 2.8 is required for that student to be admitted to the graduate studies portion of the extended program.

A student in one of the *four-year non-teacher preparation programs* must maintain a grade point average established by the specific program to be eligible to participate in field practicums and internships.

A post-baccalaureate certificate in selected teaching shortage areas is open primarily to those who have already earned a master's degree. The candidate must complete at least 24 additional hours beyond the bachelor's level. Admittance to this program requires a minimum cumulative GPA of 2.75.

Descriptions of individual degree programs on the following pages specify the particular courses necessary to fulfill program and degree requirements. In addition to a strong foundation in liberal arts and sciences, all programs require professional education and clinical experience.

Faculty Advisement

A degree-seeking student enrolled in a four-year teacher preparation program is assigned a faculty advisor in the School of Education for health, physical education, and recreation, parks and tourism or in the School of the Arts for art, music, or theatre education. A student enrolled in an extended teacher preparation program is assigned a professional studies advisor in the School of Education and an advisor in the academic major of the College of Humanities and Sciences.

Although advisors will provide timely and accurate assistance, the student is ultimately responsible for satisfying degree requirements in a given academic program. Students in the Extended Program are expected to obtain a student account through Academic Campus Computing so that they may participate in "Dial-a-Prof," electronic mail among students and faculty in Teacher Education. This means of communication can enhance advising when student and faculty schedules are at variance.

Cooperative Education

A qualifying student in the School of Education who is pursuing a degree in teacher preparation may apply to the Cooperative Education Program. A full description of the program appears in Part XVIII of this bulletin.

CHANGE OF MAJOR AND TRANSFER STUDENTS

A student with a minimum GPA of 2.0 can transfer to a four-year program in the School of Education from another school in the university. Change-of-major forms are available at the Office of Records and Registration. A transfer student with a minimum GPA of 2.0 is also eligible to become a degree-seeking student in a four-year

program in the School of Education. Both change-of-major and transfer students must meet criteria for admission to teacher preparation. Students wishing to enter the Extended Program must transfer initially to the College of Humanities and Sciences, declaring a major in one of the college's departments and a specialization in the appropriate professional studies sequence in the School of Education.

It must be noted, however, that a minimum GPA of 2.5 is required for admission to clinical experiences and a minimum 2.8 GPA for admission to the graduate phase.

Transcript Evaluation

The Division of Health, Physical Education and Recreation evaluates its prospective students' transcripts for change-of-major and transfer. The College of Humanities and Sciences evaluates transcripts of all other students pursuing extended teacher preparation program. Credits are accepted if they conform with specific program guidelines; course equivalents from accredited colleges and universities are accepted if the grade earned is "C" or better. A student must present at least 60 semester hours of acceptable undergraduate course work to be admitted to a teacher preparation program. See specific criteria under the Admission to the Extended Teacher Preparation Programs in this section.

Credits accepted from two-year institutions may meet liberal arts and sciences requirements, but will not meet professional requirements—considered "upper division" course work. The *Virginia Commonwealth University Transfer Guide for Virginia Community Colleges* lists, in full, credits accepted by VCU, but earned in one of the state's community colleges.

After the initial student transcript evaluation, the assigned advisor reviews the accepted transfer credits with the student, determining what additional course work at VCU will be necessary. An advisor is not required to use all the accepted transfer credits in a student's program of study; however, only those credits approved for transfer can be applied toward the chosen degree.

TEACHER LICENSURE

Upon completion of degree requirements in any of VCU's teacher preparation programs and with the recommendation of the School of Education, students are eligible to receive initial teacher licensure from the Virginia State Department of Education. For additional information on

licensure, licensure renewal, or add-on endorsement, contact the School of Education's Office of Academic Services.

In Virginia, initial licensure requires successful completion of the Praxis I Examination. Applicants for initial licensure must take the Praxis I Examination and a National Teacher Examination Specialty Area Test in the endorsement area in which licensure is sought. In fields where the specialty exam is not available, only the Praxis I Test is required of licensure candidates. Praxis I should be taken prior to application for admission to Teacher Preparation; the specialty examination should typically be taken in one's final semester.

Students should request that their Praxis I and NTE Specialty Area Test scores be reported to VCU and the Virginia Department of Education.

Before a recommendation for licensure can be sent to the Teacher Licensure Division of the Virginia Department of Education, these test scores must be on file with the School of Education's Office of Academic Services.

An undergraduate degree holder in another field wishing to obtain teacher licensure should contact the School of Education's Office of Academic Services.

APPROVED PROGRAMS AND CERTIFICATION RECIPROCITY

All of VCU's initial teacher preparation programs are approved by the Virginia Department of Education and accredited by the Southern Association of Colleges and Schools and the National Council for Accreditation of Teacher Education. VCU's School of Education also holds membership in the American and Virginia Associations of Colleges of Teacher Education, and the Holmes Group.

Based on the National Association of State Directors of Teacher Education and Certification agreement, VCU graduates can receive teacher licensure reciprocity with other states. Students interested in licensure reciprocity should contact the School of Education's Office of Academic Services.

RESOURCES

The School of Education has developed various resources to provide support services to students, faculty and the academic programs. These resources are the Office of Academic Services,

the Office of Continuing Education and Field Services, and the Instructional Technology Center which includes a computer laboratory and word processing center.

Office of Academic Services

Basic information on the School of Education's degree programs, as well as all forms needed by students as they advance through the programs, are available at the Office of Academic Services.

This office also receives and processes various School of Education application forms and supplies information on the Praxis Examination, NTE Specialty Area Tests, Graduate Record Examination, and the Miller Analogies Test.

This office coordinates clinical placements for students in practica, internships, and externships. Student teachers and graduate intern teachers are placed primarily in school systems and other educational facilities in the greater Richmond metropolitan area.

Scholarship applications and information available to School of Education students can be obtained at the Office of Academic Services. Information on financial aid administered by the university is found in Part III of this bulletin.

Licensure and Endorsement information, materials and applications for Virginia education personnel are available in the Office of Academic Services. Licensure and endorsement are based in part on the successful completion of an approved program that complies with national standards.

Instructional Technology Center

The Instructional Technology Center, a multimedia center, is used by faculty and students in the School of Education. The workshop houses audio-visual equipment, micro-computers with sophisticated graphics capabilities, educational software, and many similar resources for the development of instructional materials. It also provides computer access to the School of Education's Local Area Network (EDUNET), the university libraries, and the campus Local Area Network which includes, but is not limited to, VCU mini and mainframe computers and their numerous software packages.

Computer Laboratory

The Computer Laboratory, housed in the Instructional Technology Center, gives students many opportunities to learn about computer-assisted instruction in the classroom setting. It also lends support to students enrolled in the computer science basic literacy course and other

computer courses offered by the School. The laboratory equipment includes Apple GS, MacIntosh, and IBM compatible computers with color monitors and printers. Laser Printers and Scanners are also available.

ORGANIZATION

The chief administrative office for the School of Education is the Office of the Dean.

The school itself is divided into three divisions: the Division of Health, Physical Education and Recreation, the Division of Teacher Education, and the Division of Educational Studies. Detailed requirements for each of the programs in these divisions are outlined on the following pages.

Organized for the management of instruction and degree programs, these divisions are headed by a chairperson, while faculty assume responsibility for curriculum and advise by program cores.

DIVISION OF HEALTH, PHYSICAL EDUCATION, AND RECREATION

Jack Schiltz

Division Chair

Debby Getty

Program Head - Teacher Education

Barney Groves

Program Head - Community Wellness and Rehabilitative Exercise Science

Michael Wise

Program Head - Recreation, Parks, and Tourism

Debra Ballinger

Robert Davis

Richard Gayle

Allan Mills

LeEtta Pratt

Ronald Reynolds

George Borden

George Dintiman

Charles Hartsoe

(Professor Emeritus)

Keith Ready

Robin Smith

The Division of Health, Physical Education, and Recreation offers three separate degree programs. The Bachelor of Science in Health and Physical Education has eight areas of specialty. The Bachelor of Science in Recreation, Parks, and Tourism offers tracks in three distinct areas. The Twelve advising tracks within the degrees are:

Community Wellness and Rehabilitative Exercise Science

Sport Management (PHE)

Corporate Wellness (HED)

Kinesiotherapy (HED)

Kinesiotherapy with Pre-Physical Therapy Emphasis (HED)

Athletic Training (Sport Medicine) (HED)

Athletic Training (Sport Medicine) with Pre-Physical Therapy Emphasis (HED)

Recreation, Parks and Tourism

Recreation and Park Management (REC)

Travel and Tourism (REC)

Therapeutic Recreation (REC)

Therapeutic Recreation with Pre-Physical or Pre-Occupational Therapy Emphasis (REC)

Teacher Education

Health Education Emphasis (HED)

Physical Education Emphasis (PHE)

The community wellness management and rehabilitative exercise science options prepare the student for health and physical education related careers in private, public, medical, and corporate sectors.

The recreation, parks, and tourism program, which is accredited by the National Council on Accreditation, prepare future professionals for the many responsibilities associated with creating and implementing program services and tourism opportunities which serve all citizens.

The teaching option prepares a student for a position in the public school settings where state teacher licensure is required. Completion of the program makes the student eligible for licensure by the Commonwealth of Virginia in both health education and physical education.

PROGRAM REQUIREMENTS IN PHYSICAL EDUCATION: TEACHING (129 credit minimum)

	<i>Credits</i>
I General Education	48
A Humanities (12 credits)	
ENG 101-102 Composition and Rhetoric	6
Literature Elective	3
Humanities Elective	3
art, foreign language, music, philosophy, religious studies	
B Social Sciences (12 credits)	
HIS 103 or 104 American History	3
Social Sciences Electives	9
anthropology, contemporary world studies, economics, geography, history, political science, psychology, sociology, social science, world studies	
C Science/Mathematics (21 credits)	
MAT 111 Mathematics for the Behavioral Sciences or equivalent or higher	3
CSC 150 Basic Computer Concepts	3

BIO 109 General Biology with laboratory	4
BIO 205 Human Anatomy	4
BIO 206 Human Physiology	4
CHE 103 Introduction to Modern Chemistry or PHY 101 Foundations of Physics	3
D. Humanities/Social Sciences Elective (three credits)	3
(See above listings under A and B)	
II Professional Education	12
A Growth and Development (three credits) EDU 301 Human Development and Learning	3
B Curriculum and Instruction (six credits) HED/PHE 397 Methods in Health and Physical Education	3
HED/PHE 398 Curriculum in Health and Physical Education	3
C Foundations of Education (three credits) EDU 300 Foundations of Education	3
III Physical Education	35
A Scientific Background (six credits) PHE 392 Kinesiology	3
PHE 492 Physiology of Exercise	3
B Physical Education Theory (18 credits) HED/PHE 190 Introduction to Health and Physical Education Professions	3
PHE 390 Physical Education for the Elementary Teacher	3
PHE 391 Elementary Physical Education for Majors	3
PHE 432 Movement Education	3
HED/PHE 493 Tests and Measurements in Health and Physical Education	3
HED/PHE 495 Adapted Physical Education	3
C Activity (11 credits) PHE 200 Strength and Speed Training	1
PHE 201 Endurance and Flexibility Training	1
PHE 230 Gymnastics	1
PHE 234 Elementary Rhythmics	1
PHE 235 Social Rhythmics	1
Team Sports (Select three credits)	3
PHE 202 Basketball (one credit)	
PHE 204 Softball (one credit)	
PHE 208 Volleyball (one credit)	
PHE 210 Field Hockey (one credit)	
PHE 212 Soccer (one credit)	
Individual, Dual, and Recreational Sports (Select three credits)	3
PHE 214 Wrestling/Flag Football (one credit)	
PHE 216 Tennis (one credit)	
PHE 226 Recreational Sports/Indoor Racquet Sports (one credit)	
PHE 227 Archery/Badminton/Bowling (one credit)	
PHE 233 Track and Field (one credit)	
REC 200 Outdoor Recreation (three credits)	
Only one of these three credits can be used to meet the expectation of this section.	

IV Health and Safety Education	18
Required: HED 480 Safety, First Aid, and CPR (three credits)	
Electives, five of the following courses: HED 386 School and Community Health resources (three credits)	
HED 400 Nutrition (three credits)	
HED 410 Issues in Sexuality (three credits)	
HED 420 Substance Abuse (three credits)	
HED 430 Trends in Modern Diseases (three credits)	
HED 487 Coping and Adaptation (three credits)	
V Clinical Experiences	16
PHE 310 Early Professional Experience	1
EDU 310 Practicum	3
Select two of three student teaching experience. EDU 486 Supervised Teaching I-Elementary (six credits)	
EDU 485 Supervised Teaching I-Middle (six credits)	
EDU 486 Supervised Teaching II-Senior (six credits)	
Includes on-campus seminars	12
Total	129

PROGRAM REQUIREMENTS IN HEALTH EDUCATION: TEACHING
(129 credit minimum)

	<i>Credits</i>
I General Education	50
A Humanities (12 credits) ENG 101-102 Composition and Rhetoric	6
Literature Elective	3
Humanities Elective	3
art, foreign language, music, philosophy, religious studies	
B Social Sciences (12 credits) HIS 103 or 104 American History	3
PSY 101 General Psychology	3
SOC 101 General Sociology	3
PSY 301 Child Psychology or PSY 302 Adolescent Psychology	3
C Science/Mathematics (26 credits) MAT 111 Mathematics for the Behavioral Sciences or equivalent or higher	3
CSC 150 Basic Computer Concepts	3
BIO 109 General Biology with laboratory	4
CHE 103 Introduction to Modern Chemistry	3
BIO 205 Human Anatomy	4
BIO 206 Human Physiology	4
BIO 209 Medical Bacteriology	4
D Health and Physical Education (one credit) PHE 102 Fitness and Weight Control	1
II Professional Education	12
A Growth and Development (three credits) EDU 301 Human Development and Learning	3

B Curriculum and Instruction (six credits)	
HED/PHE 397 Methods in Health and Physical Education	3
HED/PHE 398 Curriculum in Health and Physical Education	3
C Foundations of Education (three credits)	
EDU 300 Foundations of Education	3
III Health Education	27
HED/PHE 190 Introduction to Health and Physical Education Professions	3
HED 386 School and Community Health Resources	3
HED 400 Nutrition	3
HED 410 Issues in Sexuality	3
HED 420 Substance Abuse	3
HED 430 Trends in Modern Diseases	3
HED 480 Safety, First Aid, and CPR	3
HED 487 Coping and Adaptation	3
EDU 330 Survey of Special Education	3
IV Physical Education	16
PHE 392 Kinesiology	3
PHE 492 Physiology of Exercise	3
HED/PHE 493 Tests and Measurements in Health and Physical Education	3
PHE 226 Recreational Sports/Indoor Racquet Sports (one credit) or PHE 227 Archery, Badminton, and Bowling	1
PHE 310 Early Professional Experience	1
PHE 235 Social Rhythmics	1
(Select two from each of the following:)	
Individual and Dual Sports Electives	2
Team Sports Electives	2
V Clinical Experiences	15
EDU 310 Practicum	3
EDU 485 Supervised Teaching I-Senior	6
EDU 486 Supervised Teaching II-Middle	6
Includes on-campus seminars	
VI General Electives	9
Total	<u>129</u>

PROGRAM REQUIREMENTS IN COMMUNITY WELLNESS
(129 credit minimum)

I General Education	<i>Credits</i>	52
A Humanities (12 credits)		
ENG 101-102 Composition and Rhetoric		6
Literature Elective		3
Humanities Elective		3
art, foreign language, music, philosophy, religious studies		
B Social Sciences (12 credits)		
HIS 103 or 104 American History		3
Social Sciences Electives – Select three of the following courses		9
EDU 300 Foundations of Education (three credits)		
EDU 301 Human Development &		

Learning (three credits)		
PSY 101 Introduction to Psychology (three credits)		
PSY 302 Psychology of Adolescence (three credits)*		
PSY 303 Effective Behavior & Contemporary Psychology (three credits)*		
PSY 304 Developmental Psychology (three credits)*		
PSY 306 Psychology of Adult Development (three credits)*		
PSY 310 Industrial Psychology (three credits)*		
PHE 430 Sports Psychology (three credits)*		
C Science/Mathematics (22 credits)		
MAT 111 Mathematics for the Behavioral Sciences or equivalent, or higher		3
CSC 150 Basic Computer Concepts		3
BIO 109 General Biology with laboratory		4
CHE 103 Introduction to Modern Chemistry or		
PHY 101 Foundation of Physics		3
BIO 205 Human Anatomy		4
BIO 206 Human Physiology		4
D Health and Physical Education (four credits)		
HED 300 Introduction to Health		3
PHE 102 Fitness and Weight Control		1
E Humanities/Social Science Electives		3
II Health and Physical Education		48
A General Requirements (three credits)		
HED/PHE 190 Introduction to Health and Physical Education Professions		3
B Health Education (18 credits)		
HED 386 School and Community Health Resources		3
HED 400 Nutrition		3
HED 480 Safety, First Aid, and CPR		3
Select three courses from the following		9
HED 325 Treatment of Athletic Injuries (three credits)		
HED 410 Issues in Sexuality(three credits)		
HED 420 Substance Abuse(three credits)		
HED 430 Trends in Modern Disease (three credits)		
HED 487 Coping and Adaptation (three credits)		
PHE 495 Adaptive Physical Education (three credits)		
PHE 431 Seminar in Approved Electives (three credits) Advisor approval required.		
C Physical Education (12 credits)		
PHE 101 Foundations in Physical Conditioning: Aerobics		1
PHE 200 Strength and Speed Training		1
PHE 201 Endurance and Flexibility Timing		1
PHE 392 Kinesiology		3
PHE 492 Exercise Physiology		3
HED/PHE 493 Tests and Measurements in Health and Physical Education		3
D Related Component (15 credits)		
Coursework selected with advisor and approved by division faculty.		

III Clinical Experiences	16
HED/PHE 310 Early Professional Experience I	
EDU 310 Practicum	3
EDU 487 Field Work I	6
EDU 488 Field Work II	6
IV General Electives	13
Total	129

* PSY 101 is a prerequisite for this course

PROGRAM REQUIREMENTS IN KINESIOTHERAPY
(129 credit minimum)

I General Education	52
A Humanities (12 credits)	
ENG 101-102 Composition and Rhetoric	6
Literature Elective	3
Humanities Elective	3
art, foreign language, music, philosophy, religious studies	
B Social Sciences (12 credits)	
HIS 103 or 104 American History	3
Social Sciences Electives	9
Select three from EDU 300 Foundations of Education, EDU 301 Human Development and Learning, PSY 101 Introduction to Psychology, PSY 302 Psychology of Adolescence, PSY 303 Effective Behavior and Contemporary Psychology, PSY 304 Developmental Psychology, PSY 306 Psychology of Adult Development, PSY 310 Industrial Psychology, and PHE 430 Sports Psychology.	
C Science/Mathematics (21 credits)	
MAT 111 Mathematics for the Behavioral Sciences or equivalent, or higher	3
CSC 150 Basic Computer Concepts	3
BIO 109 General Biology with laboratory	4
CHE 103 Introduction to Modern Chemistry or	
PHY 101 Foundation of Physics	3
BIO 205 Human Anatomy	4
BIO 206 Human Physiology	4
D Health and Physical Education (four credits)	
HED 300 Introduction to Health	3
PHE 102 Fitness and Weight Control	1
E Humanities/Social Science Electives	3
II Health and Physical Education	33
A General Requirements (three credits)	
HED/PHE 190 Introduction to Health and Physical Education Professions	3
B Health Education (21 credits)	
HED/PHE 493 Health and Measurements in Health and Physical Education	3
HED 386 School and Community Health Resources	3
HED 400 Nutrition	3
HED 480 Safety, First Aid, and CPR	3
Select three courses from the following: ...	
HED 325 Treatment of Athletic Injuries (three credits)	9

HED 410 Issues in Sexuality(three credits)	
HED 420 Substance Abuse(three credits)	
HED 430 Trends in Modern Diseases (three credits)	
HED 487 Coping and Adaptation (three credits)	
C Physical Education (nine credits)	
PHE 101 Foundations of Physical Conditioning: Aerobics	1
PHE 200 Strength and Speed Training	1
PHE 201 Endurance and Flexibility Timing	1
PHE 392 Kinesiology	3
PHE 492 Exercise Physiology	3
D Related Component (15 credits)	
Coursework selected with advisor and approved by division faculty.	
Required:	
PHE 431 Seminar in Fitness Programs	3
HED 495 Adaptive Physical Education	3
PHE 501 Clinical Application in Exercise Science	3
Selectives	5
III Clinical Experiences	16
HED/PHE 310 Early Professional Experience	1
EDU 310 Practicum	3
EDU 487 Field Work I	6
EDU 488 Field Work II	6
IV General Electives	13
Total	129

PROGRAM REQUIREMENTS IN ATHLETIC TRAINING/SPORTS MEDICINE EMPHASIS
(129 credit minimum)

I General Education	52
A Humanities (12 credits)	
ENG 101-102 Composition and Rhetoric	6
Literature Elective	3
Humanities Elective	3
art, foreign language, music, philosophy, religious studies	
B Social Sciences (12 credits)	
HIS 103 or 104 American History	3
Social Sciences Electives	9
Select three from EDU 300 Foundations of Education, EDU 301 Human Development and Learning, PSY 101 Introduction to Psychology, PSY 302 Psychology of Adolescence, PSY 303 Effective Behavior and Contemporary Psychology, PSY 304 Developmental Psychology, PSY 306 Psychology of Adult Development, PSY 310 Industrial Psychology, and PHE 430 Sports Psychology.	
C Science/Mathematics (22 credits)	
MAT 111 Mathematics for the Behavioral Sciences or equivalent, or higher	3
CSC 150 Basic Computer Concepts	3

Athletic Injuries	3
HED 426 Therapeutic Modalities	3
STA 213 Introduction to Statistics**	3
III Clinical Experiences	16
HED/PHE 310 Early Professional Experience	1
EDU 310 Practicum	3
EDU 487 Field Work I	6
EDU 488 Field Work II	6
IV General Electives	13
BIO 110/L110 General Biology/Lab**	4
or	
BIO 152/L152 Intro to Bio Science II	4
PHY 201/L201 General Physics/Lab**	4
PHY 202/L202 General Physics/Lab**	4
Total	128

**Required for PPT.

PROGRAM REQUIREMENTS IN KINESIOTHERAPY/PRE-PHYSICAL THERAPY EMPHASIS
(129 credit minimum)

	<i>Credits</i>
I General Education	52
A Humanities (12 credits)	
ENG 101 Composition and Rhetoric I**	3
ENG 102 Composition & Rhetoric II**	3
Literature Elective**	3
Humanities Elective	3
B Social Sciences (12 credits)	
HIS 103 or 104 American History**	3
Social Science Elective - Select three of the following courses. PSY 101 and one other PSY course must be two of the three courses selected.**	9
EDU 300 Foundations of Education (three credits)	
EDU 301 Human Dev. & Learning (three credits)	
PSY 101 Introduction to Psychology** (three credits)	
PSY 302 Psychology of Adolescence (three credits)	
PSY 303 Effective Behavior and Contemporary Psychology (three credits)	
PSY 304 Development Psychology (three credits)	
PSY 306 Psychology of Adult Dev. (three credits)	
PSY 310 Industrial Psychology (three credits)	
PHE 430 Sports Psychology (three credits)	
C Science/Mathematics (22 credits)	
MAT 101 or MAT 102 or MAT 200**	3
CSC 150/L150 Basic Computer Concepts, BIO 109/L109 General Biology**	3
or	
BIO 151/L151 Intro to Bio Science I	4
BIO 205/L205 Human Anatomy	4
BIO 206/L206 Human Physiology**	4

PHY 201/L201 General Physics**	4
D Health and Physical Education (four credits)	
HED 300 Introduction to Health	3
PHE 102 Fitness and Weight Control	1
II Health and Physical Education	33
A General Requirements (three credits)	
HED/PHE 190 Introduction to Health and Physical Education Professions	3
B Health Education (21 credits)	
HED/PHE 493 Tests and Measurements in Health and Physical Education	3
HED 386 School and Community Health Resources	3
HED 400 Nutrition	3
HED 480 Safety, First Aid, and CPR	3
Select three of the following five courses ..	9
HED 325 Treatment of Athletic Injuries (three credits)	
HED 410 Issues in Sexuality (three credits)	
HED 420 Substance Abuse (three credits)	
HED 430 Trends in Modern Diseases (three credits)	
HED 487 Coping and Adaptation (three credits)	
C Physical Education (nine credits)	
PHE 101 Foundations of Physical Conditioning: Aerobics	1
PHE 200 Strength and Speed Training	1
PHE 201 Endurance and Flexibility Training	1
PHE 392 Kinesiology	3
PHE 492 Physiology of Exercise	3
D Related Component (17 credits)	
PHE 431 Seminar in Fitness Programs	3
HED 495 Adaptive Physical Education	3
HED 501 Clinical Applications in Exercise Science	3
BIO 110/L110 General Biology II**	
or	
BIO 152/L152 Intro to Bio Science II	4
PHY 202/L202 General Physics**	4
III Clinical Experiences	16
HED/PHE 310 Early Professional Experience	1
EDU 310 Directed Independent Study	3
EDU 487 Field Work I	6
EDU 488 Field Work II	6
IV General Electives	13
STAT 213 Intro to Statistics**	3
CHE 101/L101 General Chemistry I**	5
CHE 102/L102 General Chemistry II**	5
Total	129

**Required for PPT.

PROGRAM REQUIREMENTS IN SPORT MANAGEMENT EMPHASIS
(129 credit minimum)

	<i>Credits</i>
I General Education	49
A Humanities (12 credits)	
ENG 101 Composition and Rhetoric I	3

ENG 102 Composition & Rhetoric II	3
Literature Elective	3
Humanities Elective	3
B Social Sciences (15credits)	
HIS 103 or 104 American History	3
ECO 203 Introduction to Economics	3
Social Science Electives	9
C Science/Mathematics (18 credits)	
Math Selective (MAT 101, MAT 131, MAT 111, MAT 112, or STA 213)	3
Computer Concepts Selective (CSC 150, BUS 160-165)	3
BIO 109 General Biology (with Lab)	4
BIO 206 Human Physiology or BIO 205 Human Anatomy	4
Natural Science Elective (with Lab)	4
D Health and Physical Education (four credits)	
PHE 102 Fitness and Weight Control	1
HED 300 Introduction to Health	3
II Concentration	51
A General Requirements (three credits)	
HED/PHE 190 Introduction to Health and Physical Education Professions	3
B Management Education (21 credits)	
BUS 202 Accounting for Non-Business Majors	
BUS 308 Introduction to Marketing (JR) (Prerequisite: ECO 203)	3
BUS 323 Legal Environment of Business (JR)	3
BUS 333 Risk and Insurance	3
BUS 331 Personnel Management (JR)	3
BUS 421 Small Business Management	3
MAC 101 Mass Communications (FR)	3
MAC 203 Newswriting (SO) (Prerequisite: MAC 101)	3
Select two of the three following:	6
MAC 323 Public Relations (three credits)	
MAC 361 Principles of Broadcasting (three credits)	
MAC 380 Introduction to Advertising (three credits)	
C Related Component (18 credits)	
PHE 340 Intro to Sport Management (Prerequisite: MAC 101 and BUS 421)	3
PHE 440 Administration of Sport Facilities (Prerequisite: PHE 340)	3
PHE 441 Law and Sport (Prerequisite: PHE 340)	3
PHE 382 Survey of Kinesiology and Physiology of Exercise	3
PHE 430 Sport Psychology	3
HED 480 Safety and First Aid	3
III Clinical Experiences	16
HED/PHE 310 Early Professional Experience	1
EDU 310 Practicum	3
EDU 487 Field Work I	6
EDU 488 Field Work II	6
IV Electives	13
General Electives	4
Approved Electives	9
Total	129

The Sport Management program is the result of an interdisciplinary effort of the Schools of Education, Mass Communication, Business and the Department of Athletics.

