

## CHAPTER 6

## THE COLLEGES AND SCHOOLS

COLLEGE OF AGRICULTURE  
AND NATURAL RESOURCES (AGNR)

1224 Symons Hall, 405-7761  
emartin@umdacc.umd.edu  
<http://www.agnr.umd.edu>

Dean: Thomas A. Fretz  
Associate Dean: Marla S. McIntosh

The College of Agriculture and Natural Resources offers a variety of academic programs that apply science, management, design, and engineering to improve the world in which we live and work. Feeding the world population, developing scientifically-based land use practices and policies, understanding animal and plant biology, improving nutrition and its effects on human health, and profitably managing farms and agribusinesses in harmony with ecosystems are all vital concerns of the College. Integrating the use and protection of natural resources in the production of food and nursery crops is a challenge facing students.

Each student in the College is assigned a faculty adviser to assist in selecting courses to meet the individual needs of our diverse student body. In addition to course work, undergraduates have opportunities to work closely with faculty in state-of-the-art facilities including new biological resources engineering, animal sciences, veterinary medicine, and plant sciences buildings. The College also serves as the academic home of the Maryland Campus of the Virginia-Maryland College of Veterinary Medicine. Nearby resources such as the U.S. Department of Agriculture's Beltsville Agricultural National Research Center, the National Institutes of Health, the Food and Drug Administration, the Smithsonian Institution and the National Zoo, Maryland's Departments of Agriculture and Natural Resources, and the Patuxent Wildlife Research Center enhance teaching, research, internship, and career opportunities for students. Field study courses offered in Brazil, Belize, Egypt, and Costa Rica and study abroad programs expose students to other cultures and environments. Learning opportunities are also strengthened through student involvement in such co-curricular activities as the College Honors Program, career programs, leadership workshops, and student clubs.

Graduates are employed in a variety of professional positions such as dietitians, food scientists, landscape architects, engineers, natural resource managers, environmental consultants, land use planners, agribusiness managers, stock and commodity brokers, or lawyers specializing in environmental issues. Others work at government and industry research laboratories, biotechnology and biomedical firms, hospitals, fish and wildlife programs, the Peace Corps, public health departments and large food production operations. Many graduates pursue advanced degrees in veterinary medicine, law, medicine, physical therapy, or graduate school.

The College of Agriculture and Natural Resources has the following programs of study:

- **Agricultural and Resource Economics**—Business Management; Environmental Policy; Farm Production; Food Production; International Agriculture; and Political Process.
- **Agronomy**—Conservation of Soil, Water, and the Environment; Crop Science; and Turf and Urban Agronomy.

• **Animal Sciences**—Animal Management and Industry; Avian Business; Laboratory Animal Management; and Professional/Sciences.

• **Combined Vet. Med. /Animal Sciences Degree**

• **Biological Resources Engineering**—Water Resources, Bioenvironmental Engineering, Aquacultural Engineering; and Biomedical Engineering.

• **General Agricultural Sciences**

• **Horticulture**—Landscape Management; Horticultural Production; and Horticultural Science

• **Landscape Architecture**

• **Natural Resources Management**—Environmental Education/Park Management; Land and Water Resource Management; and Plant and Wildlife Resource Management.

• **Nutrition and Food Science**—Dietetics; Food Science; and Nutrition

## Advantage of Location and Facilities

Educational opportunities in the College of Agriculture and Natural Resources are enhanced by the proximity of several research units of the federal government. Teaching and research activities in the College are conducted with the cooperation of scientists and professional people in government positions. Of particular interest are the National Agricultural Research Center at Beltsville, the National Agricultural Library, the National Arboretum, and the Food and Drug Administration.

Instruction in the basic biological and physical sciences, social sciences, landscape design, and engineering principles is conducted in well-designed classrooms and laboratories. The application of basic principles to practical situations is demonstrated for the student in numerous ways. In addition to on-campus facilities, several operating education and research facilities are located throughout Maryland. Horticultural and agronomic crops, turf, beef, dairy cattle, and poultry are maintained under practical and research conditions are also used for environmental studies.

## Requirements for Admission

For students entering the College of Agriculture and Natural Resources it is recommended that their high school preparatory course include: English, 4 units; mathematics, 3 units; biological and physical sciences, 3 units; and history or social sciences, 2 units. Four units of mathematics should be elected by students who plan to major in biological resources engineering. The Landscape Architecture major is a limited enrollment program (LEP). See chapter 1 for general LEP admission policies.

## Degree Requirements

Students graduating from the college must complete at least 120 credits with an average of 2.0 in all courses applicable toward the degree. Requirements of the major and supporting areas, are listed under individual program headings in chapter 7.

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### Advising

Each student in the College of Agriculture and Natural Resources is assigned to a faculty adviser. Advisers normally work with a limited number of students and are able to give individual guidance. Students entering the freshman year with a definite choice of curriculum are assigned to departmental advisers for counsel and planning of all academic programs. Students who have not selected a definite curriculum are assigned to a general adviser who assists with the choice of electives and acquaints students with opportunities in the curricula in the College of Agriculture and Natural Resources and in other units of the University.

### Financial Assistance

A number of scholarships are available for students enrolled in the College of Agriculture and Natural Resources. These include awards by the Agricultural Development Fund, Arthur M. Ahalt Memorial Scholarship, Eugene Fox/BowieCrofton Garden Club Scholarship, Frank D. Brown Memorial Scholarship, Chapel Valley Landscape Company Honorary Scholarship, George Earle Cook, Jr. Scholarship Fund, Ernest T. Cullen Memorial Scholarship, Richard F. Davis Memorial Award, Delmarva Corn and Soybean Scholarship, Mylo S. Downey Memorial Scholarship, C. Walter England Fund in Dairy Science, James R. Ferguson Memorial Scholarship, Goddard Memorial Scholarship, Manasses J. and Susanna Grove Memorial Scholarship, Joe E. James Memorial Award Fund, The Kinghorne Fund, Gary Lee Lake Memorial Scholarship, Maryland Greenhouse Growers Association Scholarship, Maryland Nurserymen's Association Scholarships, Maryland Turfgrass Association, Maryland State Golf Association, Maryland and Virginia Milk Producers, Inc., Mid-America Dairymen, Inc. Scholarship, Dr. Ray A. Murray Scholarship Fund, Paul R. Poffenberger Scholarship Fund, The Ross and Pauline Smith Fund for Agriculture, J. Herbert. Snyder Scholarship, Southern States Cooperative, Inc., The David N. Steger Scholarship Fund, Hiram Irving Stine Memorial Fund, Takoma Horticultural Club Scholarship, The A.F. Vierheller Award Fund in Horticulture, Veterinary Science Scholarship, Siegfried Weisberger Jr. Memorial Fund, Siegfried Weisberger Jr. Scholarship Fund, Theodore B. and Georgianna Miles Weiss Memorial Fund, and the Winslow Foundation .

### Honors

Students may apply for admission to the College Honors program after completing 56 credits with a minimum 3.2 GPA in a program within the College. Honors students work with a faculty mentor and must take at least 12 credits of honors courses including a senior thesis. Interested students should contact their faculty adviser.

### Student Organizations

Students find opportunity for varied expression and growth in the several voluntary organizations sponsored by the College of Agriculture and Natural Resources. These organizations are Ag Student Council, Alpha Zeta, Agribusiness Club, Agronomy Club, Alpha Gamma Rho, Animal Husbandry Club, ASAE, the Society for Engineering in Agricultural, Food and Biological Systems, Collegiate 4-H, Collegiate FFA, Food and Nutrition Club, Horticulture Club, Landscape Architecture Student Association, INAG Club, Natural Resources Management Society, Poultry Science Club, Soil and Water Conservation Society the University of Maryland, College Park Student Chapter, Symbiosis, UM Cavalry, and Veterinary Science Club.

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## RESEARCH AND SERVICE UNITS

### Maryland Agricultural Experiment Station

The Maryland Agricultural Experiment Station (MAES) funds research conducted primarily by 120 faculty located within the College of Agriculture and Natural Resources. Faculty utilize state-of-the-art campus laboratories and MAES' 10 statewide Research and Education Center facilities for research programs that include plant and animal biology; environment and natural resources; agricultural productivity, utilization and marketing; biotechnology; and land use and public policy. Undergraduate students can participate in MAES research programs through mentoring with MAES-supported faculty, and the instructional use of MAES facilities.

### Cooperative Extension Service

The Maryland Cooperative Extension Service educates citizens in the application of practical, research-based knowledge to critical issues in agricultural and agribusiness including aquaculture; natural resources and the environment; human development, nutrition, diet, and health; youth development and 4-H; and family and community leadership. The statewide program includes more than 180 faculty and support staff located in 23 counties, the City of Baltimore, four regional centers, and the University of Maryland's College Park and Eastern Shore campuses. In addition, more than 15,000 volunteers and citizens in Maryland give generously of their time and energy.

## VIRGINIA-MARYLAND REGIONAL COLLEGE OF VETERINARY MEDICINE-MARYLAND CAMPUS

### College of Agriculture and Natural Resources

1202 Gudelsky Veterinary Center, 935-6083

The Virginia-Maryland Regional College of Veterinary Medicine is operated by the University of Maryland and the Virginia Polytechnic Institute and State University. Each year, 30 Maryland and 50 Virginia residents comprise the entering class of a four-year program leading to a Doctor of Veterinary Medicine (DVM).

The first three years are given at Virginia Polytechnic Institute and State University in Blacksburg, Virginia. The final year of instruction is given at several locations, including the University of Maryland, College Park.

A student desiring admission to the college must complete the pre-veterinary requirements and apply for admission to the professional curriculum. Admission to this program is competitive and open to all Maryland residents. All Maryland residents' applications are processed at the College of Veterinary Medicine, Maryland Campus, University of Maryland, College Park.

### Institute of Applied Agriculture—Two-Year Program

The Institute of Applied Agriculture awards a certificate in Applied Agriculture specifying the student's major area of study. Although designed as a two-year terminal program with a separate admissions policy, the Institute does not restrict continuing education and some courses can transfer to the University of Maryland, College Park, and the University of Maryland, Eastern Shore.

For additional information regarding the institute, including admissions procedures and requirements, write to: Director, The Institute of Applied Agriculture, 2123 Jull Hall, University of Maryland, College Park, Md. 20742-2525, or call (301) 405-4686, or hook into InAgOnLine via modem at 314-2034 (9600 baud) or 314-2035 (2400 baud). For electronic information request, you may send E-mail to [IAA@umail.umd.edu](mailto:IAA@umail.umd.edu) or request information from the IAA World Wide Web home page at <http://128.8.190.44>

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## SCHOOL OF ARCHITECTURE

Architecture Building, 405-6284  
<http://www.inform.umd.edu/ARCH>

Professor and Dean: Steven W. Hurtt  
Associate Dean: Stephen F. Sachs  
Assistant to the Dean: Nancy Lapanne  
Professors: Bechhoeft, Bennett, Bonta, Etlin†, Fogle, Francescato, Hill, Lewis, Schlesinger, Schumacher, Vann  
Associate Professors: Bell, Bovill, DuPuy, Gournay, Kelly  
Assistant Professor: Gardner  
Lecturers: McInturff, Wiedemann  
†Distinguished Scholar-Teacher

The School of Architecture offers a four-year undergraduate program leading to the Bachelor of Science degree in architecture, and a graduate program leading to the degree of Master of Architecture. The undergraduate major in architecture is designed to minimize the time required to complete the curriculum leading to the professional degree, Master of Architecture.

Students receive rigorous and comprehensive instruction from a faculty whose members are active in professional practice or research. Many faculty members have distinguished themselves across the professional spectrum and represent different approaches to architectural design. Their individual areas of expertise include architectural design and theory, history, architectural archaeology, technology, urban design and planning, and historic preservation. Visiting critics, lecturers, and the Kea Distinguished Professor augment the faculty; together they provide students with the requisite exposure to contemporary realities of architectural design.

The B.S. degree in architecture will qualify graduates to pursue a career in any of a number of fields, such as construction, real estate development, public administration, or historic preservation, or to continue in graduate work in professional fields such as architecture, urban planning, or law.

## Admission to Architecture

Architecture is a Limited-Enrollment Program.

See the Admissions section in chapter 1 for general LEP admission policies.

**Freshman Admission and the 45-Credit Review.** Students with the most competitive records will gain admission to the School of Architecture directly from high school, as allowed by space considerations within the School. Because space may be limited before all interested freshmen are admitted to the program, early application is encouraged. Freshmen admitted to the program will have access to the necessary advising through their initial semesters to help them determine if Architecture is an appropriate major for their interests and abilities.

Freshmen who are admitted directly to Architecture will be subject to a performance review by the time they have completed 45 credits. To meet the provisions of the review, these students must complete: (1) Fundamental Studies; (2) 60% of Distributive Studies; (3) ARCH 170, 220, and 242 with grades of B in each; (4) MATH 220, PHYS 121, and PHYS 122 with minimum grades of C in each and a combined GPA of 2.6 for the 3 courses; (5) three letters of recommendation; and (6) a portfolio review as specified by the School. Students who do not meet these requirements will not be allowed to continue in the LEP and will be required to select another major.

**Transfer Admission.** The following requirements affect new transfer students to the University as well as on-campus students hoping to change majors to Architecture. Admission of transfer students may be severely limited, and capacity is determined each year in accordance with the success of incoming freshmen.

In order to be admitted to Architecture, transfer students will be required to meet the following set of gateway requirements: (1) completion of Fundamental Studies; (2) completion of all Distributive Studies; (3) completion of ARCH 242 with a grade of B; (4) completion of MATH 220 and PHYS 122 with minimum grades of C and a combined average of 2.4; (5) successful review of a portfolio to assess drawing skills; and (6) attainment of a minimum cumulative GPA for all college-level work attempted. The required GPA is set each year and may vary from year to year depending upon available space. Contact the School of Architecture or the Office of Undergraduate Admission for the current GPA standard.

**Appeals.** Students who are unsuccessful in gaining admission to Architecture at the freshman or transfer level, and believe they have extenuating or special circumstances which should be considered, may appeal in writing to the Office of Undergraduate Admission. The student will be notified in writing of the appeal decision once it is made.

Students admitted to Architecture as freshmen who do not pass the 45-credit review but believe they have special circumstances which should be considered may appeal directly to the School.

For further information, contact the Counselor for Limited-Enrollment Programs at 314-8385.

## Curriculum Requirements

In the first two years of college, directly admitted students and those seeking to transfer into the School of Architecture should adhere to the following curriculum:

	Credit Hours
General Education (CORE) and Elective .....	28
ENGL 101—Introduction to Writing (CORE) .....	3
MATH 220—Elementary Calculus I (CORE) .....	3

ARCH 170—Introduction to the Built Environment (CORE) .....	3
MATH 221—Elementary Calculus II (recommended) .....	3
PHYS 121—Fundamentals of Physics I (CORE) .....	4
ARCH 220—History of Architecture I* .....	3
ARCH 242—Drawing I .....	2
PHYS 122—Fundamentals of Physics II (CORE) .....	4
ARCH 221—History of Architecture II .....	3
<b>Total Credits</b> .....	<b>56</b>

If admitted after completing 56 credits, students are expected to complete the following requirements for a total of 120 credits:

	Credit Hours
<b>Third Year</b>	
ARCH 400—Architecture Studio I* .....	6
ARCH 410—Architectural Technology I .....	4
ARCH 4xx—Arch. History/Area A** .....	3
ARCH 401—Architecture Studio II .....	6
ARCH 411—Architectural Technology II .....	4
ARCH 343—Drawing II Line Drawing .....	3
ENGL 391—Advanced Composition .....	3
CORE Requirements .....	3
<b>Total</b> .....	<b>32</b>

<b>Fourth Year</b>	
ARCH 402—Architecture Studio III .....	6
ARCH 445—Visual Analysis of Architecture .....	3
ARCH 412—Architectural Technology III .....	4
ARCH 403—Architecture Studio IV .....	6
ARCH 413—Architectural Technology IV .....	4
CORE Requirements .....	3
One of the following .....	3
ARCH 460—Site Analysis & Design	
ARCH 450—Introduction to Urban Planning	
ARCH 454—Theories of Urban Form	
ARCH 4xx—Arch. History/ Area B** .....	3
<b>Total</b> .....	<b>32</b>
<b>Total Credits</b> .....	<b>120</b>

\*Courses are to be taken in sequence as indicated by Roman numerals in course titles.

