

# Iowa College Student Aid Commission

Postsecondary Registration Administrator  
200 10<sup>th</sup> Street, Fourth Floor  
Des Moines, IA 50309  
(515) 725-3470

## Postsecondary Registration Iowa Code Chapter 261B

This is the application form for all schools that are required to register under Iowa Code Chapter 261B.

All items must be completed before the registration application or the exemption will be considered received for processing. If there is insufficient space on the form to provide all requested information, use additional pages as required, numbering to correspond to the item. Other documents or materials may be attached to the form in lieu of providing the information on the form. In such cases, the material or document should be referenced on the form and *clearly marked* for ease of identification.

**Submit one paper copy and one electronic pdf copy of the application.**

### GENERAL INFORMATION

**Q.** *Who must register?*

**A.** Registration is required for any school that maintains or conducts one or more courses of instruction, including courses of instruction by correspondence or other distance delivery offered in this state or which has a presence in this state and offers courses in other states or foreign countries and is not subject to an exception described in Iowa Code Chapter 261B.11.

"School" is defined as an entity which:

- a. Is, owns, or operates a nonprofit postsecondary educational institution.
- b. Provides a postsecondary instructional program or course leading to a degree.
- c. Uses in its name the term "college", "academy", "institute", or "university" or a similar term to imply that the person is primarily engaged in the education of students at the postsecondary level, and which charges for its services.

"Presence" means maintaining a physical, postal, telephone or internet address within Iowa. "Presence" does not mean, "located in Iowa".

**Q.** *What is required to register?*

**A.** To register, a school must first be accredited by an agency or organization approved or recognized by the United States Department of Education or a successor agency and be approved by all State of Iowa agencies with approval jurisdiction, and subsequently, except as provided in subsection 2, be approved for operation by the Iowa College Student Aid Commission.

An educational practitioner preparation program that is operated by a school that applies to register the program in accordance with this chapter must be accredited by an agency or organization approved or recognized by the United States Department of Education or a successor agency and in addition, be approved by the state board of education pursuant to section 256.7, subsection 3, and subsequently be approved for operation by the Iowa College Student Aid Commission.

**Q.** *When must registration and renewal occur?*

**A.** Registration must occur **prior** to the school commencing instruction which would bring the school under the registration requirement.

1. Registrations must be renewed every four years.

2. Registrations must also be renewed upon any substantive change in program offerings, location or accreditation.

**Q.** *Must the school also file a bond under Iowa Code §714.17 et seq?*

**A.** The provisions of *Iowa Code § 714.17 et seq.* require the posting of proof of financial security, as defined by a list of organizations that are *not* required to provide proof of financial security. There is no automatic exemption between chapters 261B and 714.

Whether a school is subject to Iowa Code Chapter 714 depends upon the specific situation of the school. A school must review the provisions of Iowa Code Chapter 714 to determine how the law applies to the school's own situation.

**Q.** *If the school is incorporated under the laws of a jurisdiction other than Iowa, must the school also obtain a Certificate of Authority to do business in Iowa? Is registration under Chapter 261B required if a Certificate of Authority to do business in Iowa has been granted?*

**A.** *Iowa Code §490.1501* requires a non-Iowa for profit corporation to obtain a Certificate of Authority from the Secretary of State before business is transacted in Iowa. *Iowa Code §504.1501* similarly requires non-Iowa nonprofit corporations to obtain a Certificate of Authority from the Secretary of State prior to conducting affairs in Iowa. Registration under *Iowa Code Chapter 261B* is not a substitute for obtaining a Certificate of Authority. An incorporated school must review the provisions of *Iowa Code §490.1501 et seq.* or *§504.1501 et seq.* in the context of the school's planned activities to determine whether a Certificate of Authority is required. The Secretary of State may be contacted at the following address.

Secretary of State  
State Capitol, Room 105  
Des Moines, Iowa 50319.  
Phone: (515) 281-8993  
FAX: (515) 242-5952  
Website: [www.sos.state.ia.us](http://www.sos.state.ia.us)

**Q.** What is the fee for registration or renewal?

**A.** The complete application fee structure is as follows:

Initial application	\$4,000
Renewal	\$4,000
Substantive Change or Amendment	\$1,000

The information you provide will be open to public inspection under Iowa Code Chapter 22.11

# Iowa College Student Aid Commission

Postsecondary Approval and Registration Administrator  
200 10<sup>th</sup> Street, Fourth Floor  
Des Moines, IA 50309  
(515) 725-3470

## Application for Approval and Registration of Postsecondary School Iowa Code Chapter 261B

Pursuant to Iowa Code Chapter 261B, the undersigned school applies for registration to conduct or maintain one or more courses of instruction, including courses of instruction by correspondence, where the courses are offered in Iowa or the school has a presence in Iowa and desires to offer courses in other states or foreign countries.

Submit a paper document and a complete duplicate in pdf format on a CD.  
Applications may be submitted electronically by contacting the Postsecondary Approval Administrator at the Iowa College Student Aid Commission.

Applications for an initial approval and registration must include a *non-refundable* check for \$4,000 payable to the State of Iowa.

Applications fees are to be sent to:

Postsecondary Approval and Registration Administrator  
200 10th Street, Fourth Floor  
Des Moines, IA 50309

**All items must be completed** before the application will be considered as received by the Commission. Attach additional pages as needed to provide the requested information. Responses are required to have a minimum of a summary paragraph on this form. Responses that include only statements similar to "please see attached", will be considered incomplete. Other documents or materials may also be attached to support the application. Attachments must be tabbed and clearly marked on both the paper and pdf documents..

(Registrations must be renewed every four years or upon any substantive change in program offerings, location, or accreditation.)

Name of school and address of the principal office as defined in Iowa Code Section 490.140 or 510.141:  
[(261B.4(2))] and [(261B.4(1))]

Name of School: \_\_\_\_\_  
Suite: \_\_\_\_\_  
Street: \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_  
Zip: \_\_\_\_\_  
Country: \_\_\_\_\_  
Telephone Number (including country or area code): \_\_\_\_\_

Type of corporation:

- For-profit
- Non-profit

Address of this school in all in other states, and in foreign countries:

Address of this school in all in other states, and in foreign countries:

Suite	Street	City	State	Zip	Country	Telephone
Patton Education Center, Unit 29237		Heidelberg		APO AE 09004	Germany	+49-(0)6221-176-986
Bldg 445, Yokota Air Base		Fussa, Fussa-shi, Tokyo		197-0001	Japan	042-552-2510 Ext. 5-3680
36 FSS/DPE/UMD Unit 14002		Andersen Air Force Base		APO AP 96543-4002	Guam	366-7132/1425
Kadena Education Center, Kadena AFB, Building 59		Kadena-cho, Okinawa-shi Okinawa-ken		904-0000	Japan	098-961-4383
Yongsan Education Center, Unit 15556		Seoul		APO AP 96205-5556	South Korea	02-7913-7141

Address of all locations in Iowa where instruction is to be provided: **N/A. Instruction is via online asynchronous distance education. Master of Arts in Teaching (MAT) students residing in IA may locate teaching practicums in IA. Each student arranges and receives pre-approval for the practicum location where this activity may occur.**

Suite	Street	City	State	Zip	Country	Telephone

Tuition charges, fees and other costs payable to the school by a student. [(261B.4(3))]

**Undergraduate:**

Tuition per Credit

Nonresidents of Maryland (e.g., Iowa residents): \$499  
 Military: \$250

Fees

Application for Admission: \$50  
 Cooperative Education  
     Administrative Fee: \$75  
     Job Development Seminar: \$75  
 Diploma/Certificate: \$50  
 Laboratory Fee (if applicable): \$40  
 Prior Learning  
     Enrollment Fee: \$30  
     Portfolio Evaluation (first eval.): \$250  
     Each additional evaluation: \$125  
     Credit Aware Fee (per credit): \$90  
     Reevaluation Fee (special cases only): \$125  
 Service Charge for Dishonored Checks: \$30  
 Technology Fee (per semester hour)\*: \$13  
 Testing (make-up exams): \$60  
 Transcripts (per copy): \$10

\* Does not apply to military students

**Graduate:**

Standard Master's Degree and Resident Teacher Certification Programs Tuition per Credit

Nonresidents of Maryland (e.g., Iowa residents): \$659

Military: \$458

Master of Business Administration (MBA), Master of Science in Cybersecurity and Master of Science in Cybersecurity Policy Tuition per Credit

(regardless of residency): \$694

Doctor of Management (DM): \$1,087

Executive Graduate Rates (EMBA): \$1,181

Graduate Tuition per Program for Executive Programs

*Note: Tuition for graduate Executive Programs generally includes the cost of tuition, books, library skills course, instructional materials, and (for the MBA) an international study trip—except for airfare.*

Master of Business Administration (prorated): \$49,602

Certificate for Chief Information Officers (prorated): \$28,344

Graduate Tuition per Noncredit Course

UCSP 611: \$75

UCSP 601, 620, 621, and 630: \$225

Fees

Application for Admission

Doctor of Management: \$100

All Other Graduate Programs: \$50

Diploma/Certificate: \$50

Technology Fee (per credit)\*: \$13

Transcripts (per copy): \$10

*\* Does not apply to MBA, DM, Cybersecurity and Cybersecurity Policy, and Executive Programs courses.*

Refund policy of the school for the return of refundable portions of tuition, fees, or other charges [(261B.4(4))] If the refund policy is attached, please summarize the policy below.

### **Refund Policy**

The official date used to determine a refund is either the date of the transaction, the date the withdrawal form is filed at the Information Desk at the Student and Faculty Services Center in Adelphi, Maryland or the postmarked date on a written request.

The official date for federal financial aid recipients is the last date of class attendance as determined by federal regulations. Financial aid awards may be canceled or reduced for financial aid recipients who withdraw from classes.

#### Refunds for Courses Cancelled by the University:

The University refunds 100% of tuition and technology and registration fees for courses canceled by the University. The application fee is nonrefundable, even when a course is canceled.

#### Refunds for Withdrawal from a Course:

The amount that students are refunded for tuition is based on the date of the withdrawal.

NOTE: Students who withdraw on the first day of class *will not* receive a 100% tuition refund. You must withdraw before the first day of class to receive a full refund.

*Continued on next page*

<b>Tuition Refund</b>	<b>Online and On-site Sessions 5-9 Weeks in Length</b>
100%	Withdrawal before the class start date
75%	Withdrawal on and up to six days after the class start date
50%	Withdrawal 7-10 days after the class start date
0%	Withdrawal 11 or more days after the class start date
<b>Tuition Refund</b>	<b>Online and On-site Sessions 10 or More Weeks in Length</b>
100%	Withdrawal before the class start date
75%	Withdrawal on and up to thirteen days after the class start date
50%	Withdrawal 14-20 days after the class start date
0%	Withdrawal 21 or more days after the class start date
<b>Tuition Refund</b>	<b>Intensive Format Classes (Less than 5 Weeks)</b>
100%	Withdrawal before the class start date
0%	Withdrawal on and after the class start date

*Note:* No refunds are given for technology fees or tuition for noncredit courses after the official start date of class. Effective Spring 2011, the military student technology fee is refundable proportionate to the percentage of tuition refunded.

Degrees granted by the school [(261B.4(5))]

Offered in Iowa [(261B.4(11))]

The following programs are available via distance (online) education:

**Graduate Degrees**

Doctor of Management\*

Doctor of Management in Community College Policy and Administration\*

Master of Arts in Teaching\*\*

Master of Business Administration

Master of Business Administration—One Year Program

Master of Distance Education and E-Learning

Master of Education in instructional technology

Master of International Management

Master of Science in accounting and information systems

Master of Science in biotechnology

Master of Science in cybersecurity

Master of Science in cybersecurity policy

Master of Science in environmental management

Master of Science in financial management and information systems

Master of Science in health administration informatics

Master of Science in health care administration

Master of Science in information technology

Master of Science in management

Master of Science in technology management

\* *Offered online with mandatory residencies or course meetings at UMUC headquarters in Adelphi, Maryland*

\*\* *Requires on-site teaching practicum. Note: Does not qualify a graduate for initial licensure in Iowa.*

**Graduate Certificate Programs**

Accounting

Accounting and Information Systems

Acquisition and Supply Chain Management

Bioinformatics

Biosecurity and Biodefense

Biotechnology Management

Criminal Justice Management

Cybersecurity Policy

Cybersecurity Technology

Database Systems Technology

Distance Education, Globalization, and Development

E-Learning and Instructional Systems Design†

Environmental Management

Financial Management in Organizations

Foundations of Cybersecurity

Foundations of Distance Education and E-Learning

Foundations of Human Resource Management

Foundations of Information Technology

Health Care Administration

Homeland Security Management

Informatics

Information Assurance

Instructional Technology Integration

Integrated Direct Marketing  
Intelligence Management  
International Marketing  
International Trade  
Leadership and Management  
Leadership and Management in Distance Education and E-Learning  
Library and Intellectual Property in Distance Education and E-Learning  
Nonprofit and Association Financial Management  
Policy and Management in Distance Education and E-Learning  
Project Management  
Public Relations  
Software Engineering  
Systems Analysis  
Teaching and Training at a Distance  
Technology in Distance Education and E-Learning  
Telecommunications Management  
† A joint program with University of Maryland, Baltimore County

### **Executive Certificate Program**

Chief Information Officer

### **Undergraduate Degrees**

Bachelor of Arts:

- Communication studies
- East Asian studies
- English
- History
- Humanities

Bachelor of Science:

- Accounting
- Business administration
- Computer and information science
- Computer networking and security
- Computer science
- Criminal justice
- Cybersecurity
- Digital media and web technologies
- Emergency management
- Environmental management
- Finance
- Fire service administration
- Gerontology
- Global business and public policy
- Homeland security
- Human resource management
- Information systems management
- Investigative forensics
- Legal studies
- Management studies
- Marketing
- Political science
- Psychology
- Social science

### **Undergraduate Certificate Programs**

Accounting—Introductory  
Accounting—Advanced  
Applied Behavioral and Social Sciences  
Business Project Management  
Clinical Mental Health Care  
Computer Networking  
Criminal Justice Intelligence  
Database Design and Implementation  
Database Management  
Diversity Awareness  
Financial Management  
Fraud Investigation  
Game Development  
Health Issues for the Aging Adult  
Human Development  
Human Resource Management  
Information Assurance  
Information Management  
Internet Technologies  
Management Foundations  
Object-Oriented Design and Programming  
Paralegal Studies  
Project Management for IT Professionals  
Visual Basic Programming  
Web Design  
Workplace Communications  
Workplace Spanish

The Associate of Arts Degree is available only to active-duty military personnel and certain others who conform to special stipulations:

#### Associate of Arts

General Curriculum  
Accounting  
Business and Management  
Computer Studies  
Criminal Justice  
Foreign Language Area Studies  
Legal Studies  
Management Studies  
Mathematics  
Women's Studies

Offered outside of Iowa

In addition to the above, the following programs are also available:

**Undergraduate Degrees**

Bachelor of Arts

Graphic communication

Bachelor of Science

General Studies\*

*\* Available only to active-duty military personnel in UMUC Europe and UMUC Asia and certain others who conform to special stipulations.*

Bachelor of Technical/Professional Studies:

Biotechnology\*\*

Lab Management\*\*

*\*\* Available only to students who have completed the required lower-level coursework for the major either within an Associate of Applied Science degree at a community college with which UMUC has an articulation agreement or within another appropriate transfer program.*

**Undergraduate Certificate Programs**

Computer Graphics and Design

Desktop Publishing

Terrorism and Institutions: Prevention and Response

Name, business address and telephone number of the chief executive officer of the school: [(261B.4(7))]

Name: Javier Miyares, Acting President  
Suite: Office of the President  
Street: 3501 University Boulevard East  
City: Adelphi  
State: Maryland  
Zip: 20783  
Country: USA  
Telephone Number: 301-985-7077

Provide a copy or description of the means by which the school intends to comply with 261B.9 [(261B.4(8))]. Code section 261B.9 is as follows:

**261B.9 DISCLOSURE TO STUDENTS.**

Prior to the commencement of a course of instruction and prior to the receipt of a tuition charge or fee for a course of instruction, a school shall provide written disclosure to students of the following information accompanied by a statement that the information is being provided in compliance with this section:

1. The name or title of the course.
2. A brief description of the subject matter of the course.
3. The tuition charge or other fees charged for the course. If a student is enrolled in more than one course at the school, the tuition charge or fee for all courses may be stated in one sum.
4. The refund policy of the school for the return of the refundable portion of tuition, fees, or other charges. If refunds are not to be paid, the information shall state that fact.
5. Whether the credential or certificate issued, awarded, or credited to a student upon completion of the course or the fact of completion of the course is applicable toward a degree granted by the school and, if so, under what circumstances the application will be made.
6. The name of the accrediting agency recognized by the United States department of education or its successor agency which has accredited the school.

Response:

1. See Attachment A – Undergraduate and Graduate Catalogs (*see also* <http://www.umuc.edu/students/academics/>)
2. See Attachment A – Undergraduate and Graduate Catalogs
3. See Attachment B – Spring 2012 Schedules of Classes (*see also* <http://www.umuc.edu/students/payments/>)
4. See Attachment B – Spring 2012 Schedules of Classes (*see also* <http://www.umuc.edu/students/payments/policies.cfm>)
5. See Attachment A – Undergraduate and Graduate Catalogs
6. See Attachment A – Undergraduate and Graduate Catalogs

Name, address, and telephone number of a contact person in Iowa. [(261B.4(10))]

**None.**

Name, address, and title of the other officers and members of the legal governing body of the school: [(261B.4(6))]

Marie Cini, PhD  
*Acting Provost and Chief Academic Officer*  
3501 University Blvd. East  
Suite 3131  
Adelphi, Maryland 20783

**University System of Maryland Board of Regents 2011-2012 Members:**

Dr. Patricia S. Florestano <i>Chair</i>	Gary L. Attman <i>Treasurer</i>	John L. Young, M.D. <i>Assistant Treasurer</i>
The Hon. C. Thomas McMillen <i>Secretary</i>	Thomas G. Slater, Esq. <i>Assistant Secretary</i>	Norman R. Augustine
Louise Michaux Gonzales	Linda R. Gooden	Barry P. Gossett
Earl F. Hance <i>ex officio</i>	Orlan M. Johnson	The Hon. Francis X. Kelly, Jr.
David Kinkopf	Dr. Frank M. Reid, III	James L. Shea
Paul L. Vance	Collin Wojciechowski <i>Student Regent</i> <i>(Term expires 6/30/2012)</i>	Contact info: Office of the Board of Regents University System of Maryland 3300 Metzert Road Adelphi, Maryland 20783 301-445-2701

**University System of Maryland Officers:**

William E. Kirwan <i>Chancellor</i>	Irwan Goldstein <i>Senior Vice Chancellor for Academic Affairs</i>	Joseph Vivona <i>Chief Operating Officer and Vice Chancellor for Administration and Finance</i>
Leonard Raley <i>Vice Chancellor for Advancement</i>	Ann Moultrie <i>Vice Chancellor for Communications</i>	David Mosca <i>Director of Auditing</i>
Donald F. Boesch <i>Vice Chancellor for Environmental Stability</i>	Patrick J. Hogan <i>Vice Chancellor for Government Relations</i>	Contact info: Office of the Board of Regents University System of Maryland 3300 Metzert Road Adelphi, Maryland 20783 301-445-2756

Names and addresses of persons owning more than 10% of the school: [(261B.4(6))]

**None.**

Name all agencies accrediting the institution. For each agency, include **name, address, telephone number, and whether the agency is recognized by the U.S. Department of Education.** [(261B.4(9))]  
Attach copies of accreditation certificates of status for each agency. If the Iowa location is not accredited, provide accrediting agency certification that the Iowa location will be granted accreditation upon approval by the College Student Aid Commission. **Provide documentation that every location of applicant school is approved by the accrediting agency and in good standing, for all locations throughout the world.**

Accrediting agency 1:

Middle State Commission on Higher Education  
3624 Market Street  
2<sup>nd</sup> Floor West  
Philadelphia, PA 19104  
267-284-5000  
info@msche.org

#### **Accreditation documentation at Attachment C**

Is this agency recognized by the U. S. Department of Education?  **Yes** [ ] No

Describe the procedures followed by the school for permanent preservation of student records.  
[(261B.4(12))]

University of Maryland University College has designated its Office of the Registrar to maintain student records. Official records are retained permanently and kept within the Office of the Registrar at UMUC's headquarters in Adelphi, Maryland. Record requests may be made through UMUC's student web portal, by submitting a paper form, or by contacting the Office of the Registrar directly. In addition, the Registrar stores official records in various protected physical and electronic mediums, including microfiche, microfilm, compact disc, and in PeopleSoft®, a data management application. In the unlikely event of institutional closure, the Secretary of Higher Education of the State of Maryland will hold the student records of UMUC.