A minor in business can be attained by taking these three additional courses as electives: BUS 311 Financial Management, BUS 319 Organizational Behavior, BUS 360 Business Information Systems.

STEPS TO COMPLETING VCU'S FOUR-YEAR PREPARATION PROGRAMS IN HEALTH OR PHYSICAL EDUCATION

Step 1: Admission to the University

Requirements

- a) Scores from Scholastic Aptitude Test (SAT) or American College Test (ACT)
- b) Minimum 2.0 GPA from high school or previous college

Procedures

- a) Complete University application form (available from Admissions Office)
- b) Declare a major in Health or Physical Education
- c) Upon admission, schedule an appointment with the Division Chair to discuss the program

Step 2: Admission to Teacher or Professional Preparation

Student must apply for admission during semester of 45th hour (even if below requirements are not met).

Requirements

- a) 2.5 GPA or better.
- b) Completion of:
 - 6 hours of English
 - 3 hours of math
 - 4 hours of laboratory science
 - 6 hours of social science and/or history.
- c) Successful completion of Praxis I Examination. (Obtain information from Office of Academic Services in Oliver Hall, Room. 2087, at 1015 West Main Street.)

Procedures

- a) Complete Admission to Teacher or Professional Preparation form (available from the Office of Academic Services)

- b) Obtain Virginia Commonwealth University transcript (available from VCU Records and Registration)
- c) Return completed form with Virginia Commonwealth University transcript to Office of Academic Services.

Note: *Students not admitted will be informed and asked to consult their advisor for counseling. Students must be admitted to Teacher or Professional Studies in order to be eligible for Practicum placement.*

Step 3: Application for Teacher or Professional Practicum (EDU310)
Student must apply upon completion of 60 hours of course work and prior to the completion of 75 hours.

Requirements

- a) 2.5 GPA or better
- b) Completion of or concurrent enrollment in: PSY 101, 302, 303, 304, 306, 310, or PHE 430
- c) Completion of PHE/HED 310
- d) Admitted to Teacher or Professional Preparation

Procedures

- a) Contact the instructor of record. Obtain Application for Practicum from the instructor of record (**not** Office of Academic Services)
- b) Contact a local professionally related institution or business and make arrangements for experience
- c) Submit application for Practicum with transcript to the Instructor of Record

Step 4: Application to Supervised Field Work Experiences or Student Teaching
Upon completion of 90 hours of course work and one semester prior to the experience.

Requirements

- a) 2.5 GPA or better
- b) Admitted to Teacher or Professional Preparation Program
- c) Completed Practicum (EDU 310)
- d) Have a grade of C or better in Practicum (EDU 310)

Procedures for Supervised Field Work

- a) Obtain an Application for Supervised Field Work Experience from instructor of record or an Application for Student Teaching from the Office of Academic Services.
- b) Identify a possible sight
- c) Submit Application for Supervised Field Work Experiences to the instructor of record for approval

Procedures for Student Teaching

- a) Obtain an Application for Student Teaching Form (available from the Office of Academic Services)
- b) Obtain Virginia Commonwealth University Transcript (available from VCU Records and Registration)
- c) Review application with Health and Physical Education supervisor of student teaching and obtain his or her recommendation and signature
- d) Submit completed application packet to Office of Academic Services

Note: *Deadline for making application for field work experiences or student teaching for the Fall semester is March 1, and for the Spring semester is October 1.*

Step 5: Application for Graduation

During the final semester of enrollment.

Requirements

- a) Completion of all degree requirements

Procedures

- a) Complete applications for undergraduate degree in Health or Physical Education
- Obtain graduation application and a Virginia Commonwealth University transcript (available at VCU Records and Registration)
- Review application with advisor and obtain signature

PROGRAM REQUIREMENTS IN RECREATION AND PARK MANAGEMENT EMPHASIS
 (123 credit minimum)

	<i>Credits</i>
I General Education	39
A Humanities (12 credits)	
ENG 101 Composition and Rhetoric I	3
ENG 102 Composition & Rhetoric II	3
Writing Intensive	3
Math 101 or 111	3

B Applied Statistics (6 credits)
(Select one of the following tracks after completion of math req.) 6

Track 1 (STA 213 and BUS 161, 162, 163)
Track 2 (CSE 241 and CSE 242)
Track 3 (CSE 243 plus one additional elective)
Track 4 (STA 213 and CSE 242)

Natural/Physical Science 3
Social Science Elective 3
Social Science Elective 3
Humanities/History Elective 3
Humanities/History Elective 3
Oral Communication 3
Cultural Diversity 3

Track 1 (STA 213 and BUS 161, 162, 163)
Track 2 (CSE 241 and CSE 242)
Track 3 (CSE 243 plus one additional elective)
Track 4 (STA 213 and CSE 242)

Natural/Physical Science 3
Social Science Elective 3
Social Science Elective 3
Humanities/History Elective 3
Humanities/History Elective 3
Oral Communication 3
Cultural Diversity 3

II Concentration 47

A Recreation, Parks, and Tourism Core
(18 credits)

REC 195 Recreation Leadership 3
REC 261 RPT in Modern Society 3
REC 303 Leisure Delivery Systems 3
REC 320 Recreation Analysis 3
REC 395 Recreation Program Development 3
REC 403 RPT Administration 3

B Recreation and Park Management Core
(29 credits)

REC 331 Facility/Site Select/Analysis 3
REC 332 Facility/Site Design/Development 3
REC 404 Revenue Sources 3
REC 465 Park Operations/Maintenance 3
REC 490 Seminar 3
REC 493 Intership 8
HPER Electives 6

II Concentration 47

A Recreation, Parks, and Tourism Core
(18 credits)

REC 195 Recreation Leadership 3
REC 261 RPT in Modern Society 3
REC 303 Leisure Delivery Systems 3
REC 320 Recreation Analysis 3
REC 395 Recreation Program Development 3
REC 403 RPT Administration 3

B Travel and Tourism Core (29 credits)

REC 341 Intro to Travel and Tourism 3
BUS 421 Small Business Management 3
REC 442 Group Travel Management 3
REC 445 Conference and Convention Planning 3
REC 490 Seminar 3
REC 493 Intership 8
REC 510 Tourism Policy 3
HPER Elective 3

III Open Electives 13-19

IV Students can select either an approved 18 hour concentration of upper division course work or one of the following minors:

	<i>Hours</i>
Administration of Justice	18
Urban Studies	18
Physical Education	18
Environmental Studies	24
Social Welfare	18
Health Education	18
Business Minor	21

Total Credits 123

III Open Electives 13-19

IV Students can select either an approved 18 hour concentration of upper division course work or one of the following minors:

	<i>Hours</i>
Business Minor	21
Environmental Studies	24
French Minor	21
German Minor	21
Spanish Minor	21
History Minor	21
Geography Minor	21

Total Credits 123

PROGRAM REQUIREMENTS IN TRAVEL AND TOURISM EMPHASIS
(123 credit minimum)

	<i>Credits</i>
I General Education	39
A Humanities (12 credits)	
ENG 101 Composition and Rhetoric I	3
ENG 102 Composition & Rhetoric II	3
Writing Intensive	3
Math 101 or Math 102	3
B Applied Statistics (6 credits) (Select one of the following tracks after completion of math req.)	6

REQUIREMENTS FOR B.S. IN RECREATION, PARKS, AND TOURISM THERAPEUTIC RECREATION EMPHASIS
(123 credit minimum)

	<i>Credits</i>
I General Education	39
A Humanities (12 credits)	
ENG 101 Composition and Rhetoric I	3
ENG 102 Composition & Rhetoric II	3
Writing Intensive	3
Math 101 or Math 102	3
B Applied Statistics (6 credits) (Select one of the following tracks after completion of math req.)	6

Track 1 (STA 213 and BUS 161, 162, 163)	
Track 2 (CSE 241 and CSE 242)	
Track 3 (CSE 243 plus one additional elective)	
Track 4 (STA 213 and CSE 242)	
Natural/Physical Science	3
Social Science Elective	3
Social Science Elective	3
Humanities/History Elective	3
Humanities/History Elective	3
Oral Communicator	3
Cultural Diversity	3
II Concentration	47
A Recreation, Parks, and Tourism Core	
(18 credits)	
REC 195 Recreation Leadership	3
REC 261 RPT in Modern Society	3
REC 303 Leisure Delivery Systems	3
REC 320 Recreation Analysis	3
REC 395 Recreation Program Development	3
REC 403 RPT Administration	3
B Therapeutic Recreation Studies Core	
(35 credits)	
BIO 205 Human Anatomy	4
BIO 206 Human Physiology	4
EDU 301 Human Development and Learning	3
REC 371 Intro to Therapeutic Recreation .	3
REC 371L Intro to TR Lab	1
REC 407 Abnormal Psychology	3
REC 472 TR Program Development	3
REC 473 Clinical Assessment	3
REC 493 Internship	8
REC 506 Contemporary Issues	3
III Open Electives	13
IV Students can select either an approved 18 hour concentration of upper division course work or one of the following minors:	
	<i>Hours</i>
Administration of Justice	18
Psychology	18
Physical Education	18
Social Welfare	18
Health Education	18
Total Credits	123

BIO 109/109L General Biology**	4
PSY 101 Introduction to Psychology**	3
SOC 101 General Sociology**	3
Humanities/History Elective	3
Humanities/History Elective	3
Oral Communicator/Psychology Elective**	3
Choose one: PSY 321, 323, 340, 341	3
Cultural Diversity	3
II Concentration	47
A Recreation, Parks, and Tourism Core	
(18 credits)	
REC 195 Recreation Leadership	3
REC 261 RPT in Modern Society	3
REC 303 Leisure Delivery Systems	3
REC 320 Recreation Analysis	3
REC 395 Recreation Program Development	3
REC 403 RPT Administration	3
B Therapeutic Recreation Studies Core	
(35 credits)	
BIO 205/205L Human Anatomy**	4
BIO 206/206L Human Physiology**	4
PSY 304 Developmental Psychology**	3
REC 371 Intro to Therapeutic Recreation .	3
REC 371L Intro to TR Lab	1
PSY 407 Abnormal Psychology**	3
REC 472 TR Program Development	3
REC 474 Clinical Assessment	3
REC 493 Internship	8
REC 506 Contemporary Issues	3
III Open Electives	13
Sociology Elective (or ANT 103)**	3

IV Students can select either an approved 18 hour concentration of upper division course work or one of the following minors:	
	<i>Hours</i>
Administration of Justice	18
Psychology	18
Physical Education	18
Social Welfare	18
Health Education	18
Total Credits	124

**Required for PPT

PROGRAM REQUIREMENTS IN THERAPEUTIC RECREATION/PRE-OCCUPATIONAL THERAPY EMPHASIS (124 credit minimum)

I General Education	40
A Humanities (12 credits)	
ENG 101Composition and Rhetoric I**	3
ENG 102 Composition & Rhetoric II**	3
Writing Intensive	3
Math 101 (not required if student places directly into STA 213)	3
B Applied Statistics (6 credits)	
STA 213**	
CSE 242 or BUS 161, 162, 163	

PROGRAM REQUIREMENTS IN THERAPEUTIC RECREATION/PRE-PHYSICAL THERAPY EMPHASIS (133 credit minimum)

I General Education	40
A Humanities (12 credits)	
ENG 101Composition and Rhetoric I**	3
ENG 102 Composition & Rhetoric II**	3
Writing Intensive	3
Math 101 or Math 102	3
B Applied Statistics (6 credits)	
STA 213**	
CSE 242 or BUS 161, 162, 163	
BIO 109/109L General Biology I**	
or	

BIO 151/L151 Intro to Bio Science I.....	4
PSY 101 Introduction to Psychology**	3
Social Science Elective**	3
Humanities/History Elective**	3
Humanities/History Elective	3
Oral Communication	3
Cultural Diversity	3

II Concentration 47

A Recreation, Parks, and Tourism Core
(18 credits)

REC 195 Recreation Leadership	3
REC 261 RPT in Modern Society	3
REC 303 Leisure Delivery Systems	3
REC 320 Recreation Analysis	3
REC 395 Recreation Program Development	3
REC 403 RPT Administration	3

B Therapeutic Recreation Studies Core
(35 credits)

BIO 205/205L Human Anatomy	4
BIO 206/206L Human Physiology**	4
EDU 301 Human Development and Learning	3
REC 371 Intro to Therapeutic Recreation ..	3
REC 371L Intro to TR Lab	1
PSY 407 Abnormal Psychology**	3
REC 472 TR Program Development	3
REC 474 Clinical Assessment	3
REC 493 Internship	8
REC 506 Contemporary Issues	3

III Electives 25

BIO 110/110L General Biology II or BIO 152/152L Intro to Bio Science II** ..	4
PHY 201/201L General Physics**	4
PHY 202/202L General Physics**	4
CHE 101/101L General Chemistry I**	5
CHE 102/102L General Chemistry II**	5
Social Science Elective (300-400 level)**	3

IV Students can select either an approved 18 hour concentration of upper division course work or one of the following minors:

	<i>Hours</i>
Administration of Justice	18
Psychology	18
Physical Education	18
Social Welfare	18
Health Education	18

Total Credits 133

**Required for PPT

MINORS IN HEALTH OR PHYSICAL EDUCATION

Health Education (18 credits)	<i>Credits</i>
HED/PHE 190 Introduction to Health and Physical Education Professions	3
HED 480 Safety, First Aid, and CPR	3
Select four of the following:	12

*HED/PHE 397 Methods in Health and Physical Education (three credits)
**HED 400 Nutrition (three credits)
HED 410 Issues in Sexuality (three credits)
**HED 420 Substance Abuse (three credits)
**HED 430 Trends in Modern Diseases (three credits)
**HED 487 Coping and Adaptations (three credits)
PHE 492 Physiology of Exercise (three credits)

*Required if student has taken no other pedagogy courses.
**Highly recommended for education majors. Anatomy and physiology courses are also recommended.

Physical Education (18 credits)

HED/PHE 190 Introduction to Health and Physical Education Professions	3
HED 480 Safety, First Aid, and CPR	3
Electives	12
Select course work from Division of Health and Physical Education with approval of division coordinator of advisement. Anatomy and physiology courses are also recommended.	

Driver Education (18 credits)

*HED 380 Principles of Accident Prevention	3
HED 480 Safety, First Aid, and CPR	3
*HED 382 Introduction to Driver Education	3
*HED 482 Methods in Driver Education ...	3
SRA 440 Incident Investigation and Analysis	3
SRA 450 Human Factors and Ergonomics or SRA 350 Traffic and Transportation Planning and Management	3

*Required for state certification.

Athletic Care and Training (22 credit minimum)

PHE 480 Safety, First Aid, and CPR	3
HED 325 Treatment of Athletic Injuries	3
HED 325L Taping Techniques Laboratory	3
HED 425 Advanced Treatment of Athletic Injuries	3
HED 426 Therapeutic Modalities and Rehabilitation Techniques	3
EDU 310 Practicum	3
PHE 392 Kinesiology	3
PHE 492 Physiology of Exercise	3

Prerequisites

BIO 205 Human Anatomy (four credits)
BIO 206 Human Physiology (four credits)

Recommended

PSY 101 General Psychology (three credits)
PHE 495 Adaptive Physical Education (three credits)
HED 420 Substance Abuse (three credits)
HED 400 Nutrition (three credits)

DIVISION OF TEACHER EDUCATION

Alan McLeod
Chairman

Elise Blankenship
Debra Carlotti
Michael Davis
Jill Fox
George Giacobbe
Ena Gross
Sheary Johnson
Jennifer Kilgo
Rosemary Lambie
Jean Lokerson
Fred Orelove
Daisy Reed
Judy Richardson
Diane Simon
Paul Wehman
Judy Wood

Nancy Boraks
Leila Christenbury
Patricia Duncan
Howard Garner
Paul Gerber
Kathleen Heubach
William Judd
John Kregel
Michael Lohr
John Oehler
Deborah Pittman
Richard Rezba
John Rossi
John Van de Walle
Doris White
Deborah Woodward

Professors Emeriti—

Mary Brittain
Gladys Fleming
Ada Hill
Alice Pieper
William Wyers
Rizpah Welch

Nancy Fallen
Arnold Fleshood
James Hodges
Howard Sparks
Martin Tarter
Esther Zaret

Division Mission

The Division of Teacher Education is committed to excelling in the initial and continuing preparation of teachers for the Commonwealth, with particular emphasis on early childhood through secondary education in diverse settings; to collaborating with colleagues in educational agencies; to applying research about learning in classrooms; to undertaking scholarly endeavors that examine learning and teaching processes; and to providing technical assistance to special populations and service to school divisions and agencies.

We value:

- Providing the highest quality teaching and opportunities for learning.
- Integrating academic disciplines, professional studies, and clinical experiences as program components for student learning.
- Collaborating in the preparation of teachers and in the continuing development of faculty both within the university and in public and private educational settings.
- Enabling teachers and intending teachers to work effectively with students from diverse populations and those with special needs.
- Helping intending teachers become effective decision-makers and practicing teachers refine their decision-making skills in the roles for which they are preparing.

- Effectively modeling the use of technology to enhance and foster learning.
- Incorporating, among others, developmental, cognitive, and functional approaches and content areas in the preparation of personnel in early middle, secondary, and special education programs.
- Serving the university through faculty participation in institutional committees and task forces, programs, and supportive research and service institutes and centers within the university.
- Serving the community through technical assistance, workshops, consulting, continuing education activities, Professional Development Schools, and other partnerships.

EXTENDED TEACHER PREPARATION PROGRAMS

The School of Education, in cooperation with the College of Humanities and Sciences, offers extended teacher preparation programs in early education (nursery school/kindergarten through fourth grade*); middle education (grades four-eight*); secondary education (grades eight-12); and special education (kindergarten through grade 12). The successful completion of these programs results in the simultaneous awarding of both a bachelor's and a master's degree. The program requires 160 credits, at least 33 of which must be at the graduate level.

Prospective secondary school teachers earn their bachelor's in a specific field in which they plan to teach—English, a foreign language, a science, mathematics, or history.

Similarly, prospective middle school teachers most often specialize in English, history, mathematics, a science, or social science.

But for students planning to become early or special education teachers, any major in the humanities or the sciences is acceptable.

In the extended program, a student generally begins work on the professional studies component in his or her third year of study.

Information on specific requirements for all academic majors is available at the Division of Teacher Education, in the College of Humanities and Sciences' associate dean's office, or through the department of the chosen major. A student in the extended program must maintain a minimum cumulative GPA of 2.5 for admission to teacher preparation and clinical experience, and prior to the fifth year a minimum GPA of 2.8 for admission to the graduate study portion of the program.

*These programs change in 1996 to NK-5 and 6-8 respectively. (See statement on page 283.)

Admission to the Extended Teacher Preparation Program

Any undergraduate admitted to VCU who declares a major in the College of the Humanities and Sciences is eligible to declare a specialization in early, middle, secondary or special education.

Transfer students and students currently attending VCU who wish to change their majors to this program must have a minimum GPA of 2.0; however, please note the much higher GPA requirement for Admission to Teacher Preparation and then to graduate study. All students in the program, upon completion of 60 hours of undergraduate course work and prior to completion of 90 hours, must apply for admission to teacher education. To be accepted, a student must have a minimum GPA of 2.5. Admission to graduate study requires a GPA of 2.8.

General Requirements and Procedures

Students who pursue one of the extended teacher preparation programs follow a series of steps as noted below in order to meet all requirements, including the 160 credits.

Step 1: Admission to the University

Requirements

- Scores from Scholastic Aptitude Test (SAT) or American College Test (ACT).
- Minimum 2.0 GPA from high school or previous college.

Procedures

- Declare an undergraduate major in Humanities and Sciences.
- Declare an education graduate major in early childhood, middle, secondary, or special education.

Step 2: Admission to Teacher Preparation

Complete before enrolling in 1st practicum (Upon completion of 60 credits of liberal arts and prior to completion of 90 credits.)

Requirements

- 2.5 GPA or better.
- Completion of six hours of English, three hours of math, four hours of laboratory science, and six hours of social science and/or history.
- Completion of Praxis I.
- Confirmation of education major. Undecided majors must decide.

Procedures

- Complete Admission to Teacher Preparation Application Form (obtain in Academic Services) and submit a current transcript.
- Complete EDU 300; submit required Praxis scores.
- Register in Dean's office for interview upon returning Admission to Teacher Preparation Application form. Complete required interview with education program faculty. Special education requires interview with program faculty.

Note: *Students must be admitted to Teacher Preparation to be eligible for practicum placement. Applications for practicum are available at the Office of Academic Services.*

- Register for, take, and submit required Praxis I scores.