\*\* Architecture history courses: Area A, ARCH 422, 423, 432, and 436  
Area B, ARCH 433, 434, and 420.

## Special Resources and Opportunities

The school is housed in a modern, air-conditioned building providing design workstations for each student, a large auditorium, and seminar and classroom facilities. A well-equipped woodworking and model shop, darkroom, a lab equipped with testing machines and various instruments used in studying the ambient environment, and computer terminal facilities are also provided. The Architecture Library, one of the finest in the nation, offers convenient access to a current circulating collection of more than 24,000 volumes, 6,000 periodicals, and an extensive selection of reference materials. Rare books and special acquisitions include a collection relating to international expositions and the 11,000-volume National Trust for Historic Preservation Library. A visual resources facility includes a reserve collection of 250,000 slides on architecture, landscape architecture, urban planning, architectural science, and technology as well as audio-visual equipment for classroom and studio use.

The school provides learning experiences through CADRE Corporation, a nonprofit center for Architectural Design and Research, which provides an organizational framework for faculty and students to undertake contract research and design projects appropriate to the school's fundamental education mission. CADRE Corporation projects include building and urban design, urban studies, building technology, historic preservation, architectural archaeology, studies in energy conservation, or other work for which the school's resources and interests are uniquely suited.

Summer programs include the Caesarea Ancient Harbor Excavation Project (CAHEP), an ongoing land and underwater excavation in Israel at the harbor of Herod the Great at Caesarea Maritima. In addition, summer workshops for historic preservation are sponsored by the school each year in Cape May, N.J., which is a designated national historic landmark district, and Kiplin Hall in North Yorkshire, England. Students may earn direct credit doing hands-on restoration work and by attending lectures by visiting architects, preservationists, and scholars.

Course Code: ARCH

### COLLEGE OF ARTS AND HUMANITIES (ARHU)

1102 Francis Scott Key Hall, 405-2088  
<http://www.inform.umd.edu/arhu/welcome.html>

Professor and Dean: James Harris  
Office of Student Affairs: 405-2110  
Academic Advisers: 405-2108

The College of Arts and Humanities embraces a heterogeneous group of disciplines, all of which value the development of critical thinking, fluent expression in writing and speech, sensitivity to ethical and aesthetic standards, and a complex understanding of history and culture. Departments and programs in Arts and Humanities, while they have strong individual identities, are also involved in interdisciplinary studies. Thus students will find, for example, courses in the Department of English that approach literature from political perspectives, courses in the Department of History that rely on feminist perspectives, courses in the Department of Art History and Archeology that study African cultures, and so on.

Examples of the special opportunities available to students in this richly variegated college include an exceptional slide library in Art History and Archaeology, the Music Department's computer music resources including a MIDI Laboratory, the English Department's computer-based writing laboratory, an AT&T Foreign Language Classroom, the Pugliese Theatre for experimental drama, a junior-year-abroad program in Nice, France, a year-abroad program in Sheffield, England, and Honors programs in most departments.

Preparation in the Arts and Humanities provides valuable background for careers in a broad range of fields. Students should be aware of the many eloquent testimonials from leaders of the nation's businesses, industry, and government to the skills of oral presentation, written exposition, critical thinking, and analytic problem-solving nurtured in humanities courses. These skills are essential to a successful career in any number of different fields.

### Entrance Requirements

Students wishing to major in one of the creative or performing arts are encouraged to seek training in the skills associated with such an area prior to matriculation. Students applying for entrance to these programs may be required to audition, present slides, or submit a portfolio as a part of the admission requirements.

### Graduation Requirements

The following College requirements apply only to students earning Bachelor of Arts degrees from the College of Arts and Humanities. These requirements are in addition to or in fulfillment of campus and departmental requirements. For information concerning the Bachelor of Music in the School of Music, students should consult a Music adviser.

Students who double major in ARHU and another college on campus **must** complete the College requirements in ARHU of foreign language to the intermediate level, and 45 hours of upper-level credit.

### Distribution

A minimum of 45 of the total of 120 semester hours must be upper-level work (i.e., courses numbered 300-499).

### Foreign Language

Language proficiency may be demonstrated in one of several ways:

- Successful completion of level 4 in one language or level 2 in each of two languages in high school, or
- Successful completion of a 12-credit sequence or of the intermediate level in College language courses, or
- Successful completion of a language placement examination in one of the campus language departments offering such examinations.

Students whose native language is not English should see an adviser in the ARHU Office of Student Affairs, 405-2108.

### Major Requirements

All students must complete a program of study consisting of a major (a field of concentration) and supporting courses as specified by one of the academic units of the College. No program of study shall require in excess of 60 semester hours. Students should consult the unit in which they will major for specific details; certain units have mandatory advising.

A major shall consist, in addition to the lower-division departmental prerequisites, of 24 to 40 hours, at least 12 of which must be in courses numbered 300 or 400 and at least 12 of which must be taken at the University of Maryland, College Park.

A major program usually requires a secondary field of concentration (supporting courses). The nature and number of these courses are determined by the major department.

No grade lower than C may be used to fulfill major or supporting course requirements. No course for the major or support module may be taken Pass-Fail.

### Advising

Freshmen and new transfer students have advisers in the Arts and Humanities College Office of Student Affairs (405-2108) who assist them in the selection of courses and the choice of a major. After selecting a major, students **must** see the departmental adviser for that major. All first-year students and seniors have mandatory advising in both the College and the Department. For further information about advising, students should see the section on advising in the Mini-Guide, available from the College, or call the ARHU Office of Student Affairs.

### Degrees and Majors

The College of Arts and Humanities offers the degree of Bachelor of Arts in the following fields of study:

American Studies  
Art  
Art History and Archeology  
Asian and East European Languages and Cultures  
Chinese Language and Literature  
Classics  
    Classical Humanities  
    Greek  
    Latin  
Dance  
English Language and Literature  
French Language and Literature  
Germanic Studies  
History  
Italian Language and Literature  
Japanese Language and Literature  
Jewish Studies  
Linguistics  
Music  
Philosophy  
Romance Languages  
Russian Language and Literature  
Russian Area Studies  
Spanish and Portuguese Languages and Literatures  
Speech Communication  
Theatre  
Women's Studies

The College also offers the degree of Bachelor of Music, certificate programs in Women's Studies and East Asian Studies; and a program in Comparative Literature.

### Internships

Some departments in Arts and Humanities have well-established internship offerings. Typically, students must complete an application and attach a current academic transcript. Internships are generally for one semester of the junior or senior year for students with a good academic record. In addition to the work itself, students write an analysis of the experience. For more information, students should contact their major departmental adviser. A Literacy Internship Program is available through the College office, 405-2115.

## Certification of High School Teachers

A student who wishes certification as a high school teacher in a subject represented in this College must consult the College of Education in the second semester of the sophomore year. Application for admission to the Teacher Education program is made at the time that the first courses in Education are taken. Enrollment in the College of Education is limited.

## Honors

### Honors Programs

Most departments in the College of Arts and Humanities offer departmental Honors Programs (DHP). DHPs are upper-division programs that provide students with a transition from the two-year University Honors and College Park Scholars programs to individual academic units. Students enrolled in departmental Honors work independently with faculty members in subjects of special interest, develop and deepen their research skills, and in the process earn an even stronger degree. Students must have a cumulative grade point average of at least 3.0 to be admitted. For further information about individual Departmental Honors Programs and policies, consult with departmental advisers.

### Honors Humanities

Director: Marie Spiro  
405-6771  
E-mail: ms92@umail.umd.edu

As of Fall 1996, entering freshmen are able to participate in the Honors Humanities two-year living/learning program. This program represents the premier offering for the top students interested in building a solid and up-to-date foundation in the humanities. Honors Humanities provides students with stimulating seminars, good academic friendships, a lively home base, and opportunities to take advantage of the cultural and artistic riches of the Washington area. After successful completion of the program, students will earn a University Honors transcript citation.

### College Park Scholars

CPS in the Arts—Director: Ed Walters  
CPS in American Cultures—Director: Jo Paoletti

The College of Arts and Humanities co-sponsors two cross-disciplinary College Park Scholars programs in Arts and American Cultures. In these subject-based two-year programs for incoming freshmen, students meet in weekly colloquia with faculty, study together, and create communities of learners and teachers in specially-equipped residence halls. The Scholars program allows students to experience a small college environment and work closely with their faculty adviser.

**Phi Beta Kappa.** Consult the description of Phi Beta Kappa in chapter 4.

## Research and Service Units

### Academic Computing Services

1116 Francis Scott Key Hall, 405-2104  
<http://inform.umd.edu/arhu/acs.html>  
Manager: Kathy Russell

The Academic Computing Services unit supports the use of technology by faculty, staff, and students in the College of Arts and Humanities. ACS maintains open laboratories for student use in Marie Mount Hall and St. Mary's Hall. ACS also maintains the Electronic Media Center to support the use of technology in the arts, a MIDI Lab to support instruction in the School of Music, and computer-equipped classrooms for the Writing Program and the foreign languages.

### The Art Gallery

1202 Art-Sociology Building, 405-2763  
<http://www.inform.umd.edu/ArtGal>  
Director: Terry Gips

The Art Gallery presents a series of exhibitions each year of historic and contemporary art in a variety of media and subject matter. Opportunities for museum training and experience are available to students through intern and work-study positions.

### The Center for Studies in Nineteenth-Century Music

2101 Skinner Building, 405-7780  
<http://www.inform.umd.edu/EdRes/Colleges/ARHU/Depts/19thCent/>  
Director: H. Robert Cohen  
Associate Director: Luke Jensen  
Research Coordinator: Richard Kitson

The Center for Studies in Nineteenth-Century Music promotes research focusing on nineteenth-century music and musical life. The center's programs are designed to facilitate the study, collection, editing, indexing, and publication of documentary source materials.

### The Center for Renaissance and Baroque Studies

0139 Taliaferro Hall, 405-6830  
<http://www.inform.umd.edu/CRBS>  
Founding Director: S. Schoenbaum  
Director: Adele Seeff  
Associate Director: Susan Jensen

The Center for Renaissance and Baroque Studies promotes teaching and research in the Renaissance and Baroque periods in all disciplines of the arts and humanities, as well as in such allied fields as the history and philosophy of science.

### The Language Center

1105 Jimenez Hall, 405-4926  
<http://www.inform.umd.edu/EdRes/Colleges/ARHU/Depts/langctr/>  
(Acting) Director: Charlotte Groff Aldridge  
Coordinator, Educational Technology: Christopher J. Higgins

The Language Center promotes cross-departmental projects in teaching and research relating to other languages and cultures. It provides for the common needs of language instruction for all the individual campus units involved in second-language acquisition. It encompasses the following three units:

#### Language House

0107 St. Mary's Hall, 405-6996  
<http://www.inform.umd.edu/EdRes/Colleges/ARHU/Depts/langctr/.langhouse/langhous.htm>  
Coordinator: Dolores Bondurant

The Language House is a campus residence for students wishing to immerse themselves in the study of a foreign language and culture. A total of 90 students of Chinese, French, German, Hebrew, Italian, Japanese, Russian, and Spanish share 19 apartments. A live-in graduate mentor leads each language cluster. The goal of language immersion is achieved through activities organized by the students and mentors, a computer-based Language Learning Center, an audio-visual room, an international cafe, and foreign television programs received via satellite.

#### Language Media Services

1202 Jimenez Hall, 405-4924  
<http://www.inform.umd.edu/EdRes/Colleges/ARHU/Depts/langctr/.lms/lms1.htm>  
Contact: Jorge Padilla-Morales

Language Media Services serves the technological needs of foreign-language instruction at College Park. It houses a large collection of video and audio programs in more than 25 languages, a computer classroom with foreign-language software, graphic and resource materials, language laboratories, and video viewing stations.

#### FOLA

1105 Jimenez Hall, 405-4046  
<http://www.inform.umd.edu/EdRes/Colleges/ARHU/Depts/langctr/.fola/page1a.htm>  
Coordinator: Naime Yaramanoglu

The FOLA (Foreign Language) Program enables qualified students with high motivation to acquire a speaking knowledge of a number of foreign languages not offered in regular campus programs. While instruction is basically self-directed, students meet regularly with a native-speaking tutor for practice sessions to reinforce what has already been covered through the individual use of books and audio tapes. Final examinations are administered by outside examiners who are specialists in their fields.

## 56 College of Arts and Humanities

### Maryland English Institute

2140 Taliaferro Hall, 405-8634  
<http://www.inform.umd.edu/MEI>  
Acting Director: Marsha Sprague

The Maryland English Institute (MEI) offers special instruction in English to students at the University of Maryland who need to improve their competence in the language before they are able to undertake a full program of academic work. Two programs are offered: a half-time semi-intensive course and a full-time intensive course.

**Semi-intensive.** This program is open only to University of Maryland students, both graduate and undergraduate, who fall within a TOEFL score range of 475-574. Candidates in this proficiency range may be admitted to the University of Maryland on a provisional basis, requiring them to satisfactorily complete the MEI Semi-intensive program in order to become full-time students. Classes meet two hours per day, five days per week. In addition, students have two hours per week of assigned work in the language laboratory. The program is designed especially to perfect the language skills necessary for academic study at the University of Maryland. Enrollment is by permission of the director, and no credit is given toward any degree at the University.

**Intensive.** This full-time English-as-a-Foreign-Language program is open to non-native speakers of English who need improvement in their English competence before they can undertake any academic study at a College or university in the United States. On the basis of an entrance examination, students will be assigned to classes at their particular proficiency levels. They will have four to five hours of English language instruction per day, five days per week during the regularly scheduled semester and an eight-week summer session. The program is intended primarily for students who wish to enroll at the University of Maryland after completing their language instruction. However, satisfactory completion of the language program does not guarantee acceptance at the University. Enrollment is by permission of the director and no credit is given toward any degree at the University.

Course Code: ARHU

## COLLEGE OF BEHAVIORAL AND SOCIAL SCIENCES (BSOS)

2141 Tydings Hall, 405-1697  
[bsosque@bss2.umd.edu](mailto:bsosque@bss2.umd.edu) (for BSOS advising questions)  
<http://www.bsos.umd.edu/dean/dean.html>  
<http://www.bsos.umd.edu/advise>

Professor and Dean: Irwin L. Goldstein  
Associate Dean: Stewart L. Edelstein  
Associate Dean: Robert E. Steele  
Assistant Dean: Katherine Pedro Beardsley  
Advising and Records Office: 405-1697  
Advising Office for Students of Color, Athletes  
and International Students: 405-1708

The College of Behavioral and Social Sciences is comprised of a diverse group of disciplines and fields of study all of which emphasize a broad liberal arts education as the foundation for understanding the environmental, social, and cultural forces that shape our world. At the heart of the behavioral and social sciences is the attempt to understand human beings, both individually and in groups. Disciplines in the behavioral and social sciences use approaches that range from the scientific to the philosophical, from the experimental to the theoretical. Integral to all the disciplines, however, is the development and application of problem solving skills, which in combination with other academic skills, enable students to think analytically and to communicate clearly and persuasively. Students interested in human behavior and in solving human and social problems will find many exciting opportunities through the programs and courses offered by the College of Behavioral and Social Sciences.