Provide the contact information to be used by students and graduates who seek to obtain transcript information:

Registrar's Office/Transcripts  
University of Maryland University College  
3501 University Blvd. East  
Adelphi, MD 20783-8075 USA

Or, fax: 240-684-2005 or 240-684-2006

Students/graduates should complete a transcript request form (**Attachment D**) and mail or fax to the above.

List the states and approval or registration agencies for all states in which the school operates or maintains a presence.

State	Agency Name	Address	Contact Person	Telephone Number
Arkansas	Arkansas Department of Higher Education	114 E. Capitol, Little Rock, AR 72201	Zanette Douglas, Institutional Certification Coordinator	501-371-2012
District of Columbia	Education Licensure Commission	810 1 <sup>st</sup> St. NE, Washington, DC 20002	Robin Jenkins, Executive Director	202-741-5881
Kansas	Kansas Board of Regents	1000 SW Jackson, Suite 520, Topeka, KS 66612	Katie Geier, Office Operations Associate	785-296-2410
Kentucky	Council on Postsecondary Education	1024 Capital Center Drive, Suite 320, Frankfort, KY 40601	Sarah Levy, Director of Postsecondary Licensing	502-573-1555
Maryland	Maryland Higher Education Commission	6 N. Liberty Street, Baltimore, MD 21201	Sue Blanshan, Director of Academic Affairs	410-767-3301
Minnesota	Minnesota Office of Higher Education	1450 Energy Park Drive #350, Saint Paul, MN 55108	Brian Geraghty, Office and Administrative Specialist	651-259-3976
Missouri	Coordinating Board for Higher Education	205 Jefferson St., Jefferson City, MO 65102	Dr. David Russell, Commissioner	573-751-2361
Montana	Division of Academic & Student Affairs, Montana University System	2500 Broadway, Helena, MT 59620	Thomas Gibson, Director	406-994-6677
Texas	Texas Higher Education Coordinating Board	1200E. Anderson Lane, Austin, TX 78752	Fred White, Program Director	512-427-6238
Virginia	State Council of Higher Education for Virginia	101 N. 14 <sup>th</sup> St., 10 <sup>th</sup> Floor, James Monroe Bldg., Richmond, VA 23219	Linda Woodley, Director, Private and Out-of-State Postsecondary Education	804-225-2600
Wyoming	Department of Education State of Wyoming	2300 Capitol Avenue, Hathaway Building 2 <sup>nd</sup> Floor, Cheyenne, WY 82001	Samantha Mills, Private School Licensing	307-777-6210

Describe the academic and instructional methodologies and delivery systems to be used by the school and the extent to which the school anticipates each methodology and delivery system will be used, including, but not limited to, classroom instruction, correspondence, internet, electronic telecommunications, independent study, and portfolio experience evaluation. [(261B.4(13))]

UMUC offers courses online, on-site at a number of Maryland locations, and in a hybrid format that combines on-site and online instruction.

Hybrid classes meet on-site at a UMUC location for about half the class sessions; the remainder of the course material is covered online in the WebTycho classroom. The schedule of on-site sessions is provided by the faculty member at the beginning of the term. Hybrid courses are identified in the most current graduate schedule of classes.

Online courses maintain the same academic standards as on-site courses. Course content, texts, requirements, assignments, and class participation are comparable for online and on-site courses; for example, students need to adhere to a course schedule for assignment deadlines and exam times. UMUC offers more than 25 undergraduate degree programs and 30 certificates available entirely online. Nearly all of UMUC's graduate degree and certificate programs are offered entirely online. And UMUC's online education goes beyond the virtual classroom walls—all on-site UMUC services are available online: library resources, clubs and societies, Career Services, the Effective Writing Center and much more.

UMUC's online course format is WebTycho, an interactive, Web-based course management system. WebTycho is a customized program developed by UMUC to facilitate course delivery via the World Wide Web. WebTycho works in conjunction with a web browser to provide an interactive classroom experience to more than 88,000 concurrent UMUC students and faculty around the United States and the world. Uses for WebTycho range from complete course delivery at a distance to supplemental enhancement of face-to-face classrooms.

Major functions of WebTycho include Syllabus and Course Content for instructors to deliver material; Assignment Folder for students to hand in personal work; Conferencing for class-wide asynchronous discussions; Study Groups for small group work; and Chat for real-time interaction. Supporting functions include Reserved Readings (faculty-selected, read-only, copyrighted material), Library access, Webliography (potpourri of websites posted by all class members), Private Messaging, Portfolio (documentation of individual activity), Class Members (e-mail directory), robust text creation tools, and Faculty Center (creation tools for faculty only). Beyond their basic function, these sophisticated features allow varying degrees of customization and complexity.

### **Computer and Internet Access**

UMUC is committed to ensuring that students acquire the level of technological fluency needed for active participation in contemporary society and access to up-to-date resources.

All UMUC students must be prepared to participate in asynchronous, computer based class discussions, study groups, online database searches, course evaluations, and other online activities. This policy applies to students in both classroom-based and online courses.

All UMUC students must therefore ensure that they have some type of Internet access. This access may be through use of a UMUC computer lab, university or public library, or other readily available source if the student does not have home access. However, it should be regularly available, and the student must have a current e-mail address.

All students currently enrolled at UMUC are eligible for a university computer account on the UNIX system Polaris. The computer account provides students an e-mail address and access to many text-based

services such as Internet newsgroups, mailing lists, and programming languages. This computer account remains active as long as the student is registered for classes at UMUC.

Some academic programs may have specific technical requirements.

**Taking Online Classes**

Before registering for an online course, students may want to consider the following:

1. Online students need to be prepared to write extensively, because nearly all communication is written. Online students need strong English reading and writing skills.
2. Online students need to be competent in the use of computers and commonly used software programs.
3. Since WebTycho is asynchronous and students are expected to be active participants online, students are encouraged to log in frequently to check what has transpired in their online classroom (in lieu of classroom meetings).
4. Online students need disciplined work habits, effective time management skills, and the ability to work both alone and collaboratively.

**MAT Program**

Master of Arts in Teaching (MAT) students are required to complete EDTP 650 – Professional Internship and Seminar, a required 15-week onsite internship and seminar. Each student is responsible for arranging field experience, student teaching internships and classroom observations with the school district of his/her choice. While UMUC is able to provide support and assistance in securing field experience, the University cannot guarantee that all school districts will grant permission to enter the classroom. Additionally, states and local school districts have varying regulations and policies regarding student teaching. Students should remain informed about the student teaching requirements in their state, locality and/or the Department of Defense.

Provide the name of every other State of Iowa agency required to approve the applicant school in Iowa, the school’s contact person at the agency and the current status of that approval. Attach documentation in the form of a letter or certificate for each agency.

Agency Name	Contact Person	Telephone Number	Approval Status
Iowa Dept. of Education	Dr. Kris Crabtree-Groff	515-725-0101	Pending – MAT program

Is the school subject to a limitation, suspension or termination (LST) order issued by the U.S. Department of Education?  
 Yes  No

If yes, explain below.

N/A  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Provide the name and contact information for a U. S. Department of Education official who can verify the LST statement.

N/A

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Do you:

Enroll students in Iowa?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Employ Iowa faculty?	<input checked="" type="checkbox"/> Yes <b>(Adjunct only)</b>	<input type="checkbox"/> No

Do you intend to:

Enroll students in Iowa?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Employ Iowa faculty?	<input checked="" type="checkbox"/> Yes <b>(Adjunct only)</b>	<input type="checkbox"/> No

Describe current operations or plans to enroll students in Iowa or employ Iowa faculty.

UMUC markets its online degree and certificate programs through national internet- and print-based advertising. Iowa residents enroll in and complete UMUC programs online, via asynchronous distance education. Master of Arts in Teaching (MAT) students may locate teaching practicums, and undergraduate students may complete internships for credit, in Iowa.

UMUC currently employs 8 Iowa residents as part-time, adjunct faculty members who conduct online, asynchronous courses from their home computers to UMUC students throughout the nation. Additional Iowa residents may be hired as adjunct faculty in the future.

Name, address, and telephone number of full-time employees in Iowa.

**None.**

Will your school comply with *Iowa Code* section 261B.7 limiting the use of references to the Secretary of State, State of Iowa, or College Student Aid Commission in promotional material (See the *Iowa Code* for details)?

Yes  No

Will your school comply with the requirements of *Iowa Code* section 261.9(1)"e" to "g"? (See the *Iowa Code* for details.)

Yes  No

Does the school agree to file annual reports that the Commission requires from all Iowa colleges and universities?

Yes  No

Attach a copy of the applicant school's most recent audit prepared by a certified public accounting firm no more than 12 months prior to the application and state below where, in the audit report, there is evidence that the auditor is providing an unqualified opinion.

**See Attachment E. See page 17.**

Describe how students will be provided with access to learning resources, including appropriate library and other support services requisite for the schools' degree programs.

UMUC uses every feasible instructional delivery mechanism or platform to extend degree opportunities to students.

UMUC courses observe the same standards of quality regardless of delivery format. Any given course maintains the same intended learning outcomes and requirements, awards the identical amount of academic credit, and may be applied toward the same undergraduate degrees whether it is delivered in a stateside classroom, overseas, or via the Internet.

Both classroom and online programs are also supported by a full range of student services and academic resources—from extensive online library databases to admission, advising, and registration—that can be accessed on-site, online, and by phone.

#### *Classroom-Based Study*

Students take UMUC courses in classrooms at locations in Maryland and the national capital region; in classrooms on U.S. military bases throughout Europe and Asia through long-standing partnerships with overseas military commands; and at work sites through contractual arrangements with employers. With so many course and service locations available, students in the Maryland area who prefer direct interaction can be sure of finding courses and services close to home.

On-site courses are also enriched by access to online materials and resources and generally require online participation as part of UMUC's support of technology fluency for students.

#### *Online Study*

UMUC's role as a virtual and global university means that students can access and participate in the university experience from any place in the state, the nation, or the world. UMUC's award-winning online courses and programs offer a technology-enriched experience conducted by the same excellent faculty as its on-site offerings.

In online courses, students are linked to faculty and classmates via computer and the Internet. The faculty member leads discussions, responds to student inquiries, and posts reviewed assignments in individual folders online. Students are expected to participate frequently in online discussions.

Online students should have strong reading and writing skills, as well as a basic knowledge of the Windows environment. Technical requirements for participating in online courses are provided online at [tychousa.umuc.edu/tech/min\\_tech.html](http://tychousa.umuc.edu/tech/min_tech.html).

UMUC provides services and resources to help students all over the world complete their educational programs—through automated systems and resources available online or by telephone, by e-mail and telephone communication, and in person at sites throughout the Maryland area, as well as at many military sites worldwide. A number of offices are responsible for the delivery of these services, including Career Services, Student Financial Services, Information and Library Services, Information Technology, Enrollment Management, and Student Affairs.

Among these, the offices of Enrollment Management and Student Affairs respond to most of the student's academic needs throughout his or her college career, providing general information; admission assistance; academic advising; registration, graduation, and transcript services; veterans' benefits assistance; and services for disabled students.

### *General Information*

UMUC phone representatives are available all day, every day, at 800-888-UMUC to provide answers to general questions and to help callers navigate UMUC's Web site ([www.umuc.edu](http://www.umuc.edu)). Representatives can also make sure that callers are on the UMUC mailing list to receive upcoming class schedules, open house invitations, and other important announcements.

### *Admission Assistance*

New student advisors serve individuals who are inquiring about becoming UMUC students at some future time, are admitted but have not yet registered, have not attended UMUC for two or more years and need to be readmitted (at no charge), or attended UMUC overseas. They can help prospective students apply for admission, identify financial aid opportunities, plan their curriculum, and register for their first session.

Students may contact a new student advisor by phone at 800- 888-UMUC or by e-mail at [enroll@umuc.edu](mailto:enroll@umuc.edu).

### *Automated Services*

A number of automated services are available online to current students.

Through MyUMUC (at <https://my.umuc.edu>), students have access to many of their personal UMUC records. The system enables them to register and pay for courses, change personal information (such as home address or phone numbers), view and print reports (such as their class schedule, grade report, statement of account, unofficial transcript, and degree progress report), find out the name of their assigned academic advisor, check on the status of their financial aid application, and register for final examinations for online courses. To access services, students must enter their identification number and personal password.

### *Academic Advising*

Academic advisors provide enrolled students the information needed to plan an academic program. This assistance can include a review of potential transfer credit, help with clarification of education and career goals, and aid in selecting appropriate courses. Advising services are available at times and places convenient to students. Students who are close to UMUC's Academic Center at Largo, Maryland, or one of the UMUC sites in the Maryland region have the option to schedule an appointment to discuss their needs with an advisor in person by calling between 8:30 a.m. and 5 p.m. eastern time, Monday through Friday. Many students, however, choose to communicate with their advisor by phone, fax, or e-mail. Students can access their advisor's contact information through MyUMUC.

### *Disability Services*

Reasonable accommodations are available for students who have disabilities and are enrolled in any program offered at UMUC.

To allow for adequate planning, students who need accommodations should contact Disability Services at least four to six weeks before the beginning of the session.

Students must request accommodations each time they register. The first time a student requests accommodation, current (within three years) documentation of a disability must be submitted. Depending on the disability, documentation may include secondary school records; medical, psychiatric, or psychological reports and diagnoses; or a psychoeducational evaluation. The documentation must provide clear and specific evidence of a disability and recommended accommodations from a qualified licensed professional.

**Note:** All UMUC students are required to comply with university policies and procedures and meet the academic requirements of all undergraduate certificate and degree programs. Students with disabilities should review the requirements listed in the catalog. Students should not apply to a UMUC certificate or degree program with the expectation that any academic requirement will be waived or that substitutions will be allowed.

For more information, students should visit [www.umuc.edu/diversity/dss.html](http://www.umuc.edu/diversity/dss.html). Disability Services may be contacted by phone at 800-888-UMUC, ext. 2-2287, or 240-684-2287 (TTY) or by e-mail at [disabilityservices@umuc.edu](mailto:disabilityservices@umuc.edu).

#### *Transcript Services*

Official academic records are maintained by Undergraduate Student Affairs at UMUC. Official transcripts show coursework taken through UMUC. For students who have received an official evaluation and have regular status, transfer credit from other institutions (including others in the University System of Maryland) is listed as well. Students' records are considered confidential. Therefore, UMUC releases transcripts only upon receiving a signed request from the student and payment of the appropriate fee. (For students who submit requests online, the student and personal identification numbers are considered an official signature.)

Procedures and forms for requesting transcripts are available online at [www.umuc.edu/students/transreq.html](http://www.umuc.edu/students/transreq.html). A fee is charged for each UMUC transcript that is issued; an additional fee is charged for rush processing. Transcripts should be requested at least two weeks before they will actually be needed. No transcripts will be released until all financial obligations to the university have been satisfied.

#### *Bookstores*

Students can order required textbooks and software for all courses from MBS Direct online through the UMUC Virtual Bookstore ([www.umuc.edu/bookstore](http://www.umuc.edu/bookstore)) or by mail. MBS guarantees availability of new and used inventory, discounts for online sales, no sales tax, and an easy return and buyback program. Orders are shipped via UPS within 24 hours of receipt, Monday through Friday. Overnight and two-day delivery is available for an additional fee. Payment by personal check, MasterCard, Visa, American Express, and Discover is accepted. Some employer contracts may be accepted.

#### *Career Services*

Career Services provides personalized assistance with clarifying skills, interests, and work-related values; making career- or life-related decisions; researching career options; planning for graduate school; and searching for employment. Through the Career Services Web page at [www.umuc.edu/careerservices](http://www.umuc.edu/careerservices), students can access a variety of career and job search information and materials. Career Services offers job fairs, employability skills workshops such as résumé writing, tutorials, and access to CareerQuest, UMUC's online job and internship database. Services are available by telephone, online via e-mail, or in person by appointment or on a walk-in basis.

#### *Computer Labs and Services*

Computer labs are available at many UMUC sites in Maryland. These labs are available primarily for the use of students completing course work but are also open to faculty members, staff, and alumni on a first-come, first-served basis on presentation of a valid UMUC ID. Students must bring media to save data or documents. Acceptable media include flash drives, floppy disks, and zip disks.

Lab assistants are available during scheduled hours to help users with resident software programs but cannot provide tutoring.

Students may also access host computers at UMUC via the Internet using Telnet. Two host systems are accessible: Nova and Polaris. Students must have an account for the particular system they wish to use. For most students taking courses in computing, accounts are set up automatically as part of the coursework and are valid for the duration of the class.

Students who are considering enrolling in online courses offered via WebTycho, the university's proprietary course delivery system, should review the technical requirements at [tychousa.umuc.edu/tech/min\\_tech.html](http://tychousa.umuc.edu/tech/min_tech.html) for the most current detailed information.

Technical support for students taking online courses is available 24 hours a day, seven days a week, at [tychousa.umuc.edu/wtdocs/wthelp/index.html](http://tychousa.umuc.edu/wtdocs/wthelp/index.html) or 800-807-4862.

### *Drug and Alcohol Awareness*

As required by federal law, UMUC provides referral services for students with concerns about the use or abuse of alcohol and drugs. Students may discuss referrals with their advisor.

### *Information and Library Services*

UMUC's Information and Library Services serves to educate students, faculty, and staff in the use of library and information services, emphasizing the critical importance of information literacy knowledge and skills for success in today's information-rich world. The office also develops and manages extensive online library resources and user-centered services for UMUC students, faculty, and staff worldwide.

### *Library Resources*

Information and Library Services provides access to a rich collection of research materials on a variety of topics (e.g., business, social science, science, arts and humanities, and computer and information systems). Students can access an extensive array of subscription research databases containing tens of thousands of full-text articles, as well as thousands of electronic books, through the Information and Library Services home page at [www.umuc.edu/library](http://www.umuc.edu/library) or through WebTycho. Information and Library Services has also created subject-specific resource guides to serve as a jumping-off point for research. Each guide includes subject-relevant research databases, books, Web sites, and (where applicable) other Web 2.0 technologies.

Currently enrolled students in the continental United States also have borrowing privileges at the 16 University System of Maryland and affiliated institutions (USMAI) libraries. The library collections can be searched and books can be requested through the USMAI online catalog, available via the library home page. All UMUC students may use the DocumentExpress service to request that journal articles or book chapters not available online in full text be sent to them electronically.

### *Library Instruction and Research Assistance*

To help students gain the in-depth research skills needed to locate, evaluate, and use the rich research resources available to them, Information and Library Services offers library instruction, both in person and via WebTycho. This instruction serves to complement and reinforce skills and information provided in LIBS 150 Introduction to Research. Faculty members may contact Information and Library Services to request a library instruction session. In addition, students can obtain individualized research assistance by contacting Information and Library Services or by visiting the Peck Virtual Library Classroom (VLIB 101) within WebTycho, which serves as an additional free resource to help students improve their research skills.

Reference and research assistance is available 24 hours a day, seven days a week, through the library Web page under Ask a Librarian. For a complete list of library services, students should visit [www.umuc.edu/library](http://www.umuc.edu/library) or call Information and Library Services at 800-888-UMUC, ext. 2-2020, during regularly scheduled office hours.

### *Tutoring, Mentoring, and Academic Clubs*

A variety of online, on-site, and referral services are available to students who are interested in academic help and support beyond the classroom. Tutors are available in selected classes. Alumni and experienced students are available to work with students online during their studies at UMUC. These mentors can offer guidance on general study strategies, career paths, and other topics that are important to academic success. Academic clubs also offer students with similar interests the opportunity to meet, ask questions of faculty, and discuss related topics in an online forum. All UMUC students are eligible to join any of more than a dozen clubs focused on disciplines such as accounting, English, communications, computing, history, human resources, and psychology. Students should visit [www.umuc.edu/studentsuccess](http://www.umuc.edu/studentsuccess) to find out more about student tutors, mentors, and academic clubs.

### *Writing Resources and Tutoring*

UMUC's online Effective Writing Center ([www.umuc.edu/ewc](http://www.umuc.edu/ewc)) is available to all UMUC students 24 hours a day. The center's experienced, trained advisors help students develop key writing skills by providing individual online tutoring, self-study modules, and other writing resources.

Students can submit assignments for review and access a wide variety of information. In addition to providing writing advice, the Effective Writing Center hosts an online interactive tutorial on "How to Avoid Plagiarism" and the "Online Guide to Writing and Research"—both of which are required in many courses. Various other multimedia resources are also available.