Step 3: Application to Graduate Studies

Requirements

- 2.8 GPA or better. Students with GPAs of 2.6-2.75 may be considered for provisional admission.
- Acceptable scores on the Graduate Record Examination (GRE) or Miller Analogy Test (MAT).
- Personal Statement addressing reasons for seeking graduate education, including career goals; experience working with age group to be taught; reasons for entering teaching; and success in organizing, planning, and implementing work with other individuals.
- Three references. It is suggested that these be instructors or advisors in the College of Humanities and Sciences and the School of Education. Use Graduate Studies Reference Forms.

Procedures

- Obtain Graduate School Admissions packet from the Office of Academic Services in Room 2087, Oliver Hall.
- Return completed application packet, along with up-to-date transcripts, to VCU Office of Graduate Studies.

Note: *Students must be admitted to Graduate Studies to be eligible to enroll in graduate level courses. Note School of Graduate Studies requirement that no more than six graduate credits taken prior to admission*

to graduate study may be accepted toward the degree.

Step 4: Internship

All programs require during the fifth year a graduate-level internship (EDU 672). Applications for internship can be obtained in the Office of Academic Services in Room 2087, Oliver Hall. Individuals choosing special education are placed in two different settings, one for emotional disturbance and one for mental retardation, each in a different semester. Individuals in early education are placed in a kindergarten and a grade 1-4 in the same semester. Individuals in middle and secondary education typically have a single placement, although perhaps with two different teachers.

Requirements

- a) 3.0 GPA or better on graduate courses.
- b) Admission to Teacher Preparation and to Graduate Study.
- c) Completed application and transcripts submitted by established deadlines.

Procedures

- a) Obtain application form from the Office of Academic Services.
- b) Submit copies of transcripts and required statement to professional studies, advisor for review.
- c) Obtain approval signature of professional studies advisor.
- d) Submit completed application to Office of Academic Services by October 1 for the following spring semester; by March 1 for the following fall semester.

Step 5: Admission to the Profession

(During the final semester of enrollment)

Requirements

- a) Completion of all degree requirements.
- b) Acceptable scores on Praxis (National Teachers Examination), which includes Communication Skills, General Knowledge, Professional Knowledge, and Specialty Area Tests. No specialty sub-tests are required.
- c) Completion of application for initial teacher licensure (obtain from Office of Academic Services).

Procedures

- a) Complete applications for undergraduate degree in humanities and sciences with aca-

ademic major advisor, and graduate degree in education with professional studies advisor.

- b) Submit application for initial teacher licensure with university supervisor or professional studies advisor signature.

FACULTY ADVISEMENT

An academic advisor is assigned to a student by the department of that student's chosen major in the College of Humanities and Sciences. A professional studies advisor is similarly assigned by the Division of Teacher Education according to the student's proposed teaching endorsement. This advisor-student relationship continues throughout the course of study at VCU. Student and advisor jointly develop the student's individual program. During the planning process, the student identifies, clarifies, and explores his or her personal and professional goals.

CLINICAL EXPERIENCES

Programs in elementary, middle, secondary, and special education encompass planned experiences in the field or clinical settings, including guided practica experiences. These direct experiences lead to an internship.

With the guidance of a mentor, the intern assumes more independence in the field setting. Satisfactory completion of the internship and the preceding training is charted through evaluations made by the university supervisor, colleague-teacher, and school administrator.

PROFESSIONAL DEVELOPMENT SCHOOLS

A Professional Development School (PDS) is one where substantial numbers of the faculty are interested in working with future teachers, participating regularly in staff development, willing to research the answers to questions that concern them about teaching, learning, and students. A VCU Faculty Liaison is in the school on a weekly basis working with teachers, students, and administrators, and significant numbers of VCU students are placed there for various clinical experiences.

PDSs in 1995-96 included:

Elementary

Beaverdam Elementary (Hanover County)

- Mary Munford Elementary (Richmond City)
- Whitcomb Model Elementary (Richmond City)
- Middle
 - Manchester Middle (Chesterfield County)
 - Mount Vernon Middle (Henrico County)
- High

Governor’s School for Government and International Studies (a regional high school located in Richmond and serving more than a dozen school divisions)

SCHOLARSHIP AWARDS

In addition to other awards, students in the Division of Teacher Education are eligible for the following scholarships:

- The Virginia Arnold Scholarship (early and middle)
- The N. Thelma Jones Scholarship (secondary)
- The Virginia and Berta M. Newell Endowed Scholarship (early and middle)
- The Teacher Education Scholarship (funded by Division faculty; early, middle, secondary and special education students are eligible)

HONORS STUDY

Students who qualify can participate in the University Honors Program, and are eligible to take “honors” course sections and special seminars.

Honors sections of the *Foundations of Education* and *Human Development and Learning* courses are offered to qualified students, providing them with opportunities for critical investigation in areas of special professional interest.

IMPENDING PROGRAM CHANGES

The School of Education in consultation with the College of Humanities and Sciences is planning to change programs to reflect more accurately the current configuration of elementary and middle schools, and the developmental stages of the students.

The programs in early education and middle education are being changed respectively from nursery/kindergarten through grade 4 (NK-4) to nursery/kindergarten through grade 5 (NK-5) emphasis, and grades 4 through 8 (4-8) to grades 6 through 8 (6-8) emphasis. These changes affect students admitted to the Extended Program as

freshman for Fall 1996; for transfer, change of major, and degree-holders, the changes will be phased in later. Preteaching distribution of general education credits, including more in mathematics and the sciences, is being developed in collaboration with the College of Humanities and Sciences. A more detailed delineation of courses will be included in the next undergraduate bulletin.

The NK-5 Qualifying course titles will remain essentially the same, with additional credit in practicum and EDU 414. At the graduate level, a one credit integrative course as well as EDU 605 will be added; EDU 624 will not be required.

The grades 6-8 program will require fewer Qualifying courses – EDU 300, EDU 301, EDU 310, and EDU 407. At the graduate level, EDU 562, EDU 681, and a new interdisciplinary course in teaching language arts and social studies are added for all students; individuals will select EDU 521 or EDU 540, and at least 3 graduate credits from EDU 556, EDU 600, EDU 605, EDU 626, EDU 660, CSC 554, and ENE 601.

VCU students in early and middle education should check with their professional studies advisors for how such changes may affect them, the courses they take, the sequence in which they take them, and the connection of clinical practica to specific program courses and expectations. It is anticipated these changes will affect students admitted for Fall 1996 and thereafter.

Appropriate revised program planning sheets will be available in the Division of Teacher Education Office one the University Undergraduate Committee and Graduate Council have taken the necessary action.

EARLY CHILDHOOD EDUCATION PROGRAM

This program focuses on the preparation of the teacher planning to work with children from infancy through age nine, covering nursery school and kindergarten through fourth grade.

After completing this program, the student is eligible for licensure in teaching preschool and lower elementary grades.

Professional Studies Requirements

EARLY EDUCATION, NK-4

	<i>Credits</i>
EDU 300 Foundations of Education	3
EDU 301 Human Development and Learning	3
EDU 310 Practicum	3
EDU 351 Children’s Literature	3

PHE 390	Physical Education for the Elementary Teacher	3
EDU 414	Curriculum and Methods for Young Children	3
EDU 426	Teaching Reading and Other Language Arts	3
EDU 517	Science Education in the Elementary School	3
EDU 522	Teaching for Elementary Education Mathematics	3
EDU 566	Diagnosis and Remediation in Reading	3
EDU 591	Social Studies Education in the Elementary School	3
EDU 607	Advanced Educational Psychology	3
EDU 624	Early Childhood Education Programs and Policies	3
EDU 626	Home-School Communication and Collaboration	3
EDU 672	Internship	9
EDU 673	Seminar on Educational Issues, Ethics, and Policy	3

MIDDLE EDUCATION PROGRAM

The Middle Education Program prepares the prospective teacher to instruct children between the ages of nine and 14—grades fourth through eighth. A graduate of this program can be licensed to teach in upper elementary and middle school grades.

Professional Studies Requirements

MIDDLE EDUCATION, 4-8

	<i>Credits</i>	
EDU 300	Foundations of Education	3
EDU 301	Human Development and Learning	3
EDU 310	Practicum	3
EDU 351	Children's Literature, or	
EDU 433	Literature for Adolescents	3
PHE 390	Physical Education for the Elementary Teachers	3
EDU 426	Teaching Reading and Other Language Arts	3
EDU 517	Science Education in the Elementary School	3
EDU 521	Teaching Mathematics for Middle Education	3
EDU 544	Introduction to the Middle School	3
EDU 566	Diagnosis and Remediation in Reading	3
EDU 591	Social Studies Education in the Elementary School	3
EDU 607	Advanced Educational Psychology	3
EDU 672	Internship	9
EDU 673	Seminar on Educational Issues, Ethics, and Policy	3
Graduate Electives	3	
Graduate electives in education and academic areas; EDU 660 Methods of Research encouraged.		

SECONDARY EDUCATION PROGRAM

These programs prepare the student for a career as a secondary school teacher—grades eight through twelve. Teaching endorsements are available in drama*, English, French, German, Spanish, history, history and social studies, mathematics, biology, physics, chemistry, and general science. Added endorsements are available in English as a second language and earth science.

Professional Studies Requirements

SECONDARY EDUCATION, 8-12

	<i>Credits</i>	
EDU 300	Foundations of Education	3
EDU 301	Human Development and Learning	3
EDU 310	Practicum	3
EDU 537	Secondary School Curriculum	3
EDU 5XX	Teaching Secondary School	3
EDU 540 Science	
EDU 543 Foreign Language	
EDU 545 Mathematics	
EDU 547 History/Social Studies	
EDU 548 English	
EDU 607	Advanced Educational Psychology	3
EDU 672	Internship	9
EDU 673	Seminar on Educational Issues, Ethics, and Policy	3
EDU 681	Investigations and Trends in Teaching**	3
Graduate Electives	9	
Graduate electives in education and academic areas;		
EDU 660 Methods of Research encouraged.		

*Drama is available only through the Theatre Education program, Theatre Department, School of the Arts.

**Science, English, foreign languages, mathematics, or history/social studies.

SPECIAL EDUCATION PROGRAM

This two-pronged program instructs the prospective teacher in the special skills needed to teach emotionally disturbed and mentally retarded children and adolescents. A student in this program receives dual endorsement.

Emotional Disturbance

This phase prepares the student to teach emotionally disturbed people in school and residential settings. The student learns to apply a variety of interventions because of the integration of didactic course work and clinical experience. The program emphasizes the development of a broad range of teaching competencies derived from theoretical models to promote social, behavioral and academic growth in behavior disordered and emotionally disturbed pupils.

Mental Retardation

This phase prepares the student to teach mentally retarded people in public, private, and community settings. The program stresses assessment, curriculum, service delivery, and adaptational techniques for general educators.

Professional Studies Requirements

SPECIAL EDUCATION, K-12

	<i>Credits</i>
EDU 300 Foundations of Education	3
EDU 301 Human Development and Learning or	
PSY 305 Educational Psychology	3
EDU 310 Practicum: Emotional Disturbance	2
EDU 310 Practicum: Mental Retardation	2
EDU 330 Survey of Special Education	3
EDU 331 Human Interaction in Teaching	3
EDU 422 Teaching Elementary School Mathematics, or	
EDU 423 Teaching Mathematics for Middle Education	3
EDU 426 Teaching Reading and Other Language Arts	3
EDU 468 Educational Diagnosis of Exceptional Individuals	3
EMO 500 Characteristics of Students with Emotional Disturbances	3
EMO 501 Teaching Students with Emotional Disturbance	3
MRT 556 Introduction to Mental Retardation	3
MRT 560 Methods for Students with Mental Retardation	3
MRT 500 Language Intervention for Children and Learners with Severe Disabilities, or	
LDS 530 Language Disabilities: Assessment and Teaching	3
EDU 631 Behavior Management of the Exceptional Student	3
EDU 632 Secondary Programming for Exceptional Students	3
EDU 672 Internship: Emotional Disturbance	6
EDU 672 Internship: Mental Retardation	6
EDU 6XX Foundations Course (choose with advisor)	6
Elective	3

MINOR IN THE FOUNDATIONS OF SPECIAL EDUCATION

The minor provides an opportunity to explore the field of special education and disabilities, for focused investigation of human behavior within the context of educational institutions or explorations related to possible or real career needs. Completion of this minor does not result in licensure or endorsement for teaching in the Commonwealth of Virginia.

The minor requires a minimum of 21 semester hours. If one or more of these courses is taken to satisfy a general studies requirement or a major

requirement, it may also be counted toward the minor.

Required 9 hours

	<i>Credits</i>
EDU 300 Foundations of Education	3
EDU 301 Human Development and Learning or	
EDU/PSY 305 Educational Psychology	3
EDU 330 Survey of Special Education	3

Selectives 12 hours (select any 4)

	<i>Credits</i>
EDU 331 Human Interaction in Teaching	3
EDU 573 Introduction to Learning Disabilities ...	3
EMO 500 Characteristics of Students with Emotional Disturbance	3
MRT 556 Introduction to Mental Retardation	3
PHE 495 Adaptive Physical Education	3

POST-BACCALAUREATE CERTIFICATE PROGRAM

The post-baccalaureate certificate in teaching program is designed for the student holding a bachelor's degree in a field other than education who wishes to teach in one or more grades, kindergarten through twelve, who wishes to teach in a shortage area, and for whom a master's degree is not a priority. Shortage areas are typically in sciences and mathematics rather than humanities or social sciences. Candidates for this program must hold a liberal arts degree or its equivalent. Those candidates planning to teach at the secondary level must have a major or its equivalent in the subject they wish to teach. Candidates should also have an advanced degree.

Candidates are required to complete a minimum of 24 hours beyond the bachelor's level, including the courses listed on the next page. The minimum number of hours, including those at the undergraduate level, varies by certificate track. For instance, 30 hours are required for the secondary education track, whereas 38 hours are required for a student in the middle education track.

Course equivalents taken within the past five years transfer; however, a minimum of 24 hours, including clinical experiences, must be taken at VCU after admission to the program.

Students completing the program are expected to:

- Have an understanding of human development and learning theory appropriate to the age group they will teach.
- Develop an understanding of purposes for education and a defensible philosophical approach to teaching.

- Acquire awareness of the cultural diversity of the school-age population
- Develop an ability to plan and implement effective teaching, and a means to measure student learning in ways that lead to sustained development and learning.

Criteria for admission include a baccalaureate or its equivalent in the liberal arts with a minimum GPA of 2.75. Prospective students must satisfactorily complete an application, including a written statement explaining why the individual wishes to teach and what prior experience the student has with the age group he or she plans to teach.

As part of the Admission process, the prospective student must supply three recommendations from individuals who can evaluate the candidate's attributes and verify the candidate's desire to teach and the candidate's relevant experience. Admission is also contingent on scores from the Graduate Records Examinations (GRE) or the Miller Analogies Test (MAT).

To successfully complete the program, candidates must satisfy program requirements, including admission to teacher preparation (see page 275) and achieve appropriate scores on the Praxis Series, formerly the National Teacher Examination tests, and meet the pertinent academic major requirements.

Professional Requirements for All Tracks

See note on page 277 regarding impending program changes.

- I Educational Foundations** (six credits minimum)
- A EDU 300 Foundations of Education**
- B Choose one with advisor approval**
- EDU 602 Adolescent Growth and Development
- EDU 603 Seminar in Child Growth and Development
- EDU/PSY 607 Advanced Educational Psychology
- II General Curriculum** (three to six credits; see track)
- III Professional Instruction Courses** (six to 15 credits; see track)
- IV Field/Clinical Experiences** (early/middle, 14 credits; secondary, 15 credits)
- EDU 310 Practicum (two-three credits)
- EDU 672 Internship (nine credits)
- EDU 673 Seminar (three credits)
- Total Program 30-41 credits (see track)

NK-4 Certification Track (41 credits)*

- I Foundations** (six credits)
- II General Curriculum** (six credits)
- EDU 414 Curriculum and Methods for Young Children Choice:
- EDU 624 Early Childhood Programs and Policies
- EDU 626 Home/School Communication and Collaboration

- III Professional Instruction Courses** (15 credits)
- EDU 426 Teaching Reading and Other Language Arts
- EDU 566 Diagnosis and Remediation in Reading
- EDU 517 Science Education in the Elementary School
- EDU 522 Teaching Mathematics for Elementary Education
- EDU 591 Social Studies Education in the Elementary School
- EDU 351 Children's Literature (test out option available)

IV Field/Clinical Experiences (14 credits)

4-8 Certification Track (38 credits)*

I Foundations (six credits)

II General Curriculum (three credits)

EDU 544 Curriculum and Instruction for Middle Grades

III Professional Instruction Courses (15 credits)

EDU 426 Teaching Reading and Other Language Arts

EDU 566 Diagnosis and Remediation in Reading

EDU 517 Science Education in the Elementary School

EDU 521 Teaching Mathematics for Middle Education

EDU 591 Social Studies Education in the Elementary School

IV Field/Clinical Experiences (14 credits)

Secondary Certification Track (30 credits)**

I Foundations (six credits)

II General Curriculum (three credits)

EDU 537 Secondary School Curriculum

III Professional Instruction Courses (six credits)

EDU 54X Teaching Secondary School (Science, mathematics, foreign languages)

EDU 681 Investigations and Trends in Teaching (Science, mathematics, foreign languages)

IV Field/Clinical Experiences (15 credits)

*Admission currently suspended

**Available only in subject matter shortage areas—Mathematics, Spanish, German, Biology, Chemistry, General Sciences, Physics.

DIVISION OF EDUCATIONAL STUDIES

John T. Seyfarth
Division Head

Andrew Beale
Samuel Craver
Jack Duncan
Thomas Hephner
Susan Leone
Carroll Londoner
James McMillan
John Pisapia
John Seyfarth

Kathleen Cauley
Robert Dilworth
Paul Gerber
Rosemary Lambie
Fredric Linder
Cheryl Magill
Maike Philipson
Sally Schumacher
Warren Strandberg

Richard Vacca

Jon Wergin

Professors Emeriti—

James Bailey

Vivien Ely

John Mapp

Ronald Sherron

William Bost

Gordon Keesee

Howard Ozmon

The Division of Educational Studies offers the student undergraduate courses in foundational studies necessary for specialized work in education degree programs. All degree-seeking undergraduate students in education are required to take EDU 300, Foundations of Education, and EDU 301, Human Development and Learning. Other foundations requirements are listed under each specific program of study.

COURSES IN EDUCATION

ADULT EDUCATION (ADE)

402 How Adults Learn. Semester course; 3 lecture hours. 3 credits. Overview of the adult as a learner. Topics include how and what adults learn, why adults participate in learning, and major barriers to learning for adults. Implications for teachers/trainers of adults are explored.

EDUCATION (EDU)

200 Education in American Society. Semester course; 3 lecture hours. 3 credits. No prerequisite. An elective course for noneducation majors, including those who may be exploring careers in education. An examination of the complex nature of our American educational system and various societal influences on that system. The course will include an exploration of some critical issues affecting the future of American education, on-site visits to educational institutions, and other field experiences in settings that will permit exploration of career options.

203 Focus on Choice. Semester course; 3 lecture hours. 3 credits. A career planning experience for adults focusing on discontinuity in life patterns and a review of current educational and occupational opportunities. Consideration of the *world of work*, *fields of education* and volunteer service, and the development of one's own potential will be featured.

300 Foundations of Education. Semester course; 3 lecture hours. 3 credits. The historical, sociological, and philosophical backgrounds of educational theories and practices. The aim of the course is to help the student develop a basic understanding of education in the modern world.

301 Human Development and Learning. Semester course; 3 lecture hours. 3 credits. A study of human development through the life span with special emphasis on child and adolescent psychology, the nature of learning, and basic concepts of learning theories.

305/PSY 305 Educational Psychology. Semester course; 3 lecture hours. 3 credits. The application of psychological

principles to the teaching-learning process, with special emphasis on theories of learning and development.

307/English 307 Teaching Writing Skills. Semester course; 3 lecture hours. 3 credits. Studies the theory and methods for teaching writing to students in middle and secondary schools. Teaches strategies for prewriting, composing, peer revision, evaluation, and topic construction. Includes extensive journal and essay writing. May not be used to satisfy the literature requirements of the College of Humanities and Sciences.

310 Practicum. 1-3 credits. Repeatable to 6 credits. A field placement that precedes student teaching, the nonschool supervised experience, or the internship. Includes planned observations, tutorials, and small group involvement.

330 Survey of Special Education. Semester course; 3 lecture hours. 3 credits. Pre- or corequisite for all other undergraduate special education courses. For majors and nonmajors. An overview of the field of special education. Includes current trends, legal issues, definitions, etiology, identification, characteristics, and appropriate services for children and adults with a range of exceptionalities.

331 Human Interaction in Teaching. Semester course; 3 lecture hours; 3 credits. Develop skills teachers use in interactions with students, family members, and other helping professionals, for relationship building, communication, affective education, teamwork, and consultation.

351/ENG 351 Children's Literature I. Semester course; 3 lecture hours. 3 credits. Designed to give students an appreciation of values of children's literature; includes biography, fable, myth, traditional and modern fanciful tales, and poetry, as well as a survey of the history of children's literature.

400 Independent Study. Semester course; 1-6 hours. 1-6 credits. Opportunities are provided for supervised research and independent study in selected areas. Designed for advanced students. All work offered on an individual basis with the approval of instructor and departmental chairman.

401 Pupil Evaluation. Semester course; 3 lecture hours. 3 credits. Principles and procedures of evaluation of pupil growth in cognitive, affective, and psychomotor domains for a prospective classroom teacher; construction and analysis of teacher-made tests and other formal and informal assessment procedures; interpretation and use of criterion-referenced and norm-referenced standardized tests in measuring group and individual achievement.

407 Educational Media: Utilization. Semester course; 3 lecture hours. 3 credits. The study and use of audio-visual equipment and aids, and means for using them for more effective presentations to groups.

414 Curriculum and Methods for Young Children. Semester course; 3 lecture hours. 3 credits. Prerequisite: admission to Teacher Preparation. A study of developmentally appropriate curriculum and methods for teaching young children. Includes classroom management, planning, selecting materials and evaluating learning. Extensive off-campus activities are integrated with on-campus classes.

426 Teaching Reading and Other Language Arts. Semester course; 3 lecture hours. 3 credits. Presents teaching strategies and materials in reading and the other language arts

based on current theory and research. Emphasizes the inter-relatedness of listening, speaking, reading and writing and the importance of naturalistic language experiences.

433/ENG 433 Literature for Adolescents. Semester course; 3 lecture hours. 3 credits. Designed to acquaint the prospective secondary school English teacher with the nature, scope, and uses of adolescent literature. The student is acquainted with reading materials for meeting the varied needs and interests of adolescents.

461 Teaching the Mentally Retarded. Semester course; 3 lecture hours. 3 credits. Prerequisites: EDU 451 and 456 or permission of instructor. Curriculum development and organization of activities for the mentally retarded at different maturational levels with specific attention to program content equipment, materials, and resources. Taken concurrently with EDU 310.

468 Educational Diagnosis of Exceptional Individuals. Semester course; 3 lecture hours. 3 credits. Study and simulation of basic assessment techniques and their use in determining the nature and extent of learning problems in educational placement decisions and in individual program development and implementation.

476 Methods for Residence Hall Assistants. Semester course; 3 lecture hours. 3 credits. Prerequisite: serve in VCU residence halls or permission of instructor. Course designed primarily to present resident assistants and others with student development concepts, peer assistance and helping skills, and group techniques. Residence halls will be used as primary learning laboratories.

485 Directed Student Teaching I. 6 credits. Prerequisites: admission to EDU 310 or equivalent with a grade of "C" or better and recommendation of practicum supervisor. A classroom teaching experience in a public school or other approved setting which includes opportunities for increasing involvement with children. Culminates in full responsibility for planning, implementing, and evaluating classroom activities.

486 Directed Student Teaching II. 6 credits. Prerequisites: admission to EDU 310 or equivalent with a grade of "C" or better and recommendation of practicum supervisor. A classroom teaching experience in a public school or other approved setting which includes opportunities for increasing involvement with children. Culminates in full responsibility for planning, implementing, and evaluating classroom activities.

487 Supervised Nonschool Experiences I. 6 credits. Prerequisites: completion of EDU 310 or equivalent with a grade of "C" or better, recommendation of practicum supervisor, and satisfaction of eligibility requirements for student teaching. Does not satisfy student teaching or certification requirements. A practical experience in a community agency or other approved non-school setting which provides for the efficient application of knowledge, ideas, and skills related to one's occupational objective. Culminates in full responsibility for planning, implementing, and evaluating activities.