The College is composed of the following major programs that lead to the Bachelor of Arts or the Bachelor of Science degree, as appropriate:

Afro-American Studies Program\*  
Department of Anthropology  
Department of Criminology and Criminal Justice  
Department of Economics  
Department of Geography  
Department of Government and Politics  
Department of Hearing and Speech Sciences

Department of Psychology  
Department of Sociology

\*The Afro-American Studies Program also offers an undergraduate certificate requiring 21 semester hours of course work (see Undergraduate Certificate Programs in chapter 7).

## Advising

The BSOS Undergraduate Advising Office and the Advising Office for Students of Color, Athletes, and International Students coordinate advising and maintain student records for BSOS students. Advisers are available to provide information concerning University requirements and regulations, transfer credit evaluations, and other general information about the University by appointments taken on a walk-in basis from 9 a.m. to 5 p.m. daily. Undergraduate advisers for each undergraduate major are located in the department offices. These advisers are available to assist students in selecting courses and educational experiences in their major area of study consistent with major requirements and students' educational goals.

## Graduation Requirements

Each student must complete a minimum of 120 hours of credit with at least a 2.0 cumulative grade point average. Courses must include the credits required in the University's general education requirements (CORE) and the specific major and supporting course and grade requirements of the programs in the academic departments offering bachelor's degrees.

Students must complete 15 upper-level credits and 12 major credits in the student's final 30 credits.

All students are urged to speak with an academic adviser in the College Advising Office at least two semesters before graduation to review their academic progress and discuss final graduation requirements.

## Honors

Undergraduate honors are offered to graduating students in the Afro-American Studies Program and the departments of Anthropology, Criminology and Criminal Justice, Economics, Geography, Government and Politics, Psychology, and Sociology.

**Dean's Scholars.** To be named a Dean's Scholar is the highest academic award that a BSOS student can earn in the College. Dean's Scholars are those graduating seniors who have completed 90 credits at the University of Maryland, College Park and have maintained a minimum cumulative grade point average of 3.8.

**Dean's List.** Any student who has passed at least 12 hours of academic work in the preceding semester, without failure of any course and with an overall average grade of at least 3.5 will be placed on the Dean's List of Distinguished Students.

## Student Organizations and Honor Societies

Students who excel in their academic discipline may be selected for membership in an honorary society. Honoraries for which students in BSOS are chosen include:

Alpha Kappa Delta—Sociology  
Alpha Phi Sigma—Criminal Justice  
Gamma Theta Upsilon—Geography  
Lambda Epsilon Gamma—Law  
Omega Delta Epsilon—Economics  
Pi Sigma Alpha—Political Sciences  
Psi Chi—Psychology

Students who major in the Behavioral and Social Sciences have a wide range of interests. The following is a list of student organizations in the disciplines and fields of the Behavioral and Social Sciences:

Anthropology Student Organization  
 Conservation Club  
 Criminal Justice Student Association  
 Economics Club  
 Geography Club  
 Government and Politics Club  
 Minority Pre-Professional Psychology Society  
 National Student Speech-Language and Hearing Association  
 (NSSLHA), Maryland Chapter  
 Pre-Medical Society (Pre-Med/Psychology Majors)  
 The Forum (Sociology)  
 Thurgood Marshall Pre-Law Society

For more information about these student organizations or starting a new student group, please contact the Office of Campus Activities, 1191 Adele H. Stamp Student Union, 314-7174.

## Field Experiences/Pre-Professional and Professional Training

Pre-professional training and professional opportunities in the behavioral and social sciences are available in many fields. The internship programs offered by many departments in the College provide students with practical experience working in governmental agencies, nonprofit organizations, corporations, and the specialized research centers and laboratories of the College.

## Undergraduate Research Opportunities

Undergraduate research internships allow qualified undergraduate students to work with research laboratory directors and faculty in departments and specialized research centers, thus giving the student a chance for a unique experience in the design and conduct of research and scholarship. Students are advised to consult with their department advisers on research opportunities available in the major.

## Special Resources and Opportunities

### Advising Office for Students of Color, Athletes and International Students

2140 Tydings Hall, 405-1708

This Advising Office provides academic and other support services designed specifically to meet the needs of students of color, athletes, and international students in the College. This office provides advising on academic and other concerns related to students' progress at the University; provides referrals, when appropriate, to other campus offices; and sponsors workshops and related activities on issues of particular relevance to these students. Advisers are available on a walk-in basis and by appointment.

### The Academy of Leadership

1126 Taliaferro Hall, 405-5751

The Academy of Leadership was established to foster future generations of political and public leaders through education, research, service and training. The Academy's educational undergraduate activities include the College Park Scholars in Public Leadership program, an upper-level curriculum in political leadership, courses in advanced leadership studies, and extensive internship and independent study opportunities. The Academy's research activities focus on leadership, political leadership, ethics, and political participation. Graduate students are engaged in research projects on political leadership and participation. Pulitzer Prize-winning Professor James MacGregor Burns serves as Senior Scholar and Research Director of the Center for the Advanced Study of Leadership. The Kellogg Leadership Studies Project, housed at the Academy, is a research network of 80 of the country's most eminent leadership scholars. The Kellogg National Resource Center for Public Leadership links citizens, communities, activists, and scholars from around the world. The Academy has provided leadership and civic education training in the U.S. and in 28 countries around the world. Curriculum projects and other initiatives are funded by foundations and the federal government. Georgia Sorenson, Ph.D., is the Director and former U.S. Senator Bill Bradley is the Chair of the Board.

### Office of Academic Computer Services (OACS)

0221 LeFrak Hall, 405-1670

Director: Charles Wellford

The College believes strongly that the study of behavioral and social sciences should incorporate both quantitative analysis and computational skills. Consequently, curricula in most departments require some course work in statistics, quantitative research methods, and the use of computers. The BSOS Office of Computer Services provides undergraduate students in the College with the facilities and staff assistance to satisfy a wide range of computer-related needs. The OACS operates eight computer classroom facilities and a special purpose graphics lab which are available for both in and out-of-class student use.

## Research and Service Units

The College of Behavioral and Social Sciences sponsors several special purpose, college-wide research centers. These centers include **The High Intensity Drug Traffic Agency** and the **Center for Substance Abuse Research**. These interdisciplinary centers often offer internships and a selected number of undergraduate research assistant opportunities for interested students. These research experiences offer excellent preparation for future graduate study and/or job opportunities in the private and public sectors.

### The Center for International Development and Conflict Management

0145 Tydings Hall, 314-7703

Director: Ernest Wilson

The Center for International Development and Conflict Management is a research center in the Department of Government and Politics focusing on the management and resolution of protracted conflict in the world today. Established in 1981, the Center has a staff composed of University faculty, visiting fellows, and associates involved in study of contemporary international and intercommunal conflicts, including their causes, dynamics, management strategies, and peaceful resolution.

### Center for Substance Abuse Research (CESAR)

Director: Eric D. Wish, 403-8329

Established in 1990, CESAR is a research unit co-sponsored by the College of Behavioral and Social Sciences and the College of Health and Human Performance. CESAR staff gather, analyze, and disseminate timely information on issues of substance abuse and monitor alcohol- and drug-use indicators throughout Maryland. CESAR aids state and local governments in responding to the problem of substance abuse by providing the above-stated information, as well as technical assistance and research. Faculty members from across campus are involved with CESAR-based research, creating a center in which substance-abuse issues are analyzed from multidisciplinary perspectives. Students obtain advanced technical training and hands-on experience through their involvement in original surveys and research.

## COLLEGE OF BUSINESS AND MANAGEMENT (BMGT)

Office of Undergraduate Studies: 1308 Van Munching Hall, 405-2286

Professor and Acting Dean: Olian  
 Professor and Acting Associate Dean: Leete  
 Associate Dean and Director of EDP: Stocker  
 Professor and Director of Doctoral Program: Gordon  
 Assistant Dean of the Masters' Programs: Wellman  
 Assistant Dean and Director for Undergraduate Programs: McDowell  
 Associate Directors for Undergraduate Programs: Mirhadi, Horick  
 Assistant Director for Undergraduate Programs: Pollard

The College of Business and Management recognizes the importance of education in business and management to economic, social, and professional development through profit and nonprofit organizations at the local, regional, and national levels. The faculty are scholars, teachers, and professional leaders with a commitment to superior education in business and management, specializing in accounting, finance, decision and information sciences, management science and statistics, management and organization, marketing, logistics and transportation, and business and public policy. The College of Business and Management is accredited by the American Assembly of Collegiate Schools of Business, the official

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national accrediting organization for business schools.

### Degrees

The University confers the following degrees: Bachelor of Science (B.S.), Master of Business Administration (M.B.A.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.). Information concerning admission to the M.B.A. or M.S. program is available from the College's Assistant Dean of the Masters' Programs (405-2279).

### Undergraduate Program

The undergraduate program recognizes the need for professional education in business and management based on a foundation in the liberal arts. Modern society comprises intricate business, economic, social, and government institutions requiring a large number of men and women trained to be effective and responsible managers.

A student in business and management selects a major in one of several curricula: (1) Accounting; (2) Decision and Information Sciences; (3)

Freshman-Sophomore College Requirements		Credit Hours
MATH 220* or 140**—Elementary Calculus I or Calculus I.....	3 or 4	
BMGT 201—Computer Applications in Business.....	3	
BMGT 220 and 221—Principles of Accounting I and II.....	6	
BMGT 230 or 231**—Business Statistics.....	3	
ECON 201 and 203—Principles of Economics I and II.....	6	
SPCH 100 or 107—Foundations of Speech Comm. or Speech Comm. ....	3	
<b>Total .....</b>	<b>24-29</b>	
* MATH 220 and 221 are required for Operations and Quality Management (managerial track) majors.		
** MATH 140 and 141 are required for Decision and Information Science and Operations and Quality Management (technical track) majors.		
*** BMGT 231 is required for Decision and Information Science and Operations and Quality Management (technical track) majors.		

Junior-Senior College Requirements		Credit Hours
BMGT 340—Business Finance .....	3	
BMGT 350—Marketing Principles and Organization .....	3	
BMGT 364—Management and Organizational Theory .....	3	
BMGT 380—Business Law .....	3	
BMGT 495 or 495A—Business Policies .....	3	
Economics (see below).....	3-6	
<b>Total .....</b>	<b>18-21</b>	

## Economics Requirements

3-6 credits of approved upper-level economics courses are required by the College of Business and Management (see above Junior-Senior College Requirements). Please see the Undergraduate Studies office in 1308 Van Munching Hall for approved options under each major.

## Major Requirements

18-21 credits are required under each major. The specific requirements for each major are listed on the following pages.

## A Typical Program for the Freshman and Sophomore Years

Freshman Year		Credit Hours
CORE and/or electives .....	9	
English 101 or equivalent .....	3	
MATH (depending on placement)* .....	3	
<b>First semester total.....</b>	<b>15</b>	

CORE and/or electives .....	9
SPCH 100 or 107 .....	3
MATH or BMGT 230/231* .....	3
<b>Second semester total.....</b>	<b>15</b>

Sophomore Year		Credit Hours
CORE.....	3	
BMGT 201 (Prereq. Sophomore Standing) .....	3	
BMGT 220 (Prereq. Sophomore Standing) .....	3	
ECON 201 .....	3	
MATH or BMGT 230/231* .....	3	
<b>Third semester total.....</b>	<b>15</b>	

CORE and/or electives .....	6
ECON 203 .....	3
BMGT 221 (Prereq. BMGT 220) .....	3
BMGT 230 (Prereq. MATH 220*) or 231* .....	3
(Prereq. MATH 141) or elective .....	3
<b>Fourth semester total.....</b>	<b>15</b>

\* See Freshman-Sophomore College of Business and Management requirements for appropriate math and statistics courses.

## Curricula

### Accounting

Chair: J. Bedingfield  
Professors: Bedingfield, Gordon, M. Loeb, S. Loeb  
Associate Professor: Kim  
Assistant Professors: Park, Peters, Shaw, Thompson

Accounting, in a limited sense, is the analysis, classification, and recording of financial events and the reporting of the results of such events for an organization. In a broader sense, accounting consists of all financial systems for planning, controlling, and appraising performance of an organization. Accounting includes among its many facets: financial

planning, budgeting, accounting systems, financial management controls, financial analysis of performance, financial reporting, internal and external auditing, and taxation.

The accounting curriculum provides an educational foundation for careers in accounting and other management areas whether in private business organizations, government and nonprofit agencies, or public accounting firms.

Course requirements for the junior-senior curriculum concentration in accounting are as follows:

	Credit Hours
BMGT 310, 311—Intermediate Accounting I and II.....	6
BMGT 321—Cost Accounting .....	3
BMGT 323—Income Tax Accounting .....	3
Three of the following courses: .....	9
BMGT 326—Accounting Systems	
BMGT 410—Fund Accounting	
BMGT 411—Ethics and Professionalism in Accounting	
BMGT 417—Advanced Tax Accounting	
BMGT 420, 421—Undergraduate Accounting Seminar	
BMGT 422—Auditing Theory and Practice	
BMGT 424—Advanced Accounting	
BMGT 426—Advanced Cost Accounting	
BMGT 427—Advanced Auditing Theory and Practice	
<b>Total .....</b>	<b>21</b>

The educational requirements of the Maryland State Board of Accountancy for certification are a baccalaureate or higher degree with a major in Accounting or with a non-accounting degree supplemented by course work the Board determines to be substantially the equivalent of an Accounting major. Students planning to take the CPA examination for certification and licensing outside Maryland should determine the educational requirements for that state and arrange their program accordingly.

**Note: Effective 1999, all graduates who desire to take the CPA examination will be required to have completed 150 semester hours of college work as well as all other course requirements.**

## Decision and Information Sciences

(Decision and Information Sciences is a specialization within the program in Management Sciences and Statistics.)

Chair: Alavi  
Professors: Alavi†, Yao  
Associate Professors: Davis, Raschid  
Assistant Professor: Marakas  
†Distinguished Scholar-Teacher

Computer-based information systems are an integral part of nearly all businesses, large and small. Decision and Information Sciences provides the information technology skills, the managerial and organizational skills, and the analytical skills required to design and manage business information processing systems. This program gives the student a firm basis in the business functional areas: Marketing, Finance, Production, and Accounting. In addition, it provides an in-depth knowledge of information processing technology, information processing implementation techniques, and Management Science and Statistics. There are many diverse employment opportunities available to graduates of this program. The typical job areas include application programmer/analyst, systems analyst, and computer system marketing analyst. Such positions are available in both large and small corporations, management consulting firms, and government agencies.

Students planning a major in this field must complete MATH 140 and MATH 141 and BMGT 231 prior to junior standing. Students considering graduate work in this field should complete MATH 240 or 400 as early as possible in their careers.