Provide evidence that faculty within an appropriate discipline are involved in developing and evaluating curriculum for the program(s) to be registered in Iowa.

#### *Academic Program Development and Review*

Each academic program (undergraduate and graduate) must conduct an academic program review every five years under guidelines that ensure analysis of these elements and aspects:

- Relation of program to UMUC mission
- Specific degrees and credentials available within the program (specialization for the associate's degree, major or minor for the bachelor's degree, or certificates)
- Relation of program to overall curriculum (i.e., general education and major requirements)
- Relation of program to intended market and employer needs
- Geographic range of program (i.e., availability in all divisions)
- Procedures for establishing new programs or suggesting change to existing programs covered in UMUC *Policy 110.11 For the Consideration of New and Existing Academic Programs and Courses* (2001)
- Size of program (overall and by division)

Verifiable data such as enrollments, degrees earned, course evaluation results, grade distributions, faculty demographics, and survey results are used to analyze the program. Also included may be research on employment trends in the field, department surveys, information from the WebTycho "999" faculty classrooms, and projected class schedules. Information about decision-making processes and curriculum development procedures, as well as descriptions of curriculum changes and assessment of how differences in geographic location may affect the program, e.g., relative availability of lower-level or upper-level courses, are also used (UMUC, *Academic Program Review Guidelines and Outline*, 2004–5).

Program assessment and evaluation is the final area of emphasis in the academic program review and includes the mandate to "explain the academic and professional standards that help guide the program and how the curriculum is measured against such standards" (UMUC, *Academic Program Review Guidelines and Outline*, 2004–5, section IV). The evaluation examines accreditation standards, guidelines from professional or academic groups, description of learning outcomes, program goals and objectives, as well as a description of the competencies identified for formal assessment. UMUC values the perspective and contributions of external evaluators in this process and has incorporated such reviewers in accordance with USM Board of Regents expectations.

#### *Curriculum Committee*

The university structure provides one method of quality control. No new courses or programs can be added to the curriculum without worldwide approval at several levels. The undergraduate Curriculum Committee leads the review of all materials. Only upon agreement of this committee will curriculum changes be brought forth to the Provost's Office and then to the USM (UMUC, *Policy 110.11*, 2001).

In the Graduate School, course development takes place within individual departments and is then brought to the Graduate Council for approval.

Reviewing committees consist of representatives from all three geographical divisions within UMUC. The undergraduate committee, for example, consists of two representatives from UMUC Europe and two representatives from UMUC Asia, including the associate deans; the stateside assistant and associate deans; the associate provost, Information and Library Services; the director, Course Development; the director, Scheduling; and the assistant provost, Student Affairs. Many other people attend at various times, depending on the topic. The committee is chaired by the dean of the School of Undergraduate Studies.

The Curriculum Committee reviews and approves, rejects, or sends a proposal back for more work. Minor changes approved by the committee are accepted. Larger curriculum changes, such as new programs and changes in requirements, go to the provost, who approves or rejects the proposal or sends it

back with questions or requests for more work. Changes in requirements that the provost approves go into effect (usually with the next catalog year).

#### *Course Development Process*

UMUC's development process for online courses ensures that such offerings are comparable in content and equivalent or better in quality to traditional offerings. For most undergraduate courses and a small number of graduate courses, teams—including a course author and a peer reviewer who work with the curriculum specialist, and designers, programmers, and editors—write a course that meets university standards for excellence. While academic or program directors serve as curriculum specialists, collegiate and adjunct faculty and librarians serve as course authors and peer reviewers in all new or revised course development efforts. All courses offered online worldwide have the benefit of review or design by the Office of Instructional Services and Support. This model ensures consistency of learning across all sections and locations and enables the university to gain maximum benefit from its infrastructure investment.

The Office of Instructional Services and Support develops approximately 80 (primarily undergraduate) courses per year, including major revisions to existing courses. Of note, the Office of Instructional Services and Support has been reorganized to support the development of online courses across the university, to ensure consistency in format and to assist in a rich and pedagogically sound inclusion of multimedia.

#### *Course and Curriculum Review and Revision*

Current faculty members and/or academic directors (course/program chairs) are responsible for reviewing courses that require revisions and updates yearly. The academic program review, conducted on each major discipline or area across the university on a rotating basis, depends heavily on faculty for an in-depth analysis of specific degree programs for currency and appropriate content.

All curriculum issues are coordinated, discussed, and agreed to by the respective academic directors of all three geographic units within UMUC. Faculty input into the process is typically generated in e-mail messages, in online departmental classrooms ("999" classrooms) dedicated to discipline-related communication and maintained by academic directors, and in discipline meetings held several times each year in which faculty members and academic directors meet and discuss issues. Changes (to course description or course titles) are submitted by departments to the divisional associate dean who then approves or takes the proposal to the appropriate curriculum committee (undergraduate or graduate) for approval.

Provide evidence that the school has adequate physical facilities appropriate for the program(s) to be offered and are located in the state. Include a copy of a signed agreement for a facility purchase or lease or option to purchase or lease. Please include a photograph of the location.

**N/A. Courses and programs are offered to Iowa residents via online asynchronous distance education.**

Include a statement, signed by the chief executive officer of the applicant school, on school letterhead, demonstrating the school's commitment to the delivery of programs located in Iowa, and agreeing to provide alternatives for students to complete programs at other institutions if the applicant school closes the program before students have completed their courses of study.

Statement may be in an attached document.

**See Attachment F.**

Provide an organizational plan that shows the location and physical address, telephone number, fax number and contact information for all internet-based and site-based educational locations, administrative, and service centers operated by the applicant and any parent organization.

University of Maryland University College (Headquarters)  
3501 University Blvd. East  
Adelphi, MD 20783  
Tel. (301) 985-7080  
Fax (301) 985-7914

University of Maryland University College (Academic Center)  
1616 McCormick Drive  
Largo, MD 20774  
Tel. (800) 888-8682

University of Maryland University College (Administrative Center)  
9636 Gudelsky Drive  
Rockville, MD 20850  
Tel. (301) 738-6090  
Fax (301) 738-6340

University of Maryland University College (Administrative Center)  
3261 Old Washington Rd.  
Waldorf, MD 20602  
Tel. (301) 632-2900

Prince George's Metro Center I (Office)  
6505 Belcrest Road  
Hyattsville, MD 20782  
800-888-8682

University Centre (Office)  
4716 Pontiac Street  
College Park, MD 20740  
800-888-8682

Service Locations:

Aberdeen Proving Ground Building 4305, Room 210 Aberdeen Proving Ground, MD 21005 410-272-8269	Arundel Mills 7009 Arundel Mills Circle Hanover, MD 21076 410-777-1882
Coast Guard Yard at Curtis Bay Coast Guard Yard at Curtis Bay 2401 Hawkins Point Road Baltimore, MD 21226 301-621-9882	Dorsey Station Center 6865 Deerpath Road Elkridge, MD 21075 443-459-3500 Fax: 443-459-3505
Eastern Shore Higher Education Center Chesapeake College Wye Mills Campus 1000 College Circle Wye Mills, MD 21679 410-822-5400, ext. 5761 Fax: 410-827-5406	Fort Detrick 1520 Freedman Drive Fort Detrick, MD 21702 301-619-2854
Fort Meade Zimborski Avenue Building 8601 Fort Meade, MD 20755 410-551-0431	Hagerstown Center 32 West Washington St. Hagerstown, MD 21740 240-527-2711
Higher Education and Conference Center at HEAT 1201 Technology Drive Aberdeen, MD 21001 443-360-9136	Joint Base Andrews NAF 1413 Arkansas Road Suite 105 Andrews AFB, MD 20762 301-981-3123 / 7244
Laurel College Center 312 Marshall Avenue Laurel, MD 20707 443-518-4162 Fax: 443-518-4161	NCI-Frederick Conference Center 549 Sultan Street Frederick, MD 21702 301-738-6090
Patuxent River Naval Air Station 21866 Cedar Point Road, Building 2189 Patuxent River, MD 20670 301-737-3228	Prince George's Community College 301 Largo Road Largo, MD 20774 301-981-3123
Shady Grove 9636 Gudelsky Drive, SG III, 4th Floor Rockville, MD 20850 301-738-6090 Fax: 301-738-6340	Southern Maryland Higher Education Center 44219 Airport Road Building II, Room 114 California, MD 20619 301-737-2500 ext. 215
Walter Reed National Military Medical Center 8901 Wisconsin Avenue Building 17, Room 2205 Bethesda, MD 20889 301-654-1377	Joint Base Anacostia – Bolling 112 Brookley Avenue Suite 110 Washington, DC 20032 202-563-3611
Fort Belvoir 9625 Belvoir Road Fort Bldg 1017, Suite 128	Fort Eustis 1387 Jackson Avenue Newport News, VA 23604

Belvoir, VA 22060 703-781-0059	757-510-3787
Fort Myer 239 Sheridan Ave Building 417 Fort Myer, VA 22211 Room 215 703-232-9752	Henderson Hall, Navy Annex 1555 S. Southgate Road Building 29, Room 203 Arlington, VA 22214 703-232-9752
Langley Air Force Base Hampton, VA 757-646-1530	Marine Corps Base Quantico 3089 Roan Street Wing D, Building 3089 Quantico, VA 22134 703-630-1543
NAB Little Creek Norfolk, VA 757-646-1530	NAS Oceana Virginia Beach, VA 23460 757-646-1530
NMC Portsmouth Portsmouth, VA 757-646-1530	NS Norfolk Norfolk, VA 757-646-1530
NSWC Dam Neck Virginia Beach, VA 757-510-3787	Balboa Naval Medical Center San Diego, CA 92134 619-995-4127
Marine Corp Recruit Depot San Diego, CA 92101 619-995-4127	NB Coronado NB Coronado, CA 619-995-4127
NB Point Loma San Diego, CA 92106 619-995-4127	NS San Diego San Diego, CA 92113 619-995-4127
Travis Air Force Base 530 Hickam Ave Room C-111 Travis AFB, CA 94535 707-344-6891	Eglin Air Force Base Eglin Education Center 502 "W" D Avenue, Suite 100 Eglin AFB, FL 32542-6838 850-502-7779
Hurlburt Field 1 SOMSS/DPE 221 Lukasik Ave, Suite 1 Hurlburt Field, FL 32544-5416 850-502-7779	NAS Jacksonville Jacksonville, FL 904-610-4361
NAS Pensacola Navy College Office 250 Chambers Avenue, Building 634 Pensacola, FL 32508 850-502-7779	NS Mayport Jacksonville, FL 904-610-4361
Fort Gordon Augusta, GA 706-207-1407	Kings Bay Kings Bay Base, GA 904-610-4361
NS Pearl Harbor Pearl Harbor, HI 808-223-3741	Schofield Barracks Schofield Barracks, HI 808-223-3741
MCB Kaneohe Bay MCB Kaneohe Bay, HI 808-223-3741	Camp Smith Halawa, HI 808-223-3741

Coast Guard Honolulu Honolulu, HI 808-223-3741	Fort Jackson Columbia, SC 706-207-1407
Fort Hood Fort Hood, TX 254-532-9890	Fort Sam Houston San Antonio, TX 210-247-7430
Lackland Air Force Base San Antonio, TX 254-532-9890	Fort Lewis Fort Lewis, WA 360-626-3593
McChord AFB McChord AFB, WA 360-626-3593	NAS Whidbey Island NAS Whidbey Island, WA 360-626-3593
Naval Base Kitsap-Bangor Bremerton, WA 360-626-3593	Naval Base Kitsap-Bremerton Bremerton, WA 360-626-3593
Naval Base Kitsap-Naval Hospital Bremerton, WA 360-626-3593	NS Everett Everett, WA 360-626-3593
203 East Lincoln Trail Boulevard Radcliff, KY 40160 270-351-8682	

Provide documentation showing the school's policy for the resolution of student and graduate comments and complaints. Provide complete contact information to which complainants may be referred.

## **SUBJECT: Student Grievance Procedures**

### **I. Introduction**

- A. In accordance with the Board of Regents Policy V-1.00 Policy on Student Affairs, approved on January 11, 1990, these procedures are for students who wish to seek redress for the acts or omissions of individual UMUC faculty or staff members, or UMUC academic departments or administrative units.
- B. Allegations of arbitrary and capricious grading will be processed under Policy 130.80 - Procedures for Review of Alleged Arbitrary and Capricious Grading. An allegation made by a student against another student will be processed under Policy 151.0 - Code of Conduct. Allegations of plagiarism against students will be processed under Policy 150.25 - Academic Dishonesty and Plagiarism. Allegations of discrimination or harassment will be processed in accordance with Policy 40.3 - Policy and Procedures on Affirmative Action, Equal Opportunity, and Sexual Harassment.
- C. When filing a student grievance under these Procedures, the burden of proof rests upon the student to provide clear and convincing evidence. See Section III. Procedures.

### **II. Definitions**

- A. The term "conference" refers to a communication between two or more individuals by telephone, in writing (including but not limited to e-mail, fax, or posted letter), through videoconferencing, or in person.
- B. The "administrator" for complaints against UMUC-Adelphi Undergraduate Programs faculty, staff, or academic departments is the Vice President and Dean, School of Undergraduate Studies. The administrator for complaints against UMUC-Adelphi Graduate School faculty, staff, or academic departments is the Senior Vice President for Academic Programs and Dean, Graduate School of Management and Technology. The administrator for complaints against UMUC-Adelphi Student Affairs staff or administrative units is the Associate Provost, Student Affairs. The administrator for complaints against UMUC-Europe or UMUC-Asia faculty, staff, academic departments or administrative units is the respective Associate Dean.
- C. The "respondent" refers to the individual UMUC faculty or staff member or UMUC academic departments or administrative units against whom the formal complaint is filed.

### **III. Procedures**

- A. Students who wish to seek redress for the acts or omissions of a respondent must first request a conference with the respondent and attempt to resolve the complaint informally within 14 calendar days of the alleged act or omission.
- B. If a satisfactory resolution is not reached, the student may file a formal complaint in writing to the administrator within 30 calendar days of the alleged act or omission. (If a Student Grievance is filed against the administrator, the formal complaint may be filed with the Provost. The written complaint must include
  1. A concise description of the act or omission,
  2. All facts relevant to the grievance,
  3. The resolution sought,
  4. All arguments in support of the desired solution, and
  5. Relevant supporting documentation.
- C. Upon receipt of the complaint, the administrator will immediately inform the respondent, in writing, of the alleged act or omission. Within 30 calendar days of receipt of the complaint, the administrator will conduct a preliminary administrative inquiry, which can be staffed by the administrator's designee(s). All material reviewed will be considered confidential and shared only with those with a need to know. The administrator or designee(s) may communicate with the respondent and give the respondent the opportunity to present any relevant evidence. The administrator will dismiss the

complaint if the student has failed to comply with procedure or if there is no evidence of the alleged act or omission based upon the inquiry.

- D. The student and the respondent will be notified of the decision in writing within 40 calendar days of the administrator's receipt of the complaint. Dismissal of the complaint at this stage by the administrator may be appealed to the Provost.

#### IV. **Investigation Committee**

- A. If the complaint is not dismissed within 40 calendar days of receipt of the formal complaint, the administrator will appoint a three-member ad hoc Investigation Committee within 14 calendar days. The Committee will consist of UMUC employees, with one member appointed chair of the Committee. No member of the Committee may be personally or professionally associated with the allegation. The Investigation Committee may be advised by legal counsel during this process. The administrator or designee(s) will instruct this Committee to review the materials obtained during the inquiry.
- B. Within 30 calendar days after being convened, the Committee will hold a fact-finding conference or conduct an investigation. The Committee will communicate with the respondent and the student and give them the opportunity to present any relevant evidence. The respondent may submit questions in writing for the student regarding the alleged act or omission.
- C. If a fact-finding conference is held, the respondent and the student will be entitled to be present. The respondent and the student may be accompanied by a representative, who may be an attorney, at his or her own expense. Representatives may advise during the course of a fact-finding conference, but shall not personally participate. Parties who wish to be accompanied by an attorney must inform the administrator in writing at least 5 calendar days before the scheduled date of the proceeding. Representatives may not appear in lieu of persons accused.
- D. Within 10 calendar days of holding a fact-finding conference or conducting an investigation, the Investigation Committee will deliberate and issue a brief written opinion containing the findings of the Investigation Committee and any recommendations to the administrator. The administrator will review the recommendations and render one of the following decisions:
  - 1. A ruling in favor of the student and the student's proposed resolution;
  - 2. A ruling in favor of the student with a new proposed resolution; or
  - 3. A ruling not in favor of the student.
- E. Within 10 calendar days of receiving the Investigation Committee's recommendation, the administrator or designee will notify the student and the respondent of the decision in writing.

#### V. **Appeals**

- A. If the student or respondent believes that the process and procedures outlined in this Policy were not followed, within 30 calendar days of the date of the administrator's dismissal in Section III.D. or the administrator's decision in Section IV.C., an appeal may be submitted to the Provost in writing. (If the Student Grievance was filed against the administrator and handled by the Provost, the appeal may be filed with the President.)
- B. Within 14 calendar days of receipt of the appeal, the Provost or designee(s) may review and communicate with the student, the respondent, the administrator, or the Investigation Committee to determine whether the process and procedures were followed. The Provost may render one of the following decisions:
  - 1. If the Provost finds evidence of violation of the process and procedures of this Policy, the Provost will direct the administrator to review the case anew.
  - 2. If the Provost finds no evidence of violation of the process and procedures this Policy, the Provost will uphold the ruling of the administrator.
- C. The Provost will respond, in writing, within 30 calendar days of the appeal.
- D. The decision of the Provost is final and is not appealable.

## **SUBJECT: Procedures for Review of Alleged Arbitrary and Capricious Grading**

### **I. Introduction**

In accordance with Board of Regents III - 1.20 Policy for Review of Alleged Arbitrary and Capricious Grading, approved January 11, 1990, UMUC has developed procedures to provide a means for a student to seek review of final course grades alleged to be arbitrary or capricious. These Procedures will not be used to review the intellectual judgment of a faculty member or to require another faculty member to re-grade or re-examine a student's work. In every case of alleged arbitrary and capricious grading, the burden of proof rests with the student.

### **II. Definitions**

- A. "Arbitrary and capricious grading" is defined as:
  - 1. A final course grade assigned on some basis other than performance in the course; or
  - 2. A final course grade assigned by resorting to unreasonable standards different from those that were applied to other students in that course; or
  - 3. A final course grade assigned by a substantial, unreasonable, or unannounced departure from the faculty member's previously articulated grading standards.
- B. The "Appeal Administrator" for undergraduate courses originating in Adelphi is the Vice President and Dean, School of Undergraduate Studies; for graduate courses originating in Adelphi is the Senior Vice President for Academic Programs and Dean, Graduate School of Management and Technology; for courses originating from UMUC-Europe or UMUC-Asia is the respective Associate Dean.

### **III. Student Procedures**

- A. If the student believes his/her final course grade is arbitrary and capricious as defined in section II.A., the student must first request a conference with the faculty member within 30 days from the date the grade was posted to discuss how the grade was calculated.
- B. If a satisfactory resolution is not reached and the student wishes to continue the process, the student must file a written request to know how the final grade was calculated with the appeal administrator within 60 days from the date the grade was posted.
- C. The appeal administrator or designee(s) will direct the appropriate departmental chairperson, academic director, or area director to review how the final grade was determined and to provide a written explanation within 30 days of the receipt of the written request. The appeal administrator shall be copied on the departmental response.
- D. If after receiving the response the student still believes that the final grade is arbitrary and capricious, or if after the 30-day period the student has not received a response, the student may file a written appeal of the final grade with the appeal administrator within 45 days after filing the written request. The appeal must be confined to information relevant to the allegation(s) and be accompanied by supporting documentation. The faculty member will be notified of the filing of the appeal.
- E. Within 30 days of receipt of the student's appeal, the appeal administrator or designee(s) will conduct a preliminary administrative inquiry. The appeal administrator or designee(s) may communicate with the student and faculty member and give them the opportunity to present any relevant evidence. Upon request, the student may see the information submitted by the faculty member relating to how the grade was calculated. However, the student will not have the right to see any information that violates the privacy rights of other students. The appeal administrator will dismiss the appeal if:
  - 1. The student has failed to comply with procedure;
  - 2. The student made allegations that, even if true, do not constitute arbitrary and capricious grading as defined; or
  - 3. There is no evidence of arbitrary and capricious grading based upon the inquiry conducted by the appeal administrator or designee(s).
- F. Dismissal of the appeal for any of the reasons listed above constitutes the final UMUC action on the appeal and is not itself appealable. The student and faculty member will be notified of the appeal administrator's decision in writing within 40 days of the receipt of the student's appeal.