488 Supervised Nonschool Experiences II. 6 credits. Prerequisites: completion of EDU 310 or equivalent with a grade of "C" or better, recommendation of practicum supervisor and satisfaction of eligibility requirements for student teaching. Does not satisfy student teaching or certification requirements. A practical experience in a community agency or other

approved non-school setting which provides for the efficient application of knowledge, ideas, and skills related to one's occupational objective. Culminates in full responsibility for planning, implementing, and evaluating activities.

494 Topical Seminar in Education. Semester course; 1-3 variable credits, repeatable up to six credits. A seminar intended for group study by personnel interested in examining topics, issues, or problems related to the teaching, learning, and development of students.

HEALTH EDUCATION (HED)

190/PHE 190 Introduction to Health and Physical Education Professions. Semester course; 3 lecture hours. 3 credits. An overview of the professional aspects of health and physical education. Historical and philosophical concepts, evaluation and research methods, current issues and trends, and career opportunities are discussed. Field experiences allow exposure to various professionals and facilities related to the health and physical education domains.

300 Introduction to Health. Semester course; 3 lecture hours. 3 credits. An introduction to the five dimensions of health emphasizing personal application and encouraging conscious decisions about a variety of behaviors that can make a difference in one's health status.

310/PHE 310 Early Professional Experience. Semester course; 3 laboratory hours. 1 credit. Opportunities are provided for observation and experience with professionals in the health and physical education fields. Designed for the students entering the fields to explore specific areas on campus or in the community.

325 Treatment of Athletic Injuries. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 205. Theory and techniques for the prevention, recognition, referral, and follow-up care of injuries in physical education and athletics.

L325 Taping Techniques Laboratory. Semester course; 3 laboratory hours. 1 credit. Pre- or corequisite: HED 325. Instruction and practice in the application of adhesive and elastic strapping (Laboratory fee required).

380 Principles of Accident Prevention. Semester course; 3 lecture hours. 3 credits. This course is designed to provide information on the magnitude of the accident problem in the nation. Special attention is given to concepts and theories of accident prevention, particularly as they relate to use of highways.

382 Introduction to Driver Education. Semester course; 3 lecture hours. 3 credits. An introduction to the vehicle operator's task within the highway transportation system: driver task analysis. A current automobile operator's permit is required.

386 School and Community Health Resources. Semester course; 3 lecture hours. 3 credits. Acquaints the student with current available school and community resources and educational materials for health information. Available services in a community health program will be surveyed.

397/PHE 397 Methods in Health and Physical Education. Semester course; 2 lecture and 2 laboratory hours. 3 credits.

Methods, materials, techniques, and skills in teaching health and physical education are discussed. Major topics include teaching styles, instructional guides, student evaluation, teacher evaluation, and discipline, as well as their application in teaching setting.

398/PHE 398 Curriculum in Health and Physical Education. Semester course; 3 lecture hours. 3 credits. Curriculum planning will include key aspects in the development of school health and physical education programs. Preparations and development strategies for course outlines, unit/lesson plans, and the writing of behavioral objectives are highlighted. Related subject areas, trends, and problems also are examined.

400 Nutrition. Semester course; 3 lecture hours. 3 credits. Provides learning opportunities that enable the student to acquire a practical and useful knowledge based on the sound principles of applied human nutrition. Emphasis will be on nutritional needs through the cycles of life providing information that will enhance the student's own lifestyle and provide experience in interpreting nutritional information for the public.

410 Issues in Sexuality. Semester course; 3 lecture hours. 3 credits. An overview of content, principles, and strategies relating to issues in human sexuality both in the community and school settings. Basic concepts of human sexuality as they develop in today's world are presented. Issues include sexual maturity, reproductive systems, conception, birth, abortion, and varieties of sexual behavior and sexual dysfunctions and disorders.

420 Substance Abuse. Semester course; 3 lecture hours. 3 credits. A survey of drugs that are used and abused in contemporary society. Multidisciplinary lectures and discussions include the historical and sociological perspectives of drugs in the school and community; the psychological and physiological effects of drug use; and the role of local and regional resources. Designed for students, teachers, counselors, administrators, and other interested persons. Rehabilitation methods and prevention programs also will be discussed.

425 Advanced Treatment of Athletic Injuries. Semester course; 3 lecture hours. 3 credits. The course is designed to give the student knowledge of and experience with physical examination, diagnostic testing, and identification of athletic injury, including orthopedic evaluation techniques of specific injuries. This includes an understanding of the anatomical and biomechanical basis of joint motion. The course will include lecture, slide presentation, and practical experience.

426 Therapeutic Modalities and Rehabilitative Techniques. Semester course; 3 lecture hours. 3 credits. This course is designed to provide students with an understanding of the theory and practical application of physical and exercise modalities commonly used in athletic training. The student is also exposed to methods of rehabilitation for specific injuries and surgery, determination of criteria for return to competition, treatment procedures for specific injuries, and methods of fabrication of protective splints and pads. The course will include lecture, slide presentation, practical experience, and guest lecturers.

430 Trends in Modern Diseases. Semester course; 3 lecture hours. 3 credits. Communicable disease, nutritional disease, prevention (immunizations), developmental abnormalities,

congenital defects, the handicapped child, and adolescent medicine are included.

480 Safety, First Aid, and CPR. Semester course; 3 lecture hours. 3 credits. This course includes American Red Cross and/or American Heart Association certification in Multimedia Standard First Aid and Basic Life Support (cardiopulmonary resuscitation). In addition, basic principles of accident causation and prevention are presented.

482 Methods In Driver Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: HED 382. This course is designed to provide driver education instructional principles and methodology.

487 Coping and Adaptation. Semester course; 3 lecture hours. 3 credits. Focuses on common stress factors in life such as death, personal loss, life changes, divorce, and emotional problems, such as anger, loneliness, and frustration. Strategies for dealing with such stressors are discussed and applied to both personal and professional settings.

493/PHE 493 Tests and Measurement in Health and Physical Education. Semester course; 3 lecture hours. 3 credits. Prerequisite: MAT 111. Topics include selecting, administering, scoring, and evaluating tests in the areas of general motor performance, health screening, fitness, sports skills, and knowledge. Scientific test construction and basic statistical analysis.

494/PHE 494 Topical Seminar in Health and Physical Education. Semester course; 1-3 credits, repeatable up to 6 credits. An in-depth study of a topic, issue, or problem in health and/or physical education. See Schedule of Classes each semester for specific topics to be offered.

PHYSICAL EDUCATION (PHE)

Service Program Courses

Oriented to meet the university students' wide variety of needs. Emphasis is placed on active learning and basic skill acquisition.

- 100 Experimental Physical Education (1 credit)
- 101 Foundations of Physical Conditioning: Jogging, Yoga, Weight Training, Swimming, as specified (1 credit)
- 102 Fitness and Weight Control (1 credit)
- 103 Adapted Physical Education (1 credit)
- 106 Fencing (1 credit)
- 107 Badminton (1 credit)
- 108 Gymnastics Survey (1 credit)
- 109 Racquetball (1 credit)
- 110 Handball (1 credit)
- 112 Tennis (1 credit)
- 113 Wrestling (1 credit)
- 114 Bowling (1 credit)
- 115 Rugby (1 credit)
- 116 Archery (1 credit)
- 117 Golf (1 credit)
- 121 Self Defense: Karate or Judo (1 credit)
- 125 Basketball (1 credit)
- 126 Flag Football (1 credit)
- 127 Field Hockey (1 credit)
- 128 Soccer (1 credit)
- 129 Lacrosse (1 credit)
- 137 Volleyball (1 credit)

- 138 Team Handball (1 credit)
- 139 Track and Field (1 credit)
- 150 Beginning Swimming (1 credit)
- 151 Intermediate Swimming (1 credit)
- 155 Scuba Diving (1 credit)
- 156 Synchronized Swimming (1 credit)
- 157 Springboard Diving (1 credit)
- 158 Aquatic Sports and Games (1 credit)

Certification Program Courses

- 250 Lifeguard Training (1-2 credits)
- 251 Water Safety Instruction (1-2 credits)
- 356 Organization and Administration of Aquatic Activities (1 credit)

Professional Activity

Courses Advanced knowledge and skills are acquired in those content areas traditionally taught in the public schools. Emphasis is placed on topics such as history, rules, skills, and strategy. Designed for health and physical education majors or students with instructor's permission.

- 200 Strength Training (1 credit)
- 201 Endurance and Flexibility Training (1 credit)
- 202 Basketball (1 credit)
- 204 Softball (1 credit)
- 208 Volleyball (1 credit)
- 210 Field Hockey (1 credit)
- 212 Soccer (1 credit)
- 214 Wrestling and Flag Football (1 credit)
- 216 Tennis (1 credit)
- 226 Recreational and Indoor Racquet Sports (1 credit)
- 227 Archery, Badminton, and Bowling (1 credit)
- 230 Gymnastics (1 credit)
- 233 Track and Field (1 credit)
- 234 Elementary Rhythmics (1 credit)
- 235 Social Rhythmics (1 credit)
- 236 Developmental Activities and Games (1 credit)

Professional Classroom Courses

190/HED 190 Introduction to Health and Physical Education Professions. (See HED 190.)

300 Coaching Seminar. Semester course; 1 lecture hour. 1 credit. A lecture/discussion course that identifies the practical administrative and organizational responsibilities coaches encounter. Realistic problem-solving is stressed.

310/HED 310 Early Professional Experience. (See HED 310.)

340 Introduction to Sport Management. Semester course; 3 lecture hours. 3 credits. Prerequisites: MAC 101 and BUS 421. Acquaints the student with management principles, techniques, and functions related to the business fundamentals of sport. Includes communications, personnel, finance, public relations, legal aspects, facilities and program development.

382 Survey of Kinesiology and Physiology of Exercise. Semester course; 3 lecture hours. 3 credits. Examines the basic concepts of human biomechanics and exercise physiology. Includes basic and applied kinesiology and metabolic, endocrinological, cardiovascular, and respiratory responses and adaptations to exercise. Emphasizes the integration of kinesiological and physiological principles.

390 Physical Education for the Elementary Teacher. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Methods and curriculum planning in physical education for the elementary school teacher and physical education specialist. Emphasis is placed on using activities and games to foster the growth and development of the child with a focus on the psychomotor and affective domains.

391 Elementary Physical Education for Majors. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Prerequisite: PHE 390. Designed to enhance knowledge of elementary physical education through an analysis of the aims, goals, objectives, programs, and teaching methods. Construction of year-round curriculum and daily lesson plans. Emphasis also placed upon the acquisition of administrative and organizational knowledge dealing with facilities, equipment, teaching aids, testing, measurement, and safety.

392 Kinesiology. Semester course; 3 lecture hours. 3 credits. Prerequisite: BIO 205 or permission of instructor. A study of the anatomical, physiological, and physical aspects of human motion with application to the analysis of physical activities.

397/HED 397 Methods in Physical Education. (See HED 397.)

398/HED 398 Curriculum in Health and Physical Education. (See HED 398.)

430 Sports Psychology. Semester course; 3 lecture hours. 3 credits. Prerequisite: PSY 101. Examines various psychological aspects of sports performance. Topics include optimal performance, leadership effectiveness, ethics, stress management, coaching strategies, and motivation. Practical experiences include goal-setting, relaxation training, and cognitive intervention strategies.

431 Seminar in Applied Fitness. Semester course; 3 lecture hours. 3 credits. Open only to senior physical education majors or with permission of instructor. An in-depth study of various fitness areas and settings compatible with student career interests and current job market trends. Emphasis is placed on the application of knowledge and fundamental fitness principles. Topics include preparing exercise, nutrition, and weight loss, as well as weight and muscle gain prescriptions. Also includes training the elite athlete and designing fitness programs in the school and community.

432 Movement Education. Semester course; 3 lecture hours. 3 credits. For teachers of early childhood elementary and physical education. Emphasis is given to the role of movement and theory in the educational program and its implications for curriculum development and learning. Major consideration is given to the development of movement competency and self-awareness through creativity and exploration.

439 The Organization, Administration, and Supervision of the Intramural Sports Program. Semester course; 2 lecture and 2 laboratory hours. 3 credits. Experiences in the organization and administration of an intramural sports program. Lecture will be devoted to the theory, philosophy, history, and plans for the conduct of an intramural sports program. Laboratory experience will be obtained by working in intramural programs.

440 Administration of Sport Facilities. Semester course; 3 lecture hours. 3 credits. Prerequisite: PHE 340 Examines the

planning, construction, programming, staffing, and use of sport facilities through classroom and field experiences. Studied from the standpoint of the development process. Covers planning processes, and the maintenance of outdoor and indoor athletic, physical education, fitness and sport facilities.

441 Law and Sport. Semester course; 3 lecture hours. 3 credits. Prerequisite: PHE 340 Presents the legal aspects of sport/activity service systems. Emphasizes regulations in amateur athletics, liability for injury in sport activities, anti-trust laws, facility accommodation for persons with special needs, and strategies to prevent legal action.

492 Physiology of Exercise. Semester course; 3 lecture and 1 laboratory hour. 3 credits. Prerequisite: BIO 206. Physiological changes in the human organism resulting from exercise, investigation of recent research in diet, drugs, fatigue, cardiovascular/respiratory fitness, conditioning programs for various age groups, and the effects of exercise upon various components of physical fitness and health. Application of specific problems to physical education programs. Laboratory experience in the use of research instruments.

493/HED 493 Tests and Measurement in Health and Physical Education. (See HED 493.)

494/HED 494 Topical Seminar in Health and Physical Education. (See HED 494.)

495 Adaptive Physical Education. Semester course; 3 lecture hours. 3 credits. Provides an overview of those disabilities found most frequently in public schools. Emphasis is placed on developing understanding of various disabilities and skills in adapting activities to meet the needs and abilities of disabled students.

COURSES IN RECREATION, PARKS, AND TOURISM (REC)

195 Recreation Leadership. Semester course; 3 lecture hours. 3 credits. Course provides a study of the theories of leadership, group dynamics, and human relationships used in recreation delivery systems. Students acquire and demonstrate practical skills in planning, organizing, leading, participating, and evaluating a wide variety of recreation activities selected from the basic areas of programming such as social recreation, music, dance, drama, arts and crafts, environmental-outdoor recreation, special events, sports and games, linguistics, and hobby clubs.

200 Introduction to Outdoor Recreation Activities. Semester course; 3 lecture hours. 3 credits. A basic introduction to the theory and practice of outdoor adventure recreation. Emphasis is given to knowledge and understanding of the theoretical and philosophical foundations of participation in outdoor adventure recreation programs. Students will be exposed to an experiential approach to learning. Through involvement with activities, students will develop skills in planning, administering, and evaluating outdoor adventure recreation programs.

201L Backpacking. Semester course; 2 laboratory hours. 1 credit. Prerequisite: REC 200 or permission of instructor. An introduction to backpacking. Utilizing lectures, readings, and hands-on-experience, emphasis will be given to the skills and

knowledge necessary for safe, low-impact, short-to-moderate-duration travel through backcountry areas.

202L Flatwater Canoeing. Semester course; 28 laboratory hours. 1 credit. Prerequisites: REC 200 and ability to swim, or permission of instructor. Introduction to flatwater canoeing. Utilizing lectures, readings, and on-the-water experience, emphasis will be given to the skills and knowledge necessary for planning and implementing flatwater canoe trips. Topics include safety, locations for trips, equipment, and portaging, as well as the issues of conservation and impact.

203L Whitewater Canoeing. Semester course; 2 laboratory hours. 1 credit. Prerequisites: REC 202L and ability to swim or permission of instructor. A basic introduction to whitewater paddling, utilizing lectures, readings, and on-the-water experience. Emphasis will be given to the skills and knowledge necessary for planning and implementing whitewater canoe trips, including communication and the structure for leading group trips. Course is taught evenings and weekends as found in Schedule of Classes.

204L Rock Climbing. Semester course; 2 laboratory hours. 1 credit. A basic introduction to rock climbing, utilizing lectures, readings, and rock climbing experiences. Emphasis will be placed on safety, equipment, and conservation, as well as techniques of belaying, climbing, and rappelling. Attention is given to the importance of communication and personal feelings of mastery and success in outdoor adventure recreation. Course is taught evenings and weekends as found in Schedule of Classes.

261 Recreation, Parks, and Tourism in Modern Society. Semester course; 3 lecture hours. 3 credits. Introduction to the historical and philosophical foundations of leisure and recreation; implications of continued growth of the leisure phenomenon in contemporary society.

303 Leisure Delivery Systems. Semester course; 3 lecture hours. 3 credits. Evaluation of public, private, and commercial agencies that provide recreation services. Particular emphasis is given the types of leisure activities offered in relationship to the recreation market.

320 Recreation Analysis. Semester course; 3 lecture hours. 3 credits. Prerequisite: CSE 241-242. Examines various approaches to the study of leisure. Assesses the use of free time and the expenditure of time and money to fulfill leisure needs.

331 Recreation Site Selection and Analysis. Semester course; 3 lecture hours. 3 credits. An overview of the site selection and development processes will be analyzed as individual elements and the interrelationships among all the elements will be reviewed. Consideration will be given to the social, political, physical, and legal aspects of the park planning process.

332 Recreation Site Design and Development. Semester course; 2 lecture hours. 2 credits. Prerequisite: REC 331. General principles of planning and development of basic recreation areas and facilities; specific principles of design relating to outdoor recreation facilities; standards relative to space requirements, location, and programs; trends in site design and development.

332L Recreation Site Design and Development Laboratory. Semester course; 4 laboratory hours. 2 credits. Prerequisite: REC 331. Laboratory work correlated with REC 332.

Can be taken only concurrently or subsequent to REC 332. (Laboratory fee required.)

341 Introduction to Travel and Tourism. Semester course; 3 lecture hours. 3 credits. Examination of historical perspective, basic policy issues, and social and economic impact of the travel and tourism field. Functions, programs, and objectives of various types of travel and tourism organizations will be studied.

371 Introduction to Therapeutic Recreation. Semester course; 3 lecture hours. 3 credits. An introduction to services for special populations. Examines the various agencies and institutions which provide such services as well as the professional competency necessary for the delivery of leisure services to the handicapped; the physically, socially, and mentally disabled; and the aged. Introduces the student to client assessment and programming.

395 Recreation Program Development. Semester course; 3 lecture hours. 3 credits. Prerequisite: REC 195. Principles of recreation program development; intensive study of the recreation program areas available to participants; analysis of the methods and techniques of program implementation and program evaluation.

403 Management of Recreation, Park, and Tourism Agencies. Semester course; 3 lecture hours. 3 credits. Principles of the administrative process. Deals with basic procedures of recreation administration, with particular emphasis on legal foundations, organizational structure, management theory, personnel practices and policies, legal liability, activity and liability insurance.

404 Revenue Sources for Parks and Recreation. Semester course; 3 lecture hours. 3 credits. Examination of the financing, budgeting, and marketing techniques used to develop and operate leisure service opportunities.

431 Advanced Recreation Facilitation Techniques. Semester course; 3 lecture hours. 3 credits. The course provides a study of advanced leadership, group dynamics, and human relationships used in leisure delivery systems. Students acquire skills in facilitation techniques including decision-making, problem-solving, conflict management, and evaluation strategies.

442 Group Travel Management. Semester course; 3 lecture hours. 3 credits. A study of the processes and procedures involved in the planning and organization of group travel. Emphasis will be given to the economic and political dimensions of travel, deregulation, how travel agencies function, professional liability, and future trends in the field.

445 Conference and Convention Planning. Semester course; 3 lecture hours. 3 credits. The planning, organizing, promoting, and implementing of conferences and conventions. Included will be the development of conference programming, financing, and public relations as well as negotiations with meeting facilities, hotels, and food services agencies.

461 Recreation Resource Management. Semester course; 3 lecture hours. 3 credits. A comprehensive overview of recreation resource management institutions, both public and private. Emphasis is given to the public sector at the federal, state, and local levels. Professional, service, and educational organizations contributing to outdoor recreation are exam-

ined. The legal framework operating within recreation resource management also is covered.

465 Park Operations and Maintenance. Semester course; 3 lecture hours. 3 credits. The purpose of this course is to gain an understanding of the concepts, principles, and practices of park operations and maintenance. Quantitative and qualitative resource evaluation will be emphasized. Special consideration is given to methods and techniques for determining management and operations policies.

472 Therapeutic Recreation Program Design. Semester course; 3 lecture hours. 3 credits. Prerequisite: REC 371; open to therapeutic recreation option majors only. Instructs students in the techniques of assessment, planning, implementation, and evaluation of therapeutic recreation programs for a variety of clients with special needs.

473 Leisure and the Aged. Semester course; 3 lecture hours. 3 credits. An analysis of the leisure needs of the aged. The need for specialized leisure programs for the aged in a variety of community and institutional settings will be explored. Preretirement counseling will be emphasized.

475 Recreation In Correctional Settings. Semester course; 3 lecture hours. 3 credits. A survey of recreational needs of inmates in adult and juvenile correctional institutions, short-term institutions, and community-based correctional institutions. The development of specialized programming and the role of recreation in the rehabilitative process will be examined.

476 Leisure Counseling. Semester course; 3 lecture hours. 3 credits. An introduction to the theory and application of leisure counseling for the general public and those with special needs. The use of leisure counseling as a means of client evaluation and assessment also will be examined.

480 Specialized Recreation Programs for Handicapped Children. Semester course; 3 lecture hours. 3 credits. Development of recreation programs for handicapped children in schools, other institutions, and community settings. Consideration will be given to the development of leisure skills and goal accomplishments.

490 Seminar. Semester course; 3 seminar hours. 3 credits. Advanced seminar in recreation, parks, and tourism which analyzes in-depth special problem areas and current issues. Independent research on special projects.

491 Topics in Recreation. Semester course; 3 lecture hours. 3 credits, maximum 6 credits per semester; maximum total of 9 credits in all departmental topics courses which may be applied to the major. An in-depth study of specific content areas in recreation, park, and tourism operations. See Schedule of Classes for specific topics to be offered each semester.

492 Independent Study in Recreation. Semester course; 16 credits. Prerequisite: permission of departmental chairman. Under the supervision of a faculty member, the student selects a topic of concern to investigate. Each student must present his/her findings in writing and pass an oral examination before a faculty committee.

493 Internship. Semester course; 8 credits. Prerequisite: senior standing. Opportunities are offered for the student to gain practical experience in a variety of public, private, and commercial agencies. The student will complete an individu-

alized course of study during a 10-week program consisting of 400 clock hours.

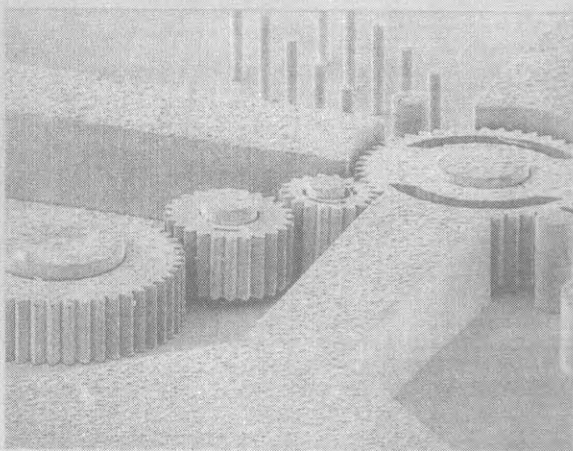
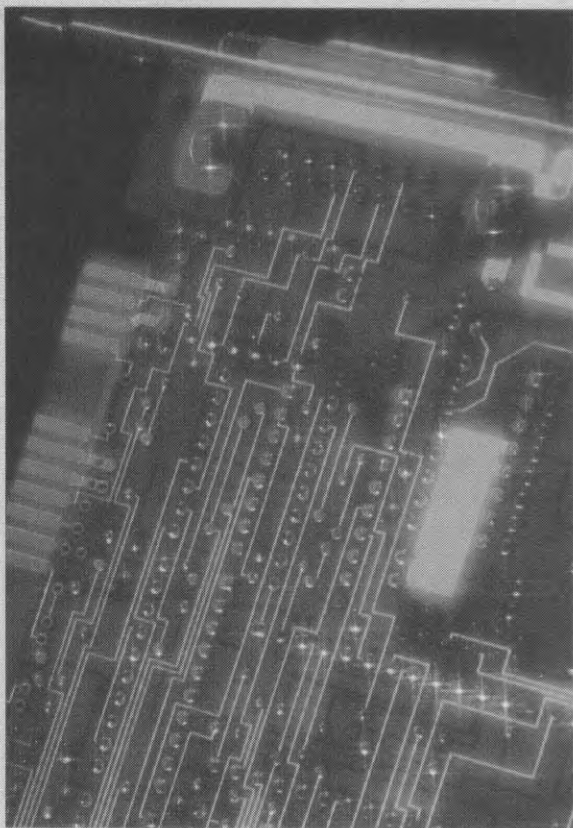
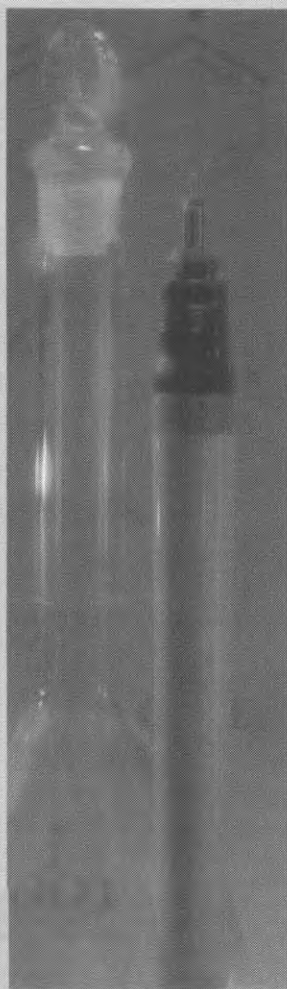
506 Contemporary Issues in Therapeutic Recreation. Semester course; 3 lecture hours. 3 credits. Prerequisite: REC 371 and REC 472. An examination of contemporary issues affecting the delivery of leisure services and programs to disabled persons.