Course requirements for the junior-senior curriculum specialization in the Decision and Information Sciences are as follows:

	Credit Hours
BMGT 301—Survey of Business Information Systems and Tech.....	3
BMGT 407—Information Systems Projects .....	3
BMGT 435—Introduction to Applied Probability Models .....	3
One of the following .....	3
BMGT 430—Linear Statistical Models in Business	

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BMGT 302—Business Computer Application Programming  
BMGT 402—Data Base and Data Communication Systems  
BMGT 403—System Analysis  
BMGT 404—Seminar in Decision Support Systems  
BMGT 405—Business Telecommunications

**Total .....21**

### Finance

Chair: Kolodny

Professors: Chen, Haslem, Kolodny, Senbet

Associate Professors: Hanley, Madan, Maksimovic, Triantis, Unal

Assistant Professors: Agoro-Menyang, Phillips, Pichler

Finance encompasses:

- (1) *The financial management of small and large businesses.* The most important decisions the financial manager makes are: How much to invest in long-and short-term assets? What specific assets should the firm buy? How should cash be raised for investments?
- (2) *Investments.* This area of finance entails the analysis and valuation of securities markets and the management of portfolios.
- (3) *Financial institutions and markets.* This topic concerns the management of financial institutions and the role that they play in the economy.

The Finance curriculum is designed to familiarize the student with the institutions, theory, and practice involved in the allocation of financial resources within the private sector. It provides an educational foundation for careers involving financial analysis and management, investment analysis and portfolio management, investment banking, risk management, banking, and international finance; it also provides a foundation for graduate study in business administration, economics, and law.

Course requirements for the junior-senior curriculum concentration in Finance are as follows:

	Credit Hours
Both of the following courses: .....	6
BMGT 343—Investments	
BMGT 440—Financial Management	
Three of the following courses: .....	9
BMGT 443—Security Analysis and Valuation	
BMGT 444—Futures Contracts and Options	
BMGT 445—Commercial Bank Management	
BMGT 446—International Finance	
BMGT 447—Internship and Research in Finance	
BMGT 498—Special Topics in Business and Management (Finance)	
One of the following courses: .....	3
BMGT 310—Intermediate Accounting	
BMGT 332—Operations Research for Management Decisions	
BMGT 430—Linear Statistical Models in Business	
BMGT 434—Introduction to Optimization Theory	
<b>Total .....</b>	<b>18</b>

**NOTE: Students may take alternative courses in Section 2 and 3 subject to availability and approval of the chairperson.**

### Management and Organization

Chair: Taylor

Professors: Bartolt†, Carroll†, Gannon, Gupta, Levine, Lockett, Olian, Sims, Smith†, Taylor

Associate Professor: Reger

Assistant Professors: Stevens, Wally

†Distinguished Scholar-Teacher

Human Resource Management is the direction of human effort. It is concerned with securing, maintaining and utilizing an effective work force. People professionally trained in Human Resource Management find career opportunities in business, government, educational institutions, and charitable and other organizations. Course requirements for the junior-senior curriculum in Human Resource Management are as follows:

	Credit Hours
BMGT 360—Human Resource Management .....	3
BMGT 460—Human Resource Management-Analysis and Problems .....	3
BMGT 462—Employment Law .....	3
BMGT 464—Organizational Behavior .....	3
BMGT 467—Undergraduate Seminar in HRM .....	3

One of the following courses (check prerequisites):.....3

BMGT 362—Labor Relations

BMGT 398—Internship in HRM

GVPT 411—Public Personnel Management

JOUR 330—Public Relations

PSYC 451—Principles of Psychological Testing

**Total .....**18

### Management Science and Statistics

Chair: Ball

Professors: Assad, Ball, Bodin, Gass, Golden, Kotz†, Lamone

Associate Professors: Alt, Fromovitz, Fu, Widhalm

Assistant Professors: Kaku, Runger

†Distinguished Scholar-Teacher

Management Science and Statistics is the application of scientific methods to provide solutions to decision problems that best serve an organization's objectives. Practitioners in this field are employed in industry, business, and federal, state, and local governments. Students planning to major in this field must complete MATH 140 and 141 prior to achieving junior standing. Students considering graduate work in this field should complete MATH 240 and 241 as early as possible in their undergraduate careers.

**Note: Departmental programs and requirements are under review. Please contact the department office for the most current information.**

Course requirements for the junior-senior curriculum concentration in Management Science and Statistics are as follows (three credits per course for a total of 18 credits):

BMGT 430—Linear Statistical Models in Business  
BMGT 431—Design of Statistical Models in Business  
BMGT 434—Introduction to Optimization Theory  
BMGT 435—Introduction to Applied Probability Models

Two of the following courses (check prerequisites):

BMGT 385—Production Management  
BMGT 402—Database Systems  
BMGT 433—Statistical Decision Theory in Business  
BMGT 485—Advanced Production Management  
BMGT 486—Total Quality Management

### Marketing

Chair: Durand

Professors: Durand, Greer, Jolson (Emeritus)

Associate Professors: Biehal, Bolton, Kannan, Krapfel, Nickels, Wagner

Assistant Professors: Lefkoff-Hagius, Shankar, Sheinin

The goal of marketing is to satisfy all the stakeholders of the firm—employees, dealers, stockholders, and customers—by seeing that quality goods and services are developed and provided at fair prices and in a way that benefits the community and society. World-class competition has forced businesses to develop marketing programs that are as good as the best. This means getting closer to the customer, joining other organizations to create value for the consumer, and designing integrated distribution and communication programs that provide a seamless flow from producers to consumers. Pricing, communication/promotion, product/service, and distribution activities inherent in the development of marketing programs are applicable to non-profit organizations, business-to-business organizations, and firms that sell to ultimate consumers.

Many types of careers are available to the marketing major. These include, but are not limited to: sales, advertising, retailing, product/service management, and marketing research. Because of the many different employment opportunities in marketing, many marketing electives are offered along with three core courses required of all marketing majors—consumer analysis, marketing research, and marketing strategy.

Course requirements for the junior-senior curriculum concentration in Marketing are as follows:

	Credit Hours
BMGT 451—Consumer Analysis .....	3
BMGT 452—Marketing Research Methods .....	3
BMGT 457—Marketing Policies and Strategies .....	3

Three of the following courses (check prerequisites): .....	9
BMGT 353—Retail Management	
BMGT 354—Promotion Management	
BMGT 357—Retailing and Marketing Internship (3 credits only)	
BMGT 372—Traffic and Physical Distribution Management OR	
BMGT 431—Design of Statistical Experiments in Business	
(only one of BMGT 372 and 431 may be taken)	
BMGT 453—Industrial Marketing	
BMGT 454—International Marketing	
BMGT 455—Sales Management	
BMGT 456—Advertising	

**Total** .....18

## Transportation, Business, and Public Policy

Chair: Grimm

Professors: Corsi, Grimm, Leete, Morici, Prestont, Simon, Taff (Emeritus)

Associate Professors: Dresner, Windle

Assistant Professors: Evers, Ostas, Scott, Shaffer

† Distinguished Scholar-Teacher

## Logistics and Transportation

Logistics managers coordinate and control the flow of goods and services through the supply chain from the point of raw materials origin to the point of final consumption in an attempt to satisfy the customer and achieve a sustainable competitive advantage. The primary concern is to ensure that the desired product is available to the customer in the right condition and quantity—and at the right time, place, and cost. Courses in Logistics analyze logistics-related activities (such as transportation, warehousing, inventory control, customer service, procurement, and order processing) and their interactions with one another. Courses in Transportation examine service, management, and regulatory issues associated with the five modes of transport—air, motor, pipeline, rail, and water. The purpose of the Logistics and Transportation curriculum is to prepare students for logistics positions in industry and transportation positions with carriers and governmental agencies.

Course requirements for the junior-senior curriculum concentration in Logistics and Transportation are as follows:

	Credit Hours
BMGT 370—Introduction to Transportation Management.....	3
BMGT 372—Introduction to Logistics Management.....	3
BMGT 476—Applied Computer Models in Logistics and Trans. Mgmt.....	3
Two of the following courses: .....	6
BMGT 470—Advanced Transportation Management	
BMGT 472—Advanced Logistics Operations	
BMGT 473—Advanced Transportation Policies	
BMGT 475—Advanced Logistics Strategy	
One of the following courses: .....	3
BMGT 332—Operations Research for Management Decisions	
BMGT 373—Logistics and Transportation Internship	
BMGT 385—Production Management	
BMGT 453—Industrial Marketing	
BMGT 470, 472, 473 or 475 (depending on choices above)	
BMGT 474—Urban Transportation Systems	
BMGT 477—International Logistics and Transportation Management	
BMGT 482—Business and Government	
<b>Total</b> .....	18

## General Business and Management

The General Curriculum is designed for those who desire a broader course of study in business and management than offered in the other College curricula. The General Curriculum is appropriate, for example, for those who plan to enter small-business management or entrepreneurship where general knowledge of the various fields of study may be preferred to a more specialized curriculum concentration.

Course requirements for the junior-senior curriculum concentration in General Business and Management are as follows:

	Credit Hours
<b>Accounting/Finance</b>	
One of the following courses: .....	3
BMGT 321—Cost Accounting	
BMGT 440—Financial Management	

## Management Science/Statistics

One of the following courses: .....	3
BMGT 332—Operations Research for Management Decisions	
BMGT 385—Production Management	
BMGT 431—Design of Statistical Experiments in Business	
BMGT 433—Statistical Decision Theory in Business	

## Marketing

One of the following courses: .....	3
BMGT 353—Retail Management	
OR a higher number marketing course (check prerequisites)	

## Personnel/Labor Relations

One of the following courses: .....	3
BMGT 360—Human Resource Management	
BMGT 362—Labor Relations	

## Public Policy

One of the following courses: .....	3
BMGT 496—Business Ethics and Society	
BMGT 482—Business and Government	

## Transportation/Physical Distribution

One of the following courses: .....	3
BMGT 370—Principles of Transportation	
BMGT 372—Traffic and Physical Distribution Management	

**Total** .....18

## International Business

International Business is an option in the General Business major and responds to the global interest in international economic systems and their multicultural characteristics. This degree option combines the college-required courses with five International Business courses and a selection of language, culture, and area studies courses from the College of Arts and Humanities and the College of Behavioral and Social Sciences.

Course requirements for the junior-senior curriculum concentration in General Business and Management, International Business option, are:

	Credit Hours
BMGT 372—Introduction to Logistics Management.....	3
BMGT 392—Introduction to International Business.....	3
BMGT 454—International Marketing .....	3
BMGT 477—International Logistics and Transportation Management .....	3
BMGT 446—International Finance .....	3
Any 400-level BMGT course or an agreed-upon foreign language course.....	3
<b>Total</b> .....	18

Students are strongly encouraged to complete the language option to increase the applicability of the International Business option.

## Business and Law, Combined Program

In this program, a student completes three years in a chosen major in the business school and, on gaining admission to the University of Maryland School of Law, may use the first year of law school to complete the B.S. requirements provided he/she earns an average grade of C or better. Satisfactory completion of an additional two years in law school will earn the law degree. A student who fails to gain admission to law school, which is highly competitive and contingent on meeting the applicable standards of the school, will be permitted to complete the final year for the B.S. degree at College Park. Interested students are responsible for securing from the law school its current admission requirements. The student must complete all the courses required of students in the College, except BMGT 380 and BMGT 495. This means the student must complete all the pre-business courses; both upper-level ECON courses; BMGT 340, 350, and 364; all lower-level CORE requirements; the 15 to 21 hours in the student's specific business major; and enough additional electives to equal a minimum of 90 semester hours, 30 of which must be numbered 300 or above. No business law course can be included in the 90 hours. The last 30 hours of college work before entering law school must be completed in residence at College Park.

## Insurance and Real Estate

Students interested in insurance or real estate may wish to concentrate in Finance or General Business and Management and plan with their advisers a group of electives to meet their specialized needs.

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College course that is occasionally offered in real estate:  
BMGT 393—Real Estate Principles

### Institutional Management

Students interested in hotel-motel management or hospital administration must fulfill one of the many BMGT majors, such as General Business and Management, Finance, or Human Resource Management, and then plan with their advisers a group of electives, such as the following:

BMGT 440—Financial Management  
BMGT 482—Business and Government

### Honors

#### Honor Societies

**Beta Alpha Psi.** National scholastic and professional honorary fraternity in accounting. Members are elected on the basis of excellence in scholarship and professional service from junior and senior students majoring in accounting in the College of Business and Management.

**Beta Gamma Sigma.** National scholastic honorary society in business administration. To be eligible students must rank in the upper 5 percent of their junior class or the upper 10 percent of their senior class in the College of Business and Management. Students are eligible the semester after they have earned 45 credits at the University of Maryland, College Park, and have earned a total of 75 credits.

**Financial Management Association Honorary Society.** National scholastic honorary society sponsored by the Financial Management Association. To be eligible students must be finance majors with a cumulative grade point average of 3.5 for a minimum of 90 credits.

**Omega Rho.** National scholastic honorary society in operations research, management, and related areas. Members are elected on the basis of excellence in scholarship from junior and senior students majoring in appropriate quantitative areas.

**Pi Sigma Phi.** National scholastic honorary society sponsored by the Propeller Club of the United States. Membership is elected from outstanding senior members of the University of Maryland chapter of the Propeller Club majoring in transportation in the College of Business and Management.

#### Student Awards

For high academic achievement, students in the College may receive recognition by the Dean's List; Delta Sigma Pi Scholarship Key; Distinguished Accounting Student Awards; and Wall Street Journal Student Achievement Award.

#### Scholarships

The College offers several scholarships, including the AIACC. J. "Bud" Ecalono Memorial Scholarship #16; Anderson Consulting Leadership Scholarship; Baltimore Propeller Club/Charles M. Connor Scholarship; James Edward Miller Chapman Educational Foundation Scholarship; EDS Vision of Success Scholarship; Geico Achievement Award; J. Carter Hammel Scholarship; William F. Holin Scholarship; Joseph and Olivia Mattingly Logistics and Transportation Scholarship; G. Edward McEvoy Marketing Scholarship; National Defense Transportation Association Scholarship, Washington, D.C., Chapter; Warren K. Reed Scholarship (Accounting); Jack B. Sacks Foundation Scholarship (Marketing); Patricia Schmidlein Female Scholarship; Olga A. Wertz "Twink" West Scholarship; Charles A. Taff Scholarship (Transportation); Ernst & Young Education Excellence; Leo Van Munching Jr. Marketing Scholarship; and NationsBank Educational Endowment.

#### Student Professional Organizations

Students may choose to associate themselves with one or more of the following professional organizations: American Marketing Association; Society of Human Resource Management (Human Resource Management); Association of College Entrepreneurs (all business majors); Black Business Society; Dean's Undergraduate Advisory Council; Delta Nu Alpha (Transportation); Delta Sigma Pi (all business majors); Finance, Banking

and Investments Society (finance); National Association of Black Accountants; Phi Chi Theta (all business majors); Transportation and Logistics Club (NDTA and Propeller Club); Institute of Management Accountants; Information Systems Society; and Latino Business Society.

Course Code: BMGT

## COLLEGE OF COMPUTER, MATHEMATICAL, AND PHYSICAL SCIENCES (CMPS)

3400 A.V. Williams, 405-2677  
<http://www.inform.umd.edu/EdRes/Colleges/CMPS>

Professor and Dean: Richard H. Herman  
Associate Dean: Williams  
Assistant to Dean: Bryant

The search for new knowledge is one of the most challenging activities of humankind. Universities are the key institutions in society where fundamental research is emphasized. The College of Computer, Mathematical, and Physical Sciences at College Park contributes very substantially and effectively to the research activities of the University of Maryland. This College is like a technical institute within a large university. Students majoring in any one of the disciplines encompassed by the College have the opportunity of obtaining an outstanding education in their field.