- G. If the appeal is not dismissed or the student has not received a response within 40 days of the receipt of the student's appeal, the appeal administrator will appoint a three-member ad hoc Arbitrary and Capricious Grade Appeal Committee (known as "Appeal Committee"). The Appeal Committee may be advised by legal counsel during this process. The appeal administrator or designee(s) will instruct this Appeal Committee to review the materials obtained during the inquiry conducted by the appeal administrator or designee(s).
- H. The Appeal Committee will conduct an investigation, which may include a fact-finding meeting, to obtain additional information. The appeal administrator or designee(s) will communicate with the student and faculty member and give them the opportunity to present any relevant evidence.
- I. If a fact-finding conference is held, the student and the faculty member will be entitled to participate. If the student is unable to participate, the student may submit questions in writing for the faculty member regarding how the grade was determined and the grading process. The student and faculty member may be accompanied by a representative, who may be an attorney, at the student's or faculty's own expense. Representatives may advise during the course of a fact-finding conference, but shall not personally participate. Parties who wish to be accompanied by an attorney must inform the appeal administrator in writing at least 5 calendar days before the scheduled date of the proceeding. Representatives may not appear in lieu of persons accused.
- J. After the investigation is complete, the Appeal Committee will deliberate and render a recommendation to the appeal administrator. If the Appeal Committee finds the allegation of arbitrary and capricious grading to be supported by clear and convincing evidence, the Appeal Committee will recommend an appropriate remedy to the appeal administrator. The appeal administrator will review the recommendations and render a decision. Appropriate remedies include:
  - 1. directing the faculty member to grade the student's work anew;
  - 2. directing, if the student agrees to the action and the student has been made aware of the implications, that the course registration status be changed such that the grade does not affect the student's grade point average;
  - 3. directing the cancellation of the student's registration in the course with full tuition refund if no reasonable alternative is available; or
  - 4. directing that other action be taken.
- K. If the appeal administrator determines that arbitrary and capricious grading has not taken place, the student's appeal will be dismissed. This constitutes the final UMUC action and is not itself appealable.
- L. Within 75 days of the student's appeal, the appeal administrator or designee will notify the student and faculty member of the decision in writing. A copy of the final decision will be filed in the student's academic records and in the faculty member's portfolio.

**Filing Complaints with UMUC's Accreditor:**

UMUC is accredited by the Middle States Commission on Higher Education (MSCHE). Students who wish to file a complaint with MSCHE should refer to MSCHE's website for complete information: <http://www.msche.org/documents/How-to-File-a-Complaint-with-the-Commission.pdf>.

Complaints must be in writing, signed, and mailed to:

President, Middle States Commission on Higher Education  
 3624 Market Street, Second Floor West  
 Philadelphia, PA 19104-2680

Provide a copy of a current Certificate of Authority provided by the applicant's home state and the Iowa Secretary of State.

UMUC is one of 11 public, accredited, degree-granting institutions in the University System of Maryland (USM). As a state agency of Maryland, UMUC's authorization is derived from statutory law.

**See Attachment G, consisting of:**

- 1. Maryland Higher Education Commission's (MHEC) UMUC Profile**
- 2. UMUC's authorizing statute, Md. Education Code Ann. § 13-101**

**As a state agency of Maryland, a Certificate of Authority provided by the Iowa Secretary of State is not applicable to UMUC. UMUC does not qualify for a Certificate of Authority under Iowa Code § 490.1501, etc.**

Provide the U.S. Department of Education cohort default rate for each associated organizational entity for which the U.S. Department of Education reports a cohort default rate.

CDR 2009 (%)	CDR 2008 (%)	CDR 2007 (%)
4	3.8	3.5

Provide the average debt upon graduation of individuals completing programs at each branch location and the entire organization.

Of all full-time matriculated undergraduates who enrolled in 2008, 2,303 applied for aid, 2,180 were judged to have need, and 20 had their need fully met.

- Average percent of need met: 28%
- Average financial aid package: \$7206
- Average need-based loan: \$4269
- Average need-based gift aid: \$4578

### *Cost of Attendance*

The Cost of Attendance (COA) consists of both direct (fixed) costs such as tuition and fees, as well as indirect (variable) costs including books, transportation, computer, loan fees, personal expenses, and room and board. Each student's COA will vary depending on their program of study, actual enrolled credit load, residency, and living situation.

Each year the Financial Aid Office determines the estimated costs for students in each of these areas. To estimate their cost of attendance, students may use the following charts:

#### *Chart A Amount + Chart B Amount = Annual Cost of Attendance*

#### *Chart A—2011-2012 Stateside Annual Estimated Half-Time Tuition and Fees*

Half-time enrollment is the number of credits that the University defines as being one-half the full time number of credits. For all undergraduate students and most graduate students, 6 credits are considered half-time. For MBA and doctoral students, 3 credits are considered half-time. Tuition and fee charges are estimated based on students being enrolled for two semesters and are adjusted for actual enrollment.

<u>Classification</u>	<u>Undergraduate</u>	<u>Graduate</u>	<u>MBA/MS/Cybersecurity</u>	<u>Doctor of Management</u>
Maryland Resident	\$1,500	\$2,826	\$694 / credit	\$3,261
Nonresident of Maryland	\$3,072	\$4,032	\$694 / credit	\$3,261
Military	\$1,500	N/A	\$694 / credit	\$3,261

#### *Chart B—2011-2012 Annual Living Expenses*

Living expenses are estimated based on students being enrolled in the fall and spring semesters of the academic year and are adjusted for students who enroll for less than these two semesters.

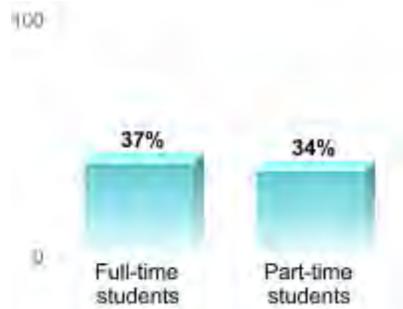
<b>Type of Expense</b>	<b>Undergraduate Living with Parents</b>	<b>Graduate Living with Parents</b>	<b>Undergraduate Living on Own</b>	<b>Graduate Living on Own</b>	<b>All Students Enrolled &lt; 1/2 time</b>
<b>Books</b>	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
<b>Room &amp; Board</b>	\$6,790	\$6,790	\$17,820	\$17,820	\$0
<b>Transportation</b>	\$600	\$600	\$600	\$600	\$0
<b>Computer</b>	\$500	\$500	\$500	\$500	\$500
<b>Loan Fees</b>	\$90	\$186	\$90	\$186	\$0
<b>Personal Expenses</b>	\$2,420	\$2,420	\$2,420	\$2,420	\$0
<b>TOTAL</b>	\$11,400	\$11,496	\$22,430	\$22,526	\$1,500

Provide the U. S. Department of Education cohort graduation rate for each branch location and the total organization, showing rates for graduates of diploma, two-year, and four-year, programs if those rates are reported to the U. S. Department of Education National Center for Education Statistics.

*First-to-Second Year Retention Rates*

Retention rates measure the percentage of first-time students who are seeking bachelor's degrees who return to the institution to continue their studies the following fall.

**Retention Rates for First-Time Students Pursuing Bachelor's Degrees**



**Percentage of Students Who Began Their Studies in Fall 2009 and Returned in Fall 2010**

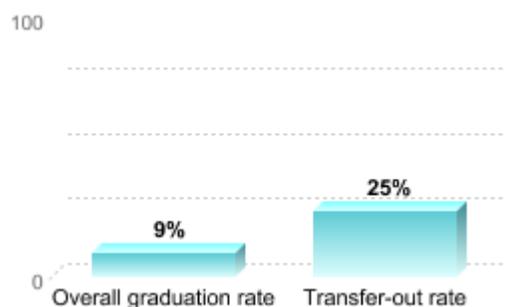
*Overall Graduation Rate and Transfer-Out Rate*

The overall graduation rate is also known as the "Student Right to Know" or IPEDS graduation rate. It tracks the progress of students who began their studies as **full-time, first-time degree- or certificate-seeking students** to see if they complete a degree or other award such as a certificate within 150% of "normal time" for completing the program in which they are enrolled.

Some institutions also report a transfer-out rate, which is the percentage of the full-time, first-time students who transferred to another institution.

Note that not all students at the institution are tracked for these rates. Students who have already attended another postsecondary institution, or who began their studies on a part-time basis, are not tracked for this rate. **At this institution, 3 percent of entering students were counted as "full-time, first-time" in 2010.**

**Overall Graduation and Transfer-Out Rates for Students Who Began Their Studies in Fall 2004**



**Percentage of Full-time, First-Time Students Who Graduated or Transferred Out Within 150% of "Normal Time" to Completion for Their Program**

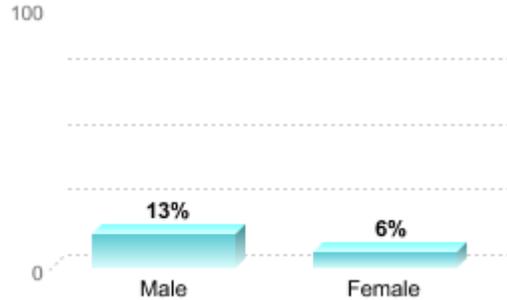
*Bachelor's Degree Graduation Rates*

Bachelor's degree graduation rates measure the percentage of entering students beginning their studies full-time and are planning to get a bachelor's degree and who complete their degree program within a specified amount of time.

**Graduation Rates for Students Pursuing Bachelor's Degrees**

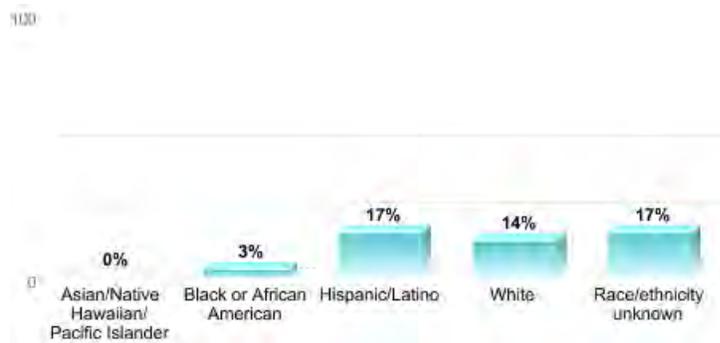
**Percentage of Full-time, First-time Students Who Graduated in the Specified Amount of Time**

**6-Year Graduation Rate by Gender for Students Pursuing Bachelor's Degrees**



**Percentage of Full-time, First-time Students Who Began Their Studies in Fall 2004 and Received a Degree or Award Within 150% of "Normal Time" to Completion for Their Program**

**6-Year Graduation Rate by Race/Ethnicity for Students Pursuing Bachelor's Degrees**



**Percentage of Full-time, First-time Students Who Began Their Studies in Fall 2004 and Received a Degree or Award Within 150% of "Normal Time" to Completion for Their Program**

**SIGNATURE**

**Applicant School Chief Executive Officer**

Javier Miyares  
Name

Acting President  
Title

Javier Miyares  
Signature

6/5/12  
Date

**If any information in this application changes between the time of application and Commission action, the school must inform the Commission by filing an Amended Application clearly indicating the information which is being amended. Amendments must be received before the Commission takes action.**



**UMUC**

University of Maryland University College

# 2011–2012 CATALOG

**SCHOOL OF**  
Undergraduate  
Studies

[www.umuc.edu](http://www.umuc.edu)



## UMUC in Maryland and Around the World

At University of Maryland University College (UMUC), a high-quality education is always within reach. UMUC is dedicated to offering on-site and online courses and resources to adult students in Maryland and around the world. Under contract to the U.S. Department of Defense, UMUC is one of the largest providers of education to the U.S. military worldwide and serves 50,000 active-duty military servicemembers, reservists, veterans and their families. With more than 150 worldwide locations in 27 countries and territories and more than 100 undergraduate and graduate degree and certificate programs offered entirely online, UMUC makes it possible to earn a widely respected degree from just about anywhere.

UMUC's commitment to students around the globe extends far beyond providing access to excellent degree programs. An online academic and administrative services portal, MyUMUC, makes it simple for students to register for courses, pay tuition, and order textbooks and other supplies when it's convenient for them. Students can also access academic and career advising, financial aid counseling, library services, and much more online via the university's Web site or by phone or e-mail. All over the world, UMUC gives its students what they need to succeed, putting goals within their reach.

This catalog provides the degree requirements and recommended curriculum for students who begin continuous study on or after August 1, 2011. (Details are listed on p. 7.) Students should keep their catalog available for easy reference throughout their degree program.

## From the Dean



Welcome to UMUC's School of Undergraduate Studies. The School of Undergraduate Studies is committed to helping you learn and succeed in your academic journey and your professional career.

With this commitment in mind, we are introducing refreshed and invigorated academic programs and revised courses that align with program out-

comes. Over the past two years, these program and course outcomes were developed by faculty members and professionals in the field to combine the latest academic theory with the most practical skills that employers need and demand. As a result, academic programs have been focused and strengthened, and all programs, courses, and assignments have been designed with your professional career in mind.

Use this catalog as your map to UMUC. Inside you will find degree requirements, recommended course sequences, academic and administrative policies and requirements, admission and enrollment information, and information on services and locations. All of this information—and more—may also be found at our Web site ([www.umuc.edu](http://www.umuc.edu)) and in the university's information and service portal, MyUMUC (<https://my.umuc.edu>).

I am pleased to be the first to welcome you to UMUC. You have my best wishes for your academic and professional success.

Sincerely,

A handwritten signature in black ink that reads "Marie A. Cini". The signature is written in a cursive, flowing style.

Marie A. Cini, PhD  
Vice President and Dean,  
School of Undergraduate Studies

### POLICY STATEMENT

This publication and its provisions do not constitute, and should not be regarded as, a contract between UMUC and any party or parties. At the time of publication, reasonable effort was made to ensure the factual accuracy of the information. However, this publication is not a complete statement of all policies, procedures, rules, regulations, academic requirements, and tuition and fees applicable to UMUC, its students, or its programs. In addition, changes or additions may be made to the policies, procedures, rules, regulations, and academic requirements set out in this publication. UMUC reserves the right to make these changes and additions to the information in this publication without prior notice. When a curriculum or graduation requirement is changed, it is not made retroactive unless the change is to the student's advantage and can be accommodated within the span of years normally required for graduation. *See additional policies on inside back cover.*



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# Welcome to UMUC

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## A UNIQUE INSTITUTION

University of Maryland University College (UMUC) is unique among institutions of higher education. From its founding in 1947, UMUC was designed to meet the educational needs of adult students—students who must balance study with the demands of work and family life.

Today UMUC has grown to be the largest public university in the nation, serving students throughout the state, the country, and the world. Yet its focus on providing open access to high-quality educational programs and services—eliminating the barriers that can keep students from achieving their educational goals—remains unchanged.

---

## CARRYING OUT THE MISSION

### Students First

At UMUC, student success is of paramount importance. The university seeks not only to help students fulfill their current education goals but also to create an educational partnership that will last throughout their lives.

To that end, the university looks first for ways to ensure that students can easily access programs and services. Admission policies are designed to simplify the process (standardized tests are not required), making it possible for students to apply and register at the same time.

As a global university, UMUC makes it possible for students to take classes any time, any place, by offering one of the largest selections of online programs available—in addition to classes at sites throughout Maryland and the metropolitan Washington area and at military sites all over the world. Student services can also be accessed online and by phone, as well as on-site.

Convenience and flexibility are not the only concern, however. UMUC seeks to create a learning environment that students will find respectful of their diverse backgrounds, inclusive, responsive, and relevant.

Recognizing that financial concerns are often the biggest obstacle to higher education, UMUC also strives to keep tuition costs low and provides numerous financial aid opportunities, including scholarships for military and community college students.

### Excellence

A regionally accredited university, UMUC is dedicated to providing the highest quality programs and services to its students and ensuring excellence in its online and on-site courses.

In providing these programs, UMUC relies on a renowned faculty of scholars—practitioners—teachers who bring real-world experience as well as advanced academic credentials to courses—and the use of the latest technologies. UMUC also is able to provide a wealth of resources to its students because of its place within the University System of Maryland.

The success of UMUC's efforts is evident. Year after year, UMUC continues to garner awards from such notable organizations as the University Professional and Continuing Education Association, the Sloan Consortium, and the Maryland Distance Learning Association.

### Innovation

UMUC has always looked for new and better ways to serve students. Long before the online revolution, UMUC was delivering courses to students at distant locations, using any and all available technologies—from interactive television to voice mail. Today, students access both courses and services

online, using WebTycho, UMUC's proprietary course-delivery system, and MyUMUC, the university's online gateway to services and information. UMUC's faculty also strive to find new ways to best use these technologies to assist their students' learning.

---

## FACILITIES AND PROGRAMS

UMUC offers degree programs from the associate's level to the doctorate. Most undergraduate and graduate programs are available online. These academic programs are administered by the School of Undergraduate Studies and the Graduate School of Management and Technology, which includes the Institute for Global Management. UMUC also provides noncredit leadership development programs through its National Leadership Institute (NLI).

The university's administrative headquarters are located in Adelphi, Maryland, and also serve as home to a prestigious art collection and a conference facility, the Inn and Conference Center, operated by Marriott. The Academic Center at Largo houses both the School of Undergraduate Studies and the Graduate School of Management and Technology, as well as all related academic support units. Most classes and services, however, are provided at more than 150 sites worldwide, as well as through cutting-edge technology—online via the university's proprietary course delivery system, WebTycho.

---

## FOR ASSISTANCE

Assistance is available by e-mail at [info@umuc.edu](mailto:info@umuc.edu) or by phone at 800-888-UMUC (8682).

# School of Undergraduate Studies

The mission of the School of Undergraduate Studies at University of Maryland University College is to provide open access to quality undergraduate educational opportunities to women and men around the world, including residents of the state of Maryland, members of the U.S. Armed Services, and national and international students pursuing a university education on-site and online. It seeks to produce graduates who are well prepared to be responsible citizens in a global society, as well as effective participants in the complex, fast-changing world of work.

The School of Undergraduate Studies is committed to meeting undergraduate students' needs for lifelong learning by providing innovative delivery of high-quality educational programs, ensuring substantive and relevant curricula, and recognizing the value of experiential learning. At the undergraduate level, UMUC offers the Associate of Arts (available only to active-duty military personnel and other special populations), the Bachelor of Arts, the Bachelor of Science, and the Bachelor of Technical and Professional Studies degrees, as well as a wide range of undergraduate certificates.

---

## PREPARING CITIZENS FOR THE 21ST CENTURY

UMUC prepares graduates to be effective professionals and citizens in their organizations, communities, and families. The university values the contributions of both a broad-based education and specific disciplines to the undergraduate experience and thus incorporates cross-curricular context and analytical approaches in all programs to complement practice.

Instruction and curricula at UMUC are based on the belief that certain abilities are the hallmarks of success-

ful learning. UMUC expects students to demonstrate knowledge and skills not only in the major areas of study, but also in critical analysis, reasoning, and problem solving; diverse cultures and historical periods; the use of technology; key concepts and principles of the natural, social, and behavioral sciences; information literacy; effective writing and communication; mathematical and quantitative reasoning; and the application of frameworks for ethical decision making. These hallmarks of a UMUC undergraduate education are instilled through a broad foundation in general education and integrated into a strong and focused major area of study. Students' mastery of these abilities is planned and assessed throughout their program of study.

For their core studies, students may choose one of 33 majors from a wide variety of academic fields, including business administration, cybersecurity, humanities, communication studies, biotechnology, social science, legal studies, environmental management, information systems management, and fire service administration. (A chart of available programs is on pp. 10–11.) Academic minors are available in 38 different areas. All the majors and minors were reviewed and revised in the past year in consultation with faculty, employers, professional and educational organizations, and other experts in the field. These academic programs prepare students for the modern workplace and also help working students put their current knowledge into a broader context.

Recognizing the importance of lifelong learning, UMUC also offers 30 undergraduate certificates covering specific content areas in business and management, communications, computing and technology, gerontology, paralegal studies, and science and security. Certificates are especially valuable

for students who wish to refresh their skills, gain knowledge to help them advance to a higher level or different specialty in the workplace, or earn a credential that may assist with career advancement while progressing toward the bachelor's degree. (Full descriptions of certificates begin on p. 87.) Courses toward these certificates may also be applied toward the bachelor's degree.