510 Tourism Policy. Semester course; 3 lecture hours. 3 credits. The examination of tourism policy with emphasis upon components of the industry involved in the formulation and implementation of public policy. The course will include an analysis of the legislative programs of regional and national tourism organizations.

READING/STUDY SKILLS (RSS)

100 Reading and College Study Skills. Semester course; 2 lecture and 2 laboratory hours. 3 credits. A study of effective reading and study skills at the college level. Emphasis is placed on vocabulary development as well as reading and study strategies.

101 Advanced Reading, Study, and Communication Skills. Semester course; 3 lecture and laboratory hours. 3 credits. Prerequisite: EDU 100, advisor's recommendation, or instructor's permission. A study of advanced reading and study skills at the college level. Students develop and apply critical reading-thinking skills, library research skills, and advanced vocabulary.



PART XII

SCHOOL ▼ OF ▼ ENGINEERING

Henry A. McGee, Jr.
Founding Dean
Thomas W. Haas
Associate Dean

MISSION

In a collaboration rare in the history of higher education in Virginia, two public research universities—Virginia Commonwealth University (VCU) and Virginia Polytechnic Institute and State University (Virginia Tech)—are working together to create a new school that will bring innovative engineering education to central Virginia.

VCU and Virginia Tech have joined forces to build a competitive and aggressive new engineering school that will build upon the world-class teaching and research efforts of Virginia Tech, the internationally recognized strengths of VCU's Medical College of Virginia Campus, and the entrepreneurial, industrial and manufacturing sectors of the Richmond area.

By building on the existing strengths of Virginia Tech's engineering program and VCU's medical and science research programs—coupled with the cutting edge developments generated by the Virginia Biotechnology Research Park—the School of Engineering at VCU delivers innovative engineering curricula that emphasizes creativity and imagination.

Building reciprocal relationships with business and industry in the greater Richmond area is one of the highest priorities of the new school, particularly contributing to the region's manufacturing enterprise. This enterprise is global in nature, and the School has a distinct international orientation. The School and its students also benefit from real-world interaction with engineering professionals in the private sector in the metro area.

The School also offers students a seamless multidisciplinary curriculum in mechanical, chemical, biomedical and electrical engineering.

Serving the best and the brightest engineering students from across Central Virginia is an ongoing mission of the new School. The School also supports VCU's dedication to diversity by striving to open doors of opportunity for underrepresented populations in the engineering profession. Professional service to the metro community is a central mission of the School. It supports the economic development goals of the metro area, and supplies highly trained, scientifically literate engineers to the region's workforce, helping the Commonwealth to move its heavily defense-based economy to a more fully civilian-based economy. The VCU School of Engineering enriches the technological intellectual climate of the metro area.

Discovering new knowledge is the goal of most of the nation's front-line schools of engineering. The School at VCU celebrates not only

the discovery of knowledge, but also the creative integration and application of that knowledge.

CURRICULUM

Intellectual creativity and integration are essential to a successful engineering career in today's marketplace — and are central components of the School of Engineering's mission.

Practical application and innovative theory are firmly joined in the School's curriculum. The programs are designed to:

- encourage concentration in a second discipline sufficient for a minor
- require study in international relations and familiarity with foreign culture
- require study in the biological sciences
- address, via specialized presentations, the complexity and persuasiveness of contemporary issues, such as ethics and environmental impact
- foster a student/faculty rapport highly conducive to effective advising, networking and the development of professional interpersonal skills
- include multidisciplinary study throughout the curriculum
- require an intense practicum of all students.

The VCU Engineering practicum offers invaluable hands-on learning experience — an opportunity to make the classroom learning real. Required of all engineering candidates, a three-month, full-time practicum in either a manufacturing facility or a research laboratory is scheduled for the summer between the junior and senior year. The curriculum fosters a collaborative model of learning and work, and offers an opportunity for students to combine engineering with a business orientation.

In addition to the curriculum requirements existing for each academic degree program, all students seeking a baccalaureate degree within the School of Engineering are required to fulfill the University general education requirements.

Undergraduate Degree Programs

The School of Engineering offers Bachelor of Science degrees as follows:

- Electrical Engineering
- Mechanical Engineering
- Chemical Engineering

Minor Areas of Concentration

To augment career goals, an engineering student may, in addition to the major, elect a minor area of concentration for the in-depth study of a discipline of secondary interest. Students interested in pursuing a minor should discuss their intentions with their advisor or the chairman of the department.

A minor designation requires a minimum number of credit hours and a minimum grade point average (GPA) of 2.0 in the minor. The minor becomes official only after the Office of Records and Registration has received the change of Major/Minor Form signed by the chairman of the appropriate program.

Minors in mechanical engineering, electrical engineering, and chemical engineering are offered by the School of Engineering. These minors are open only to students in the School of Engineering. Engineering students are encouraged to consider pursuing a minor in chemistry for majors in chemical engineering as well as physics, mathematical sciences, business, or physiology by all engineering majors.

Graduate Studies

The Biomedical Engineering Program, which began in 1984, offers advanced training leading to both Master's (MS) and Doctoral (PhD) degrees. The Biomedical Engineering Program is part of the School of Engineering but is located on the Medical College of Virginia campus of Virginia Commonwealth University and has well-established ties to the Schools on the MCV Campus. The Biomedical Engineering Program also participates in the MD/PhD program with the School of Medicine.

Through a cooperative agreement with Virginia Tech, students in the Biomedical Engineering Program may access courses and/or research opportunities at Virginia Tech. The Commonwealth Graduate Engineering Program, which is coordinated by Virginia Commonwealth University, receives MS degree offerings through the University of Virginia and Virginia Tech via interactive video telecommunications (refer to the VCU *Graduate Bulletin* for details).

ADMISSIONS

Applicants to the School of Engineering must submit a minimum of 4 units in mathematics (through advanced algebra and trigonometry)

and a minimum of 3 units in science (which must include biology, chemistry and physics) and 3 units or more in a foreign language. Recommended is a rigorous high school program. Preference for admission will be given to those applicants presenting honors and/or AP credits. Students desiring consideration for admission should present:

Minimum GPA:	3.3
Minimum SAT	1180
Minimum Class Rank:	3rd decile

A brief essay and a personal interview are also requested (see application form). These two items are also requested of students who wish to enroll in the University Honors Program. Preference will be given to the most qualified applicants.

Students who require additional study to meet the admissions requirements are encouraged to enter the College of Humanities and Sciences for later transfer to the School of Engineering.

DEGREE PROGRAMS

Chemical Engineering

(Vacant)

Chair, Department of Chemical Engineering

Chemical Engineering is the most diverse of the engineering disciplines. Chemical engineers find employment in the manufacturing of chemicals, metals, plastics, ceramics, foodstuffs, petrochemicals, fertilizers, pharmaceuticals, and every material one can think of. They design and build the reactors used to make these materials and invent the processes used to separate and purify the products. They develop waste disposal processes and have a leading role in today's environmental protection research. Chemical engineers are involved in all facets of biotechnology, from research on artificial kidneys to the design and control of biofermentation reactors. Chemical engineers devise the processes needed to produce the special plastics used for artificial joints and develop the membranes used for skin grafts on severely burned patients. They are doing research and development on recombinant DNA technology and designing habitats for NASA space stations. Chemical engineers help design and build nuclear power plants and they invent the processes used to make carbon brakes

for jet aircraft. They help develop the microlithography processes used to make computer chips and build the plants where plastics used for compact discs are produced.

The ability to work in such diverse fields requires unusually extensive cross-disciplinary training. The Chemical Engineering degree requires students to develop proficiency in science, mathematics, and bioscience as adjuncts to mastering chemical engineering course material on mass and energy balances, unit operations, transport phenomena, thermodynamics, reaction engineering, process control, and process design and economics. Additionally, Chemical Engineering majors are expected to develop considerable written and verbal expertise so additional emphasis is placed on learning composition and rhetoric skill.

Freshman Year in Chemical Engineering

<i>Fall Semester</i>	<i>Credits</i>
CHE 101 General Chemistry	4
CHE 101L Lab	1
MAT 200 Calculus with Analytic Geometry	4
ENG 101 Composition & Rhetoric	3
EGR 101 Intro. to Engineering	4
Total	16

<i>Spring Semester</i>	
CHE 102 General Chemistry	4
CHE 102L Lab	1
MAT 201 Calculus with Analytic Geometry	4
PHY 207 University Physics	5
EGR 102 Engineering Concepts	4
Total	18

Sophomore Year in Chemical Engineering

<i>Fall Semester</i>	
PHY 208 University Physics	5
MAT 301 Differential Equations	3
CHE 301 Organic Chemistry	3
CHE 301L Lab	2
Elective International	3
Total	16

<i>Spring Semester</i>	
CRE 201 Energy Balances	2
CHE 302 Organic Chemistry	3
CHE 302L Lab	2
ENG 200 Composition & Rhetoric	3
MAT 437 App. Partial Diff. Equations	3
Elective Humanities/Social Sciences	3
Total	16

Electrical Engineering

Robert J. Mattauch

Commonwealth Professor and Chair, Department of
Electrical Engineering

The profession of electrical engineering touches all aspects of our lives in that electrical engineers design and fabricate devices and systems critical in applications such as computing, communications, health care, manufacturing and automation, power generation, and utilization transportation, and entertainment. An element very important to these and many other applications is the microelectronic device or system.

In the sub-area of microelectronics, electrical engineers design and fabricate electronic materials such as semiconductors, conductors, and superconductors used in the manufacture of electronic devices. Electrical engineers design and fabricate electronic devices such as transistors, which control or modulate the flow of energy; sensors of light, mechanical force, chemicals, etc.; electromagnetic radiation sources such as lasers, light emitting diodes, and microwave power sources. Electrical engineers are designing and fabricating integrated circuits such as microprocessors, and memory elements, and flat panel displays, which are found in applications ranging from supercomputers to watches, clocks, and toys. Electrical engineers are designing and fabricating today's and tomorrow's computers.

Computer systems and Applications Specific Integrated Circuits, ASICs, are the elements which enable the existence of today's communication systems such as the Internet, satellite systems, telemedicine, wired and wireless (cellular) telephones, along with standard and high definition television. In addition, they, along with sensors, microwave power sources, and actuators, permit automated manufacturing lines, air and traffic control systems, and automotive safety and traffic control through collision avoidance radar systems, antilocking brake systems, air bag actuators, automatic traffic routing and the "smart highway" of the future.

In addition, electrical engineers play an ever increasing role in the design and building of major facets of health care systems and medical research through the application of microelectronic instrumentation and diagnostic tools such as MRI and CATSCAN systems. The field of electrical engineering permeates every facet of our lives and provides excellent employment

opportunities to the general practitioner or the specialist in over 35 different sub specialties.

The curriculum of the Electrical Engineering Program provides a strong foundation in the fundamentals of the profession including engineering problem solving, breadth in the major facets of the profession, and the opportunity to specialize in today's critical areas of communication systems, and microelectronics. Graduates of this program will be well prepared for constant technological change and growth through life-long learning.

Freshman Year in Electrical Engineering

<i>Fall Semester</i>	<i>Credits</i>
CHE 101 General Chemistry	4
CHE IOL Lab	1
MAT 200 Calculus with Analytic Geometry	4
ENG 101 Composition & Rhetoric	3
EGR 101 Intro. to Engineering	4
Total	16

<i>Spring Semester</i>	
MAT 201 Calculus with Analytic Geometry	4
PHY 207 University Physics	5
EGR 102 Engineering Concepts	4
Elective Humanities/Social Sciences	3
Total	16

Sophomore Year in Electrical Engineering

<i>Fall Semester</i>	
PHY 208 University Physics	5
MAT 301 Differential Equations	3
ELE 206 Electrical Circuits I	3
CSC 255 Structured Programming	3
Elective Humanities/Social Sciences	3
Total	17

<i>Spring Semester</i>	
PHY 320 Modern Physics	3
MAT 310 Linear Algebra	3
ELE 224 Electrical Circuits II	4
ELE 254 Digital Logic Design	3
ENG 200 Composition & Rhetoric	3
Total	16

Mechanical Engineering

(Vacant)

Chair, Department of Mechanical Engineering

Mechanical engineers are the general practitioners of the engineering profession. They play a dominant role in a variety of industries, including transportation, power generation, heating and air conditioning, agricultural and process machinery, consumer products and a variety of

precision engineering enterprises such as optics, prosthetic devices, instruments, and the like. In addition to research, design and development work for specific products, mechanical engineers are often responsible for developing and operating the machines for producing, assembling, packaging, and warehousing products. As a result, they are often involved with automated production facilities including machine tools and robots. Mechanical engineering, being the broadest of the engineering disciplines, provides opportunities for employment in industry, business, government, research and education.

The curriculum in Mechanical Engineering provides a broad, fundamental education preparing the student for direct entry into industry as well as further professional study. The first part of the curriculum places emphasis on mathematics, physics and chemistry. With this background, the fundamental mechanical engineering subjects are studied.

Freshman Year in Mechanical Engineering

<i>Fall Semester</i>	<i>Credits</i>
CHE 101 General Chemistry	4
CHE 101L Lab	1
MAT 200 Calculus with Analytic Geometry	4
ENG 101 Composition & Rhetoric	3
EGR 101 Intro. to Engineering	4
Total	16

<i>Spring Semester</i>	
CHE 102 General Chemistry	4
CHE 102L Lab	1
MAT 201 Calculus with Analytic Geometry	4
PHY 207 University Physics	5
EGR 102 Engineering Concepts	4
Total	18

Sophomore Year in Mechanical Engineering

<i>Fall Semester</i>	
PHY 208 University Physics	5
MAT 301 Differential Equations	3
MCE 201 Dynamics and Kinematics	3
Elective International	3
Total	14

<i>Spring Semester</i>	
PHY 320 Modern Physics	3
Elective Humanities/Social Sciences	3
MCE 202 Mechanics of Deformables	3
ENG 200 Composition & Rhetoric	3
MCE 312 Materials	3
Total	15

STUDENT ADVISING

Every student admitted to the School of Engineering is assigned a faculty advisor from his or her program of study. The faculty advisor assists the student in planning course work, becoming familiar with University services, interpreting University rules and procedures, and defining career objectives.

While the faculty of the School of Engineering provide timely and accurate information and advice, the student is ultimately responsible for knowing and satisfying the degree requirements of his or her program. Students should be familiar with curriculum requirements, appropriate course sequences, prerequisites, and academic regulations.

UNDERGRADUATE CREDIT BY EXAMINATION

Recognizing that VCU enrolls students of varying backgrounds and experiences, the School of Engineering provides students limited opportunities to accelerate their education through "credit by examination." A full description of this program appears in Part V of this bulletin.

COOPERATIVE EDUCATION PROGRAM

Partnership arrangements between the School of Engineering and local or nearby industry offer outstanding opportunities for engineering students eligible for the University Cooperative Education Program. Qualified students placed with an employer will either alternate several semesters of full-time study with several semesters of work experience or combine study with part-time work experience during the same semester.

UNIVERSITY HONORS PROGRAM

The University Honors Program provides academic and other opportunities for academically superior students. Qualified School of Engineering students may follow a program of study that leads to graduation in the Honors Program, a complete description of which is given in Part II of this bulletin.

TRANSFER POLICIES

Transfer students who plan to enroll in the undergraduate programs in the School of Engineering must meet the admission requirements of the University, keeping in mind the following:

1. Calculation of the GPA for admittance into the School of Engineering is based on grades earned at all institutions attended.
2. Transfer of courses from two-year institutions is limited to courses required by the School of Engineering in the freshman and sophomore years.

Transfer students from Virginia community colleges will follow existing articulation agreements with VCU, with preference given to applicants who exceed the minimum GPA of 3.0 and who have excelled in mathematics, science and engineering. The Engineering Admissions Committee will review the transcript of each applicant for transfer.

ACCREDITATION¹

In keeping with standard procedures, the engineering program will seek accreditation by the Accreditation Board of Engineering and Technology (ABET) upon graduation of the first class. The ABET team will visit the School of Engineering in Fall 2000, so that the first graduates will be accredited retroactively. Program design and standards as well as the commitment of the University are intended to assure accreditation.

¹ Pending final approval of the University Undergraduate Curriculum Committee. Junior and senior year curriculum is under development

COURSE DESCRIPTIONS

COURSES IN CHEMICAL ENGINEERING (CRE)

201 Energy Balances. Semester course; 2 lecture hours, 2 credits. This course prepares chemical engineering majors to formulate and solve energy balances on chemical process systems and creates foundation for later courses on unit operations, thermodynamics, kinetics, process control and process economics. Problem solving techniques and procedures are emphasized.

COURSES IN ELECTRICAL ENGINEERING (ELE)

206 Electrical Circuits I. Semester course; 3 lecture hours, 1 laboratory hour, 3 credits. Prerequisite: EGR 102.

Corequisite: MAT 301. Through this course students will learn the laws of electricity and their application to practical circuits. Motivation of this will occur through EGR 101 and associated laboratory problems. Students will learn the writing and solving of circuit equations for direct and alternating current circuits. In addition they will apply Kirchoff's current and voltage laws (which were introduced first in EGR 101), along with Thevenin's and Norton's Theorems. They will learn analysis and synthesis of ideal operational amplifier circuits, phasor techniques, transient and steady state response of electrical networks.

224 Electrical Circuits II. Semester course; 3 lecture hours, 3 laboratory hours, 4 credits. Prerequisites: ELE 206, and MAT 301. This course introduces the student to modeling, analysis, design and measurement of electrical circuits which contain electronic devices including operational amplifiers, diodes, bipolar junction transistors, and field-effect transistors. Students will learn the design-to-specification through laboratory problems and PSPICE circuit analysis software.

254 Digital Logic Design. Semester course; 3 lecture hours, 1 laboratory hour, 3 credits. Prerequisite: MAT 201. This course introduces the student to number representation in digital computers; Boolean algebra; design of combinational, clocked-sequential and iterative digital circuits such as comparators, counters, pattern detectors, adders and subtractors. In addition, it presents an introduction to synchronous sequential circuits. The course includes five problems which require laboratory work in order to arrive at a solution.

COURSES IN ENGINEERING (EGR)

101 Introduction to Engineering. Semester course; 3 lecture hours, 1 recitation hour, 3 laboratory hours, 4 credits. Corequisites: CHE 101 and lab, MAT 200. This course introduces students to the science and art of engineering through basics of electrical, computer, and mechanical systems. This introduction will consider an electromechanical system in modular form. Each module will be studied and decomposed into sub-modules. This process will be repeated until fundamental mechanical and electrical elements are reached.

102 Engineering Concepts. Semester course; 3 lecture hours, 1 recitation hour, 3 laboratory hours, 4 credits. Prerequisites: EGR 101, MAT 200. Problem solving using fundamental engineering concepts. Use of application software for engineering graphics, spreadsheets, and problem solving. Introduction to conservation of mass, momentum, energy and charge. Introduction to computer programming. Emphasis is on solving engineering problems using computers and numerical techniques.

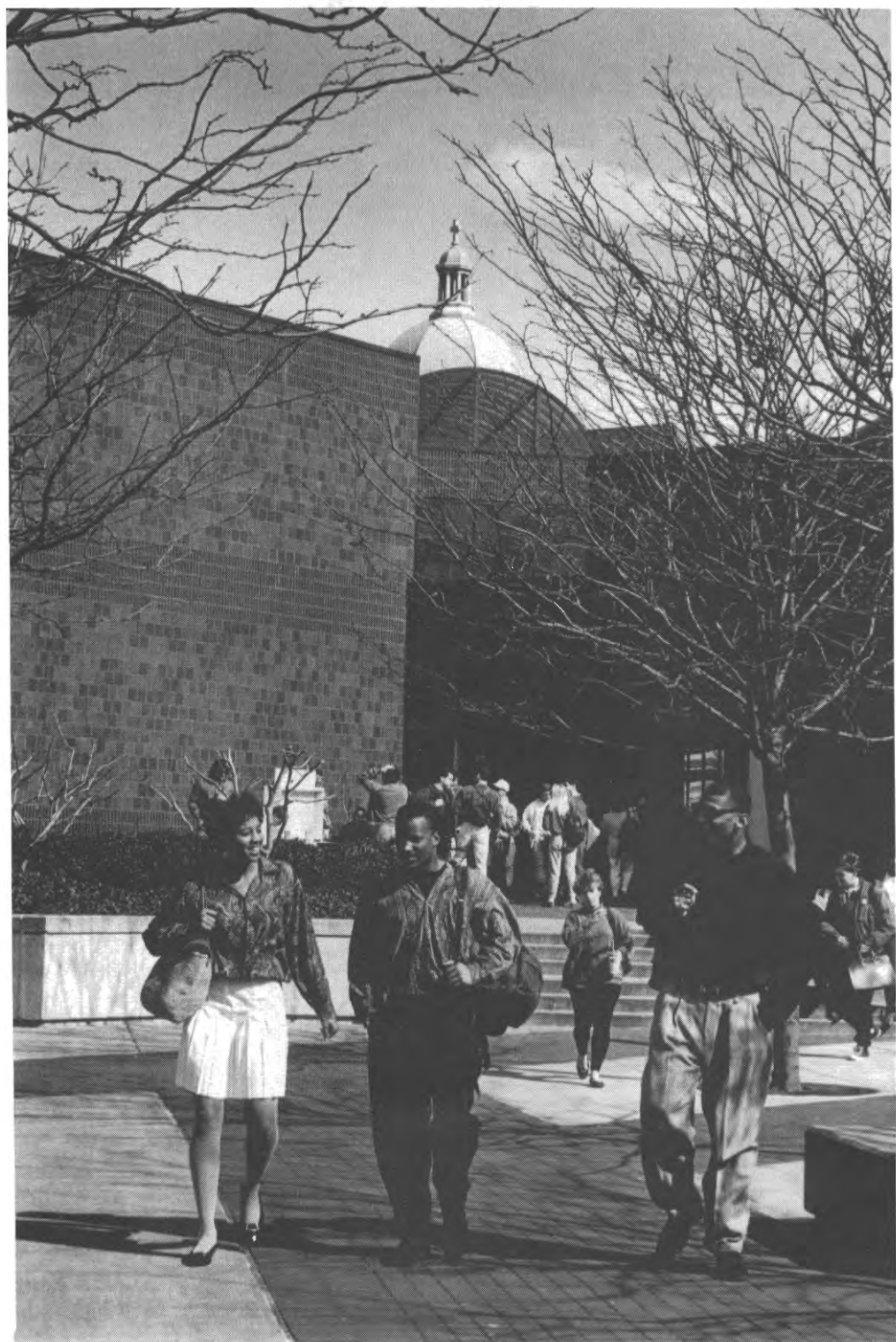
COURSES IN MECHANICAL ENGINEERING (MCE)

201 Dynamics and Kinematics. Semester course; 3 lecture hours, 3 credits. Prerequisites: PHY 207, MAT 201, and EGR 102. Kinematics and kinetics of particles. Kinematics of rigid bodies; translation and fixed-axis rotation relative to translating axes, general planar motion, fixed point rotation, general motion. Kinetics of rigid bodies: center of mass, mass moment of inertia, product of inertia, principal-axes, parallel axes theorems. Planar motion, work energy method. Design of cams, gears, and linkages.