The College serves both students who continue as professionals in their area of specialization, either immediately upon graduation or after postgraduate studies, and those who use their college education as preparation for careers or studies in other areas. The focused specialist as well as the broad "Renaissance person" can be accommodated. Many research programs include undergraduates either as paid student helpers or in forms of research participation. Students in departmental honors programs particularly are given the opportunity to become involved in research. Other students, too, may undertake research under the guidance of a faculty member.

A major portion of the teaching program of the College is devoted to serving students majoring in disciplines outside of the College. Some of this teaching effort is directed toward providing the skills needed in support of such majors or programs. Other courses are designed as enrichment for non-science students, giving them the opportunity to explore the reality of science without the technicalities required of the major.

The College is strongly committed to making studies in the sciences available to all regardless of their background. In particular, the College is actively pursuing an affirmative action program to rectify the present underrepresentation of women and minorities in these fields. There are in fact many career opportunities for women and members of minorities in the fields represented by the College.

## Structure of the College

The following departments, programs and research units comprise the College:

Department of Astronomy  
Department of Computer Science  
Department of Geology  
Department of Mathematics  
Department of Meteorology  
Department of Physics  
Applied Mathematics Program\*  
Chemical Physics Program  
Physical Sciences Program  
Institute for Advanced Computer Studies  
Institute for Physical Sciences and Technology  
Institute for Plasma Research (joint with College of Engineering)

\*See the separate listing for the Applied Mathematics Program in chapter 7.

## Degree Programs

The following Bachelor of Science degree programs are offered to

## Advising

The CMPS Undergraduate Office, 3400 A.V. Williams Building, 405-2677, centrally coordinates advising and the processing and updating of student records. Inquiries concerning University regulations, transfer credits, and other general information should be addressed to this office. Specific departmental information is best obtained directly from the departments.

## Graduation Requirements

1. A minimum of 120 semester hours with at least a C average is required of all Bachelor of Science degrees from the College.
2. Forty-three credit hours which satisfy the general education CORE program requirements of the University. In some instances, courses taken to satisfy these requirements may also be used to satisfy major requirements.
3. Major and supporting coursework as specified under each department or program.
4. The final 30 semester hours must be completed at College Park. Occasionally, this requirement may be waived by the dean for up to 6 of these 30 credits to be taken at another institution. Such a waiver is granted only if the student already has 30 credits in residence.
5. Students must be enrolled in the program in which they plan to graduate by the time they register for the last 15 hours.

## Financial Assistance

**The Jeffrey and Lily Chen Scholarship Award:** Scholarship and fellowship support will be available for eligible undergraduates and graduate students enrolled in the field of earth or space sciences or physics on the basis of academic standing and other areas related to academic excellence. Preference will be given to those candidates who are children of employees of the General Sciences Corporation; children of employees of the NASA Goddard Space Flight Center; children of employees of the National Weather Service of the National Oceanic and Atmospheric Association (NOAA); or graduate students from Taiwan, Republic of China. Recipients may retain the award for four years, or through the completion of his/her degree, whichever comes first.

Interested undergraduates should direct inquiries about the scholarship award or its requirements to Dr. Thelma Williams, Associate Dean for Undergraduate Studies, 3400 A.V. Williams, 405-2326.

## Research and Service Units

### Institute for Physical Science and Technology

4203 Computer and Space Sciences Building, 405-4875  
Professor and Director: James A. Yorke

The faculty members of the Institute for Physical Science and Technology are engaged in the study of pure and applied science problems that are at the boundaries between those areas served by the academic departments. These interdisciplinary problems afford challenging opportunities for thesis research and classroom instruction. Courses and thesis research guidance by Institute faculty are provided either through the graduate program in chemical physics, the applied mathematics program, or under the auspices of other departments.

## COLLEGE OF EDUCATION (EDUC)

Benjamin Building  
Office of Student Services: 405-2344  
E-mail: educ-und@umail.umd.edu  
<http://www.inform.umd.edu/EdRes/Colleges/EDUC>

Professor and Dean: Willis D. Hawley

The College of Education is a professional college committed to advancing the science and art of teaching/learning, including the practices and processes which occur from infancy through adulthood in both school and non-school settings. The College's mission is to provide preparation for current and future teachers, counselors, administrators, educational specialists, and other related educational personnel, and to create and disseminate the knowledge needed by professionals and policy makers in education and related fields.

The College is organized into six departments, three of which offer undergraduate majors in teacher education: the Department of Curriculum and Instruction, which offers elementary and secondary education programs; the Department of Human Development and Institute for Child Study, which offers an early childhood program; and the Department of Special Education. Enrollment in the professional teacher education programs in the three departments is limited to those who meet the admission requirements specified below.

Only students who have been admitted to the teacher education programs are permitted to enroll in the professional education course sequences. Students with other majors who have an interest in the area of education may wish to enroll in a variety of other courses offered by the College that deal with schooling, human development, teaching/learning styles, and interaction processes.

In carrying out its mission, the College is committed to a society which is open to and supportive of the educational aspirations of the widest population of learners, and to continuous research and evaluation in relation to teaching and learning in a multicultural, high-tech world. At times, students may be invited to participate actively with graduate students and faculty members in research undertakings and evaluation processes. Students make use of the micro-teaching laboratory, the education technology and computer laboratory, the curriculum laboratory, and professional development in school settings.

In addition to the CORE or USP program requirements, education majors have the opportunity to complete 45 to 55 credit hours of work in the arts, sciences and/or humanities. In the teacher education courses, students develop professional skills through active experiences in the college classroom and participate in exploring, learning and practicing with children and teachers in classrooms in the community.

## Admission to Teacher Education Professional Course Work

**Changes in the College of Education admission requirements are under review. Students should check with an adviser (Room 1210, Benjamin Bldg.) for updated information.**

Applicants to the University of Maryland who have declared an interest in education are admitted to a department in the College as intended majors. All intended majors must apply for admission, and be admitted, in order to enroll in coursework in the professional teacher education degree program.

For admission into a teacher education major, a student must (1) complete the English and math lower-level fundamental studies (six credits); (2) earn 45 semester hours with an overall cumulative grade point average of at least 2.5 on a 4.0 scale (granted by the University of Maryland, College Park or some other institution) in all coursework prior to enrollment in EDHD 300 (or EDHD 419 A/B for Early Childhood); (3) submit a personal goal statement that indicates an appropriate commitment to professional education; (4) have prior experiences in the education field; (5) submit three letters of recommendation/reference; and (6) have a satisfactory score on the spelling, language, and mathematics segments of the California Achievement Test Level 20. Admission application forms are available in Room 1210 of the Benjamin Building. Students with documented disabilities may contact Disability Support Services (314-7682; TTY, 314-7683) to make special arrangements for taking the examination. Only those who are admitted are able to enroll in the professional education sequence. An overall grade point average of 2.5 must be maintained after admission to Teacher Education to continue in the professional education programs.

A student who initially fails to meet the admission criteria may apply to the College whenever the criteria for admission are met, with the stipulation, however, that a student may take the CAT test a maximum of three times. A plan for becoming eligible for admission may be developed by the student and the department adviser. A Teacher Education Appeals Board reviews appeals from students who do not meet the admission, advancement or retention criteria. Consult the Student Services Office for policies and procedures regarding appeals.

Criteria for admission to the Teacher Education program apply to any teacher preparation program offered by the University of Maryland. Thus, students desiring a major in health or physical education should apply to the College of Education for admission to the professional program in Teacher Education. Students who are not enrolled in the College of Education but who, through an established cooperative program with another college, are preparing to teach must meet all admission, scholastic

and curricular requirements of the College of Education. The professional education courses are restricted to degree-seeking majors who have met College of Education requirements for admission.

## Student Teaching

Prior to receiving a student teaching placement, prospective student teachers must have been admitted to Teacher Education and have completed all requisites. In programs requiring more than one student teaching placement, the first placement must be satisfactorily completed before the student begins the succeeding placement. Prior to assignment, all students in teacher preparation programs must: (1) have maintained an overall grade point average of at least 2.5 with a minimum grade of C in every course required for the major; (2) have satisfactorily completed all other required course work in their program; (3) apply for student teaching to the Office of Laboratory Experiences one semester in advance; (4) be recommended by their department; (5) have on file favorable ratings from prior supervised experiences in school settings including evaluations of the EDHD 300 (or EDHD 419A/B for Early Childhood) field experiences; and (6) have submitted a criminal history disclosure statement. In addition, state law gives the local school to which the student teacher is assigned the discretion to require a criminal background check prior to placement. Early Childhood Education students must have a certificate indicating freedom from tuberculosis and proof of immunization for measles (rubella). This certificate may be obtained from a private physician, a health department, or the University Health Center.

The student teaching experience is for most students the final experience in a professional program preparing them for the beginning teaching years. This culminating phase of the teacher education program provides the prospective teacher with the opportunity to integrate theory and practice in a comprehensive, reality-based experience. Student teaching placements, as well as all other field experiences, are arranged by the Office of Laboratory Experiences. Student teaching requires a special fee. Please refer to the Schedule of Classes under Financial Information: Fees.

Most student teaching placements and accompanying seminars are arranged in the Teacher Education Centers and other collaborative field sites jointly administered by the College of Education and participating school systems. The student teaching semester is a full-time commitment. Interference with this commitment because of employment or course work is strongly discouraged. The Office of Laboratory Experiences makes student teaching assignments with consideration given to location, programmatic priorities, diversity, and availability of sites. Students should be prepared to travel to whichever school has been assigned. Living arrangements, including transportation for the student teaching assignments, are the responsibility of the student. Students should contact the Office of Laboratory Experiences if there are any questions regarding this policy.

## College of Education Repeat Policy

All registrations in student teaching, regardless of whether a student withdraws or takes a leave of absence, will be counted as an attempt under the campus repeat policy. Only two registrations will be allowed. After two registrations, further attempts at student teaching must be approved by the department and the school-system professionals involved in the teacher candidate's student teaching experience. This policy applies only to students in the College of Education during student teaching.

## Graduation Requirements

The College of Education confers the degrees of Bachelor of Arts and Bachelor of Science depending on the amount of liberal arts study included in a particular degree program. Minimum requirements for graduation are 120 semester hours. Specific departmental program requirements for more than the minimum must be fulfilled.

In addition to the University general education requirements (CORE) and the specific requirements for each curriculum, the College requires that all majors complete EDHD 300 (or EDHD 419 A/B for Early Childhood), EDPA 301, and three semester hours of an approved speech course. A grade of C or better is required in all pre-professional and professional coursework required for the major. An overall grade point average of 2.5 must be maintained after admission to Teacher Education. A grade of S is required in student teaching.

Exceptions to curricular requirements and rules of the College of Education must be recommended by the student's adviser and department chairperson and approved by the Dean.

## Accreditation and Certification

All bachelor's-degree teacher preparation programs are accredited by the National Council for Accreditation of Teacher Education and have been approved by the Office of Certification and Accreditation of the Maryland State Department of Education using standards of the National Association of State Directors of Teacher Education and Certification. Accreditation provides for reciprocal certification with other states that recognize national accreditation.

The Maryland State Department of Education issues certificates to teach in the public schools of the state. In addition to graduation from an approved program, the Maryland State Department of Education requires satisfactory scores on the National Teacher Exam (NTE) for certification. At the time of graduation, the College informs the Maryland State Department of Education of the graduate's eligibility for certification.

## Special Resources and Opportunities

The College of Education offers many special resources and facilities to students, faculty, and the community:

Center for Children, Relationships and Culture

Center of Human Services Development  
Center for the Study of Troubling Behavior  
Center for Urban Special Education  
Center for Young Children  
Institute for the Study of Exceptional Children and Youth  
Mathematics and Science Teaching Centers  
Music Educators National Conference Historical Center  
Reading Center

### The Student Services Office

1210 Benjamin Building, 405-2344

The Student Services Office provides academic advising for education students regarding admission, orientation, registration, graduation, and certification. At other times, students who have been admitted to the College of Education receive academic advising through their departments.

### The Office of Laboratory Experiences

1207 Benjamin Building, 405-5604

The Office of Laboratory Experiences (OLE) is the liaison unit between the College and the public school systems that serve as laboratories for the preparation of teachers. While the primary role of the OLE is to provide teacher education students with sites for internships, student teaching, and pre-student teaching classroom experience, the office also operates inservice programs for teachers and facilitates research and professional development activities in the schools. OLE Placement Coordinators provide scheduled orientations for student teachers and are available to answer questions about field placements.

### The Laboratory of Child Development

4315 Benjamin Building, 405-2816

The Laboratory of Child Development is involved in a range of research activities investigating the social, emotional, and cognitive growth of infants and young children. Laboratory space includes two testing/assessment rooms, a large playroom with one-way mirror capability, and local area network computer facilities. Graduate and undergraduate students who are interested in child development research

in teaching, administrative, or research positions in education may also file credentials. (This service is also available to alumni.)

Other services available through TERP (The Employment Registration Program) Online include job listings in public and private schools and institutions of higher learning, on-campus interviews with state and out-of-state school systems, and resume referral to employers interested in hiring education majors. Information and applications from school systems throughout the country, Praxis Series registration bulletins, job search publications, and various employment directories are available in the Career Center.

### **Curriculum Laboratory**

0220 Benjamin Building, 405-3173

The Curriculum Laboratory provides reference assistance and offers both general and subject-specific classroom orientations. Resources include curriculum guides, reference books, K-12 textbooks, exemplary instructional materials, standardized test specimens, and material placed on faculty reserve.

### **Center for Learning and Educational Technology**

0307 Benjamin Building, 405-3611

The Center for Learning and Educational Technology provides a broad range of media services including: 1) distribution and loan of all types of equipment and materials, including operation of a closed-circuit video system throughout the Benjamin Building; 2) development and production of instructional materials; 3) specialized facilities (computer lab, video classroom, television studio, self-service production area, video viewing stations); 4) instruction in media production and utilization techniques; and 5) consultation on ways to develop and use technology effectively.

### **Center for Mathematics Education**

2226 Benjamin Building, 405-3115

The Center for Mathematics Education provides a mathematics laboratory for undergraduate and graduate students. Occasionally there are tutoring services for children and adolescents. These services are offered in conjunction with specific graduate and undergraduate courses in elementary and secondary school mathematics. Center faculty are engaged in research in mathematics education, serve as consultants to school systems and instructional publishers, and provide in-service teacher education in addition to graduate degree programs.

### **Center for Young Children (CYC)**

Center for Young Children Building, 405-3168

The Center for Young Children is part of the Institute for Child Study/Department of Human Development in the College of Education. It offers a creative learning experience for children three, four, and five years old whose parents are affiliated with the University. The Center engages in child study, curriculum development, and teacher training. Its research and observation facilities are available to parents, faculty, and other persons concerned with the care and education of young children.

### **Science Teaching Center**

2226 Benjamin Building, 405-3161

The Science Teaching Center offers undergraduate and graduate programs in Science Education. The Center conducts research in Science Education and provides service activities within the local, state, and national Science Education community.

## **Student and Professional Organizations**

The College sponsors chapters of Phi Delta Kappa; the Teacher Education Association of Maryland Students (TEAMS), a state/national education association; the Student Assembly, a student governance organization; and Kappa Delta Pi, an honor society in education. The Mary McLeod Bethune Society is a pre-professional organization concerned with minority issues and education. A Chapter of the Council for Exceptional Children is open to undergraduate and graduate students in Special Education and the Department of Music sponsors a student chapter of the Music Educators National Conference (MENC).