---

## SERVING ADULT STUDENTS

UMUC welcomes all students and helps them achieve their educational goals but has a special focus on the needs of adult students in the workforce. In 2010, more than 70 percent of UMUC undergraduates worked full-time, and nearly half were working parents. Currently, the median age for stateside undergraduate students is 34 years old.

In recognition of the diverse educational goals and aspirations of its students, the university uses a variety of strategies to ensure access and facilitate degree completion. Knowing that adult students bring experience as well as a willingness to learn, UMUC acknowledges the value of that experience by incorporating the assessment of nontraditional learning in the evaluation of students. Since adult students may have gained college-level learning from multiple sources, UMUC offers a number of innovative credit options that recognize the learning achieved through work and life experience and accelerate progress toward the degree. These options (described on pp. 227–29) include Cooperative Education, which offers credit for new learning in the workplace, and Prior Learning, which offers credit for college-level learning acquired through previous work or life experience. UMUC also accepts credit from community college coursework and a variety of other sources, includ-

ing military service credit and credit by examination (described on pp. 229–32).

UMUC understands the demands of balancing work, family, and study and responds by offering undergraduate classes at convenient locations and times, including evenings and weekends. Courses are also provided in innovative formats, including accelerated sessions, online delivery, and hybrid courses that combine on-site and online delivery. The rapid growth in undergraduate enrollments at UMUC testifies to the convenience, flexibility, and substantive content of its academic offerings in all formats.

---

### EDUCATIONAL PARTNERSHIPS

UMUC is dedicated to collaboration and cooperation with other Maryland educational institutions, both public and private, and actively seeks partnerships with those institutions to benefit Maryland citizens. For more than 60 years, UMUC has proudly served the U.S. military through its educational partnerships in Europe and Asia. The university also reaches out through educational collaborations around the world.

In support of the university's mission to extend access to educational opportunities to Maryland's adult students, UMUC has formed alliances with all 16 Maryland community colleges (listed at right), enabling students to earn an associate's degree at an allied community college and finish a bachelor's degree by completing required coursework at UMUC. These alliances offer students a seamless transition between curricula through linked degree programs. Numerous locations in Maryland and the Washington, D.C., area and online courses enable students to complete associate's and bachelor's degrees conveniently close to home. Special UMUC scholarships

are also available for graduates from Maryland community colleges.

UMUC is a charter member of MarylandOnline, a consortium of Maryland community colleges and universities formed to encourage collaboration among institutions across Maryland and to extend resources for the development and delivery of online courses.

The School of Undergraduate Studies works in partnership with the Graduate School of Management and Technology to develop accelerated pathways for students who wish to earn their graduate degree at UMUC. Programs with articulated pathways include accounting, business administration, cybersecurity, computer science, English, history, social science, emergency management, and homeland security. More information may be obtained from an academic advisor or the graduate catalog.

UMUC also works to develop strong strategic partnerships with local and national leaders in business and industry, government, and nonprofit organizations and is an important partner in the region's economic development.

UMUC values employers' viewpoints. In 2010, the School of Undergraduate Studies convened advisory councils made up of corporate, governmental, and nonprofit leaders to review its degree programs and identify the most current and workplace-relevant learning outcomes. Consistent with its mission of bringing convenient and relevant learning opportunities to the workforce, UMUC has developed strong relationships with many prominent employers in the area and around the country, including the American Bankers Association, the Federal Bureau of Investigation, Northrop Grumman IT, and Geico.

UMUC has developed customized programs for employers and organizations across the country. The university has developed articulated programs with other educational institutions nationwide—including community colleges across the United States—and internationally, including Far East National University and Irkutsk State University in Russia.

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### ALLIANCE PARTNERS

UMUC has established alliance agreements with more than 50 community colleges across the United States, including all 16 Maryland community colleges (listed below), all of which are visited regularly by UMUC representatives. More information and a list of out-of-state alliance partners may be found online at [www.umuc.edu/alliances](http://www.umuc.edu/alliances).

- Allegany College of Maryland
- Anne Arundel Community College
- Baltimore City Community College
- Carroll Community College
- Cecil College
- Chesapeake College
- College of Southern Maryland
- Community College of Baltimore County
- Frederick Community College
- Garrett College
- Hagerstown Community College
- Harford Community College
- Howard Community College
- Montgomery College
- Prince George's Community College
- Wor-Wic Community College

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### FOR MORE INFORMATION

For more information about UMUC and the School of Undergraduate Studies, students should contact the university by phone at 800-888-UMUC or by e-mail at [umucinfo@umuc.edu](mailto:umucinfo@umuc.edu).

# BACHELOR'S DEGREE REQUIREMENTS

At the undergraduate level, UMUC offers the Bachelor of Arts (BA), Bachelor of Science (BS), and Bachelor of Technical and Professional Studies (BTPS) degrees, as well as 30 certificates. The Associate of Arts degree, the Bachelor of Science in general studies, and several other certificates are available only to active-duty military personnel and others who conform to special stipulations. The Bachelor of Technical and Professional Studies degree programs are available only to students who have earned the Associate of Applied Science degree from a community college with which UMUC has an appropriate articulation agreement.

Except for those restricted programs, current UMUC degree programs are open to UMUC students anywhere in the world. However, offerings sufficient to complete every program may not be available at every location or in every format. Students should consult advisors, current schedules, and site-specific materials to determine which programs they may normally expect to complete from their geographic location.

Requirements for degrees vary according to the major and minor. The requirements that all candidates for the bachelor's degree must meet are summarized in the following sections.

## EXPECTATIONS

UMUC aims to produce graduates who are well prepared to be responsible citizens of a global society as well as effective participants in the complex, fast-changing world of work. A bachelor's degree from UMUC offers a multidimensional experience, combining a solid educational foundation with cross-curricular breadth and focused study in an academic discipline. That experience is designed to help UMUC graduates develop intellectual ability, curiosity, and flexibility; fundamental skills in reasoning, analysis, investigation, and expression; understanding of the principles of scientific and intellectual inquiry; awareness of global and historical context; and civic and ethical responsibility.

The UMUC degree begins with basic intellectual tools, using the general education and other degree requirements to provide opportunities for students to acquire the knowledge and skills they need to demonstrate the hallmarks of the educated person:

- Effective writing and oral communication skills
- Competence in the use of information technology
- Competence in information literacy skills
- Competence in mathematical and quantitative reasoning skills
- Competence in critical analysis, critical reasoning, and problem solving
- Understanding of key concepts and principles of the natural, social, and behavioral sciences

- Knowledge of diverse cultures and historical periods
- Understanding of frameworks for ethical decision making and the ability to apply them

UMUC conducts learning outcomes assessments to measure and improve student learning in these areas as well as in specific disciplinary knowledge and skills.

In pursuit of an academic major (and minor), the UMUC student has the ability to master a considerable body of knowledge in a specific academic subject area or group of related subjects. Each major provides clearly articulated learning outcomes for the knowledge, skills, and abilities a student is expected to acquire in completing the major.

## REQUIREMENTS

In general, the UMUC degree requirements that apply to a student are those that were in effect when the student began continuous enrollment in any public institution of higher education in Maryland (including UMUC). If the student has not been continuously enrolled, the requirements that apply are those in effect at UMUC when the student resumes continuous enrollment. To be considered continuously enrolled, degree-seeking students must be or have been enrolled at UMUC or another Maryland public institution of higher education and have had no more than two sequential years of nonenrollment. When a continuously enrolled student chooses to change his or her degree program, the student may be subject to all degree requirements in effect at the time of the change.

The following requirements for the BA, BS, and BTPS are applicable to students who enroll on or after August 1, 2011.

# BACHELOR'S DEGREE REQUIREMENTS

## GENERAL EDUCATION REQUIREMENTS

## CREDITS

**Note:** Courses applied to general education requirements may not be applied toward major, minor, or elective requirements and may not be taken pass/fail.

### A. Communications 12

#### WRTG 101 (3 credits)

Must be completed within the first 18 credits. Placement test required. May not be earned through credit by examination.

#### Another writing course (3 credits)

All 3-credit WRTG courses (except WRTG 288, 388, 486A, or 486B); ENGL 102, 294, 303, and 485; and JOUR 201 apply.

#### A course in communication, writing, or speech (3 credits)

All 3-credit COMM, SPCH, and WRTG courses (except 486A and 486B); ENGL 102, 281, 294, 303, 384, and 485; and JOUR 201 apply.

#### An upper-level advanced writing course (3 credits)

WRTG 391, 393, and 394 apply.

May not be earned through credit by examination.

No more than 3 credits in writing may be earned by examination.

### B. Arts and Humanities 6

One course that offers a historical perspective (any 3-credit ARTH or HIST course except ARTH 100).

One 3-credit course chosen from the following disciplines: ARTH, ARTT, ASTD (depending on course content), GRCO, HIST, HUMN, MUSC, PHIL, THET, dance, literature, or foreign language.

The two courses must be in different disciplines.

### C. Behavioral and Social Sciences 6

One 3-credit course each in two of the following disciplines: AASP (AASP 201 only), ANTH, ASTD (depending on course content), BEHS, CCJS (CCJS 100, 105, 350, 360, 432, 453, 454, and 461 only), ECON, GEOG, GERO (except GERO 341, 342, 351, and 353), GVPT, PSYC, SOCY, or WMST (WMST 200 only).

### D. Biological and Physical Sciences 7

A science lecture course (3 credits) with related laboratory course (1 credit) or a science course combining lecture and laboratory (4 credits).

Any other science course (3 credits).

Courses from the following disciplines may satisfy both requirements:

ASTR, BIOL, CHEM, GEOL, NSCI, PHYS, biotechnology, botany, entomology, general science, and zoology.

### E. Mathematics 3

MATH 106, MATH 107, or a course at or above the level of college algebra.

Must be completed within the first 18 credits. Placement test required.

**Note:** MATH 115 (or MATH 107–108) is required for the majors in computer science and environmental management.

### F. Interdisciplinary or Emerging Issues 7

One course (LIBS 150) in information literacy and research methods (1 credit), which must be completed within the first 18 credits.

A total of 6 credits in computing courses as follows:

- IFSM 201 or CMST 303 (3 credits)
- An additional computing course appropriate to the academic major (3 credits)

Students should refer to the specific major for requirements or recommendations. Unless otherwise specified, upper- or lower-level courses in CMIS, CMIT, CMSC, CMST, CSIA, and IFSM and ACCT 326 apply. **Note:** Either IFSM 300 or ACCT 326 is required for majors in emergency management, fire service administration, homeland security, and all business-related fields.

**Total General Education Requirements 41**

## MAJOR, MINOR, AND ELECTIVE REQUIREMENTS CREDITS

### A. Academic Major 30–38

The number of credits required to complete an academic major varies according to academic program. At least half the credits earned within the major must be upper level (i.e., earned in courses numbered 300 and higher) and must be earned through UMUC. No grade may be lower than C. Specific coursework is prescribed for each major and is described in the following chapter.

Students may receive a dual major upon completion of all requirements for both majors, including the required minimum number of credits for each major and all related requirements for both majors; however, the same course may not be used to fulfill requirements for more than one major. Certain restrictions (including use of credit and acceptable combinations of majors) apply for double majors. Students may not major in two programs with excessive overlap of required coursework. Students should consult an advisor before selecting a double major.

### B. Academic Minor 15–17

Choosing a minor is strongly encouraged even though it is optional for all but accounting majors. Students may not take a major and minor in the same area and may not receive a dual minor. The number of credits required to complete an academic minor varies according to academic program. At least half the credits earned within the minor must be upper level (unless otherwise specified) and must be earned through UMUC. No grade may be lower than C. Specific coursework is prescribed for each minor and is described in the following chapter.

### C. Electives

24–34

Electives may be taken in any academic discipline. No more than 21 credits may consist of vocational or technical credit (described on p. 231). Pass/fail credit, up to a maximum of 18 credits, may be applied toward electives only.

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**Total Major, Minor, and Elective Requirements**

**79**

## Overall Bachelor's Degree Requirements

In addition to the general education requirements and the major, minor, and elective requirements listed on p. 8, the overall requirements listed below pertain to all bachelor's degrees.

1. Students must complete a minimum of 120 credits.
2. Students must maintain a minimum grade point average of 2.0 (C) overall and a minimum grade of C (2.0) for any course applied to the academic major or minor.
3. Within the 120 credits required, the following coursework must be taken through UMUC:
  - 30 credits (normally the final 30)
  - Half of the required number of credits within both the major and the minor
  - 15 credits at the upper level (i.e., earned in courses numbered 300 to 499), preferably within the major or minor
4. At least 45 credits must be upper level and include
  - At least one-half of the credits required for the major
  - 3 credits in advanced writing

The remaining upper-level credits may be earned in any part of the curriculum.
5. At least half the required number of credits for any academic major or minor must be earned through graded coursework. Credit earned by examination, portfolio assessment, internships/Cooperative Education, or non-collegiate training does not count as graded coursework.

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**Total Degree Requirements**

**120 Credits**

## Second Bachelor's Degree

At UMUC, students who have already received a bachelor's degree from UMUC or from another approved institution can broaden their education by earning a second bachelor's degree with a different major. However, students may not earn a second bachelor's degree with a double major. Students may not earn a second degree in general studies and, except for the accounting degree which has a mandatory minor, may not obtain an academic minor or a second associate's degree within the second bachelor's degree.

A student must have received the first bachelor's degree to be eligible to begin a second. For a second bachelor's degree, the student needs to complete at least 30 credits through UMUC after completing the first degree. The combined credit in both degrees must add up to at least 150 credits.

To qualify for academic honors in a second bachelor's degree, the student must complete at least 45 new credits through UMUC with the requisite grade point average.

Students must complete all requirements for the major. All course prerequisites apply. If any of these requirements were satisfied in the previous degree, the remainder necessary to complete the minimum 30 credits of new courses should be satisfied with courses related to the major. For purposes of determining what major requirements apply to a given student, the applicable date is the date the student started coursework at UMUC after being admitted into the second undergraduate degree program. As with other degrees, continuous enrollment at UMUC is required. A minimum grade point average of 2.0 in all courses taken through UMUC is required for graduation.

All students need to be aware of what is entailed in a second bachelor's degree. Before beginning work or considering non-traditional options toward a second degree, each student should consult an academic advisor. Advisors will be glad to explain the requirements for a second bachelor's degree and clarify its limitations.

# BACHELOR'S DEGREE REQUIREMENTS

## PROGRAM CHOICES

DISCIPLINE	MAJOR	MINOR	CERTIFICATE(S)
<b>Accounting</b>	p. 13	p. 14	Introductory accounting, p. 88 Advanced accounting, p. 88 Fraud investigation, p. 94
<b>African American studies</b>		p. 15	
<b>Art</b>		p. 15	Computer graphics and design, p. 90
<b>Art history</b>		p. 15	
<b>Biology</b>		p. 16	
<b>Biotechnology</b>	p. 16		
<b>Business administration</b>	p. 18	p. 19	Business project management, p. 89 Management foundations, p. 98
<b>Business law and public policy</b>		p. 20	
<b>Business supply chain management</b>		p. 20	
<b>Communication studies</b>	p. 21	p. 22	Workplace communications, p. 102
<b>Computer and information science</b>	p. 22		Database design and implementation, p. 92 Object-oriented design and programming, p. 99
<b>Computer networking and security</b>	p. 24		Computer networking, p. 91
<b>Computer science</b>	p. 26		Game development, p. 95
<b>Computing</b>		p. 27	
<b>Criminal justice</b>	p. 28	p. 29	Criminal justice intelligence, p. 91
<b>Customer service management</b>		p. 29	
<b>Cybersecurity</b>	p. 30		Information assurance, p. 97
<b>Digital media and Web technologies</b>	p. 31		Desktop publishing, p. 93 Internet technologies, p. 98 Visual Basic programming, p. 101
<b>East Asian studies</b>	p. 33	p. 34	
<b>Economics</b>		p. 34	
<b>Emergency management</b>	p. 35	p. 36	
<b>English</b>	p. 37	p. 38	
<b>Environmental management</b>	p. 38	p. 39	
<b>Finance</b>	p. 40	p. 41	Financial management, p. 94
<b>Fire service administration</b>	p. 42	p. 44	
<b>Forensics</b>		p. 44	
<b>General studies</b>	p. 45		

## PROGRAM CHOICES (continued)

DISCIPLINE	MAJOR	MINOR	CERTIFICATE(S)
Gerontology	p. 45	p. 46	Health issues for the aging adult, p. 96
Global business and public policy	p. 47		
Graphic communication	p. 49		Web design, p. 101
History	p. 50	p. 52	
Homeland security	p. 52	p. 54	
Humanities	p. 54	p. 56	
Human resource management	p. 56	p. 58	Human resource management, p. 96
Information systems management	p. 58		Database management, p. 92 Information management, p. 97 Project management for IT professionals, p. 100 Visual Basic programming, p. 101
International business management		p. 60	
Investigative forensics	p. 60		
Journalism		p. 62	
Laboratory management	p. 62		
Legal studies	p. 64		Paralegal studies, p. 99
Management studies	p. 65		Management foundations, p. 98
Marketing	p. 67	p. 68	
Mathematical sciences		p. 68	
Microbiology		p. 69	
Natural science		p. 69	
Philosophy		p. 69	
Political science	p. 70	p. 71	Terrorism and institutions: Prevention and response, p. 100
Psychology	p. 71	p. 73	Clinical mental health care, p. 90 Human development, p. 96
Social science	p. 73		Applied behavioral and social sciences, p. 89 Diversity awareness, p. 93
Sociology		p. 75	
Spanish			Workplace Spanish, p. 102
Speech communication		p. 75	
Strategic and entrepreneurial management		p. 76	
Women's studies		p. 76	

# BACHELOR'S DEGREE CURRICULA

## MAJORS AND MINORS

The academic major requires 30 to 38 credits, while the minor (optional) requires 15 to 17 credits. Students must maintain a minimum grade point average of 2.0 (C) and earn a minimum grade of C (2.0) for any course applied to the major or minor.

Half of the credit applied toward any major must be upper level, and at least half of the credit for any major or minor must be taken through UMUC. At least half of the credit applied toward a major or minor must be earned through graded coursework. A maximum of six 1-credit courses may be applied to a major or minor. Students must also fulfill all overall requirements for the bachelor's degree (listed on p. 9).

Majors and minors are described in the following section.

## Majors

Most majors are available only for the Bachelor of Arts (BA) or the Bachelor of Science (BS) degree. Only two majors are available for either the Bachelor of Technical and Professional Studies (BTPS) or the BS degree. All students with dual majors are awarded the BS degree, regardless of major.

### Available for the BA

- Communication studies
- East Asian studies
- English
- Graphic communication
- History
- Humanities

### Available for the BS

- Accounting
- Business administration
- Computer and information science
- Computer networking and security
- Computer science
- Criminal justice
- Cybersecurity
- Digital media and Web technologies
- Emergency management
- Environmental management
- Finance
- Fire service administration
- General studies\*
- Gerontology

- Global business and public policy
- Homeland security
- Human resource management
- Information systems management
- Investigative forensics
- Legal studies
- Management studies
- Marketing
- Political science
- Psychology
- Social science

### Available for the BTPS or BS\*\*

- Biotechnology
- Laboratory management

## Minors

Academic minors are strongly recommended but optional. They are available in the following areas:

- Accounting
- African American studies
- Art
- Art history
- Biology
- Business administration
- Business law and public policy
- Business supply chain management
- Communication studies
- Computing
- Criminal justice
- Customer service management
- East Asian studies
- Economics
- Emergency management
- English
- Environmental management
- Finance
- Fire service administration
- Forensics
- Gerontology
- History
- Homeland security
- Humanities
- Human resource management
- International business management
- Journalism

\* Available only to active-duty military personnel in UMUC Europe and UMUC Asia and certain others who conform to special stipulations. General studies is not available for a double major.

\*\* Available only to students who have completed the required lower-level coursework for the major either within an Associate of Applied Science degree at a community college with which UMUC has an articulation agreement or within another appropriate transfer program. Students should consult an advisor before selecting these majors.

Marketing  
Mathematical sciences  
Microbiology  
Natural science  
Philosophy  
Political science  
Psychology  
Sociology  
Speech communication  
Strategic and entrepreneurial management  
Women's studies

#### DESCRIPTIONS OF MAJORS AND MINORS

## Accounting

Students may seek either an academic major or minor in accounting.

### Major in Accounting

The accounting major combines theory and practice to prepare students for analysis of and reporting on the economic activities of organizations and communication of that information to decision makers. Students develop skills in managerial accounting, budgeting, accounting systems, internal controls, financial analysis, financial reporting, internal and external auditing, taxation, and international accounting. The major prepares students for a range of accounting careers in profit, not-for-profit, and government organizations.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in accounting to reduce their total coursework for the graduate degree by 6 credits (two courses) and complete both degrees with a total of 150 credits of coursework. More information is available in the graduate catalog.