207 Mechanics of Deformables. Semester course; 3 lecture hours, 3 credits. Prerequisites: PHY 207, MAT 200-201. An introductory course covering the mechanics of deformable solids. Subjects include stress, strain and constitutive relations; bending of beams; torsion; shearing; deflection of beams; column buckling; fatigue; failure theory; analysis and design of bar-type members.

312 Materials. Semester course; 3 lecture hours, 3 credits. Prerequisites: CHE 101, PHY 207-208. Materials properties

and their modification are quantitatively related to crystal structure and imperfections. Noncrystalline, polymeric and ceramic materials. Elastic and plastic stress-strain behavior of all materials is emphasized along with diffusion in solids, phase equilibria, and phase transformations. Materials utilization includes design, fabrication, mechanical failure, corrosion, service stability as well as compatibility and function in the human body.



PART XIII

SCHOOL ▼ OF ▼ GRADUATE ▼ STUDIES

Administrative Officers

Jack L. Haar

Dean of Graduate Studies

Sherry T. Sandkam

Assistant Dean

Before enrolling in graduate courses, students should consult with a graduate program director in the discipline in which they intend to take courses. In some programs, credits for courses will not apply to a VCU graduate degree until the student has been admitted to a graduate degree program.

Degree-Seeking Graduate Students. For information about graduate study at VCU, see the *VCU Graduate Bulletin* or contact the School of Graduate Studies at 901 West Franklin Street, Room B1, P.O. Box 843051, Richmond, VA 23284-3051, (804) 828-6916. The graduate bulletin is available for purchase at the VCU Bookstores, or may be accessed, in its entirety, via INTERNET using the following World Wide Web address:

<http://www.vcu.edu/gradweb>

Nondegree-Seeking Graduate Students. A student who takes graduate courses without formal admission into a degree program is classified as a nondegree-seeking graduate student. Such students are required to verify residency and eligibility and written permission from the school or schools in which they intend to take courses. Non-degree seeking graduate students must hold a baccalaureate degree.

Enrollment in some graduate courses is limited to degree-seeking students or majors. In courses where enrollment is restricted, first priority is given to students admitted to the program, and then to other VCU graduate degree-seeking students. Nondegree-seeking students are not exempt from taking prerequisites for a course. There is no limit to the number of credits a nondegree-seeking student may take, as long as the student's academic performance is credible. However, a nondegree-seeking student who is later admitted as a degree-seeking student may apply only six hours earned as a nondegree-seeking student toward the degree. For information about admission as a nondegree-seeking student, contact the Graduate School at (804) 828-6916.



W V P A R T X I V

SCHOOL ▼ OF ▼ MEDICINE

Hermes A. Kontos
Dean

Reuben B. Young
Senior Associate Dean

Jan F. Chlebowski
Associate Dean, Graduate Studies

William M. Gleason
Associate Dean, Administration

Carol L. Hampton
Assistant Dean, Faculty and Instructional Development

Paul E. Mazmanian
Associate Dean, Continuing Medical Education

James M. Messmer
Associate Dean, Academic Affairs

Heber H. Newsome
Associate Dean, Clinical Activities

Robert P. Perry
Associate Dean, Graduate Medical Education

Hugo R. Seibel
Associate Dean, Student Activities

William K. Stacy
Associate Dean, Veterans Affairs

Donald M. Switz
Associate Dean, Ambulatory Care Services

Founded in 1838, the School of Medicine is the oldest and largest school on the MCV Campus. The school offers a program leading to the Doctor of Medicine degree and provides post-M.D. training for approximately 500 residents and interns at the university's 1,000-bed MCV Hospitals and the McGuire Veterans Affairs Medical Center.

The School of Medicine offers graduate programs in Anatomy, Biochemistry and Molecular Biophysics, Biostatistics, Human Genetics, Microbiology and Immunology, Pathology, Pharmacology and Toxicology and Physiology, as well as a Master of Public Health Program. In addition, a combined M.D./Ph.D. program is offered which provides superior preparation for a career in academic medicine or research.

Additional information on the programs offered can be found in VCU's *Medical College of Virginia Bulletin* or *Graduate Bulletin*.



PART XV

SCHOOL ▼ OF ▼ NURSING

Nancy F. Langston
Dean

Richard W. Cowling, III
Associate Dean, Graduate Programs

Anthony J. DeLellis
Assistant Dean, Administration

Janet B. Younger
Associate Dean, Undergraduate Program

Founded in 1893 as part of the University College of Medicine, VCU's School of Nursing has evolved to multiple programs at the baccalaureate, master's, and doctoral degree levels. The undergraduate program contains B.S. degree options for generic students at the sophomore or junior level, an accelerated second degree option for those with a B.S. degree in another field and an option for registered nurses seeking completion of a B.S. degree.

ACCREDITATION

Accredited by the National League for Nursing Council of Baccalaureate and Higher Degree Programs and approved by the Virginia State Board of Nursing, the nursing program produces graduates eligible to take the registered nurse licensing examination.

ACADEMIC ADMISSION REQUIREMENTS

Applicants must be either in good standing at the last college attended or eligible for readmission.

To be considered for transfer, science credits must have been earned within ten years preceding admission.

Because admission into the school is highly competitive, applicants with a grade point average below 2.5 based on a scale of 4.0 are not considered. The GPA is computed on academic courses only, and a grade of "D" in any required program course is unacceptable. Foreign applicants who do not use English as their natural language must have at least a 550 TOFEL score. SAT, ACT or GRE Scores are required for admission to the undergraduate program.

Students can enter the baccalaureate program in a number of ways.

High school students who choose to attend VCU for the entire four years should apply to the pre-nursing program in the College of Humanities and Sciences.

Pre-nursing candidates who meet certain criteria are eligible for automatic admission into the School of Nursing. These candidates must possess an academic diploma, have a high school GPA of at least 3.2, rank in the top quarter of their class, have combined SAT scores above 1,000, (before re-centering) and have been interviewed in the School of Nursing before acceptance. Students interested in this option should write to the Coordinator of Pre-Health Sciences Advising, College of Humanities and Sciences, Virginia Commonwealth University, Richmond, VA 23284-2012, or call (804) 828-1673.

All other students must complete a School of Nursing change of major packet at the end of the

fall semester to be considered for admission into the school. If accepted, the student begins the nursing curriculum in the sophomore year. Students who have completed one or two years of study at another college or university may apply to the School of Nursing. Applicants who have completed all general education prerequisite courses and who transfer after two years at another college or university must attend the summer session before entry into the program. They enter the nursing major with a junior standing.

Students must take a minimum of 60 semester hours of general education courses before graduation.

The courses are listed below.

	<i>Semester Hours</i>
COMMUNICATION	6
Writing	3
Literature or Composition	3
HUMANITIES	12
Ethics, logic, critical thinking, or philosophy	3
Select from literature, foreign language, speech, history, religion, art, music, or drama	9
SOCIAL SCIENCES	12
General Psychology	3
General Sociology	3
SCIENCES	22-25
Laboratory science**	8
Anatomy and physiology	5-8
Microbiology	3
Nutrition	3
Mathematics (algebra, statistics, or college mathematics)	3
ELECTIVES	8
No more than three credits in physical education or other activity course	
Total Semester Hours Credit	60-63

Entering students must be certified in first aid and CPR.

*School of Nursing course.

**Students who have not taken chemistry in high school, must take chemistry as one of the laboratory sciences.

Registered Nurse Applicants

Registered nurses are eligible to enter the school's baccalaureate program. Graduates from state-approved diploma programs and associate degree programs in nursing who are currently licensed to practice are eligible for full- or part-time study. The same prerequisites that apply to general students, apply to registered nurse students.

For further information, additional requirements for admission, and specific procedures for application, consult VCU's Medical College of Virginia Bulletin or contact the Director of Student Affairs, School of Nursing, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA 23298-0567.

NURSING CURRICULUM

Below is a typical program. Honors sections are available for a number of courses.

<i>Freshman Year, Fall Semester</i>		<i>Credits</i>
Composition		3
Biology		4
Mathematics		3
General Psychology		3
Sociology		3
Total		16

<i>Freshman Year, Spring Semester</i>		
NUR 100 Risk Appraisal and Health Promotion in Today's World		3
Composition		3
Humanities-Elective		3
Laboratory Science		4
Anatomy		4
Total		17

Freshman Year, Summer Session Summer Institute

<i>Sophomore Year, Fall Semester</i>		
NUR 261 Health Assessment for Nursing Practice		3
Developmental Psychology		3
Physiology		4
Ethics/Logic/Critical/Thinking		3
Nutrition		3
Total		16

<i>Sophomore Year, Spring Semester</i>		
NUR 201 Concepts of Nursing		3
NUR 202 Technologies of Nursing Practice		3
Microbiology		4
Humanities Elective		3
NUR 370 Theory and Research in Clinical Practice		3
Total		16

<i>Sophomore Year, Summer Semester</i>		
TRANSFER STUDENTS		
NUR 201 Concepts of Nursing		3
NUR 202 Technologies of Nursing Practice		3
NUR 261 Health Assessment for Nursing Practice		3
Total		9

<i>Junior Year, Fall Semester</i>		
NUR 365 Nursing Science I		3
NUR 335 Nursing of Women		6
NUR 345 Nursing of Children		6
Total		15

<i>Junior Year, Spring Semester</i>		
NUR 366 Nursing Science II		3
NUR 325 Nursing of Adults I		6
NUR 355 Psychiatric-Mental Health Nursing		6
NUR 370 Theory and Research in Clinical Practice		3
Total		18

<i>Senior Year, Fall Semester</i>		
NUR 425 Nursing of Adults		6
NUR 511 Advanced Health Assessment**		3
NUR 6xx Graduate Non-Clinical Course		3

NUR 506 Advanced Concepts: SocioPsycho	3
Total	15

** Graduate courses depending on master's track

Senior Year, Spring Semester

NUR 485 Managerial Theory for Nursing Practice	3
NUR 486 Nursing Management Practicum	3
NUR 496 Advanced Clinical Practicum	3
NUR 405 Nursing Management of the Long-Term Care Client	3
Upper division or nursing elective	3
Total	15

The School of Nursing reserves the right to restrict enrollment in clinical courses to matriculated nursing students seeking Bachelor of Science degrees. Enrollment in all clinical nursing courses is based on availability of space. Registered nurse students can sequence courses in this major in a variety of ways. Students may choose weekend, evening, and/or day courses. Below is a typical curriculum plan.

Fall Semester

NUR 302 Dynamics of Professional Nursing Practice	4
NUR 261 Health Assessment for Nursing Practice	3
NUR 370 Theory and Research in Clinical Practice	6

Spring Semester

NUR 415 Community Health Nursing	6
NUR 405 Nursing Practice in Long Term Care	3
Upper Division Elective	3

Fall Semester

NUR 485 Managerial Theory for Nursing Practice	3
NUR 486 Nursing Management Practicum	3
NUR 475 Professional Issues in Nursing	3
Total required Nursing courses	67

Applicants who hold by the time of admission a baccalaureate or higher degree in another field are eligible to enter the accelerated second degree program. This program allows for the completion of approximately 24 hours of study toward a master's degree while meeting the requirements for licensure as a registered nurse. Enrollment in this program requires admission to both undergraduate and graduate programs and graduate tuition applies for the majority of the course work.

PREREQUISITES

	<i>Semester Hours</i>
COMMUNICATIONS	6
SOCIAL SCIENCES	
Developmental philosophy	3
SCIENCES	
Human anatomy and physiology	5-8
Statistics	3

Summer Session

NUR 201 Concepts of Nursing	3
NUR 202 Technologies of Nursing Practice	3
NUR 261 Health Assessment for Nursing Practice	3

Fall Semester

NUR 503 Advanced Nursing Practice:	
Psychosocial	3
NUR 335 Nursing of Women	6
NUR 355 Nursing of Children	6
NUR 504 Advanced Nursing Practice: Biological	3
Total	18

Spring Semester

NUR 512 Advanced Nursing Science	3
NUR 325 Nursing of Adults I	6
NUR 355 Psychiatric-Mental Health Nursing	6
NUR 508 Advanced Nursing Practice: Systems ...	3
Total	18

Summer Semester

NUR 415 Community Health Nursing	6
NUR 502 Advanced Nsg. Practice:	
Pharmacotherapeutics	3
NUR 488 Dual Discipline Study	3
Total	12

Fall Semester

NUR 425 Community Health Nursing	6
NUR 486 Nursing Management Practicum	
Graduate Non-Clinical Course	4
NUR 501 Advanced Professionalization I	1
NUR 511 Advanced Nursing Practice: Health Assessment	3
Total	16

Course prerequisites and additional policies are listed in the School of Nursing policy manual. For further information about the undergraduate and graduate programs, requirements for promotion, and graduation from the School of Nursing, consult VCU's *Medical College of Virginia Bulletin or Graduate Bulletin*.



PART XVI

SCHOOL ▼ OF ▼ PHARMACY

John S. Ruggiero, Ph.D.

Dean

Thomas P. Reinders, Pharm.D.

Associate Dean of Students

Sharon S. Small, Pharm.D.

Director of Continuing Education
and External Affairs

The School of Pharmacy of the Medical College of Virginia, Virginia Commonwealth University, was officially established in 1898. The school's original two-year curriculum gave way to a three-year program in 1925, and in 1932 the School of Pharmacy required four years of college work for which a B.S. degree was awarded. The curriculum for the Bachelor of Science in pharmacy degree was extended to five years in 1960. In 1975, the School of Pharmacy received authorization to offer advanced professional education leading to the Doctor of Pharmacy degree. The Doctor of Pharmacy degree or who had completed four of the five years of the B.S. program. In 1995, a revised six-year Doctor of Pharmacy degree or who had completed four of the five years of the B.S. program. In 1995, a revised six-

year Doctor of Pharmacy curriculum was adopted and offered as a replacement for the B.S. program. In 1996, a part-time Doctor of Pharmacy program was offered that permits current holders of the B.S. in Pharmacy degree to earn the Doctor of Pharmacy degree in a non-traditional format without coming to campus for lectures. The School of Pharmacy currently enrolls students in a four-year professional Doctor of Pharmacy curriculum following completion of two years of pre-professional studies taken elsewhere.

Since 1971, all pharmacy students have participated in a clerkship program. Students spend their final year in a variety of practice settings under the supervision of highly qualified faculty preceptors.

The authority to award graduate degrees in the pharmaceutical sciences was granted to the School in 1952. Departments in the school direct work leading to the M.S. and Ph.D. degrees in medicinal chemistry, pharmaceuticals, and pharmacy administration.

Additional information on the programs offered can be found in VCU's *Medical College of Virginia Bulletin* or *Graduate Bulletin*.



PART XVII

SCHOOL ▼ OF ▼ SOCIAL ▼ WORK

Frank R. Baskind

Dean

Ann Nichols-Casebolt

Associate Dean, and Director of Ph.D. Program

Marcia Harrigan

Director of Master of Social Work Program

Jane Reeves

Director of Baccalaureate Social Work Program

Joyce O. Beckett

Marilyn Biggerstaff

Leavelle Cox

Patrick Dattalo

Elizabeth Dungee-Anderson

David Fauri

Stephen Gilson

Marcia Harrigan

Beverly Koerin

Ellen Netting

Robert W. Peay

Mary K. Rodwell

David N. Saunders

Martin Schwartz

James Seaberg

David Stoesz

Kia Bentley

Shirley Bryant

Elizabeth Cramer

King E. Davis

Rosemary Farmer

Humberto Fabelo

Robert Green

Elizabeth Hutchison

Jaelyn Miller

Shirley Newton-Guest

Amy Rosenblum

Phillip Rosenblum

Robert L. Schneider

Sanford Schwartz

Michael Sheridan

Joseph Walsh

With the creation of VCU in 1968, the School of Social Work became a unit of the university's Academic Campus. The Raleigh Building at 1001 West Franklin Street houses faculty offices, a student lounge, and conference rooms.

Social workers are committed to the enhancement of social functioning and the promotion of social justice. To achieve these goals, social workers provide services to individuals, families, groups, communities, and organizations. They also plan and administer the delivery of social services and advocate positive social and institutional change. Social work education provides the knowledge, skills, and value base for these professional activities.

Social work education at VCU is highly individualized and is characterized by a close relationship between faculty and student. The faculty helps the student to learn the form and method of social work practice and students are encouraged to discover their own unique style of helping others. The school's educational programs are designed to prepare students for practice in many different kinds of social agencies. A combination of classroom courses and concurrent field work experiences facilitates integration of knowledge, attitudes, and skills necessary for professional practice. The integrated class and field work curriculum offers students the opportunity to acquire a substantial base in social work practice, patterns of human behavior and development, organization, and operation of social welfare program, and policies, the methods of scientific inquiry in social work, and the needs of special populations.

The oldest of its kind in the South, VCU's School of Social Work was established in 1917 as the Richmond School of Social Economy. Later renamed the School of Social Work and Public Health, it became the first unit of Richmond Professional Institute. The school was created initially in response to community manpower needs in working with World War I veterans and their social and health problems. Subsequent development of the school has expanded activity into all areas of human service.

ACCREDITATION

VCU’s Bachelor of Social Work (B.S.W.) Program is accredited by the Commission on Accreditation of the Council on Social Work Education—the accrediting body for all schools of social work at both the baccalaureate and master’s levels. A copy of the Accreditation Standards and Curriculum Policy statement are available in the Office of the Dean.

BACCALAUREATE SOCIAL WORK PROGRAM

The School of Social Work offers a Bachelor of Social Work degree to prepare graduates for beginning professional practice with individuals, families, groups, communities and organizations.

The objectives of the B.S.W. Program are:

1. To provide an integrated curriculum that allows students to acquire the knowledge, skills, ethics, and values that are essential for beginning generalist social work practice.
2. To offer an educational experience that facilitates the critical analysis of current social work knowledge and practice.
3. To provide classroom and field instruction experiences designed to promote understanding of diversity and oppression.
4. To provide a learning environment that supports life-long learning and prepares students for the possibility of graduate education.

A copy of expected student learning objectives can be found in the B.S.W. Student Handbook and the Field Manual.

DEGREE REQUIREMENTS

The B.S.W. degree requires completion of 125 credits, including 45 credits in the major. The required freshman and sophomore courses as described below constitute a sound liberal arts base for professional social work practice.

FRESHMAN AND SOPHOMORE YEAR CURRICULA

	Credits	
	1st Sem.	2nd Sem.
ENG 101 Composition and Rhetoric	3	—
ENG 102 Composition and Rhetoric	—	3
PSY 101 General Psychology	3	—
SOC 101 General Sociology	3	—

* Social/Behavioral Science	3	3
MAT 101 or MAT 131	—	3
ANT 103 Cultural Anthropology	—	3
Electives	3	3
Total	15	15

Second Year

SLW 201 Introduction to Social Work	3	—
PHI 221 212, 213, 221 or 222	3	—
BIO 109 and L109 General Biology	4	—
BIO 110 and L110 General Biology	—	4
SLW 230 Communication in the Helping Process	—	3
CSE 241 Community Analysis	—	3
PSY 304 Developmental Psychology	—	3
* Social/Behavioral Science	3	3
Electives	3	—
Total	16	16

*Limited to economics, history, political science, with a maximum of six credits in each of those areas to satisfy this requirement.

ADMISSION REQUIREMENTS

For admission to the professional preparation program offered in the junior and senior years students must complete a minimum of 54 credits, including the following courses: ENG 101-102, PSY 101 and 304, SOC 101, ANT 103, MAT 101 or 131, PHI 212, 213, 221 or 222, CSE 241, and BIO 109-110, SLW 201 and 230. Students must achieve a minimum grade of “C” in ENG 101-102 and “B” in SLW 201 and SLW 230, and **must have a minimum grade point average of 2.5 in all course work completed before entry into upper level classes.**

Students eligible to register for upper-level social work courses need to make an appointment with their advisor to review and complete the Application for Admission.

Although the BSW Program can be completed on a part-time basis, it cannot be completed exclusively in the evening because of field practicum requirements and the scheduling of some classes.

Transfer students may be granted provisional admission contingent on their meeting the above requirements and completion of 15 credits at VCU.

JUNIOR AND SENIOR YEAR CURRICULA

	Credits	
	1st Sem.	2nd Sem.
<i>Third Year</i>		
SLW 311 Social Work and Oppressed Groups	—	3

SLW 313 Person in Society I.....	3	—
SLW 330 Person in Society II	—	3
SLW 332 Social Work Practice: Fundamentals	—	3
SLW 390 Foundations of Social Work Research	3	—
SLW 393 Junior Field Instruction	—	4
Elective	3	—
PSY 407 Psychology of the Abnormal	3	—
Humanities Elective	3	3
Total	15	16

Fourth Year

SLW 422 Social Welfare Legislation and Services	3	—
SLW 431 Person in Society III	3	—
SLW 441 Social Work Practice I	3	—
SLW 494 Senior Field Instruction I	4	—
SLW 442 Social Work Practice II	—	3
SLW 495 Senior Field Instruction II	—	4
Electives	3	9
Total	16	16

Application for the field practicum must be made through the School of Social Work Field Department and must be received by the eighth week of the Spring or Fall semester. Field placements cannot be completed on nights and weekends. Students may request a placement with some evening and/or weekend hours. These placements are scarce and the granting of such a request depends on the availability of appropriate agencies and resources.

Students must earn a “C” or better in attempted 300-level social work courses before entering 400-level courses. Students must have a “C” or better in all required social work courses before graduation.

Transfer of credits from other colleges or universities or from other programs at VCU is determined on an individual basis. Credit is not given for life experiences.

A minimum of 125 credits is required for the B.S.W. degree.

MINOR IN SOCIAL WELFARE

A minor in social welfare is available to non-social work majors. This minor consists of 18 credits, including SLW 201 Introduction to Social Work, and SLW 422 Social Welfare Legislation and Services. The remaining twelve credits can be fulfilled by completing SLW 230, 311, 313, 330, 390, or 431. Practice and Field courses are restricted to majors.

HONORS PROGRAM

The VCU Honors Program was created to attract gifted students and to provide them with a challenging opportunity to achieve their highest academic potential. This program is open to all qualified undergraduate students. See a detailed description of qualifications and requirements in Part II of this bulletin.

HONORS IN SOCIAL WORK

Baccalaureate Social Work majors may earn honors in social work. Eligible students may apply in the second semester of their junior year. Students must have completed at least 12 credits in social work at VCU and have earned a 3.3 overall grade point average (GPA) and a 3.6 GPA in social work courses.

To graduate with honors in social work, students must have earned 3 credits of approved honors modules with a grade of “B” or better and must have earned a 3.3 overall GPA and a 3.6 GPA in social work courses. Students who meet these requirements and all other graduation requirements of the university will have honors in social work noted on their transcripts.

STUDENT ASSOCIATION

The Baccalaureate Social Work Student Association (BSWSA), an organization of students in the B.S.W. Program, was established to facilitate communication among students and between the student body and the school faculty and staff. This organization plays a vital role in the educational process. Through student representation on committees within the school, BSWSA members participate in the decision-making process. In addition, the association enables students to conduct a variety of social and professional activities throughout the year.

GRADUATE SOCIAL WORK PROGRAMS

The school offers a Ph.D. in social work and a two-year full-time or four-year structured part-time, professional program in social work leading to the Master of Social Work (M.S.W.) degree. For a detailed description of the M.S.W. and Ph.D. programs see the *VCU Graduate Bul-*

letin. A copy can be obtained by writing School of Graduate Studies, Virginia Commonwealth University, P.O. Box 843051, 901 West Franklin Street, Richmond, VA 23284-3051.

ADVANCED-STANDING PROGRAM

Open to a selected group of students, this program leads to an M.S.W. degree upon completion of at least 39 credits which must be completed in a summer session followed by an academic year.

For admission to this program, each applicant must hold a bachelor's degree from an undergraduate social work program accredited by the Commission on Accreditation of the Council on Social Work Education. The B.S.W. degree must have been conferred no more than 5 years prior to application for Advanced Standing. The Advanced-Standing Program begins in early June, continues through the summer, and culminates in graduation the following May. Successful candidates for this program must earn a minimum GPA of 3.2 for the last 60 hours of academic work and go through a structured interview on campus. Deadline for application is December 31.