The Plan of Organization for the College of Education calls for undergraduate student representation on both the College of Education Assembly and College Senate. These organizations assume a critical role in policy development for the College of Education. The Assembly meets at least once a year during the fall semester for its annual meeting. Senate meetings typically occur once a month during the fall and spring semesters. Six full-time undergraduate students are elected at-large as voting members of the Assembly. At least one representative from each of the departments with undergraduates serves on the Assembly. Of the six Assembly members, one is elected to serve as a delegate to the College of Education Senate. Students interested in receiving further information about the College Assembly or Senate should contact the Office of Student Services, Room 1210 Benjamin.

In several departments there are informal organizations of students. Students should contact the individual departments or, in the case of College-wide groups, the dean's office, for additional information regarding these organizations.

## **A. JAMES CLARK SCHOOL OF ENGINEERING (ENGR)**

1131 Engineering Classroom Building, 405-3855  
<http://www.engr.umd.edu//maryland.htm>

Professor and Dean: William W. Destler  
Undergraduate Student Affairs: 405-3855  
Cooperative Engineering Education: 405-3863  
Center for Minorities in Science and Engineering: 405-3878

The mission of the Clark School of Engineering is to provide quality engineering education, with sufficient scope to include both fundamental and specialized engineering training, so that graduates are prepared to serve the current and emerging needs of society. Just as the boundary between the functions of engineers and applied scientists or mathematicians is becoming less distinct, the various branches of engineering increasingly interact as technical problems become more sophisticated and require interdisciplinary approaches to their solutions. In addition to its teaching role, the School feels a related responsibility to conduct strong research programs that contribute to the advancement of knowledge.

Engineers also occupy an intermediary position between scientists and the public because, in addition to understanding scientific principles, they are concerned with the timing, economics, and values that define the use and application of those principles. With this in mind the school fosters a close partnership with industry and government, and also reaches out to both the campus community and the community at large with its services.

### **Direct Admissions Requirements**

1. Freshman applicants who have designated a major offered within the School of Engineering will be admitted directly to that major in the School if they have a Math SAT of 570 and either a combined SAT of 1170 or a GPA of 3.0 (out of 4.0)\* in their academic subjects during the 9th, 10th, and 11th grades.

\*Minimum GPAs are subject to change each semester.

2. National Merit and National Achievement Finalists and Semifinalists, Maryland Distinguished Scholar Finalists, Chancellor, Presidential, or Banneker/Key Scholars, and students who have successfully completed a Summer Program which guarantees admission to engineering are admitted directly to the School.

### **Conditional Admissions Requirements**

1. Freshman applicants who do not meet the direct admission requirements can be admitted to the School of Engineering as conditional engineering majors. These students will be subject to two reviews. The first review will be conducted after the student has attempted MATH 115 and at least 12 credits. A student must complete MATH 115 with a grade of B or higher and have a minimum overall GPA of 2.5 for automatic removal of the conditional status at the first review. Students who do not successfully complete the first review will be advised whether they can remain in the School, or to select another course of study.

- The second review will be conducted for those students who failed the first review but were allowed to continue in the school. This review will be conducted after the student has successfully completed PHYS 161\* and at least 24 credits. In order to successfully complete the second review, the student must have an overall GPA of 2.2 and have completed ENES 100 and PHYS 161\* with a grade of C or higher in each. The students who pass the second review will automatically have the conditional status removed. Students who do not successfully complete the second review will receive advice concerning available options which could range from removal of the conditional status to selecting a non-engineering major.

### 45-Credit Review

All students who are admitted to the University as freshmen and become engineering students (direct or conditional) will be subject to a review when they complete 45 credits. The purpose of this review is to determine whether the student should remain in the School, or should be advised to select another, presumably more suitable course of study. In order to successfully complete the review, students must have an overall GPA of 2.0 and have completed MATH 141, ENES 100, PHYS 161\*, and CHEM 113\*\* with a grade of C or better.

## Transfer Admission

### Direct Admissions Requirements

Students who matriculated at any college or university must meet the following competitive requirements:

- cumulative GPA (to be set each year based on enrollment demands, currently 3.0)
- completion of CHEM 113 \*\*, MATH 141, and PHYS 161\* with a grade of C or higher in each.

### Special Notes

- Students with a previous B.A. or B.S. degree will be admitted to the School of Engineering with a minimum GPA of 3.0 and completion of the five prerequisites (MATH 140, MATH 141, CHEM 103, CHEM 113\*\*, and PHYS 161\*) with a grade of C or higher in each.
- UMBC and UMES students will be admitted to the School of Engineering with the official verification of their enrollment in engineering programs at their respective universities.
- Maryland community college and Northern Virginia Community College students who meet the freshman admission requirements but choose to attend a community college have the following options:
  - Remain at the community college in an articulated engineering program and complete at least 56 credits, after which the student will be admitted to the School on application provided he/she has at least a 2.0 GPA at the community college. The student must supply the high school transcript and SAT scores. In the event that the community college does not offer a 56-credit articulated engineering program, the student may transfer earlier.
  - Transfer to the School upon completing the four required courses (MATH 140, MATH 141, CHEM 133 or 113, and PHYS 161\* with a grade of C or better) and meeting the competitive GPA for the semester of intended enrollment on the College Park campus.

### Conditional Admissions Requirements

- Transfer applicants who do not meet the direct admission requirements may be admitted to the School of Engineering as conditional engineering majors. These students will be subject to two reviews. The first review will be conducted after the student has attempted MATH 115 and at least 12 credits. In order to successfully complete the review and have the conditional status automatically removed, a student must have an overall grade point average of 2.5, grades of C or better in all engineering courses completed, and have, when appropriate, completed MATH 141, PHYS 161\*, and CHEM 133 or 113 with a grade of C or better. Students who do not successfully complete the first review will be

advised whether they can remain in the School, or to select another course of study.

- The second review will be conducted for those students who failed the first review but were allowed to continue in the School. Again, a student must have an overall GPA of 2.2, have completed engineering courses with a grade of C or better, and have, when appropriate, completed MATH 141, PHYS 161\*, and CHEM 133 or 113 with a grade of C or better. Students who do not successfully complete the review will receive advice concerning available options which could range from removal of the conditional status to selecting a non-engineering major.

\* Biological Resources program requires PHYS 141 with a grade of C or higher.

### Appeal

Students denied direct admission to the School who feel that they have extenuating circumstances may file a written appeal in the Office of Undergraduate Admissions, Mitchell Building. Appeals will be reviewed by the School of Engineering.

## Graduation Requirements

Structure of Engineering Curricula: Courses in the normal curriculum or program and prescribed credit hours leading to the degree of Bachelor of Science (with curriculum designation) are outlined in the sections describing each department in the Clark School of Engineering. No student may modify the prescribed number of hours without special permission from the Dean of the School. The courses in each curriculum may be classified in the following categories:

- Courses in the CORE Liberal Arts and Science Studies Program.
- Courses in the physical sciences, mathematics, chemistry, physics.
- Related technical courses, engineering sciences and other courses approved for one curriculum but offered by another department.
- Courses in the major department. A student should obtain written approval for any substitution of courses from the department chair and the Dean of the School. The courses in each engineering curriculum, as classified below, form a sequential and developmental pattern in subject matter. In this respect, curricula in engineering may differ from curricula in other colleges. Some regulations which are generally applicable to all students may need clarification for purposes of orderly administration among engineering students (see the Academic Regulations in chapter 4). Moreover, the Clark School of Engineering establishes policies which supplement University regulations.

### School Regulations

- The responsibility for proper registration and for satisfying stated prerequisites for any course must rest with the student as does the responsibility for proper achievement in courses in which the student is enrolled. Each student should be familiar with the provisions of this catalog, including the Academic Regulations.
- Required courses in mathematics, physics, and chemistry have highest priority; and it is strongly recommended that every engineering student register for mathematics and chemistry or mathematics and physics each semester until the student has fully satisfied requirements of the Clark School of Engineering in these subjects.
- To be eligible for a bachelor's degree in the Clark School of Engineering, a student must have an overall average of at least a C (2.0) and a grade of C or better in all engineering courses (courses with an EN prefix). Responsibility for knowing and meeting all graduation requirements in any curriculum rests with the student.
- All students are required to complete a number of general education courses and must follow the University's requirements regarding completion of the general education (CORE) Program. Consult the Academic Regulations section of this catalog for additional information. Engineering students who began college-level work (either at the University of Maryland or at other institutions) during the Fall 1989 semester or later are required to complete a junior-level English course regardless of their performance in freshman English classes. This represents a School policy, not a University-wide policy. Students beginning college-level work in the Fall 1989 semester must also plan their general education (CORE) courses to reflect depth as well as breadth. They should plan to take at least two courses (preferably a lower-level and upper-level course) which

follow a theme area or provide more than simply introductory level study in one general studies department of their choice.

5. All degree programs in the Clark School of Engineering require a minimum of 120 credits plus satisfaction of all department, School, and University general education (CORE) program requirements. Students should be aware that for all currently existing engineering programs the total number of credits necessary for the degree will exceed 120 by some number that will depend on the specific major and the student's background.

Curricula for the various engineering departments are given in this catalog to illustrate how the programs can be completed in four years. These curricula are rigorous and relatively difficult for the average student. Surveys have shown that only about one-third to one-half of the students actually receive an engineering degree in four years. The majority of students (whether at Maryland or at other engineering schools nationwide) complete the engineering program in four and one-half to five years. It is quite feasible for a student to stretch out any curriculum; this may be necessary or desirable for a variety of reasons. However, students should seek competent advising in order to ensure that courses are taken in the proper sequence.

All students are urged to speak to a counselor in the Clark School of Engineering Student Affairs Office at least two semesters before graduation to review their academic progress and discuss final graduation requirements.

## Advising

Advising is available by appointment Monday through Friday, from 8:30 a.m. to 4:30 p.m. Appointments for other hours may be made through special request. The Clark School of Engineering Student Affairs Office, is located in Room 1124 Engineering Classroom Building, 405-3855. In addition, advising is available with the individual departments. See advising section in the specific engineering department entry for times and location.

## Departments and Degrees

The Clark School of Engineering offers the degree of Bachelor of Science in the following fields of study: Aerospace Engineering, Biological Resources Engineering (see also College of Agriculture and Natural Resources), Chemical Engineering, Civil Engineering, Electrical Engineering, Fire Protection Engineering, Materials Engineering, Mechanical Engineering, Nuclear Engineering, Undesignated Engineering (Engineering Option and Applied Science Option). Except for the Applied Science Option of the Undesignated Engineering degree, all of the above programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

## The Freshman-Sophomore Years

The freshman and sophomore years in engineering are designed to lay a strong foundation in mathematics, physical sciences, and the engineering sciences upon which the student will later develop a professional program during the upper division (junior and senior) years. The School course requirements for the freshman and sophomore years are mostly the same for all students, regardless of their intended academic program, thus affording the student maximum flexibility in choosing a specific engineering specialization.

## Engineering Sciences

Engineering Science courses represent a common core of basic material offered to students of several different departments. All freshman and sophomore students of engineering are required to take ENES 100. Other ENES courses, 102, 220, 221, and 230, are specified by the different departments or taken by the student as electives. The responsibility for teaching the engineering science courses is divided among the Chemical, Civil, Electrical, and Mechanical Engineering departments. In addition to the core courses noted above, several courses of general interest to engineering or non-engineering students have been given ENES designations. See the List of Approved Courses in chapter 8 for further descriptions of these courses.

## Freshman Curriculum

See individual department requirements in chapter 7. Entering freshman math placements are determined by performance on math placement exams. Placement in MATH 002 or MATH 115 will delay by a semester eligibility to take certain engineering courses.

## Sophomore Year

During the sophomore year the student selects a sponsoring academic department (Aerospace, Biological Resources, Chemical, Civil, Electrical, Fire Protection, Mechanical, or Materials and Nuclear Engineering) and this department assumes the responsibility for the student's academic guidance, counseling, and program planning from that point until the completion of the degree requirements of that department as well as the School. For the specific requirements, see the curriculum listing in each engineering department.

## Dual Degree Program

The Dual Degree Program is a cooperative arrangement between the Clark School of Engineering and selected liberal arts colleges which allows students to earn undergraduate degrees from both institutions in a five-year program. A student in the Dual Degree Program will attend the liberal arts college for approximately three academic years (minimum 90 semester hours) and the Clark School of Engineering at the University of Maryland for approximately two academic years (minimum hours required determined individually approximately 60 semester hours).

Dual degree candidates may participate in any of the baccalaureate programs in the Clark School of Engineering.

At the present time the participating institutions in Maryland and the District of Columbia are American University, Bowie State University, Columbia Union College, Coppin State College, Frostburg State University, Morgan State University, College of Notre Dame of Maryland, St. Mary's College of Maryland, Salisbury State University, Towson State University, Western Maryland College, Trinity College, and Washington College. Also participating in the program are Kentucky State University, King College in Tennessee, Shippensburg State University in Pennsylvania, and Xavier University in Louisiana.

## Engineering Abroad

The Clark School of Engineering offers a series of programs open to engineering students which include different opportunities to travel and live overseas while either studying or working in an engineering related field.

## Japan Technological Affairs Program

Students study Japanese along with their engineering course work. After students have completed the intermediate courses in Japanese, they are eligible to apply for a summer internship in Japan. The internships are obtained through the International Association for the Exchange of Students for Technical Experience (IAESTE). This is a single degree program, but students will complete 24-36 credits in Japanese by the time they receive their engineering degrees. It is recommended that students take the introductory courses in Japanese during the summer so that their regular fall and spring schedules are not hampered by the two six-credit courses.

## Study Abroad in Mexico or Canada

Students with Spanish or French language skills may wish to study abroad in Mexico and Canada. This is not an internship experience, but it is still a valuable opportunity to gain experience in another country. Students studying in Mexico must be fluent in Spanish (past intermediate course work). Students studying in Montreal have a choice between two institutions, one which requires fluency in French (past intermediate course work), and a second which offers course work in French or English.

## Engineering/German Dual Degree

This is a program in which students earn two degrees, one in German and one in Engineering, by fulfilling requirements in both programs. In students' senior year, program participants go to Germany in the spring for a two-month intensive German-language program in Germany. Students then work for 4-6 months either at a university in Berlin or in industry at Mannheim.

## American/European Engineering Exchange

This is a new program which allows students to study engineering abroad in France, Austria or Germany. Students must be fluent (past intermediate level) in the language of the host country. Students may study abroad for one semester or two semesters, or may study abroad for one semester followed by an internship for one semester.

## Study Abroad in Denmark

This is a new program which allows students to study engineering abroad in Copenhagen with Denmark's International Study Program. Students may study abroad for one semester or two semesters. Course work is currently available in environmental or civil engineering, mechanical engineering, and the liberal arts. Eventually, course work will be available in other engineering majors. Scholarships are available to qualified students.

## Internships Abroad

Students may apply for internships abroad through the International Association for the Exchange of Students for Technical Experience (IAESTE). Some foreign-language skills may be required. Applications are available in the Student Affairs Office. The deadline for applying is December 10 each year. This is a reciprocal program which means that students from abroad also come to the U.S. These are paid internships and may be contingent on a student finding a work opportunity for an international student in the U.S.

For further information on study/work abroad programs, students should contact the Engineering Student Affairs Office at 405-3855.