### Intended Program Outcomes

The student who graduates with a major in accounting will be able to

- Work effectively with interdisciplinary professionals and diverse stakeholders.
- Communicate with financial and nonfinancial audiences in a clear and concise manner, by making appropriate decisions about relevancy, reliability, and medium.

- Research, prepare, analyze, and review financial and business data by applying accounting and business management principles and standards to produce financial and business reports.
- Proficiently use current technology and analytical tools to perform business functions, work collaboratively, and facilitate decision making.
- Employ analysis, critical thinking, and problem solving to identify, test, and validate processes, systems, and financial data to advise stakeholders.
- Define, develop, and demonstrate ethical business practices and accountability by identifying and addressing current and emerging ethical and regulatory issues.
- Develop professionally by collaborating, training, mentoring, negotiating, solving problems creatively, and participating in networking activities to demonstrate and develop leadership skills.

### Degree Requirements

A degree with a major in accounting requires the successful completion of 120 credits of coursework, including 54 credits for the major and mandatory minor in business administration, 41 credits in general education requirements, and 25 credits in electives and other requirements. At least 18 credits in the major and 9 credits in the minor must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE ACCOUNTING MAJOR

Coursework for a major in accounting, with a mandatory minor in business administration, includes the following:

- Required core courses (21 credits): ACCT 220, 221, 310, 311, 321, 323, and 422
- Supplemental major courses (12 credits): Any upper-level ACCT courses
- Required capstone course (3 credits): ACCT 495
- Required minor courses (18 credits): STAT 230 (or 200); ACCT 411 (or BMGT 496); BMGT 364 and 380; FINC 330; and MRKT 310
- Required related courses (9 credits), which may be applied anywhere in the degree: ACCT 326 (or IFSM 300) and ECON 201 and 203

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in accounting. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

# BACHELOR'S DEGREE CURRICULA

## Accounting Degree Courses

## Credits

### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
BMGT 110	Introduction to Business and Management <i>(strongly recommended elective for students with no prior business experience)</i>	3
◆ ACCT 220	Principles of Accounting I	3
<b>Introductory Courses (to be taken within the first 30 credits)</b>		
◆ ACCT 221	Principles of Accounting II	3
ECON 201	Principles of Macroeconomics <i>(related requirement for the major; also fulfills the first behavioral and social sciences requirement)</i>	3
NSCI 100 and NSCI 101	Introduction to Physical Science Physical Science Laboratory <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201 <i>or CMST 303</i>	Concepts and Applications of Information Technology Advanced Application Software	3 3
<b>Foundation Courses (to be taken within the first 60 credits)</b>		
PHIL 140 <i>or a foreign language course</i>	Contemporary Moral Issues <i>or other arts and humanities course</i>	3
◆ STAT 230 <i>or STAT 200</i>	Introductory Business Statistics Introduction to Statistics	3 3
ECON 203	Principles of Microeconomics <i>(related requirement for the major)</i>	3
GVPT 170	American Government <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
BIOL 101 <i>or ASTR 100</i>	Concepts of Biology Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3 3
◆ ACCT 310	Intermediate Accounting I	3
HIST 142 <i>or HIST 157</i>	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3 3
◆ ACCT 321	Cost Accounting	3
SPCH 100 <i>or WRTG 293</i>	Foundations of Oral Communication Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	3 3

ACCT 326 <i>or IFSM 300</i>	Accounting Information Systems Information Systems in Organizations <i>(fulfills the interdisciplinary issues/computing requirement; students should note prerequisites)</i>	3
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### Additional Required Courses (to be taken after introductory and foundation courses)

◆ BMGT 364	Management and Organization Theory	3
◆ ACCT 311	Intermediate Accounting II	3
◆ ACCT 323	Federal Income Tax I	3
◆ ACCT 411 <i>or BMGT 496</i>	Ethics and Professionalism in Accounting Business Ethics	3 3
◆ ACCT 422	Auditing Theory and Practice	3
WRTG 394	Advanced Business Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ ACCT 410	Accounting for Government and Not-for-Profit Organizations <i>or other upper-level ACCT course (supplemental major course)</i>	3
◆ ACCT 425	International Accounting <i>or other supplemental major course</i>	3
◆ FINC 330	Business Finance	3
◆ ACCT 433	Audit and Control of Information Technology <i>or other supplemental major course</i>	3
◆ BMGT 380	Business Law I	3
◆ ACCT 427	Advanced Auditing <i>or other supplemental major course</i>	3
◆ MRKT 310	Marketing Principles	3

### Capstone Course for Major (to be taken in the last 15 credits)

◆ ACCT 495	Contemporary Issues in Accounting Practice	3
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### Additional Elective Courses (to be taken in the last 60 credits along with required major courses)

<u>Recommended Elective</u>		
ACCT 426	Advanced Cost Accounting <i>(may meet requirements for certain graduate degree programs at UMUC)</i>	3

**Total credits for BS in accounting 120**

## Minor in Accounting

The accounting minor complements the skills the student gains in his or her major discipline by providing a study of how the accounting environment measures and communicates the economic activities of organizations to enable stakeholders to make informed decisions regarding the allocation of limited resources.

### Requirements for the Minor

A minor in accounting requires the completion of 15 credits of coursework in accounting. Any ACCT courses apply.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## African American Studies

Students may seek an academic minor in African American studies.

### Minor in African American Studies

The African American studies minor complements the skills the student gains in his or her major discipline by offering an interdisciplinary approach to study of the contemporary life, history, and culture of African Americans.

#### Requirements for the Minor

A minor in African American studies requires the completion of 15 credits of coursework focusing on African American issues, chosen from the following courses:

AASP	Any course
CCJS 370	Race, Crime, and Criminal Justice
ENGL 363	African American Authors from the Colonial Era to 1900
ENGL 364	African American Authors from 1900 to the Present
HIST 255	African American History
HIST 460	African American History: 1500 to 1865
HIST 461	African American History: 1865 to the Present
MUSC 436	Jazz: Then and Now
SOCY 423	Minorities in the United States
SOCY 424	Race and Ethnic Relations

It is recommended that students take AASP 201 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Art

Students may seek an academic minor in art.

### Minor in Art

The art minor complements the skills the student gains in his or her major discipline by offering an aesthetic and personal exploration of imagery, media, and composition through a balance of art theory and practice.

#### Requirements for the Minor

A minor in art requires the completion of 15 credits of art coursework. All ARTT courses apply. It is recommended that students take ARTT 110 and 210 (or ARTT 320) as the first courses in the minor (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Art History

Students may seek an academic minor in art history.

### Minor in Art History

The art history minor complements the skills the student gains in his or her major discipline by developing skills in historical and cultural interpretation and critical analysis of works of architecture, sculpture, painting, and the allied arts.

#### Requirements for the Minor

A minor in art history requires the completion of 15 credits in art history. All ARTH courses apply.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# BACHELOR'S DEGREE CURRICULA

## Biology

Students may seek an academic minor in biology.

### Minor in Biology

The biology minor complements the skills the student gains in his or her major discipline by providing an underlying scientific base upon which to build a career in the life sciences, allied health fields, bioinformatics, environmental management, science journalism, or science education.

### Requirements for the Minor

A minor in biology requires the completion of 15 credits of coursework in biology. Any BIOL courses apply.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Biotechnology

Students who have completed the required lower-level coursework for the biotechnology major—either within an Associate of Applied Science degree program at a community college with which UMUC has an articulation agreement or within another appropriate transfer program—may seek an academic major in biotechnology. Students should consult an advisor before electing this major.

### Major in Biotechnology

The biotechnology major prepares students for the biotechnology industry by building on the technical and scientific knowledge gained through the associate's degree program and direct experience in the field. It combines laboratory skills and applied coursework with a biotechnology internship experience and upper-level study. The biotechnology curriculum covers general biological and chemical sciences, biotechniques, bioinstrumentation, bioinformatics, microbiology, molecular biology, and cell biology. Students are prepared to enter pharmaceutical, agricultural, and biomedical research industries and organizations as laboratory technicians, quality control technicians, assay analysts, chemical technicians, or bioinformaticists.

### Intended Program Outcomes

The student who graduates with a major in biotechnology will be able to

- Practice ethical standards of integrity, honesty, and fairness in scientific practices and professional conduct.
- Communicate orally and in writing in a clear, well-organized manner that effectively informs and clarifies scientific principles and lab techniques to staff and stakeholders.
- Offer technical support, customer assistance, and cost-benefit analyses in the application of biotechnical approaches to the development of products and services.
- Use scientific procedures and current and emerging technologies to conduct safe and hygienic laboratory experiments and to collect data that are appropriately validated and documented.
- Comply with and adhere to national, state, and local standards, policies, protocols, and regulations for laboratory and manufacturing activity.
- Develop an action plan that includes the continuous pursuit of education, training, and research to keep current on biotechnology practices and trends for personal and professional development.
- Apply scientific knowledge and principles, quantitative methods, and technology tools to think critically and solve complex problems in biotechnology.

### Degree Requirements

A degree with a major in biotechnology requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and 43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE BIOTECHNOLOGY MAJOR

Coursework for a major in biotechnology includes the following lower-level coursework taken as part of an appropriate degree program at an approved community college or other institution:

- Foundation courses (15 credits): General microbiology (with laboratory), general genetics (with laboratory), biotechnology techniques (with laboratory), or laboratory techniques (with laboratory)
- Required related courses (17 credits), which may be applied anywhere in the bachelor's degree: Chosen from biotechnology, biochemistry, cell biology, chemistry, genetics, immunology, microbiology, molecular biology, physics, and virology courses

Coursework for a major in biotechnology also includes the following:

- Required core courses (15 credits): BIOL 325, 350 (or BIOL 356) and 400 and 6 credits in Co-op internship courses (numbered 486A or 486B) in any discipline related to biotechnology

- Supplemental major course in biological applications (3 credits): Chosen from BIOL 320, 334, and 357 and an additional Co-op internship
- Supplemental major course(s) in specialized topics (3 credits): Chosen from BIOL 328, 356, 360, 362, 398A, 398J, 398K, 398P, 422, 434, and 438 and NSCI 301 (No more than three 1-credit courses may be applied to major.)

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BTPS or BS in biotechnology (if the student selects appropriate courses as part of the transfer coursework). Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

#### Biotechnology Degree Courses

Credits

##### Required Courses from Transfer Institution

- |  |    |
|--|----|
| ♦ Lower-level coursework in the following areas: | 15 |
| General microbiology with lab                    |    |
| General genetics with lab                        |    |
| Biotechnology techniques with lab                |    |
| Laboratory techniques with lab                   |    |

Additional coursework related to biotechnology	17
<i>Selected from biotechnology, biochemistry, cell biology, chemistry, genetics, immunology, microbiology, molecular biology, physics, or virology (should also fulfill general education requirements in biological and physical sciences)</i>	

##### First Courses (to be taken within the first 18 credits at UMUC if not brought in transfer)

Note: Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WR TG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3

##### Introductory and General Education Courses (to be taken within the first 30 credits)

IFSM 201	Concepts and Applications of Information Technology	3
<i>or</i> CMST 303	Advanced Application Software	
WR TG 291	Research Writing <i>or other communications/writing course</i>	3
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
PHIL 140	Contemporary Moral Issues	3
<i>or a foreign language course</i>	<i>or other arts and humanities course</i>	

PSYC 100	Introduction to Psychology	3
<i>or</i> SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	
HIST 142	Western Civilization II	3
<i>or</i> HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	
SPCH 100	Foundations of Oral Communication	3
<i>or</i> WR TG 293	Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	
CMIS 111	Social Computing and Cybersecurity Best Practices <i>or other interdisciplinary issues/computing course</i>	3

##### Required Upper-Level Courses for Major (to be taken after introductory and general education courses)

WR TG 393	Advanced Technical Writing <i>or other communications/upper-level advanced writing course</i>	3
♦ BIOL 325	Inquiries in Biological Science	3
♦ BIOL 350	Molecular and Cellular Biology	3
<i>or</i> BIOL 356	Molecular Biology Laboratory	
♦ BIOL 400	Life Science Seminar	3
♦ BIOL 320	Forensic Biology <i>or other supplemental major course in biological applications</i>	3
♦ BIOL 328	Bioethics <i>or other supplemental major course in specialized topics</i>	3

##### Internship for Major (to be taken in the last 30 credits)

♦ Internship through Cooperative Education	6
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##### Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

<u>Recommended Electives</u>		
ANTH 344	Culture and Language	
BMGT 317	Decision Making	
FINC 331	Finance for the Nonfinancial Manager	
SPCH 482	Intercultural Communication	

<b>Total credits for BS or BTPS in biotechnology</b>	<b>120</b>
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# BACHELOR'S DEGREE CURRICULA

## Business Administration

Students may seek either an academic major or minor in business administration.

### Major in Business Administration

The business administration curriculum provides the skills and knowledge necessary for a successful career in business and management. It includes studies in accounting, business law and public policy, business supply chain management, customer service and operations management, ethics and social responsibility, finance, human resource management and labor relations, international business, strategic and entrepreneurial management, organizational behavior, marketing and sales, and statistical analysis. A major in business administration prepares graduates for careers in for-profit and not-for-profit organizations and the public sector.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in business management to waive the prerequisite course for the graduate degree. More information is available in the graduate catalog.

### Intended Program Outcomes

The student who graduates with a major in business administration will be able to

- Plan and communicate a shared vision for the organization that will drive strategy, assist with decision making, and position the organization in the business environment.
- Employ critical thinking to evaluate qualitative and quantitative data and effectively communicate across all layers of the organization.
- Develop, communicate, implement, and follow policies and procedures that inform and guide operations to reduce cost and organizational risk and promote ethical practices.
- Manage people, time, and resources by utilizing effective employment practices, encouraging team building, and mentoring junior members of the staff.
- Design and execute personal and employee development systems to enhance job performance and leadership skills.

### Degree Requirements

A degree with a major in business administration requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education require-

ments; and 43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE BUSINESS ADMINISTRATION MAJOR

Coursework for a major in business administration includes the following:

- Required foundation courses (12 credits): BMGT 110 (or prior business experience and an additional course chosen from ACCT, BMGT, ENMT, FINC, HRMN, or MRKT courses), ACCT 220 and 221, and STAT 230 (or 200)
- Required core courses (21 credits): BMGT 364, 365, 380, and 496; FINC 330; HRMN 300; and MRKT 310
- Required capstone course (3 credits): BMGT 495
- Required related courses (9 credits), which may be applied anywhere in the degree: ACCT 326 (or IFSM 300) and ECON 201 and 203

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in business administration. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Business Administration Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
♦ BMGT 110	Introduction to Business and Management (students with business experience should substitute an additional business course in the last 60 credits of study)	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
ECON 201	Principles of Macroeconomics (related requirement for the major; also fulfills the first behavioral and social sciences requirement)	3
NSCI 100 and NSCI 101	Introduction to Physical Science Physical Science Laboratory or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3

IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
◆ ACCT 220	Principles of Accounting I	3
PHIL 140	Contemporary Moral Issues	3
or a foreign language course	or other arts and humanities course	
<b>Foundation Courses</b> (to be taken within the first 60 credits)		
◆ STAT 230	Introductory Business Statistics	3
or STAT 200	Introduction to Statistics	
GVPT 170	American Government	3
	or other behavioral and social sciences course (discipline must differ from first)	
◆ ACCT 221	Principles of Accounting II	3
BIOL 101	Concepts of Biology	3
or ASTR 100	Introduction to Astronomy	
	or other biological and physical sciences lecture course	
ECON 203	Principles of Microeconomics	3
	(related requirement for the major)	
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865	
	or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
SPCH 100	Foundations of Oral Communication	3
or WRTG 293	Introduction to Professional Writing	
	or other communication, writing, or speech course	
IFSM 300	Information Systems in Organizations	3
or ACCT 326	Accounting Information Systems	
	(related requirement for the major; also fulfills the interdisciplinary issues/computing requirement)	
<b>Additional Required Courses</b> (to be taken after introductory and foundation courses)		
◆ BMGT 364	Management and Organization Theory	3
WRTG 394	Advanced Business Writing	3
	or other communications/upper-level advanced writing course	
◆ BMGT 365	Organizational Leadership	3
◆ MRKT 310	Marketing Principles	3
◆ BMGT 380	Business Law I	3
◆ HRMN 300	Human Resource Management	3
◆ FINC 330	Business Finance	3
◆ BMGT 496	Business Ethics	3
<b>Capstone Course for Major</b> (to be taken in the last 15 credits)		
◆ BMGT 495	Strategic Management	3
<b>Minor and/or Elective Courses</b> (to be taken in the last 60 credits along with required major courses)		
		37
<u>Recommended Minors</u>		
Human resource management, marketing, finance, or other business-related minor		

#### Recommended Electives

MATH 140	Calculus I	
	(for students who plan to go on to graduate school; students should note prerequisites)	
WRTG 490	Writing for Managers	

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**Total credits for BS in business administration**

**120**

## Minor in Business Administration

The business administration minor complements the skills the student gains in his or her major discipline by providing a study of principles and techniques used in organizing, planning, managing, and leading within various organizations.

### Requirements for the Minor

A minor in business administration requires the completion of 15 credits of coursework in business administration. Any ACCT, BMGT, FINC, HRMN, and MRKT courses apply. It is recommended that students take BMGT 364 as the first course in the minor (if they have not already applied the course to other requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# BACHELOR'S DEGREE CURRICULA

## Business Law and Public Policy

Students may seek an academic minor in business law and public policy.

### Minor in Business Law and Public Policy

The business law and public policy minor complements the skills the student gains in his or her major discipline by exploring and analyzing legal, social, environmental, technological, and ethical issues affecting business, industry, and government.

#### Requirements for the Minor

A minor in business law and public policy requires the completion of 15 credits of coursework in business law and public policy, chosen from the following courses:

BMGT 380	Business Law I
BMGT 381	Business Law II
BMGT 437	International Business Law
BMGT 482	Advanced Federal Contracting
BMGT 496	Business Ethics
HRMN 408	Employment Law for Business

Students are recommended to take BMGT 380 and 496 as the first courses in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Business Supply Chain Management

Students may seek an academic minor in business supply chain management.

### Minor in Business Supply Chain Management

The business supply chain management minor complements the skills the student gains in his or her major discipline by increasing the student's capabilities as a manager to analyze operational performance within supply chains, to design and manage processes for competitive advantage, and to manage systems acquisition and development in technical enterprises.

#### Requirements for the Minor

The minor in business supply chain management requires the completion of 15 credits of coursework in business supply chain management, chosen from the following courses:

BMGT 305	Knowledge Management
BMGT 317	Decision Making
BMGT 372	Supply Chain Management
BMGT 375	Purchasing Management
BMGT 487	Project Management I
BMGT 488	Project Management II
MRKT 457	E-Marketing

Students are recommended to take BMGT 317 and 372 as the first courses in the minor (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Communication Studies

Students may seek either an academic major or minor in communication studies.

## Major in Communication Studies

The major in communication studies provides students with an appropriate balance of theoretical knowledge and sophisticated, practical communication skills. Students learn how people create and use messages to generate meaning within and across various contexts, cultures, channels, and media. The multidisciplinary curriculum covers speech communication, mass communication and new media, journalism, public relations, business writing, and technical writing. It encourages students to develop written, oral, and visual communication skills; to apply communication theories to both personal and professional situations; and to increase their understanding of human interaction. Students with a major in communication studies are prepared for a wide variety of careers in areas such as journalism, public relations, marketing, communication, and professional writing.

## Intended Program Outcomes

The student who graduates with a major in communication studies will be able to

- Apply analytical skills in interpreting, using, and delivering information, particularly through mass media.
- Create professional written, oral, and visual communication for specific purposes and diverse audiences, applying structural and stylistic conventions.
- Design, create, and/or select multimedia components and integrate them into print, broadcast, and online media-rich resources.
- Manage successful communication activities within the ethical, legal, and financial parameters of the project and of the profession.
- Work with individuals and groups in ways that reflect an understanding of both communication theory and professional expectations.
- Use an understanding of diverse and intercultural perspectives as they affect communication practices.
- Design and/or employ specific research methodologies and tools to gather information for specific purposes.