COURSES IN SOCIAL WORK (SLW)

201 Introduction to Social Work. Semester course; 3 lecture hours. 3 credits. Systematic overview of the social work profession. Begins the process of professional socialization, both through class content and required service experience. Knowledge of the nature of social work, the fields of social work practice, target populations, overview of social work methods.

230 Communication in the Helping Process. Semester course; 3 lecture hours. 3 credits. The study of the knowledge, skills and values of effective human communication and inter personal relations. Includes observation, collection and description of data, verbal and non-verbal communication, and the relevance of the above to social work practice. Integrates issues of human diversity in all course content. Emphasizes the demonstration and practice of communication through structured exercises.

311 Social Work and Oppressed Groups. Semester course; 3 lecture hours. 3 credits. Examines forces leading to individual prejudice and institutional oppression. Focuses on impact of oppression. Provides students with an understanding of diversity and a general knowledge of social work strategies to alleviate oppression and to empower the oppressed.

313 Person In Society I. One semester course; 3 lecture hours. 3 credits. Prerequisite: ANT 103, BIO 109-110, PSY

304 and SOC 101. First of a two semester sequence on Human Behavior and the Social Environment. Uses theoretical concepts and research findings from the behavioral sciences as background for understanding and assessing the functioning of individuals and families in their social environment. Facilitates integration of theory and research with assessment skills associated with basic social work practice. Emphasizes the social systems approach for analyzing the impact of various social problems on individual and family dynamics.

330 Person in Society II. Semester course; 3 lecture hours. 3 credits. Prerequisite: SLW 313. Second of three courses on Human Behavior in the Social Environment. Uses theoretical concepts from the behavioral sciences to understand the family and small groups as social institutions and social groups as context for human behavior over the life cycle. Designed to provide a theoretical foundation for practice with families and small groups.

332 Social Work Practice: Fundamentals. Semester course; 3 lecture hours. 3 credits. Prerequisites: SLW 201, SLW 230, SLW 313. Co-requisite: SLW 393. First of three semester practice sequence. Open only to social work majors with junior status. Introduces students to basic concepts and skills of beginning level professional generalist social work practice. Emphasizes application of concepts to the concurrent field work experience.

390 Foundations of Social Work Research. Semester course; 3 lecture hours. 3 credits. Prerequisite: STA 213 or CSE 241. Designed to provide an understanding and appreciation of a scientific, analytic approach to building knowledge for practice and for evaluating multi-level service delivery. Provides an overview of the research process, including problem formulation, sampling, design, measurement, data collection, data analysis, and dissemination of findings. Presents ethical standards of scientific inquiry with special attention to research with vulnerable and oppressed populations.

393 Junior Field Instruction. Semester course; 4 credits. Prerequisite SLW 313. Co-requisite: SLW 332. Open only to majors with junior status. 14 hours per week in a community agency under the supervision of an agency based field instructor. Intended to facilitate student's understanding of agency structure and community context, ability to engage in professional relationships, to assess strengths, define problems, set goals and utilize beginning level practice skills with individuals, families, groups organizations and communities. Promotes identification as a professional social worker.

422 Social Welfare Legislation and Services. Semester course; 3 lecture hours. 3 credits. Analyzes social welfare policy as related to social values, social problems, and social structures. Examines frameworks for policy analysis and for evaluation of programmatic outcomes of policy, with application to contemporary social service and income maintenance policies and delivery systems. Considers the economic, political, and ideological factors and processes which affect social welfare legislation, financing, and implementation.

431 Person In Society III. Semester course; 3 lecture hours. 3 credits. Third of three courses on Human behavior in the Social Environment. Required of all undergraduate Social Work majors. Prerequisite: SLW 313. Builds on the theoretical concepts from the behavioral sciences discussed in SLW 230 and 313. Focus on understanding organizations and how their purposes, auspices, structure, processes, and environ-

ment affect the delivery of social services to diverse groups. The community context of social services, including that of the consumer, is emphasized from an open systems theoretical perspective. Students will be expected to integrate course content with their field experience or other agency with which they are familiar.

441 Social Work Practice I. Semester course; 3 lecture hours. 3 credits. Pre or Co-requisite 390. Prerequisites: SLW 332, 393. Second of a three-semester practice sequence. Review of interviewing and problem solving for generalist social work practice with diverse populations. Emphasis on agency structure and function, skills of engagement and problem definition, assessment, planning for intervention and evaluation. Use of material from concurrent field work practice to facilitate integration of learning.

442 Social Work Practice II. 3 lecture hours. 3 credits. Prerequisites: SLW 441, 494. Third of a three-semester practice sequence. Emphasizes planning and implementing

change with diverse populations, professional ethics, professional development, termination and evaluation of generalist social work practice. Use of case material from concurrent field work practice to facilitate integration of learning.

492 Independent Study. Semester course; 1, 2, 3 lecture hours. 1, 2, 3 credits. Prerequisites: junior or senior standing and permission of instructor. Under supervision of a faculty advisor, whose consent is required to register, study of a topic of concern to the student. Each student must present his/her findings in writing or pass an oral examination.

494-495 Senior Field Instruction I and II. Continuous course; 4 - 4 credits. Prerequisites: SLW 332, 393. Co requisites: SLW 441, 442. Open only to majors with senior status. Fourteen (14) hours per week in a community agency under the supervision of an agency based field instructor. Intended to develop knowledge, values and social work practice skills appropriate to entry-level generalist practice in human service agencies.



PART XVIII

DIVISION ▼ OF ▼ COMMUNITY ▼ AND INTERNATIONAL ▼ PROGRAMS

Sue Ann Messmer
Vice Provost

The Division of Community and International Programs is responsible for coordinating the university's community outreach and international activities. The Division offers a wide variety of programs and services to achieve its mission.

OFFICE OF COMMUNITY PROGRAMS

Catherine Howard, Ph.D.
Director

The Office of Community Programs coordinates the outreach activities of the university to the community. This office administers VCU's off-campus credit-based instruction, the off-campus Master of Interdisciplinary Studies (MIS) program, the on-campus and off-campus Bachelor of General Studies (BGS) program, non-credit continuing education, conference and workshop planning, and the Cooperative Education Program. The Office of Community Programs also coordinates many community outreach programs, including the Community Service Associates program and numerous programs designed for youth in the community.

Summer Studies

The variety and flexibility of VCU's educational program is especially evident during the

summer. In 1995, over 8,000 students studied at VCU during the summer.

Summer students come to work on a degree, to learn new skills, to explore new fields of study, to keep their professional skills up-to-date, and to seek intellectual enrichment.

Summer classes are planned around various sessions of three, four and one-half, five, six, and eight weeks and even some two-week workshops. During the summer, classes begin and end almost every week. Students who plan to devote their summer to study can put together an approved combination of various sessions and earn up to 15 credits in the 13 weeks that make up the summer session.

Announcements of VCU offerings are available on request from Community and International Programs, Virginia Commonwealth University, 827 West Franklin Street, P.O. Box 842041, Richmond, VA 23284-2041, (804) 828-8418.

Off-Campus Programs

The university provides numerous opportunities for part-time and full-time, off-campus study both in the nearby community and throughout the state. Off-campus credit classes feature the same course work available on campus, and off-campus courses are fully degree-applicable within the normal standards of the schools within the university.

Many of VCU's off-campus courses are offered in response to an expression of need from various groups in the state. VCU offers, for example, courses in education for public school teachers at a

local high school, and serves employees of a local business organization with on-site credit instruction. Other classes are offered on a continuing basis and serve specific educational needs in different geographical areas across the state.

In addition, selected VCU courses and workshops/seminars can be delivered via technology to an off-campus audience.

Bachelor of General Studies

This university degree program is designed for adult students who have clearly articulated goals that cannot be met by existing university programs. It offers flexible schedules and highly individualized curricula leading to a bachelor of General Studies (BGS).

Through individualized advising, this program helps adults define their educational goals and design their interdisciplinary curricula by drawing on a variety of course offerings.

BGS degree programs are available both on and off campus.

Special Students

The Office of Community Programs serves as the entry point for special (or non degree-seeking) students who wish assistance in accessing the university. Such students should call (804) 828-1831 for further information or to schedule an advising appointment.

Cooperative Education

Cooperative Education blends the traditional academic functions of the University with paid work assignments in industry, business, government, and nonprofit organizations. This combination enhances the student's academic knowledge, personal development, and preparation for a professional career and provides broad exposure to one's academic major.

The Co-op Program is open to undergraduate and graduate students in most academic disciplines. To be eligible students must:

- have declared a major.
- have completed a minimum of 24 credits.
- have a 2.5 or better cumulative GPA for sophomores.
- have a 2.0 or better cumulative GPA for juniors and seniors.

Prior to placement, a student must have eligibility verified, two letters of recommendation from VCU faculty and successful completion of a co-op orientation session.

Once accepted for co-op employment, a student must enroll in the appropriate noncredit Co-

op course. Special administrative fees for students registered for noncredit co-op experiences are shown in the Schedule of Courses Catalogue. Some credit arrangements are available through academic departments. For additional information contact Cooperative Education, Virginia Commonwealth University, 827 West Franklin Street, P.O. Box 842508, Richmond, VA 23284-2508 or call (804) 828-1579.

COOPERATIVE EDUCATION (COP)

298 Cooperative Education Experience. Semester course; no credit. Open to students who have been placed in an approved Co-op position with an agency, business, industry, or institution. The student works a maximum of 20 hours per week, completes all off-campus/on-campus assignments.

398 Cooperative Education Experience. Semester course; no credit. Open to students who have been placed in an approved Co-op position with an agency, business, industry, or institution. The student works a maximum of 40 hours per week, completes all off-campus/on-campus assignments.

Continuing Education

Noncredit professional education programs allow practitioners of numerous disciplines to participate in continuing education. In many of these programs, Continuing Education Units (CEU's) are awarded. The Office of Community Programs coordinates many of the university's continuing education activities, and awards all of the CEU's for the university.

Community Outreach Programs

The University demonstrates its commitment to serve as an active community partner by administering various outreach initiatives that address pressing social concerns. The Office serves as an initial contact for community groups and then attempts to link students, faculty and staff to specific requests through existing programs or the creation of new initiatives. One mechanism for linking faculty to community projects is through the Community Service Associates program.

A particular focus of community outreach programs has been the needs of urban youth. Many VCU students have become involved in programs such as: the Mentor Development Program – a program for training mentors who work with at-risk youth; Project TUTOR – a program that matches college student tutors with court-involved youth; Metro TEEN – a program that provides leadership training to a diverse group of area high school students and matches them with college student mentors. In addition, the Office

administers the University's AmeriCorps program which assigns 36 AmeriCorps members to serve in various community agencies.

Other outreach initiatives include enrichment programs for area elementary and middle school students through the Summer Discovery Program and CATS @ VCU (Classes for Academically Talented Students).

CENTER FOR INTERNATIONAL PROGRAMS

Arlene Jackson

Director of International Programs

The Center for International Programs (CIP) promotes a variety of faculty and student activities in a global context. CIP's mission is to advance the internationalization of the university in cooperation with the schools and the college, as well as other administrative offices. CIP currently offers program and services in faculty exchanges, university overseas linkages and agreements of cooperation, study abroad and student exchanges, international student and scholar advising, international student recruitment and admissions, and the English language program—English as a Second Language.

The director advises faculty, departments, schools, and the college in their efforts to expand their international activities and linkages. She serves as the initial contact for off-campus groups and agencies requesting information on international activities at the university. She also drafts, in consultation with the appropriate VCU constituencies, agreements with overseas institutions.

For further information write The Center of International Programs, 916 West Franklin Street, P.O. Box 843403, Richmond, VA 23284-3403, call (804) 828-8471, or FAX (804) 828-2552.

Study Abroad and Student Exchange

VCU students may extend their educational horizons by studying abroad in Europe, Asia, Africa, or Latin America. During the 1995-1996 academic year, over 200 VCU students studied abroad. Although courses taken abroad need not be taken for credit, their purpose is educational, not recreational.

CIP regularly administers summer study programs in Austria, Britain, France, Italy, and Spain, and has offered courses in Brazil, Indonesia, and Russia during the last four years.

VCU students may also participate in the International Student Exchange Program (ISEP), enabling them to study at member sites worldwide. This program offers direct enrollment and academic credit toward a student's degree program at home, as well as immersion in another country's language and culture, at a cost no higher than what the student would pay at VCU for tuition, room, and board. Credits earned by a VCU student through ISEP will appear on the transcript, but will not be included in the calculation of the student's cumulative GPA.

The CIP also administers the National Student Exchange program, by which VCU students may study at more than 100 state institutions throughout the United States, including Guam and Puerto Rico. Semester- or year-long exchanges are possible. In previous years, students have applied to several universities, including the University of Alaska/Fairbanks, Western Washington University and the University of New Mexico. Unlike the ISEP exchange, both credits and grades earned on exchange through NSE will appear on the VCU transcript.

For more information write or call CIP at the address or telephone number listed above.

International Student and Scholar Services

This office provides assistance and information to all students (F-1 and J-1), scholars/faculty/researchers (J-1), temporary employees (H-1-B), and dependents.

Both the MCV and Academic campuses offer international student advising to assist international students with personal, financial, cultural, and social adjustment issues, and to help guide them within the university community so they may successfully pursue their academic goals. The foreign student advisor (FSA) and the international scholar (ISA) assist international students and scholars in maintaining their non-immigrant student visas by issuing and processing the necessary immigration documentation in accordance with relevant immigration rules and regulations.

The International Student and Scholar Services on the Academic Campus are housed in the CIP offices. On the MCV Campus they are located in Room 112 in Bear Hall.

International Student Union and Student Activities

The International Student Advisor works with the International Student Union (ISU)—the official club of international students attending the

university. Membership is open to all international students, faculty, and staff interested in meeting and developing friendships with people of different cultural and national backgrounds.

In addition, the ISU promotes international understanding and awareness through its activities on and off campus. VCU is supportive of the ISU and its educational, cultural, and social activities. International students are encouraged to join and to participate in the various ISU functions. This participation is a valuable component of the student's entire educational experience.

VCU offers a number of extra-curricular activities to all students, complementing their formal education. These activities provide opportunities for the exchange of ideas, personal development and growth, and leadership training. And they aid international students in their adjustment to American campus life and proved the opportunity to practice spoken English through close contact with American friends.

English Language Program

The English Language Program (ELP) offers an intensive English as a Second Language program for international students, permanent residents, and refugees who wish to improve their English language skills for undergraduate or graduate study at American universities, or for career and personal purposes.

A full range of courses is offered at the beginning, high-beginning, intermediate, high-intermediate, and advanced levels. Semester-length courses include Grammar and Composition, Speaking and Listening, and Reading and Vocabulary. Seven-week sessions include courses in pronunciation/accents reduction and conversation classes which focus on American idioms and culture.

Based on the applicant's Test of English as a Foreign Language (TOEFL) score, admission to ELP may be recommended by the Office of Admissions at the time of application review. Students who wish to take English as a Second Language courses can apply directly to ELP.

Placement in ELP is based on the results of the English Language Placement Examination. This two and one-half hour test consists of the following: writing and grammar, reading comprehension and vocabulary, and listening, speaking, and pronunciation. Students receive their test results by meeting individually with an ELP advisor who will make recommendations, answer questions, and register the student in the appropriate ELP course or courses.

For further information come by the ELP Office in Room 205 at 916 West Franklin Street, call (804) 828-2551, or FAX (804) 828-2552.

International Student Recruitment and Admissions

VCU encourages qualified international students, both immigrant and nonimmigrant, to seek admission to the university. Complete information and application materials are available by writing the Office of International Admissions, Virginia Commonwealth University, 821 West Franklin Street, P.O. Box 842526, Richmond, VA 23284-2526, USA, or by calling (804) 828-6016.

English Language Proficiency Requirements

To ensure maximum benefits from academic study at VCU, all non-native English-speaking applicants, regardless of immigration status, must provide evidence of English language proficiency before admission and/or before enrollment in the university.

English language proficiency is evaluated on factors such as length of stay in the United States, amount and type of formal American education, TOEFL scores, and Scholastic Aptitude Test (SAT) scores.

In general, VCU requires a minimum score of 550 on TOEFL for admission, though some programs may require a higher TOEFL score. The university reserves the right to require additional testing and study in the VCU English Language Program before full-time enrollment in university courses.

Nonimmigrants (Students with temporary U.S. visas)

Due to time constraints involved in processing international applications and obtaining visas, prospective international applicants should submit the application for admission at least nine months before they plan to enroll. In order for immigration documents to be issued, all required admission credentials must be submitted no later than eight weeks before registration for classes. Applicants who are unable to meet the credentials deadline should plan to defer the intended term of entry.

As required by U.S. regulations and by VCU admission policies, nonimmigrant applicants must demonstrate satisfactory academic achievement, adequate English proficiency as described above, and the ability to finance all educational and living expenses.

Refer to the freshman admission guidelines, transfer admission guidelines, and admission procedures for specific program requirements in Part II of this bulletin.

Applicants must submit academic records that demonstrate successful completion of secondary school education—usually 12 years of pre-university study in their own country.

VCU is unable to provide financial support for international undergraduate students. Therefore, applicants who need a study or F-1 visa or a visiting scholar or J-1 visa must also present documented evidence of available financial support to cover living and educational expenses while studying at VCU.

U.S. Immigration and Naturalization Service regulations usually do not allow nonimmigrant students to study at VCU as special, nondegree-seeking students. The university registers international students only if they present a current and valid visa that permits enrollment in a university. Proof of current visa-type must be submitted

to the Office of Admissions before enrollment, unless the applicant is requesting an F-1 or J-1 visa. Students possessing these visas admitted to VCU must submit copies of all immigration documents to the international student advisor before enrolling in classes.

Immigrants (permanent residents, resident aliens, and asylum applicants)

Since immigration applicants usually are in the U.S. at the time an application is submitted, these students must meet the same application deadlines as American citizens.

If educated in the U.S., immigrant applicants are considered under the same academic policies applicable to U.S. citizens. If educated outside this country, the same academic records are required as those for nonimmigrant applicants.

VCU requires detailed information about U.S. immigration status. Proof-of-permanent residency must be submitted with the admission application.



PART XIX

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Assistant Coach, Men's Basketball
Jack Bell, B.S.
Head Golf Coach
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- Vallentyne, Peter (1988) *Associate Professor and Chair, Department of Philosophy and Religious Studies* B.A., McGill University; M.A., Ph.D., University of Pittsburgh.
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- Van Winkle, Lester (1969) *Professor of Sculpture* B.S., East Texas State University; M.A., University of Kentucky.
- Vasseur, Jeffrey L. (1993) *Instructor of English* B.A., Transylvania University; Ph.D., University of Utah.
- Vlahcevic, Sonia K. (1966) *Professor of Music* B.A., M.M., New England Conservatory; Ph.D., Catholic University.
- Wadud-Muhsin, Amina (1992) *Assistant Professor of Religious Studies* B.A., University of Pennsylvania, M.A., Ph.D., University of Michigan.
- Walker, Michael C. (1987) *Assistant Professor and Reference Librarian*, ULS B.S., Virginia State University; M.S.L.M., Alabama Agricultural and Mechanical University.
- Walker, Susan L. (1993) *Career Specialist* B.A. University of Maryland; M.Div., Southern Baptist Theological Seminary.
- Walsh, Joseph (1993) *Assistant Professor of Social Work* B.A., M.S.W., Ph.D., Ohio State University.
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- Williams, J. Sherwood (1971) *Professor of Sociology* B.A., California State College at Long Beach; M.A., California State College at Los Angeles; Ph.D., Washington State University.
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- Williamson, Patricia A. (1986) *Associate Professor of Mathematical Sciences* B.S., M.S., Ph.D., Bowling Green State University.
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- Wilson, Russell (1978) *Instructor of Music* B.M., M.M., Memphis State University.
- Windmueller, Otti Y. (1953) *Professor Emerita of Fashion Design* Journeyman Costume Designer, Trained in Germany; B.F.A., Virginia Commonwealth University; Diploma, Munich.
- Wirt, Wilma H. (1987) *Associate Professor of Mass Communications* B.A., Oklahoma State University; M.A., University of Texas.
- Wise, Michael S. (1972) *Associate Professor of Recreation, Parks, and Tourism* B.S., North Carolina State University; M.S., Indiana University; Ed.D., University of Georgia.
- Wood, D. Robley, Jr. (1968, 1979) *Professor of Management* B.A., Emory and Henry College; M.S., D.B.A., University of Tennessee.
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- Wood, Judith W. (1979) *Professor of Special Education* B.S., M.Ed., Ph.D., University of Southern Mississippi.
- Wood, Van R. (1994) *Professor of Marketing and Holder of the Philip Morris Chair of International Business* B.A., M.B.A., University of Washington; Ph.D., University of Oregon.
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- Woodward, Deborah C. (1991), *Collateral Instructor in Special Education* B.S., E.Ed., Virginia Commonwealth University.
- Wooldridge, Blue E. (1987) *Associate Professor of Public Administration* B.S., Berea College; M.G.A. Wharton Graduate Division, University of Pennsylvania; M.P.A., D.P.A., University of Southern California.
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- Wright, Keith C. (1957) *Professor Emeritus of Rehabilitation Counseling* A.B., M.A., Marshall College.
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- Young, Donald R. (1985) *Associate Professor of Biology* B.S., Clarion University; M.S., Ph.D., University of Wyoming.
- Yung, Ringo (1970) *Professor of Interior Design* B.A., Tientsin University; M.F.A., University of Kansas.
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- Zhang, Rui (1994) *Instructor of Music* B.A., Shanghai Conservatory; M.A., Indiana University.
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Rights of Students Under The Family Educational Rights and Privacy Act

Pursuant to a federal statute enacted to protect the privacy rights of students (Family Educational Rights and Privacy Act of 1974, as amended, enacted as Section 438 of the General Education Provisions Act), eligible students of Virginia Commonwealth University are permitted to inspect and review education records of which the student is the subject. A list of education records maintained by the University is available from the Office of Records and Registration. A statement of University policy concerning inspection and disclosure of education records has been formulated in compliance with the federal statute. Copies of the policy are also available from the Office of Records and Registration.

Generally, the Act provides that no personally identifiable information will be disclosed with-

out the student's consent, except for directory information and information to other school officials with a legitimate educational interest. When personally identifiable information, other than directory information, is disclosed, a record will be maintained of these disclosures. This record is also available for inspection and review by the student.

If an eligible student feels that his or her education record is inaccurate, misleading, or otherwise in violation of the student's privacy or other rights, the student may request an amendment to the record.

Should the University fail to comply with the requirements of the Act, the student has the right to file a complaint with the Family Policy and Regulations Office, U.S. Department of Education, Washington, D.C. 20202.

Determination of Student Classification for In-State Tuition Purposes

Section 23-7.4, of the Code of Virginia, governs eligibility for in-state tuition. Effective for students enrolling on or after July 1, 1996, the statute provides: § 23-7.4. Eligibility for in-state tuition charges.

A. For purposes of this section and §§ 23-7.4:2 and 23-7.4:3, the following definitions shall apply:

“Date of the alleged entitlement” means the first official day of class within the term, semester or quarter of the student’s program.

“Dependent student” means one who is listed as a dependent on the federal or state income tax return of his parents or legal guardian or who receives substantial financial support from his spouse, parents or legal guardian. It shall be presumed that a student under the age of twenty-four on the date of the alleged entitlement receives substantial financial support from his parents or legal guardian, and therefore is dependent on his parents or legal guardian, unless the student (i) is a veteran or an active duty member of the U.S. Armed Forces; (ii) is a graduate or professional student; (iii) is married; (iv) is a ward of the court or was a ward of the court until age 18; (v) has no adoptive or legal guardian when both parents are deceased; (vi) has legal dependents other than a spouse; or (vii) is able to present clear and convincing evidence that he is financially self-sufficient.

“Domicile” means the present, fixed home of an individual to which he returns following temporary absences and at which he intends to stay indefinitely. No individual may have more than one domicile at a time. Domicile, once established,

shall not be affected by mere transient or temporary physical presence in another jurisdiction.

“Domiciliary intent” means present intent to remain indefinitely.

“Emancipated minor” means a student under the age of eighteen on the date of the alleged entitlement whose parents or guardians have surrendered the right to his care, custody and earnings and who no longer claim him as a dependent for tax purposes.