## Engineering Transfer Programs

Most of the community colleges in Maryland provide one- or two-year programs which have been coordinated to prepare students to enter the sophomore or junior year in engineering at the University of Maryland. These curricula are identified as Engineering Transfer Programs in the catalogs of the sponsoring institutions. The various associate degree programs in technology do not provide the preparation and transferability into the professional degree curricula as the designated transfer programs. A maximum of one-half of the degree credits (60 to 65 semester hours) may be transferred from a two-year community college program.

There may be six to eight semester hours of major departmental courses at the sophomore level which are not offered by the schools participating in the engineering transfer program. Students should investigate the feasibility of completing these courses in summer school at the University of Maryland before starting their junior coursework in the fall semester.

## Financial Assistance

The Clark School of Engineering awards some merit-based scholarships. These awards are designated primarily for juniors and seniors in the School. Students must submit an application and all supporting documents by March 15 in order to be considered for scholarship assistance for the following academic year. For additional information, contact the Student Affairs Office, 1124 Engineering Classroom Building, 405-3855.

## Honors

The Clark School of Engineering offers an Engineering Honors Program that provides eligible students the opportunity to pursue an enriched program of studies which will broaden their perspectives and increase the depth of their knowledge. This program is available to students who meet the following criteria:

1. 3.5 overall GPA
2. 3.5 engineering GPA
3. Junior standing or 65 applicable credits.

In completing the program, all engineering Honors students must:

1. Submit an Honors research project necessitating a paper and oral presentation worth three hours of credit.
2. Successfully complete two semesters of the Engineering Honors Seminar (ENES 388, 1 credit each).
3. Maintain a 3.3 GPA.

For additional information, contact the Student Affairs Office, 1124 Engineering Classroom Building, 405-3855.

## Research and Service Units

### The Center for Minorities in Science and Engineering

1134 Engineering Classroom Building, 405-3878  
Director: Rosemary L. Parker

The Center is dedicated to increasing the enrollment and graduation rates of African-American, Hispanic, and Native American students majoring in engineering. The Center provides a complete package of services designed to assist students from pre-college through completion of the undergraduate degree. Services include academic advising, tutorial assistance, scholarship information, the BRIDGE Program, outreach programs, job information and support of student organizations.

### Cooperative and Career Services Education

1137 Engineering Classroom Building, 405-3863  
Director: Heidi Winick Sauber

Whether it's to wire robots in a car plant, monitor a waste water management project, or reformulate cough syrup for a pharmaceutical company, the Engineering Co-op & Career Services Office assists students in finding cooperative education, internship, summer, and part-time engineering positions. Cooperative education students alternate semesters of full-time work and full-time study for a total of 50 weeks of work. Co-op students earn a Bachelor of Science degree with co-op distinction and complete the same academic requirements as all other students.

The summer employment and part-time internship programs enable students to work full-time during the summer or part-time during the school year. Both programs provide students with professional experience, integrate theory and practice, and confirm career choices while helping to finance their education. At the same time, employers gain access to an energetic new work force, reduce retirement costs, train future employees, and increase their presence on campus.

Students may participate in the co-op and summer programs after completing their sophomore engineering requirements. All students are eligible for part-time engineering positions. To apply, students attend an orientation session and complete a registration disk that includes a resume. The disk also allows students access to 24-hour, on-line job postings. Workshops on completing the disk and interviewing skills are offered weekly and a monthly newsletter highlights student work experiences and office programs. In addition, students and employers have the opportunity to participate in a campus-wide career fair at the beginning of the school year and in on-campus job interviews throughout the year.

### Women in Engineering Program

1131 Engineering Classroom Building, 405-3931  
Director: Cheryl Morris

The Women in Engineering Program (WIE Program) is dedicated to increasing the enrollment, retention, and graduation rates of females in the Engineering School, as well as identifying and addressing this group's unique needs. The Program provides a comprehensive set of initiatives designed to encourage and assist women students to become successful professional engineers.

Services offered include research and teaching fellowships, professional mentoring program, workshops on classroom climate issues and careers, Women Student Advisory Board, speakers, conference funding, collaboration with community colleges, newsletter and support of women in engineering organizations.

### Instructional Television System

2104 Engineering Classroom Building, 405-4910  
Director: Arnold E. Seigel

The University of Maryland's Instructional Television System (ITV) is headquartered in the Clark School of Engineering. Each semester, more than 60 regularly scheduled graduate and undergraduate classes are held in ITV's studio classrooms and broadcast "live" to government agencies and businesses in the greater Washington and Baltimore area. Students in the remote classrooms watch the broadcasts on large TV monitors. They are able to talk to the instructors and other students using a phone-line "talk back" system. In addition to academic courses, professional development courses on extremely current topics are offered via satellite to engineers and managers throughout the United States. Through the ITV

system, working adult students are able to progress toward graduate degrees, primarily in engineering and computer science, without leaving their places of work.

## Undergraduate Research Programs

Undergraduate research programs allow qualified undergraduate students to work with research laboratory directors in departments, thus giving students a chance for a unique experience in research and engineering design. Projects in engineering allow undergraduate students to do independent study under the guidance of faculty members in an area of mutual interest. For more information contact your designated engineering department.

## Undergraduate Research Participation Award

The Institute for Systems Research (ISR) has available Undergraduate Research Participation Awards for full-time engineering students who have a minimum grade point average of 3.0. The total award stipend is \$4,000 for a one-year period. Interdisciplinary research is conducted in: chemical process control; systems integration; manufacturing systems; communication systems; signal processing; and intelligent servomechanisms. Applications and supporting documents must reach the ISR by April 1 for the following summer/fall semesters and by November 1 for the following spring semester.

## Information Technologies

1131 Engineering Classroom Building, 405-3872  
Director: Jayanta (Joy) K. Sircar

Recognizing that state-of-the-art technological developments in computing provide a significant contribution to the advancement of engineering learning and research, the Clark School of Engineering provides a state-of-the-art networked computing environment that will be the standard for engineers in the years ahead. Facilities include: open-access student workstation laboratories, computer classrooms, and a laboratory for multimedia and presentation graphics. Further, the Clark School of Engineering network provides access not only to other University of Maryland facilities but all computing facilities in the nation connected by Internet.

## Institute for Systems Research

A. V. Williams Building, 405-6613

The Institute for Systems Research (ISR) has available Systems Undergraduate Research Fellowships (SURF) for full-time students within an ISR participating department who have a minimum grade point average of 3.0. Participating departments include Aerospace Engineering, Business and Management, Chemical Engineering, Civil Engineering, Computer Science, Electrical Engineering, Materials and Nuclear Engineering, Mathematics, Mechanical Engineering, Physics and Zoology. Systems Undergraduate Research Fellowships give undergraduate students the opportunity to participate in state-of-the-art research in systems engineering while encouraging them to strive for engineering excellence. The three research thrust areas are Intelligent Signal Processing and Communication Systems, Intelligent Control and Systems Integration Methodology. The total SURF is a \$4,000 stipend for one fiscal year or \$1,000 for each fall or spring semester and \$2,000 for the summer. Applications and supporting documents must reach the ISR by April 1 for the summer/fall semesters and November 1 for the spring semester.

## Student Organizations

### Professional Societies

Each of the engineering departments sponsors a student Chapter or student section of a national engineering society. The student chapters sponsor a variety of activities including technical meetings, social gatherings, and School or University service projects. Students who have selected a major are urged to affiliate with the chapter in their department. These organizations are American Helicopter Society, American Institute of Aeronautics and Astronautics, American Institute of Chemical Engineers, American Nuclear Society, American Society of Agricultural Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, Black Engineers Society, Institute of Electrical and Electronics Engineers, Society of Asian Engineers, Society of Automotive Engineers,

Society of Fire Protection Engineers, Society of Hispanic Engineers, and Society of Women Engineers.

### Honor Societies

The Clark School of Engineering and each of the engineering departments sponsor honors societies. Nominations or invitations for membership are usually extended to junior and senior students based on scholarship, service and/or other selective criteria. Some of the honors organizations are branches of national societies; others are local groups: Tau Beta Pi (College Honorary); Alpha Epsilon (Agricultural Engineering); Alpha Nu Sigma (Nuclear Engineering); Chi Epsilon (Civil Engineering); Eta Kappa Nu (Electrical Engineering); Omega Chi Epsilon (Chemical Engineering); Pi Tau Sigma (Mechanical Engineering); Salamander (Fire Protection Engineering); and Sigma Gamma Tau (Aerospace Engineering).

## COLLEGE OF HEALTH AND HUMAN PERFORMANCE (HLHP)

3310 HLHP Building, 405-2438; Records, 405-2442

<http://www.inform.umd.edu/EdRes/Colleges/HLHP/.webb/collhlhp.htm>

Professor and Dean: John J. Burt  
Associate Dean for Academic Affairs: Jerry Wrenn

The College of Health and Human Performance provides preparation leading to the Bachelor of Science degree in the following professional areas: Physical Education (K-12), Health Education (school and community), and Family Studies. The College also offers curricula in Kinesiological Sciences and Safety Education. In addition, each department offers a wide variety of courses for all University students. These courses may be used to fulfill the general education requirements and as electives.

Programs combining research, service and instruction are provided by the Children's Health and Developmental Clinic, the Adults' Health and Developmental Program, and the Sports Medicine and Physical Fitness Center. More detailed information regarding these program offerings is available through the individual departments.

## Advising

At the time of matriculation and first registration, each student is assigned to a member of the College faculty who acts as the student's academic adviser. These assignments are made by the individual departments and depend upon the student's chosen major. Students who are enrolled in the College, but are undecided regarding their major, should contact the Associate Dean, 3310H HLHP Building, 405-2442.

## Departments and Degrees

The College of Health and Human Performance offers the baccalaureate in the following fields of study: Physical Education, Kinesiological Sciences, Health Education, and Family Studies. The degree of Bachelor of Science is conferred upon students who have met the conditions of their curricula as herein prescribed by the College of Health and Human Performance.

Each candidate for a degree must file a formal application with the Records Office according to the scheduled deadlines for the anticipated semester of graduation.

## Honors

**Phi Alpha Epsilon.** Honorary Society of the College of Health and Human Performance. The purpose of this organization is to recognize academic achievement and to promote professional growth by sponsoring activities in the fields of physical education, kinesiology, family studies and health, and related areas.

Students shall qualify for membership at such times as they shall have attained junior standing in physical education, kinesiology, family studies, or health, and have a minimum overall average of 3.5 and a minimum of 24 credits at the University of Maryland, College Park. Graduate students are invited to join after 20 hours of work with a 3.9 average. For additional information, please contact the Student Service Center, 405-2357.

### Special Resources and Opportunities

**Gymkana Troupe.** The Gymkana troupe is a group of highly disciplined young men and women who place a high priority on education and who engage in gymnastics for purposes of recreation, health, and personal development. Each member has pledged himself or herself to a drug-free lifestyle in hopes of acting as a role model so others might be motivated to do the same. Gymkana travels throughout the United States during February and March, performing once a week, and ending the season with its annual gymnastic performance at the University. Membership is open to all students regardless of their gymnastic ability. Gymkana is co-sponsored by the College of Health and Human Performance and the Student Government Association. For additional information, please contact Dr. Joe Murray, 405-2566.

### Research and Service Units

#### Center on Aging

2367 HLHP Building, 405-2469

Director and Professor: Dr. Laura B. Wilson

Associate Professor: Dr. Mark R. Meiners

The Center on Aging stimulates and supports aging-related activities within existing departments, colleges, and schools throughout all of the various institutions of the University of Maryland. The Center coordinates the Graduate Gerontology Certificate (master's and doctoral levels), the University's first approved graduate certificate program. The Center assists undergraduate and graduate students interested in the field of gerontology and helps them to devise educational programs to meet their goals. It is a research center working in physiology, economics and policy. It also conducts community education programs, assists faculty in pursuing research activities in the field of aging, conducts conferences on adulthood and aging-related topics, and provides on- and off-campus technical assistance to practitioners who serve older adults.

For further information on any of the center's activities call, write or visit the Center on Aging.

Course Code: HLHP

### COLLEGE OF JOURNALISM (JOUR)

Journalism Building, 405-2399

<http://www.inform.umd.edu/JOUR>

Professor and Dean: Cleghorn

Assistant Deans: Callahan, Stewart

Professors: Beasley, Blumler (Emeritus), Carter, Gomery, Gurevitch, J. Grunig, Hiebert, Holman, Levy, Martin (Emeritus), Roberts, Robertson (Visiting)

Associate Professors: Barkin, Ferguson, Geraci (Emeritus), L. Grunig, McAdams, Newhagen, Paterson, Stepp, Zanot

Instructors: Fibich, Harvey, Rhodes

Howard Bray, Director of Knight Center for Specialized Journalism

William J. Eaton, Curator, Humphrey Journalism Fellows

Andrew J. Komsike, Director of Business Administration

Frank Quine, Director of Advancement

Olive Reid, Director of Undergraduate Programs

Kathy Trost, Director of Casey Journalism Center for Children and Families

Carroll Volchko, Director of Business Support Services

Located just nine miles from the nation's capital and 30 miles from the bustling commercial port of Baltimore, the College of Journalism at the University of Maryland is one of only six comprehensive journalism schools in the 10 states stretching from New York to Virginia—the nation's most populous region. But the College has a lot more than geography going for it. The National Assessment of Journalism Education by the Freedom Forum of Media Studies Center of Columbia University conducted recently designated the College one of "Eleven Exemplary Journalism schools" nationwide: those that surpass others in criteria including teaching, research, facilities and job placement.

Founded in 1947, the College has been accredited for close to three decades by the Accrediting Council on Education in Journalism and Mass Communication. Since it is within easy reach of the offices of Washington and Baltimore newspapers and the Washington bureaus of news

organizations such as The New York Times, the Associated Press and the major networks, it is an ideal place for the study of journalism and mass communication. Students have internship opportunities at a variety of media, nonprofit, government and international agencies. Select students can also participate in a public affairs reporting semester in the College's Annapolis or Washington, D.C., bureaus of Capital News Service. Talented adjunct faculty members are also tapped from these organizations to enhance curriculum offerings.

After successful completion of a series of basic writing and editing skills courses, majors are provided the following sequences in which to focus their remaining journalism curriculum: news-editorial, public relations, and broadcast news. Within the news-editorial sequence, emphases are provided in the areas of news and magazine.

### Admission to College of Journalism

See chapter 1 for general Limited-Enrollment Program admissions policies.

**Freshman Admission and the 45-Credit Review.** Most first-time entering freshmen will gain admission to the College of Journalism directly from high school, as allowed by space considerations within the College. Because space may be limited before all interested freshmen are admitted to the program, early application is encouraged. Freshmen admitted to the program will have access to the necessary advising through their initial semesters to help them determine if Journalism is an appropriate area for their interests and abilities.

Freshmen who are admitted directly to Journalism will be subject to a performance review by the time they have completed 45 credits. To meet the provisions of the review, these students must complete: (1) Fundamental Studies; (2) 60% of Distributive Studies; (3) ENGL 101 and JOUR 201 with grades of C; and (4) a minimum cumulative GPA of 2.0. Enrollment in JOUR 201 requires proof of grammar skills competency through attainment of a minimum score of 52 on the Test of Standard Written English (TSWE), 61 on the Test of Language Skills (TLS), or 12 on the ACT English usage subsection. Students who do not meet these requirements will not be allowed to continue in the LEP and will be required to select another major.

**Transfer Admission.** These requirements affect new transfer students to the University as well as on-campus students hoping to change majors to the College. Admission of transfer students may be severely limited, and capacity is determined each year in accordance with the success of incoming freshmen.