## Degree Requirements

A degree with a major in communication studies requires the successful completion of 120 credits of coursework, including 33 credits for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree

requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE COMMUNICATION STUDIES MAJOR

Coursework for a major in communication studies includes the following:

- Required foundation courses (6 credits): COMM 300 and 302
- Speech communication course (3 credits): Any SPCH course
- Mass communication/media studies course (3 credits): Chosen from COMM 400, 410, and 493 and any JOUR courses
- Diversity communication courses (6 credits): Chosen from COMM 380 and SPCH 324, 472, and 482
- Specialization courses chosen from a single area (9 credits):
  - Professional writing: Chosen from WRTG 393, 394, 489, 490, 493, 494, and 496
  - Speech communication: Chosen from any upper-level SPCH courses
  - Media studies: Chosen from COMM 400 and 493 and any JOUR courses
- Required research methods course (3 credits): COMM 480
- Required capstone course (3 credits): COMM 495

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BA in communication studies. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Communication Studies Degree Courses		Credits
<b>First Courses</b> ( <i>to be taken within the first 18 credits</i> )		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
<b>Introductory Courses</b> ( <i>to be taken within the first 30 credits</i> )		
♦ SPCH 100	Foundations of Oral Communication <i>or any speech course</i>	3
HIST 142	Western Civilization II	3
<i>or</i> HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course</i>	
<i>Both</i> BIOL 101	Concepts of Biology	3
<i>and</i> BIOL 102	Laboratory in Biology	1
<i>or</i> BIOL 103	Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	

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WRTG 291	Research Writing <i>or other communications/writing course</i>	3
SOCY 100	Introduction to Sociology	3
or GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	3
<b>Foundation Courses</b> ( <i>to be taken within the first 60 credits</i> )		
◆ COMM 300	Communication Theory	3
◆ COMM 302	Mass Communication and Media Studies	3
PSYC 100	Introduction to Psychology	3
or BEHS 210	Introduction to Social Sciences <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
PHIL 140	Contemporary Moral Issues	3
or a foreign language	course <i>or other arts and humanities course (discipline must differ from other humanities course)</i>	3
JOUR 201	Introduction to News Writing <i>or other communication, writing, or speech course</i>	3
CMST 310	Fundamentals of Electronic Publishing	3
or CMIS 111	Social Computing and Cybersecurity <i>or other interdisciplinary issues/computing course</i>	3
<b>Additional Required Courses</b> ( <i>to be taken after introductory and foundation courses</i> )		
WRTG 393	Advanced Technical Writing	3
or WRTG 394	Advanced Business Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ COMM 400	Mass Media Law <i>or other mass communication course for the major</i>	3
◆ COMM 380	Language in Social Contexts <i>or other diversity communication course for the major</i>	3
◆ SPCH 482	Intercultural Communication <i>or other diversity communication course for the major</i>	3
◆ SPCH 324	Communication and Gender <i>or other specialization course for the major</i>	3
◆ SPCH 426	Conflict Management <i>or other specialization course for the major</i>	3
◆ SPCH 470	Effective Listening <i>or other specialization course for the major</i>	3
◆ COMM 480	Research Methods in Communication Studies	3
<b>Capstone Course for Major</b> ( <i>to be taken in the last 15 credits</i> )		
◆ COMM 495	Senior Seminar in Communication Studies	3
<b>Minor and/or Elective Courses</b> ( <i>to be taken in the last 60 credits along with required major courses</i> )		
		43
<b>Total credits for BA in communication studies</b>		<b>120</b>

## Minor in Communication Studies

The communication studies minor complements the skills the student gains in his or her major discipline by providing specialized skills in workplace communication, including the development of written and oral communication skills and a greater understanding of human interaction.

### Requirements for the Minor

A minor in communication studies requires the completion of 15 credits of coursework in communication studies. All COMM, JOUR, SPCH, and WRTG courses apply. It is recommended that students take COMM 300 early in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Computer and Information Science

Students may seek an academic major in computer and information science.

## Major in Computer and Information Science

The computer and information science major provides an in-depth study of computer and information science through a hands-on approach that enables students to explore computer-based solutions to challenging problems. The curriculum focuses on problem-solving skills and techniques that can be applied to many disciplines and covers software and Web engineering, relational databases, programming languages, operating systems, computer networks, and distributed systems. Students are prepared for careers in various computing areas, including applications in programming, databases, software engineering, and networking.

## Intended Program Outcomes

The student who graduates with a major in computer and information science will be able to

- Design, implement, secure, and maintain databases that meet user requirements for both transaction processing and data warehouses.
- Design, develop, implement, secure, and maintain software applications that meet user requirements, using current best practices and tools for all application interfaces and domains.
- Design, implement, and maintain a reliable and secure network and services infrastructure.
- Plan, manage, and provide appropriate documentation and communication through all phases of the software development life cycle to ensure successful implementation of an information technology (IT) project that is on time and within budget.
- Identify, learn, and adapt to local and global IT trends, technologies, legalities, and policies, as well as appropriately communicate their impact to key stakeholders.
- Work independently or as an effective member of an application development team to determine and implement systems that meet customer requirements.

## Degree Requirements

A degree with a major in computer and information science requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE COMPUTER AND INFORMATION SCIENCE MAJOR

Coursework for a major in computer and information science includes the following:

- Introductory course (3 credits): CMIS 111 or CMIS 170
- Programming language sequence (6 credits): Chosen from
  - PC/Java: CMIS 141 and 242
  - Mac/Objective C: CMIS 115 and 215
  - PC/Microsoft: CMIS 125 and 225
- Core courses (6 credits): CMIS 320 and 330
- Supplemental major courses (6 credits): Chosen from CMIS 102 (for students with no prior programming experience), 255, 310, 315, and 325 (**Note:** Students should take CMIS 102 before core courses and may apply it toward the interdisciplinary issues/computing requirement rather than toward the major.)
- 400-level supplemental major courses (6 credits): Chosen from any 400-level CMIS courses (except CMIS 486A and 486B)
- Required capstone course (3 credits): CMSC 495

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in computer and information science. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Computer and Information Science Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
CMIS 102	Introduction to Problem Solving and Algorithm Design (fulfills the interdisciplinary issues/computing requirement and prerequisite for later courses)	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
PHIL 140	Contemporary Moral Issues	3
or ENGL 240	Introduction to Fiction, Poetry, and Drama or other arts and humanities course	
♦ CMIS 170	Introduction to XML	3
or CMIS 111	Social Computing and Cybersecurity Best Practices	
Both BIOL 101 and BIOL 102	Concepts of Biology	3
or BIOL 103	Laboratory in Biology	1
	Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	
♦ CMIS 115	Programming in Objective-C for the Mac	3
or CMIS 125	Programming in C#	
or CMIS 141	Introductory Programming	
GVPT 170	American Government or other behavioral and social sciences course	3
<b>Foundation Courses</b> (to be taken within the first 60 credits)		
WRTG 291	Research Writing or other communications/writing course	3
♦ CMIS 215	Programming for the iPhone and iPad	3
or CMIS 225	Developing Windows Presentation Foundation Applications Using C#	
or CMIS 242	Intermediate Programming	

# BACHELOR'S DEGREE CURRICULA

PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
SPCH 100 or WRTG 293	Foundations of Oral Communication Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	3
◆ CMIS 320	Relational Database Concepts and Applications	3
<b>Additional Required Courses</b> ( <i>to be taken after introductory and foundation courses</i> )		
WRTG 393	Advanced Technical Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ CMIS 330	Software Engineering Principles and Techniques <i>or other supplemental major course</i>	3
◆ CMIS 310	Computer Systems and Architecture <i>or other supplemental major course</i>	3
◆ CMIS 325	UNIX with Shell Programming <i>or other supplemental major course</i>	3
◆ CMIS 420	Advanced Relational Database Concepts and Applications <i>or other 400-level supplemental major course</i>	3
◆ CMIS 485	Web Database Development <i>or other 400-level supplemental major course</i>	3
<b>Capstone Course for Major</b> ( <i>to be taken in the last 15 credits</i> )		
◆ CMSC 495	Current Trends and Projects in Computer Science	3
<b>Minor and/or Elective Courses</b> ( <i>to be taken in the last 60 credits along with required major courses</i> )		46
<u>Recommended Minor</u>		
Computing		
<b>Total credits for BS in computer and information science</b>		<b>120</b>

## Computer Networking and Security

Students may seek an academic major in computer networking and security.

### Major in Computer Networking and Security

The computer networking and security major prepares students to enter or advance in computer networking fields where industry-standard certifications are commonly used to show skills or knowledge level and are considered essential in hiring and promotion decisions. The curriculum focuses on the techniques, policies, operational procedures, and technologies needed to design, implement, administer, secure, and troubleshoot enterprise-level networks. The major prepares students for careers as network managers, systems administrators, and network security analysts. It is designed to combine the benefits of a traditional college education with the benefits of hands-on training in state-of-the-art computer technology. The computer networking and security curriculum integrates technical skill with communication skills, superior general education knowledge, and breadth of knowledge in the information technology field, particularly in networking and security.

### Intended Program Outcomes

The student who graduates with a major in computer networking and security will be able to

- Design, implement, and administer local-area and wide-area networks to satisfy organizational goals.
- Resolve information technology (IT) system problems and meet the needs of end-users by applying troubleshooting methodologies.
- Apply relevant policies and procedures to effectively secure and monitor IT systems.
- Meet organizational goals in completing individual and team assignments using effective workforce skills, best practices, and ethical principles.
- Effectively communicate IT knowledge to diverse audiences using a wide range of presentation modalities.

### Degree Requirements

A degree with a major in computer networking and security requires the successful completion of 120 credits of coursework, including 33 credits for the major, 41 credits in general education requirements, and 46 credits in the minor, electives, and other degree requirements. At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above), and 18 credits in courses designated CMIT.

## REQUIREMENTS FOR THE COMPUTER NETWORKING AND SECURITY MAJOR

Coursework for a major in computer networking and security includes the following:

- Required foundation courses (6 credits): CMIT 202 and 265
- Required core courses (9 credits): CMIT 320, 350, and 368
- Supplemental major courses (9 credits): Any upper-level CMIT courses (Note: Taking courses within a single topic area—Microsoft, Cisco, or security—is highly recommended.)
- Supplemental computing courses (6 credits): Any CMIS, CMIT, CMSC, CMST, CSIA, and IFSM courses
- Required capstone course (3 credits): CMIT 495

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in computer networking and security. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Computer Networking and Security Degree Courses Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WR TG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3

#### Introductory Courses (to be taken within the first 30 credits)

IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
PHIL 140	Contemporary Moral Issues	3
or ENGL 240	Introduction to Fiction, Poetry, and Drama or other arts and humanities course	
Both BIOL 101 and BIOL 102	Concepts of Biology	3
or BIOL 103	Laboratory in Biology	1
	Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	
CMIS 111	Social Networking and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
WR TG 291	Research Writing or other communications/writing course	3
♦ CMIT 202	Fundamentals of Computer Troubleshooting	3

GVPT 170	American Government or other behavioral and social sciences course	3
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#### Foundation Courses (to be taken within the first 60 credits)

♦ CMIT 265	Fundamentals of Networking	3
PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
SPCH 100	Foundations of Oral Communication	3
or WR TG 293	Introduction to Professional Writing or other communication, writing, or speech course	

#### Additional Required Courses (to be taken after introductory and foundation courses)

♦ CMIT 320	Network Security	3
♦ CMIT 350	Interconnecting Cisco Devices	3
♦ CMIT 368	Windows Server Administration	3
WR TG 393	Advanced Technical Writing or other communications/ upper-level advanced writing course	3
♦ CMIT 364	Windows Desktop Operating Systems or other supplemental major course	3
♦ CMIT 376	Windows Network Infrastructure or other supplemental major course	3
♦ CMIT 377	Windows Directory Services Infrastructure or other supplemental major course	3
♦ CMIT 378	Windows Server Applications Infrastructure or other supplemental computing course for the major	3
♦ CMIT 471	Windows Server Enterprise Administration or other supplemental computing course for the major	3

#### Capstone Course for Major (to be taken in the last 15 credits)

♦ CMIT 495	Current Trends and Projects in Computer Networks and Security	3
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#### Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses) 43

##### Recommended Minors

Computing or English

##### Recommended Electives

IFSM 304	Ethics in Information Technology	
MATH 140	Calculus I or other calculus course (for students planning to go on to graduate school: students should note prerequisites)	

**Total credits for BS in computer networking and security 120**

# BACHELOR'S DEGREE CURRICULA

## Computer Science

Students may seek an academic major in computer science.

### Major in Computer Science

The computer science major prepares students to plan, design, and optimize scalable computer software and hardware systems for use in commercial and government environments. It is designed for students who have a good background in mathematics and an interest in the theory, practice, art, and science of computer programming. The major provides graduates with an educational foundation appropriate for careers as software architects and engineers, application software designers, system analysts and programmers, and system engineers.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in computer science to reduce their total coursework for the Master of Arts in Teaching by 12 credits (two courses) and complete both degrees with a total of 138 credits of coursework. More information is available in the graduate catalog.

### Intended Program Outcomes

The student who graduates with a major in computer science will be able to

- Apply logic and mathematical principles to the design, development, and verification of secure, high-performance, and reliable computing systems.
- Analyze, design, develop, and document secure technical solutions for computing systems and networking infrastructure.
- Plan, design, and optimize computing architecture, software applications, data, and systems that securely support enterprise needs.
- Contribute and adhere to local, national, and international technical standards, ethics, and intellectual property regulations when developing computer applications and systems.
- Analyze, compare, and contrast algorithms, programming languages, compilers, and operating systems to select or develop the most appropriate solution to the problem.
- Identify and respond to emerging technology, models, methodologies, systems, and trends in human/computer interaction, including social networking, gaming, and modeling and simulation.

### Degree Requirements

A degree with a major in computer science requires the successful completion of 120 credits of coursework, including 38 credits for the major; 41 credits in general education requirements; and 41 credits in the minor, electives, and other degree requirements. At least 19 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE COMPUTER SCIENCE MAJOR

Coursework for a major in computer science includes the following:

- Required mathematics courses (8 credits): MATH 140 and 141
- Required foundation courses (9 credits): CMIS 141 and 242 and CMSC 150
- Required core courses (9 credits): CMSC 330, 335, and 350
- Supplemental major course (3 credits): CMIS 310, CMIS 330, or CMSC 325
- 400-level supplemental major courses (6 credits): Chosen from any 400-level CMSC courses except CMSC 486A and 486B
- Required capstone course (3 credits): CMSC 495

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in computer science. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Computer Science Degree Courses		Credits
<b>First Courses</b> ( <i>to be taken within the first 18 credits</i> )		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 115	Pre-Calculus	3
<i>or both</i> MATH 107	College Algebra	
<i>and</i> MATH 108	Trigonometry and Analytical Geometry <i>(prerequisite for later courses)</i>	
<b>Introductory Courses</b> ( <i>to be taken within the first 30 credits</i> )		
♦ MATH 140	Calculus I	4
IFSM 201	Concepts and Applications of Information Technology	3
<i>or</i> CMST 303	Advanced Application Software	

CMIS 102	Introduction to Problem Solving and Algorithm Design <i>(fulfills the interdisciplinary issues/computing course and prerequisite for later courses)</i>	3
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1
PHIL 140 or ENGL 240	Contemporary Moral Issues Introduction to Fiction, Poetry, and Drama <i>or other arts and humanities course</i>	3
<b>Foundation Courses</b> <i>(to be taken within the first 60 credits)</i>		
WRWG 291	Research Writing <i>or other communications/writing course</i>	3
◆ CMSC 150	Introduction to Discrete Structures	3
◆ CMIS 141	Introductory Programming	3
◆ MATH 141	Calculus II	4
PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3 3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3 3
◆ CMIS 242	Intermediate Programming	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3 3
SPCH 100 or WRWG 293	Foundations of Oral Communication Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	3 3
<b>Additional Required Courses</b> <i>(to be taken after introductory and foundation courses)</i>		
WRWG 393	Advanced Technical Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ CMSC 330	Advanced Programming Languages	3
◆ CMSC 335	Object-Oriented and Concurrent Programming	3
◆ CMSC 350	Data Structures and Analysis	3
◆ CMIS 310	Computer Systems and Architecture <i>or other supplemental major course</i>	3
◆ CMSC 451	Design and Analysis of Computer Algorithms <i>or other 400-level supplemental major course</i>	3
◆ CMSC 465	Image and Signal Processing <i>or other 400-level supplemental major course</i>	3
<b>Capstone Course for Major</b> <i>(to be taken in the last 9 credits)</i>		
◆ CMSC 495	Current Trends and Projects in Computer Science	3

**Minor and/or Elective Courses** *(to be taken in the last 60 credits along with required major courses)* 38

#### Recommended Minors

Computing or mathematics

#### Recommended Electives

EDTP 500 Professional Fundamentals of Teaching and Learning  
*(for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)*

EDTP 535 Adolescent Development and Learning Needs  
*(for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)*

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**Total credits for BS in computer science**

**120**

## Computing

Students may seek an academic minor in computing.

### Minor in Computing

The computing minor complements the skills the student gains in his or her major discipline by providing a study of the principles and techniques used in developing computer-related solutions to practical problems.

#### Requirements for the Minor

A minor in computing requires the completion of 15 credits of coursework chosen from any courses in computer and information science, computer information technology, computer science, computer studies, cybersecurity, and information systems management.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# BACHELOR'S DEGREE CURRICULA

## Criminal Justice

Students may seek either an academic major or minor in criminal justice.

### Major in Criminal Justice

The criminal justice program provides students with an understanding of the nature of crime and the personnel, institutions, and processes that prevent or respond to crime. Students learn both the theory and practice of the criminal justice system. The curriculum covers crime and criminal behavior, law enforcement, courts, corrections, security, and investigation. It provides a solid foundation for further study or entry into a variety of criminal justice professions.

### Intended Program Outcomes

The student who graduates with a major in criminal justice will be able to

- Accurately communicate orally and in writing to complete organizational missions to ensure public safety.
- Apply critical thinking skills and logic to analyze and solve a variety of complex problems in the criminal justice environment.
- Manage and evaluate organizational efforts to ensure effective cooperation with stakeholders to prevent, control, and manage crime to ensure public safety.
- Utilize an ethical framework and an understanding of legal constraints to make decisions as a criminal justice professional.
- Develop specialized technical knowledge and skills relevant to subspecialties in the field of criminal justice to ensure public safety.
- Use interpersonal and leadership skills to work both independently and cooperatively as a member of a criminal justice team.

### Degree Requirements

A degree with a major in criminal justice requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

#### REQUIREMENTS FOR THE CRIMINAL JUSTICE MAJOR

Coursework for a major in criminal justice includes the following:

- Introductory course (3 credits): CCJS 100 or CCJS 105
- Required statistics course (3 credits): STAT 200

- Core courses (12 credits): CCJS 340, 345, 380, and 497
- Supplemental major courses (9 credits): Any 3-credit CCJS courses (**Note:** Taking courses within a single topic area—law enforcement, law, corrections, security management, forensics, intelligence, or leadership—is highly recommended.)
- Required capstone course (3 credits): CCJS 495

#### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in criminal justice. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Criminal Justice Degree Courses		Credits
<b>First Courses</b> ( <i>to be taken within the first 18 credits</i> )		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
♦ CCJS 100 <i>or CCJS 105</i>	Introduction to Criminal Justice Introduction to Criminology	3
<b>Introductory Courses</b> ( <i>to be taken within the first 30 credits</i> )		
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
<i>Both</i> BIOL 101 <i>and</i> BIOL 102 <i>or</i> BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1
WRG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201 <i>or</i> CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3 3
PHIL 140 <i>or a foreign language course</i> <i>or other arts and humanities course</i>	Contemporary Moral Issues	3
<b>Foundation Courses</b> ( <i>to be taken within the first 60 credits</i> )		
♦ STAT 200	Introduction to Statistics	3
PSYC 100 <i>or</i> SOCY 100	Introduction to Psychology Introduction to Sociology <i>or other behavioral and social sciences course</i> <i>(discipline must differ from first)</i>	3 3

NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy or other biological and physical sciences lecture course	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
SPCH 100 or COMM 380	Foundations of Oral Communication Language in Social Contexts or other communication, writing, or speech course	3
CMIS 111 or IFSM 304	Social Computing and Cybersecurity Best Practices Ethics in Information Technology or other interdisciplinary issues/computing course	3
◆ CCJS 340	Law-Enforcement Administration	3
<b>Additional Required Courses (to be taken after introductory and foundation courses)</b>		
WRTG 391	Advanced Research Writing or other communications/upper-level advanced writing course	3
◆ CCJS 345	Introduction to Security Management	3
◆ CCJS 380	Ethical Behavior in Criminal Justice	3
◆ CCJS 497	Correctional Administration	3
◆ CCJS 341	Criminal Investigation or other supplemental major course	3
◆ CCJS 342	Crime Scene Investigation or other supplemental major course	3
◆ CCJS 352	Drugs and Crime or other supplemental major course	3
<b>Capstone Course for Major (to be taken in the last 9 credits)</b>		
◆ CCJS 495	Issues in Criminal Justice	3
<b>Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)</b>		<b>46</b>
<u>Recommended Electives</u>		
ANTH 344	Culture and Language	
CCJS 230	Criminal Law in Action	
<b>Total credits for BS in criminal justice</b>		<b>120</b>

## Minor in Criminal Justice

The criminal justice minor complements the skills the student gains in his or her major discipline by providing a study of crime, law enforcement, courts, corrections, security, and investigative forensics.