“Full-time employment” means employment resulting in, at least, an annual earned income reported for tax purposes equivalent to fifty work weeks of forty hours at minimum wage.

“Independent student” means one whose parents have surrendered the right to his care, custody and earnings, do not claim him as a dependent on federal or state income tax returns, and have ceased to provide him substantial financial support.

“Special arrangement contract” means a contract between a Virginia employer or the authorities controlling a federal installation or agency located in Virginia and a public institution of higher education for reduced rate tuition charges as described § 23-7.4:2 G.

“Substantial financial support” means financial support in an amount which equals or exceeds that required to qualify the individual to be listed as a dependent on federal and state income tax returns.

“Unemancipated minor” means a student under the age of eighteen on the date of the alleged entitlement who is under the legal control of and is

financially supported by either of his parents, legal guardian or other person having legal custody.

“Virginia employer” means any employing unit organized under the laws of Virginia or having income from Virginia sources regardless of its organizational structure, or any public or nonprofit organization authorized to operate in Virginia.

B. To become eligible for in-state tuition, an independent student shall establish by clear and convincing evidence that for a period of at least one year immediately prior to the date of the alleged entitlement, he was domiciled in Virginia and had abandoned any previous domicile, if such existed.

To become eligible for in-state tuition, a dependent student or unemancipated minor shall establish by clear and convincing evidence that for a period of at least one year prior to the date of the alleged entitlement, the person through whom he claims eligibility was domiciled in Virginia and had abandoned any previous domicile, if such existed.

In determining domiciliary intent, all of the following applicable factors shall be considered: continuous residence for at least one year prior to the date of alleged entitlement, state to which income taxes are filed or paid, driver’s license, motor vehicle registration, voter registration, employment, property ownership, sources of financial support, military records, a written offer and acceptance of employment following graduation, and any other social or economic relationships with the Commonwealth and other jurisdictions.

Domiciliary status shall not ordinarily be conferred by the performance of acts which are auxiliary to fulfilling educational objectives or are required or routinely performed by temporary residents of the Commonwealth. Mere physical presence or residence primarily for educational purposes shall not confer domiciliary status. A matriculating student who has entered an institution and is classified as an out-of-state student shall be required to rebut by clear and convincing evidence the presumption that he is in the Commonwealth for the purpose of attending school and not as a bona fide domiciliary.

Those factors presented in support of entitlement to in-state tuition shall have existed for the one-year period prior to the date of the alleged entitlement. However, in determining the domiciliary intent of active duty military personnel residing in the Commonwealth, or the domiciliary intent of their dependent spouse or children who claim domicile through them, who voluntarily

elect to establish Virginia as their permanent residence for domiciliary purposes, the requirement of one year shall be waived if all other conditions for establishing domicile are satisfied.

C. A married person may establish domicile in the same manner as an unmarried person.

An emancipated minor may establish domicile in the same manner as any other independent student. A nonmilitary student whose parent or spouse is a member of the armed forces may establish domicile in the same manner as any other student.

Any alien holding an immigration visa or classified as a political refugee shall also establish eligibility for in-state tuition in the same manner as any other student. However, absent congressional intent to the contrary, any person holding a student or other temporary visa shall not have the capacity to intend to remain in Virginia indefinitely and, therefore, shall be ineligible for Virginia domicile and for in-state tuition charges.

The domicile of a dependent student shall be rebuttably presumed to be the domicile of the parent or legal guardian claiming him as an exemption on federal or state income tax returns currently and for the tax year prior to the date of the alleged entitlement or providing him substantial financial support.

For the purposes of this section, the domicile of an unemancipated minor or a dependent student eighteen years of age or older may be either the domicile of the parent with whom he resides, the parent who claims the student as a dependent for federal and Virginia income tax purposes for the tax year prior to the date of the alleged entitlement and is currently so claiming the student, or the parent who provides the student substantial financial support. If there is no surviving parent or the whereabouts of the parents are unknown, then the domicile of an unemancipated minor shall be the domicile of the legal guardian of such unemancipated minor unless there are circumstances indicating that such guardianship was created primarily for the purpose of conferring a Virginia domicile on the unemancipated minor.

D. It is incumbent on the student to apply for change in domiciliary status on becoming eligible for such change. Changes in domiciliary status shall only be granted prospectively from the date such application is received.

A student who knowingly provides erroneous information in an attempt to evade payment of out-of-state fees shall be charged out-of-state tuition fees for each term, semester or quarter attended and may be subject to dis-

missal from the institution. All disputes related to the veracity of information provided to establish Virginia domicile shall be appealable through the due process procedure required by § 23-7.4:3.

§ 23-7.4:2. Eligibility for in-state or reduced tuition for students not domiciled in Virginia; members of the National Guard of the Commonwealth of Virginia.

A. A nonmilitary student whose parent or spouse is a member of the armed forces may establish domicile in the same manner as any other student. However, a nonmilitary student, not otherwise eligible for in-state tuition, whose parent or spouse is a member of the military residing in the Commonwealth pursuant to military orders and claiming a state other than Virginia on their State of Legal Residence Certificate, shall be entitled to in-state tuition charges when the following conditions are met: (i) if the student is a child of a member of the armed forces, then the nonmilitary parent shall have, for at least one year immediately prior to the date of alleged entitlement for in-state tuition charges, resided in Virginia, been employed full time and paid individual income taxes to Virginia. Such student shall be eligible for in-state tuition charges only if the nonmilitary parent claims him as a dependent for Virginia and federal income tax purposes, as evidenced by claiming him as a dependent on an individual or joint return; or (ii) if the student is the spouse of a member of the armed forces, then such student shall have, for at least one year immediately prior to the date of alleged entitlement for in-state tuition, resided in Virginia, been employed full time and paid individual income taxes to Virginia; or (iii) if the student is the child or the spouse of a member of the armed forces, then the student shall be entitled to in-state tuition charges for a maximum of one year during the period that the military parent or spouse is residing in the Commonwealth. Any student whose spouse or parent is a member of the armed forces shall be eligible for in-state tuition charges for so long as the conditions of clauses (i) and (ii) of this subsection continue to be met. Military dependents provided in-state tuition for one year during the period the military parent or spouse is residing in Virginia shall be counted as out-of-state students for admissions, enrollment and tuition and fee revenue policy purposes.

B. Students who live outside this Commonwealth and have been employed full time inside Virginia for at least one year immediately prior to the date of the alleged entitlement for in-state tuition shall be eligible for in-state tuition charges if such student has paid Virginia income taxes on

all taxable income earned in this Commonwealth for the tax year prior to the date of the alleged entitlement. Students claimed as dependents for federal and Virginia income tax purposes who live outside this Commonwealth shall become eligible for in-state tuition charges if the nonresident parent claiming him as a dependent has been employed full time inside Virginia for at least one year immediately prior to the date of the alleged entitlement and paid Virginia income taxes on all taxable income earned in this Commonwealth for the tax year prior to the date of the alleged entitlement. Such students shall continue to be eligible for in-state tuition charges for so long as they or their qualifying parent is employed full time in Virginia, paying Virginia income taxes on all taxable income earned in this Commonwealth and the student is claimed as a dependent for Virginia and federal income tax purposes.

C. Any person who (i) is a member of the National Guard of the Commonwealth of Virginia and has a minimum remaining obligation of two years, (ii) has satisfactorily completed required initial active duty service, (iii) is satisfactorily performing duty in accordance with regulations of the National Guard, and (iv) is enrolled in any state institution of higher education, any private, accredited and nonprofit institution of higher education in the Commonwealth whose primary purpose is to provide collegiate or graduate education and not to provide religious training or theological education, any course or program offered by any such institution or any public vocational or technical school shall be eligible for a grant in the amount of one-half of the tuition not exceeding \$500 per term semester or quarter. No person shall receive grants totaling more than \$1,000 in any one year. Application for a grant shall be made to the Department of Military Affairs. Grants shall be awarded from funds available for the purpose by such Department.

D. Notwithstanding the provisions of § 23-7.4 or any other provision of the law to the contrary, the governing board of any state institution of higher education or the governing board of the Virginia Community College System may charge the same tuition as is charged to any person domiciled in Virginia pursuant to the provisions of § 23-7.4 to:

1. Any person enrolled in one of the institution's programs designated by the State Council of Higher Education who is domiciled in and is entitled to reduced tuition charges in the institutions of higher learning in any state which is a party to the Southern Regional Education Com-

pact which has similar reciprocal provisions for persons domiciled in Virginia;

2. Any student from a foreign country who is enrolled in a foreign exchange program approved by the state institution during the same period that an exchange student from the same state institution, who is entitled to in-state tuition pursuant to § 23-7.4, is attending the foreign institution; and

3. Any high school or magnet school student, not otherwise qualified for in-state tuition, who is enrolled in courses specifically designed as part of the high school or magnet school curriculum in a community college for which he may, upon successful completion, receive high school and community college credit pursuant to a dual enrollment agreement between the high school or magnet school and the community college.

G. Public institutions of higher education may enter into special arrangement contracts with Virginia employers or authorities controlling federal installations or agencies located in Virginia. The special arrangement contracts shall be for the purpose of providing reduced rate tuition charges for the employees of the Virginia employers or federal personnel when the employers or federal authorities are assuming the liability for paying, to the extent permitted by federal law, the tuition for the employees or personnel in question and the employees or personnel are classified by the requirements of this section as out-of-state.

Special arrangement contracts with Virginia employers or federal installations or agencies may be for group instruction in facilities provided by the employer or federal authority or in the institution's facilities or on a student-by-student basis for specific employment-related programs.

Special arrangement contracts shall be valid for a period not to exceed two years and shall be reviewed for legal sufficiency by the Office of the Attorney General prior to signing. All rates agreed to by the public institutions shall be at least equal to in-state tuition and shall only be granted by the institution with which the employer or the federal authorities have a valid contract for students for whom the employer or federal authorities are paying the tuition charges.

All special arrangement contracts with authorities controlling federal installations or agencies shall include a specific number of students to be served at reduced rates.

Nothing in this subsection shall change the domiciliary status of any student for the purposes of enrollment reporting or calculating the proportions of general funds and tuition and fees contributed to the cost of education.

§ 23-7.4:3. Determinations of eligibility; appeals and guidelines.

A. Each public institution of higher education shall establish an appeals process for those students who are aggrieved by decisions regarding eligibility for in-state or reduced tuition charges pursuant to §§ 23-7.4 and 23-7.4:2. The Administrative Process Act (§ 9-6.14:1 et seq.) shall not apply to these administrative reviews.

An initial determination shall be made. Each appeals process shall include an intermediate review of the initial determination and a final administrative review. The final administrative decision shall be in writing. A copy of this decision shall be sent to the student. Either the intermediate review or the final administrative review shall be conducted by an appeals committee consisting of an odd number of members. No person who serves at one level of this appeals process shall be eligible to serve at any other level of this review. All such due process procedures shall be in writing and shall include time limitations in order to provide for orderly and timely resolutions of all disputes.

Any party aggrieved by a final administrative decision shall have the right to review in the circuit court for the jurisdiction in which the relevant institution is located. A petition for review of the final administrative decision shall be filed within thirty days of receiving the written decision. In any such action, the institution shall forward the record to the court, whose function shall be only to determine whether the decision reached by the institution could reasonably be said, on the basis of the record, not to be arbitrary, capricious or otherwise contrary to law.

B. To ensure the application of uniform criteria in administering this section and determining eligibility for in-state tuition charges, the State Council of Higher Education shall issue and from time to time revise guidelines, including domiciliary status questions to be incorporated by all state institutions of higher education in their admissions applications. These guidelines shall not be subject to the Administrative Process Act.

An advisory committee, composed of at least ten representatives of institutions of higher education, shall be appointed by the Council each year to cooperate with the Council in developing the guidelines for determining eligibility or revisions thereof. The Council shall consult with the Office of the Attorney General and provide opportunity for public comment prior to issuing any such guidelines.

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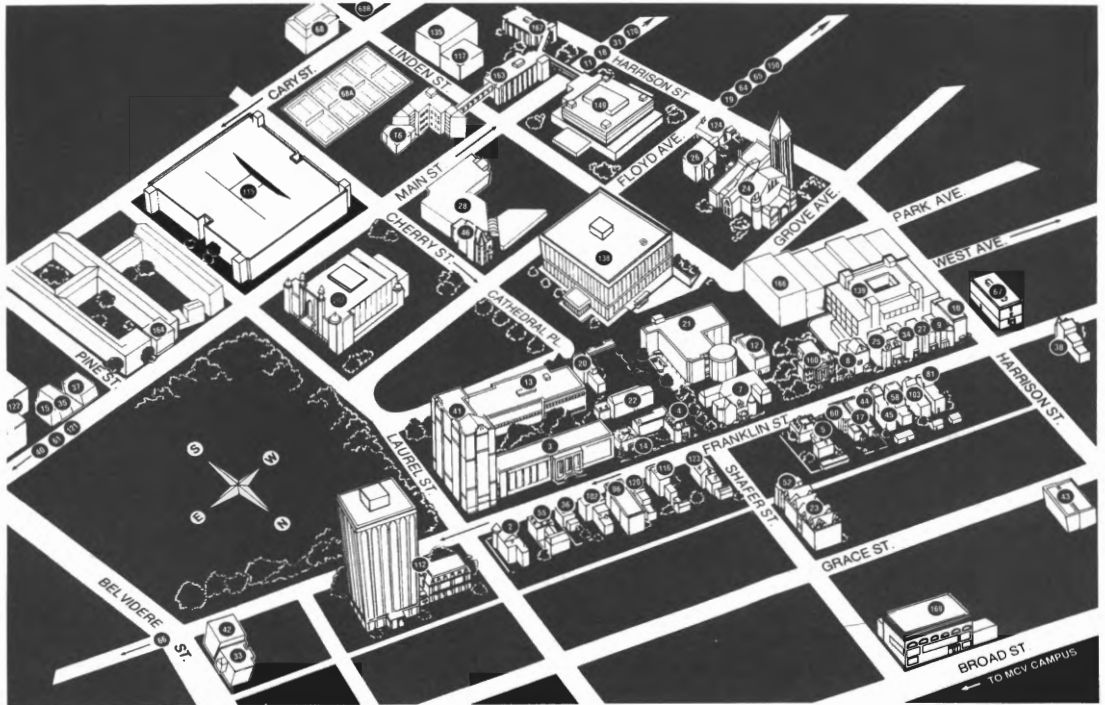
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- 3 Franklin Street Gymnasium, 817 W. Franklin St.
- 4 Founders Hall, 827 W. Franklin St.
- 5 President's House, 910 W. Franklin St.
- 7 Ginter House, 901 W. Franklin St.
- 8 Anderson House, 913 W. Franklin St.
- 9 Kearney House, 921 W. Franklin St.
- 10 Scherer Hall, 923 W. Franklin St.
- 11 1814 W. Main St.
- 12 Anderson Gallery, 907 1/2 W. Franklin St.
- 13 Life Sciences Building, 816 Park Ave.
- 14 Ritter-Hickok House, 821 W. Franklin St.
- 15 609 W. Main St.
- 16 General Purpose Academic Building, 901 W. Main St.
- 17 McAdams House, 914 W. Franklin St.
- 18 1326-28 W. Main St.
- 19 1315 Floyd Ave.
- 20 Adkins House, 824 Park Ave.
- 21 Hibbs Building, 900 Park Ave.
- 22 Shafer Street Playhouse, 221 N. Shafer St.
- 23 Lafayette Hall, 312 N. Shafer St.
- 24 VCU Music Center, 1015 Grove Ave.
- 25 Stark House, 915 W. Franklin St.
- 26 Education Annex, 109 N. Harrison St.
- 27 Younger House, 919 W. Franklin St.
- 28 Student Commons, 907 Floyd Ave.

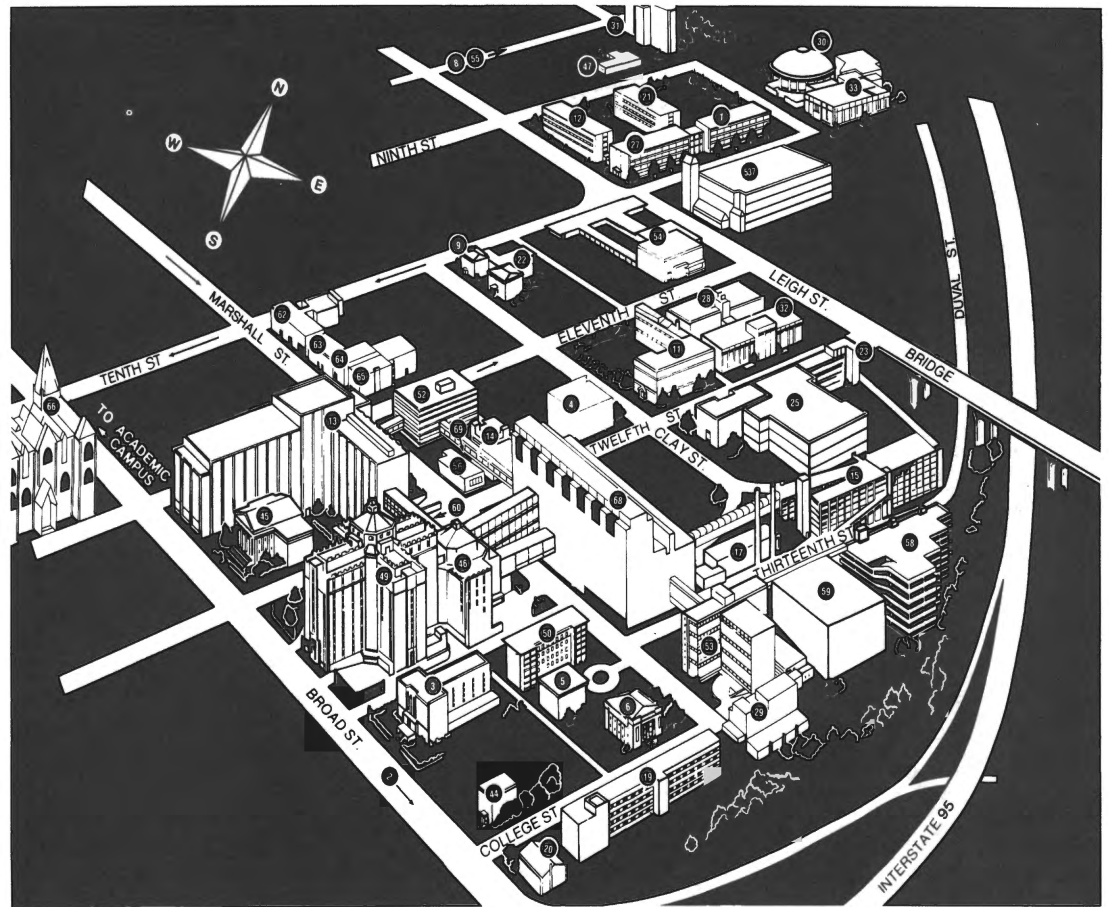
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- 35 611 W. Main St.
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- 45 916 W. Franklin St. (rear)
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 8 Facilities Management Shops Building, 659 N. 8th St.
 9 Leigh House, 1000 E. Clay St.
 11 McGuire Hall, 1112 E. Clay St.
 12 McRae Hall, 10th & Leigh Sts.
 13 Sanger Hall, 1101 E. Marshall St.
 14 Ambulatory Care Center, 408 N. 12th St.
 15 MCV/VCU Visitor/Patient Parking Deck, 1220 E. Clay St.
 17 Central Heating & Power Plant, 400 N. 13th St.
 18 MCV Alumni House, 1105 E. Clay St.
 19 Randolph-Minor Hall, 307-15 College St.
 20 Randolph-Minor Annex, 301 College St.</p> | <p>21 Rudd Hall, 10th & Leigh Sts.
 22 Sheltering Arms Building, 1008 E. Clay St.
 23 Strauss Research Laboratory, 527 N. 12th St.
 24 Monumental Church, 1224 E. Broad St.
 25 Tompkins-McCaw Library, 509 N. 12th St.
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 28 Wood Memorial Building, 521 N. 11th St.
 29 Massey Cancer Center, 401 College St.
 30 Larrick Student Center, 641 N. 8th St.
 31 Cabaniss Hall, 600 N. 8th St.
 32 Lyons Dental Building, 520 N. 12th St.
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 45 First Baptist Church, 323 N. 12th St.
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 47 VCU Day Nursery, 610 N. 9th St.
 49 West Hospital, 1200 E. Broad St.</p> | <p>50 East Hospital, 1215 E. Marshall St.
 52 Nelson Clinic, 401-09 N. 11th St.
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|--|---|--|

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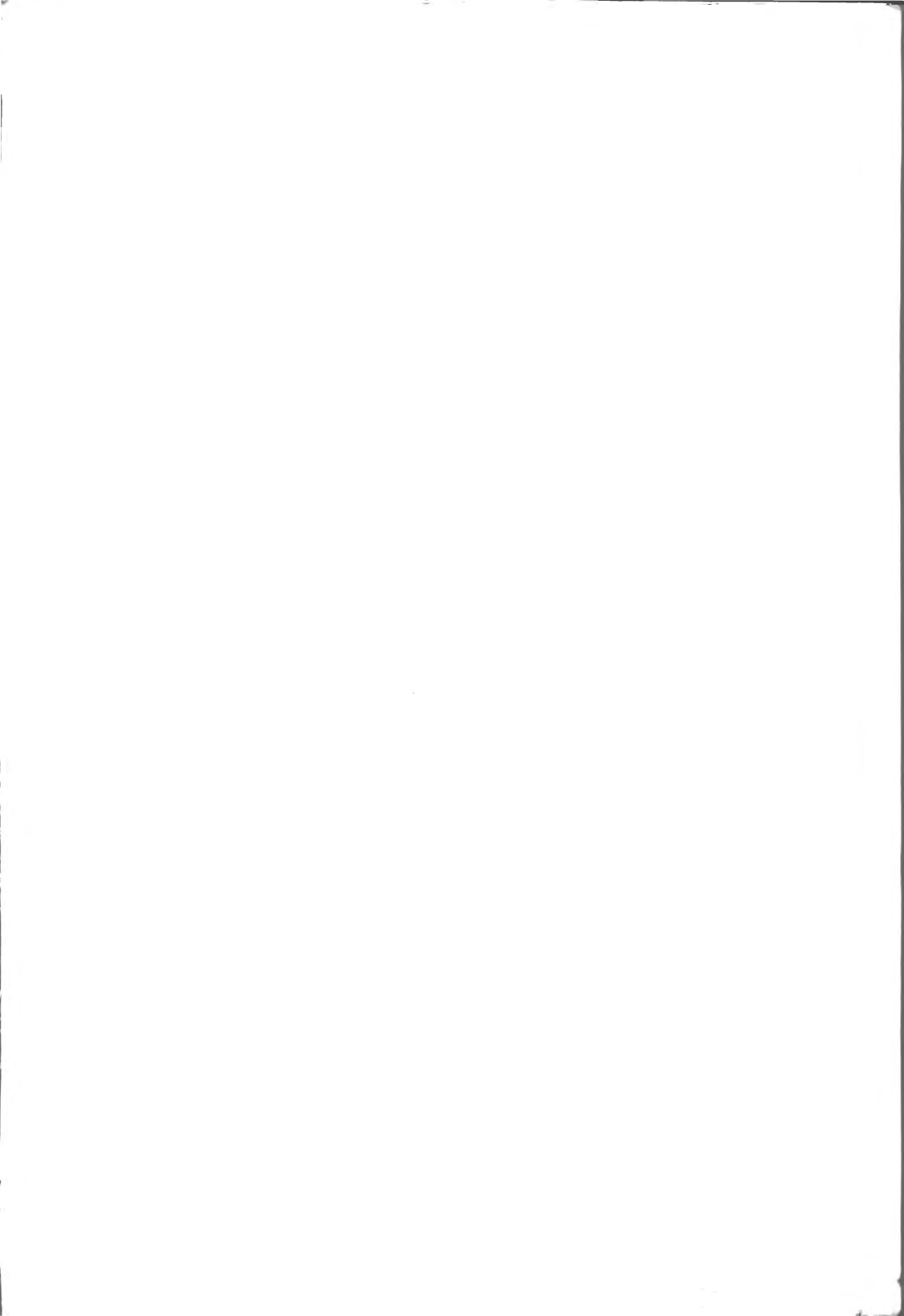
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45 Print Shop
47 VCU Day Nursery





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