**Note: No more than 12 transfer credits of communications courses from an accredited journalism program may be approved by the College to be applied toward the degree. Transfer students who wish to receive credit for JOUR 201 based on work done in a non-accredited journalism program must pass a proficiency exam.**

In order to be admitted to Journalism, transfer students will be required to meet the following set of gateway requirements: (1) completion of Fundamental Studies; (2) completion of 60% of Distributive Studies; (3) completion of ENGL 101 and JOUR 201 with grades of C; and (4) attainment of a minimum cumulative GPA for all college-level work attempted. Enrollment in JOUR 201 requires proof of grammar skills competency through attainment of a minimum score of 52 on the Test of Standard Written English (TSWE), 61 on the Test of Language Skills (TLS), or 12 on the ACT English usage subsection. The required GPA is set each year and may vary from year to year depending upon available space. Contact the College of Journalism or the Office of Undergraduate Admissions for the current GPA standard.

**Appeals.** Students who are unsuccessful in gaining admission to Journalism at the freshman or transfer level, and believe they have extenuating or special circumstances which should be considered, may appeal in writing to the Office of Undergraduate Admissions. The student will be notified in writing of the appeal decision once it is made.

Students admitted to Journalism as freshmen who do not pass the 45-credit review but believe they have special circumstances which should be considered may appeal directly to the College.

For further information, contact the Counselor for Limited Enrollment Programs at 314-8758.

## Degrees

The College of Journalism offers the B.A., M.A., and Ph.D. degrees. At the undergraduate level, students are required to specialize in one of the three sequences offered. All diplomas are in Journalism.

## Graduation Requirements

Graduation requirements apply to **all** Journalism majors, including double-major and double-degree students.

Students are required to earn a minimum of 121 credits. Accrediting regulations require three-fourths of a student's course work (a minimum of 90 credits) be in areas other than mass communication (such as speech) or journalism. A minimum of 65 of those 90 credits must be earned in liberal arts designated courses. A grade of C or better must be earned in JOUR 201 and JOUR 202 prior to taking courses for which they serve as prerequisites. Students must have a C average in their major.

Students are also required to demonstrate abstract thinking skills. As a measure, majors are offered either a language option, a mathematics option, or a combination of the two. Language skills must be demonstrated by taking coursework through the intermediate level. The Math option requires that students complete the following courses: statistics, calculus, and computer science.

A support area consisting of four upper-level courses in a concentrated field is also required of Journalism majors. Students must also complete a minimum of 57 credits at the upper level of which no more than 24 can be Journalism or Mass Communications credits. Finally, in addition to University graduation requirements, Journalism majors must complete additional liberal arts course work with one course each in government and politics, public speaking, psychology and economics and one course in sociology, anthropology, or history.

## Journalism Academic Programs

I. Required courses for all Journalism majors, regardless of whether journalism is a student's primary or secondary major:

### A. Non-journalism course requirements

#### 1. Abstract thinking skills requirement:

Completion of a minimum of nine credits through one or a combination of the following options. Should a student choose to combine the options, at least one language course must be at the intermediate level:

- a. Language—any skills language course(s). Up to three courses with at least one course at the intermediate level and no more than one course at the introductory level. (High school equivalency does not satisfy this requirement.)
- b. Math/Statistics/Computer Science—Up to three courses including no more than one course from each category.
  - i. One of the following math courses: MATH 111, 113, 115, 140, or 220 or any course for which any of these serves as a prerequisite.
  - ii. One of the following statistics courses: AREC 484, BIOM 301, BMGT 230, CCJS 200, CNEC 400, ECON 321, EDMS 451, GVPT 422, PSYC 200, SOCY 201, GEOG 305, TEXT 400, URBS 350, or a more advanced statistics course.
  - iii. One of the following computer science courses—CMSC 102 (new course), 103, 104 or any higher-level CMSC course.

2. A course in public speaking chosen from SPCH 100, 107, 200, or 230.

3. One of the following:  
 A. Sociology 100 or 105  
 B. Anthropology 101  
 C. HIST 156 or 157.

4. PSYC 100 or 221.

5. ECON 201, 203, or 205.

6. GVPT 100 or 170. (For news-editorial students, GVPT 260 or 460 is also required.)

7. Four upper-level (numbered 300 or higher) courses for a minimum of 12 credits in a supporting field (may not be in Speech).

### B. Journalism course requirements:

	Credit
JOUR 101—Professional Orientation.....	1
JOUR 201—Writing for the Mass Media .....	3
JOUR 202—Editing for the Mass Media .....	3
JOUR 400—Law of Mass Communication.....	3

### II. Required courses for Journalism sequences:

All students must choose one of three sequences (courses of study): broadcast news, public relations, or news-editorial.

#### A. Broadcast News

JOUR 360—Broadcast News 1 .....	3
JOUR 361—Broadcast News 2 .....	3
JOUR 365—Theory of Broadcast Journalism .....	3
At least one additional upper-level journalism course numbered 410-480.....	3
Journalism and Radio-TV-Film electives.....	9
(chosen with permission of adviser: 366 recommended)	

#### B. Public Relations

**The public relations program is under review. Changes may occur during 1997-98. Students interested in public relations should consult an adviser in the College.**

JOUR 330—Public Relations Theory .....	3
JOUR 331—Public Relations Techniques.....	3
JOUR 336—Supervised Internship .....	3
JOUR 477—Mass Communication Research .....	3
JOUR 483—Senior Seminar in Public Relations .....	3
Additional Writing Course (320, 332,* or 360) .....	3
Upper-Level Journalism Electives (333, 334 .....	3
recommended or an second additional writing course; 320, 321, 332, 360, 361, 371, 380,* 481)	

\*Recommended for students preparing for science writing positions in the public relations department of a scientific or technical organization.

#### C. News-Editorial

(GVPT 260 is a News-Editorial Sequence requirement for all specializations.)

##### i. News Specialization

JOUR 320—News Reporting.....	3
JOUR 373—Graphics.....	3
JOUR 321—Public Affairs Reporting or.....	3
JOUR 322—Beats and Investigations	
Advanced Writing and Reporting Course .....	3
(323, 324, 328, 371, and 380 recommended)	
Elective Journalism course.....	3
(between 410 and 480)	
Upper-Level Journalism Electives	
(326 recommended).....	6

##### ii. Magazine Specialization

JOUR 320—News Reporting .....	3
JOUR 371—Feature Writing.....	3
JOUR 373—Graphics.....	3
JOUR 326—Supervised Internship.....	3
One of the following.....	3
JOUR 380—Science Writing for Magazines and Newspapers	
JOUR 481—Writing the Complex Story	
JOUR 487—Literary Journalism	
Upper-Level Elective Journalism course.....	3
(between 410 and 480)	
Upper-Level Journalism Elective.....	3

## Advising

The Office of Student Services, 1117 Journalism Building, 405-2399, provides academic advising to majors on an appointment basis or e-mail inquiries to jourug@deans.umd.edu.

### Honors and Awards

Although no departmental honors program currently exists within the College, academically outstanding students are recognized through **Kappa Tau Alpha**, the Journalism academic honor society.

**Advertising Award.** Awarded annually to the outstanding graduate in the Advertising sequence.

**Broadcast News Award.** Awarded at each commencement to the outstanding graduate in the Broadcast News Sequence.

**Public Relations Award.** Awarded at each commencement to the outstanding graduate in the Public Relations Sequence.

**News-Editorial Award.** Awarded at each commencement to the outstanding graduate in the News-Editorial sequence and its specializations.

**Sigma Delta Chi/Society of Professional Journalists Citation.** Awarded annually to an outstanding journalism student.

**Kappa Tau Alpha Citation.** Awarded at each commencement to the journalism student earning the highest academic achievement for all undergraduate study.

### Field Work and Internship Opportunities

Supervised internships are required for the Public Relations sequence along with the Magazine specialization within the News-Editorial sequence. Other journalism students may take advantage of an internship as a journalism elective. No more than three mass-communication internship credits, regardless of the discipline in which they are earned, may be applied toward a student's degree. Dr. Greig Stewart is the Coordinator of the Journalism Internship Program, 1118 Journalism Building, 405-2380.

The Annapolis and Washington bureaus of the Capital News Service are staffed by students and supervised by College instructors. Through curricular programs, students cover state and legislative news for client papers around the region. Students are required to report breaking news by afternoon deadlines, write profiles, and cover state agencies. This is a full-time, semester-long program, on site at the two bureau locations. Capital News Service is coordinated by Mr. Chris Callahan, 1118 Journalism Building, 405-2380.

For students in the Broadcast News Sequence, opportunity to gain experience with a cable news program entitled "Maryland Update" is presented within the curriculum.

Campus media opportunities abound. The campus radio station is WMUC. Student newspapers of interest to special populations include The Eclipse, Black Explosion and Mitzpeh.

Co-op and volunteer experiences are available to Journalism students through the University's Office of Experiential Learning in Hornbake.

### Student Organizations

The College sponsors student chapters of Alpha Epsilon Rho, the Society for Professional Journalists, the Public Relations Student Society of America, the National Association of Black Journalists, the Radio and Television News Directors' Association and the Advertising Club. These organizations provide students with opportunities to practice skills, establish social relationships with other students both on and off campus, and meet and work with professionals in the field.

For information on the organizations listed, contact the Student Services Office, 1117 Journalism Building, 405-2399.

### Accreditation

The College of Journalism became accredited in 1960 by the Accrediting Council on Education in Journalism and Mass Communications. Standards set by the council are generated from professional and academic ethics and principles. This accrediting body underscores the liberal arts foundation of a journalism curriculum, limiting professional and skills courses to one-fourth of a student's academic program.

## COLLEGE OF LIBRARY AND INFORMATION SERVICES (CLIS)

4105 Hornbake Building  
clisumcp@umdacc.umd.edu  
<http://orion.umd.edu:8000/>

Professor and Dean: Ann E. Prentice

The College of Library and Information Services offers degree programs for individuals interested in careers in information services and management. At the master's level, students may specialize in several fields, including archival studies, geographic information systems, health information services, school library media services, and science and technology information systems. Graduates pursue careers in a wide range of information agencies and positions. The College has dual degree programs with the History Department, Geography Department, and a joint program with the College of Education. The master's degree is accredited by the American Library Association.

The Ph.D. degree prepares students for careers in research and teaching in the information field and in management of large information organizations.

While the College does not have an undergraduate major, it offers some courses at the undergraduate level. These courses are suggested for students wishing to develop skills in locating, analyzing, and evaluating information and students seeking to learn more about career opportunities in the information field.

## COLLEGE OF LIFE SCIENCES (LFSC)

1224 Symons Hall, 405-2080  
<http://www.life.umd.edu/>

Professor and Dean: Paul H. Mazzocchi

The College of Life Sciences offers educational opportunities for students in subject matters relating to living organisms and their interaction with one another and with the environment. Programs of study include those involving the most fundamental concepts of biological science and chemistry and the use of knowledge in daily life, as well as the application of economic and engineering principles in planning the improvement of life. In addition to pursuing the baccalaureate, a number of students in this College engage in pre-professional education in such fields as pre-medicine, pre-dentistry, and pre-veterinary medicine.

The student may obtain a Bachelor of Science degree with a major in any of the departments and curricula listed below. Students in pre-professional programs may, under certain circumstances, obtain a B.S. degree following three years on campus and one successful year in a professional school. For additional information on combined degree programs, see the entry on pre-professional programs in chapter 7.

The College of Life Sciences includes the following departments and program:

- a. Departments: Chemistry and Biochemistry, Entomology, Microbiology, Plant Biology, Zoology.
- b. Program: General Biological Sciences

### Admission

Students desiring a program of study in the College of Life Sciences should include the following subjects in their high school program: English, four units; college preparatory mathematics (algebra, plane geometry), four units; biological and physical sciences, two units; history and social sciences, one unit. They should also include chemistry and physics.

### Advising

A faculty adviser will be designated to help select and design a program of courses to meet the needs and objectives of each entering student. As soon as a student selects a major field of study, an adviser representing that department or program will be assigned. All students must see their adviser at least once each semester.

Students following pre-professional programs will be advised by knowledgeable faculty. For further information on the pre-professional

programs offered at College Park, see chapter 7.

## Area Resources

In addition to the educational resources on campus, students have an opportunity to utilize libraries and other resources of the several government agencies located close to the campus. Research laboratories related to agriculture or marine biology are available to students with special interests.

## Degree Requirements

Students graduating from the College must complete at least 120 credits with a grade point average of 2.0 in all courses applicable towards the degree. Included in the 120 credits must be the following:

1. CORE (40 credits)
  2. College Requirements:  
As of Fall 1988, all students in the College of Life Sciences must complete the following:
    - CHEM 103, 113, or 103H, 113H
    - CHEM 233, 243 or 233H, 243H
    - \*MATH 220, 221 or 140, 141
    - PHYS 121, 122 or 141, 142
    - †BIOL 105 and 106
- Chemistry and Biochemistry majors must take CHEM 143 and 153.  
\*Chemistry and Biochemistry majors must take MATH 140, 141.  
†Chemistry and Biochemistry majors complete BIOL 105.

## Honors

Students may apply for admission to the honors programs in Botany, Chemistry, General Biological Sciences, Microbiology, Plant Biology, and Zoology. On the basis of the student's performance during participation in the Honors Program, the department may recommend candidates for the appropriate degree with (departmental) honors, or for the appropriate degree with (departmental) high honors. Successful completion of the Honors Programs will be recognized by a citation in the Commencement Program and by an appropriate entry on the student's record and diploma.

## Joint Biomedical Research Program

with the University of Maryland School of Medicine

Resulting from an inter-institutional agreement between the Department of Medical and Research Technology, University of Maryland School of Medicine, and the College of Life Sciences, the University of Maryland, College Park, students may apply for the joint Biomedical Science Research Program. Students who have successfully completed 60 credits of prerequisite courses at the University of Maryland, College Park may be considered for the program. Beginning in the junior year within the UM School of Medicine, students will develop skills in a variety of biotechnology methodologies as well as become familiar with the operation of analytical instruments used in biomedical science and biosafety and quality assurance issues. Interested students should call Ms. Karen Adams at (410) 706-7664 or fax (410) 706-5229 for more information regarding this joint program.

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## SCHOOL OF PUBLIC AFFAIRS (PUAF)

2101 Van Munching Hall, 405-6330

[http://www.inform.umd.edu/Educational\\_Resources/CollegesAndSchools/PublicAffairs/.WWW/Welcome.html](http://www.inform.umd.edu/Educational_Resources/CollegesAndSchools/PublicAffairs/.WWW/Welcome.html)

Professor and Dean: Susan C. Schwab

The School of Public Affairs provides graduate-level, professional education to men and women interested in careers in public service. Five disciplines are emphasized: finance, statistics, economics, politics, and ethics. Students specialize in international security and economic policy, public sector financial management, environmental policy, or social policy.

The School offers separate degrees for pre-career and mid-career college graduates. Recent college graduates may enroll in the 48-credit Master of Public Management (MPM) program which can be completed in two years by full-time students. This program combines a rigorous applied course of study with practical, hands-on experience. The School also offers joint

degree programs with the College of Business and Management (MPM/MBA) and the School of Law (MPM/JD), and accepts a small number of Ph.D. candidates each year.

Public sector employees with a minimum of three years' work experience may seek the 36-credit Master of Public Policy (MPP) degree.

Individuals who wish to improve their analytical and management skills without pursuing a degree may enroll in an 18-credit certificate program which mirrors one of the areas of specialization found in the master's degree programs.

For further information, call or write the School of Public Affairs.