### Requirements for the Minor

A minor in criminal justice requires the completion of 15 credits of coursework in criminal justice. Any CCJS courses apply. It is recommended that students take CCJS 100 or CCJS 105 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Customer Service Management

Students may seek an academic minor in customer service management.

### Minor in Customer Service Management

The customer service management minor complements the skills the student gains in his or her major discipline by providing a study of how customer service managers make informed decisions regarding organization, planning, operating procedures, management, and allocation of limited resources.

### Requirements for the Minor

A minor in customer service management requires the completion of 15 credits in customer service management coursework, chosen from the following courses:

ACCT 301	Accounting for Nonaccounting Managers
BMGT 317	Decision Making
BMGT 364	Management and Organization Theory
BMGT 375	Purchasing Management
BMGT 487	Project Management I
HRMN 302	Organizational Communication
HRMN 406	Employee Training and Development
MRKT 395	Managing Customer Relationships

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# BACHELOR'S DEGREE CURRICULA

## Cybersecurity

Students may seek an academic major in cybersecurity.

### Major in Cybersecurity

The major in cybersecurity prepares graduates to be leaders in the protection of data assets. The curriculum focuses on the techniques, policies, operational procedures, and technologies that secure and defend the availability, integrity, authentication, confidentiality, and nonrepudiation of information and information systems, in local as well as more broadly based domains. The major prepares students for careers as information systems security professionals, senior system managers, and system administrators responsible for information systems and security of those systems.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in cybersecurity to reduce their total coursework for the MS in cybersecurity or cybersecurity policy by 18 credits (three courses). More information is available in the graduate catalog.

### Intended Program Outcomes

The student who graduates with a major in cybersecurity will be able to

- Protect an organization's critical information and assets by ethically integrating cybersecurity best practices and risk management throughout an enterprise.
- Implement continuous network monitoring and provide real-time security solutions.
- Analyze advanced persistent threats and deploy countermeasures and conduct risk and vulnerability assessments of planned and installed information systems.
- Participate in forensic analysis of cyber incidents and assist in recovery of operations.
- Formulate, update, and communicate short- and long-term organizational cybersecurity strategies and policies.

### Degree Requirements

A degree with a major in cybersecurity requires the successful completion of 120 credits of coursework, including 33 credits for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree requirements. At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE CYBERSECURITY MAJOR

Coursework for a major in cybersecurity includes the following:

- Required foundation courses (9 credits): CSIA 301 and 302 (or CMIT 265) and IFSM 304
- Required core courses (12 credits): CSIA 303, 412, and 413 and CMIT 320
- Supplemental major courses (9 credits): Chosen from CCJS 421; CMIT 321, 424, and 425; CSIA 454, 457, and 459; and IFSM 432 and 433
- Required capstone course (3 credits): CSIA 485

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in cybersecurity. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Cybersecurity Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
IFSM 201	Concepts and Applications of Information Technology (prerequisite to later courses)	3
CMIS 102	Introduction to Problem Solving and Algorithm Design (fulfills the interdisciplinary issues/computing requirement; prerequisite to later courses)	3
PHIL 140 or ENGL 240	Contemporary Moral Issues Introduction to Fiction, Poetry, and Drama or arts and humanities course	3
Both NSCI 100 and NSCI 101	Introduction to Physical Science Physical Science Laboratory or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3
GVPT 170	American Government or other behavioral and social sciences course	3

**Foundation Courses** (to be taken within the first 60 credits)

CCJS 100	Introduction to Criminal Justice	3
or CCJS 105	Introduction to Criminology or other behavioral and social sciences course (discipline must differ from first)	
◆ CSIA 301	Introduction to Cybersecurity	3
◆ IFSM 304	Ethics in Information Technology	3
BIOL 101	Concepts of Biology	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
◆ CSIA 302	Telecommunications in Information Systems	3
or CMIT 265	Fundamentals of Networking	
SPCH 100	Foundations of Oral Communication	3
or WRTG 293	Introduction to Professional Writing or other communication, writing, or speech course	

**Additional Required Courses** (to be taken after introductory and foundation courses)

WRTG 393	Advanced Technical Writing or other communications/upper-level advanced writing course	3
◆ CSIA 303	Foundations of Information System Security	3
◆ CSIA 412	Security Policy Analysis	3
◆ CSIA 413	Security Policy Implementation	3
◆ CMIT 320	Network Security	3
◆ CMIT 424	Advanced Digital Forensics or other supplemental major course	3
◆ CSIA 457	Cyberterrorism and Cyber Crime or other supplemental major course	3
◆ IFSM 433	Information Security Planning and Needs Assessment or other supplemental major course	3

**Capstone Course for Major** (to be taken in the last 15 credits)

◆ CSIA 485	Practical Applications in Cybersecurity Management	3
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**Minor and/or Elective Courses** (to be taken in the last 60 credits along with required major courses) 43

**Recommended Electives** (students should note prerequisites)

*Courses related to security and cyber crime:*

BMGT 466	Global Business and the Public Sector
CCJS 390	Cyber Crime and Security
GVPT 409	Terrorism, Antiterrorism, and Homeland Security
HMLS 408	Infrastructure in Homeland Security
HMLS 414	Homeland Security and Intelligence

*Courses related to psychological and sociological concerns:*

CCJS 461	Psychology of Criminal Behavior
PSYC 370	Foundations of Forensics Psychology
SOCY 313	The Individual and Society
SOCY 427	Deviant Behavior

*Courses related to computing:*

CMIS 141	Introductory Programming
CMIS 330	Software Engineering Principles and Techniques
<i>Courses for qualified students planning graduate study in cybersecurity or cybersecurity policy at UMUC:</i>	
CSIA 520	Human Aspects in Cybersecurity: Ethics, Legal Issues, and Psychology
CSIA 530	Prevention and Protection Strategies
or CSIA 535	National Cybersecurity Policy and Law

**Total credits for BS in cybersecurity**

**120**

## Digital Media and Web Technologies

Students may seek an academic major in digital media and Web technologies.

### Major in Digital Media and Web Technologies

The digital media and Web technologies major provides in-depth knowledge in practical applications of computing. The coherent and flexible program of study includes areas such as digital media, gaming, and Web-based technologies. The interdisciplinary approach allows students to integrate courses from several specialized areas in computing. Graduates are prepared for a variety of entry- and midlevel technical and management positions within the digital media, Web technology, gaming, and computing industries.

### Intended Program Outcomes

The student who graduates with a major in digital media and Web technologies will be able to

- Design, develop, and manage digital media using current and emerging technologies that adhere to industry standards.
- Analyze needs and effectively manage projects and resources, applying sound business principles and technology.
- Design and develop digital, interactive, and Web-based media to meet customer requirements and usability standards.
- Develop, test, and implement Web and multimedia applications using sound techniques for scripting and programming.
- Effectively apply relevant theories, practices, and principles when designing and developing works of digital media.

### Degree Requirements

A degree with a major in digital media and Web technologies requires the successful completion of 120 credits of coursework,

# BACHELOR'S DEGREE CURRICULA

including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE DIGITAL MEDIA AND WEB TECHNOLOGIES MAJOR

Coursework for a major in digital media and Web technologies includes the following:

- Foundation courses (6 credits): CMST 290 and 295
- Required core course sequence (6 credits): CMST 385–386 (Web technologies), CMST 341–342 (motion graphics), or CMST 310–311 (digital design)
- Supplemental major courses (15 credits): Chosen from any CMST, CMIS, CMIT, CMSC, CSIA, and IFSM courses (**Note:** Taking courses within a single topic area—Web technologies, motion graphics, or digital design—is highly recommended.)
- Required capstone course (3 credits): CMST 495

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in digital media and Web technologies. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Digital Media and Web Technologies Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
PHIL 140 or ENGL 240	Contemporary Moral Issues Introduction to Fiction, Poetry, and Drama or other arts and humanities course	3
IFSM 201 or CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1

CMIS 102	Introduction to Problem Solving and Algorithm Design (fulfills the interdisciplinary issues/computing requirement and prerequisite for later courses)	3
GVPT 170	American Government or other behavioral and social sciences course	3
WRTG 291	Research Writing or other communications/writing course	3
<b>Foundation Courses</b> (to be taken within the first 60 credits)		
PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	3
♦ CMST 295	Fundamentals of Digital Media	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy or other biological and physical sciences lecture course	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
♦ CMST 290	Introduction to Interactive Design or other foundation course for the major	3
SPCH 100 or WRTG 293	Foundations of Oral Communication Introduction to Professional Writing or other communications/writing or speech course	3
<b>Additional Required Courses</b> (to be taken after introductory and foundation courses)		
WRTG 393	Advanced Technical Writing or other communications/upper-level advanced writing course	3
♦ CMST 385 or CMST 341 or CMST 310	Principles of Web Design and Technology I Principles of Multimedia I Fundamentals of Electronic Publishing	3
♦ CMST 386 or CMST 342 or CMST 311	Principles of Web Design and Technology II Principles of Multimedia II Advanced Electronic Publishing	3
♦ CMST 306	Introduction to Visual Basic .NET Programming or other supplemental major course	3
♦ CMST 388	Fundamentals of JavaScript or other supplemental major course	3
♦ CMST 460	Web Application Development Using ColdFusion or other supplemental major course	3
♦ CMST 463	Web Application Development Using PHP/MySQL or other supplemental major course	3
♦ CMST 450	Web Development Using XML or other supplemental major course	3
<b>Capstone Course for Major</b> (to be taken in the last 9 credits)		
♦ CMST 495	Current Trends and Projects in Digital Media and Web Technology	3

Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses) 46

Recommended Minor

Business administration

Recommended Electives

CMIS 111	Social Networking and Cybersecurity Best Practices
IFSM 304	Ethics in Information Technology
WRTG 490	Writing for Managers

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**Total credits for BS in digital media and Web technologies 120**

## East Asian Studies

Students may seek either an academic major or minor in East Asian studies.

### Major in East Asian Studies

The East Asian studies major provides an interdisciplinary overview of the history, economics, politics, culture, and languages of the East Asian region, including China, Korea, and Japan. It examines the region's rich past and continuing contributions to the global community. The curriculum emphasizes an understanding of East Asia based on both expanded cultural awareness and scholarly analysis in multiple disciplines. Students are provided with background knowledge that both enriches their appreciation of the area and prepares them for a range of careers that require a broad knowledge of the region and accurate understanding of the culture.

### Intended Program Outcomes

The student who graduates with a major in East Asian studies will be able to

- Interpret, communicate, educate, and advise others based on understanding, research, and analysis of the social, historical, and cultural contexts of East Asia.
- Use knowledge of East Asia to identify, create, facilitate, and promote opportunities for interaction and cooperation between Asia and the global community, as well as to mediate and negotiate between East Asians and others.
- Apply knowledge of East Asian diversity, values, and expectations to perform in a culturally appropriate way in personal and professional settings.
- Communicate in both written and spoken form in an East Asian language, integrating interpersonal skills and cultural knowledge.

## Degree Requirements

A degree with a major in East Asian studies requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE EAST ASIAN STUDIES MAJOR

Coursework for a major in East Asian studies includes the following:

- Required foundation courses (6 credits): ASTD 284 and 285
- Required Asian language sequence (9 credits): Either JAPN 111, 112, and 114; KORN 111, 112, and 114; or CHIN 111, 112, and 114
- Required intercultural communication course (3 credits): SPCH 482
- Supplemental major courses (9 credits): Chosen from ANTH 417; PHIL 348; or any upper-level ASTD, JAPN, KORN, Asian HIST, or Asian GVPT courses
- Required capstone course (3 credits): ASTD 485

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BA in East Asian studies. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

East Asian Studies Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
PHIL 140	Contemporary Moral Issues	3
<i>or</i> ENGL 240	Introduction to Fiction, Poetry, and Drama <i>or other arts and humanities course</i>	
<i>Both</i> BIOL 101	Concepts of Biology	3
<i>and</i> BIOL 102	Laboratory in Biology	1
<i>or</i> BIOL 103	Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	
WRTG 291	Research Writing <i>or other communications/writing course</i>	3

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◆ ASTD 284	Foundation of East Asian Civilization	3
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
<i>or</i> CMST 303	Advanced Application Software	
<b>Foundation Courses</b> <i>(to be taken within the first 60 credits)</i>		
◆ JAPN 111	Elementary Japanese I	3
<i>or</i> CHIN 111	Elementary Chinese I <i>or other first Asian language course for the major</i>	
ANTH 102	Introduction to Cultural Anthropology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
◆ ASTD 285	Introduction to Modern East Asia	3
NSCI 100	Introduction to Physical Science	3
<i>or</i> ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	
HIST 141	Western Civilization I	3
<i>or</i> HIST 142	Western Civilization II <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	
◆ JAPN 112	Elementary Japanese II	3
<i>or</i> CHIN 112	Elementary Chinese II <i>or other second Asian language course for the major</i>	
CMIS 111	Social Computing and Cybersecurity Best Practices	3
	<i>or other interdisciplinary issues/computing course</i>	
SPCH 100	Foundations of Oral Communication	3
<i>or</i> COMM 380	Language in Social Contexts <i>or other communication, writing, or speech course</i>	
◆ JAPN 114	Elementary Japanese III	3
<i>or</i> CHIN 114	Elementary Chinese III <i>or other third Asian language course for the major</i>	
<b>Additional Required Courses</b> <i>(to be taken after introductory and foundation courses)</i>		
WRTG 391	Advanced Research Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ PHIL 348	Religions of the East <i>or other supplemental major course</i>	3
◆ HIST 481	History of China from the Opium War to Deng Xioping <i>or other supplemental major course</i>	3
◆ HIST 483	History of Japan Since the Late Edo Period <i>or other supplemental major course</i>	3
◆ SPCH 482	Intercultural Communication	3
<b>Capstone Course for Major</b> <i>(to be taken in the last 15 credits)</i>		
◆ ASTD 485	Great Issues in Asian Studies	3
<b>Minor and/or Elective Courses</b> <i>(to be taken in the last 60 credits along with required major courses)</i>		
		46
<b>Total credits for BA in East Asian studies</b>		<b>120</b>

## Minor in East Asian Studies

The East Asian studies minor complements the skills the student gains in his or her major discipline by providing an interdisciplinary study of the cultural, historical, political, and contemporary business reality of the Asian/Pacific world.

### Requirements for the Minor

A minor in East Asian studies requires the completion of 15 credits of coursework in East Asian studies, which must include ASTD 284 and 285. Courses allowable for the major in East Asian studies apply.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Economics

Students may seek an academic minor in economics.

### Minor in Economics

The economics minor complements the skills the student gains in his or her major discipline by providing a study of the forces that determine production and distribution, price levels, and income distribution, as well as other economic factors that influence the quality of life.

### Requirements for the Minor

A minor in economics requires the completion of 15 credits in economics. All ECON courses apply. Students should take ECON 201 and 203 as the first courses in the minor (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Emergency Management

Students may seek either an academic major or minor in emergency management.

## Major in Emergency Management

The emergency management major develops the knowledge, skills and abilities needed for leadership in emergency management, with a focus on disaster prevention, planning, preparedness, response, mitigation, and recovery. The curriculum covers needs and issues, operations management, planning and response, and terrorism and is designed to provide students with a global outlook, interpersonal skills, and emergency management knowledge and skills. Students are prepared for management positions in emergency management in government and industry or for graduate study in emergency management, homeland security, or management and leadership. Coursework may also fill requirements related to the National Fire Protection Association Standard on Disaster/Emergency Management and Business Continuity Programs (1600), qualification as a Certified Emergency Manager, and other professional association certifications.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in emergency management to reduce their total coursework for the graduate degree by 12 credits and complete both degrees with a total of 144 credits of coursework. More information is available in the graduate catalog.

## Intended Program Outcomes

The student who graduates with a major in emergency management will be able to

- Facilitate and support leadership and vision in emergency management to administer successful programs, including intergovernmental, interagency, and interdisciplinary outreach.
- Utilize informed decision making, calmness under stress, goal orientation, teamwork, ethical behavior, professional development, the integration of assets and resources, enhanced technology, and communication to ensure effective administration of emergency management related programs.
- Use clear and effective oral and written communication strategies in concert with strong interpersonal, technology, and social media skills to facilitate building collaborative partnerships in emergency management.

- Identify risks and design responses, plans, training, and exercises that coordinate public and private resources to effectively encourage disaster prevention, improve emergency response, enhance recovery, and effectively mitigate disasters.

## Degree Requirements

A degree with a major in emergency management requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE EMERGENCY MANAGEMENT MAJOR

Coursework for a major in emergency management includes the following:

- Required core courses (15 credits): EMGT 302, 304, 306, 312, and 486A
- Supplemental major course in needs and issues (3 credits): EMGT 308, CSIA 457, CSIA 459, IFSM 432, or IFSM 433
- Supplemental major course in operations management (3 credits): EMGT 310, BMGT 466, or ENMT 310
- Supplemental major course in planning and response (3 credits): EMGT 404 or HMLS 302
- Supplemental major course in terrorism (3 credits): EMGT 314, GVPT 406, or GVPT 407
- Required capstone course (3 credits): HMLS 495
- Required related course (3 credits), which may be applied anywhere in the degree: IFSM 300 or ACCT 326

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in emergency management. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Emergency Management Degree Courses

### Credits

**First Courses** (to be taken within the first 18 credits)

**Note:** Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3

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## Introductory Courses (to be taken within the first 30 credits)

GVPT 170	American Government or other behavioral and social sciences course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3
IFSM 201 or CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3
PHIL 140 or a foreign language course	Contemporary Moral Issues or other arts and humanities course	3

## Foundation Courses (to be taken within the first 60 credits)

PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy or other biological and physical sciences lecture course	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
◆ EMGT 302	Concepts of Emergency Management	3
WRTG 293	Introduction to Professional Writing or other communication, writing, or speech course	3
IFSM 300 or ACCT 326	Information Systems in Organizations Accounting Information Systems (related requirement for the major; also fulfills the interdisciplinary issues/computing requirement; students should note prerequisites)	3
◆ EMGT 304	Emergency Response Preparedness and Planning	3

## Additional Required Courses (to be taken after introductory and foundation courses)

WRTG 394	Advanced Business Writing or other communications/upper-level advanced writing course	3
◆ EMGT 306	Political and Policy Issues in Emergency Management	3
◆ EMGT 312	Social Dimensions of Disaster	3
◆ EMGT 486A	Internship in Emergency Management Through Co-op	3
◆ EMGT 308	Exercise and Evaluation Programs or other supplemental major course in needs and issues	3
◆ EMGT 310	Continuity of Operations Planning and Implementation or other supplemental major course in operations management	3

◆ EMGT 404	Planning and Response for Catastrophic Disasters or other supplemental major course in planning and response	3
◆ EMGT 314	Terrorism Issues in Emergency Management or other supplemental major course in terrorism	3

## Capstone Course for Major (to be taken after all other courses for the major)

◆ HMLS 495	Public Safety Policies and Leadership	3
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## Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

<u>Recommended Electives</u>		
STAT 200	Introduction to Statistics (students should note prerequisite)	
HMLS 302	Introduction to Homeland Security (may meet requirements for certain graduate degree programs at UMUC)	

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**Total credits for BS in emergency management** **120**

## Minor in Emergency Management

The emergency management curriculum complements the skills the student gains in his or her major discipline by providing knowledge of emergency management, including disaster planning and operations and allocation of limited resources.

### Requirements for the Minor

A minor in emergency management requires the completion of 15 credits of coursework in emergency management. All EMGT courses apply. It is recommended that students take EMGT 302 or 304 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# English

Students may seek either an academic major or minor in English.

## Major in English

The English major provides students with broad cultural literacy, as well as the analytical, writing, and critical thinking skills for successful professional work and graduate study. Graduates with an English degree may pursue careers in business, education, law, the military, creative and professional writing, journalism, marketing, public relations, administration, and management, as well as advanced degrees in secondary teaching, literature, or related fields.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in English to reduce their total coursework for the Master of Arts in Teaching by 12 credits (two courses) and complete both degrees with a total of 138 credits of coursework. More information is available in the graduate catalog.

## Intended Program Outcomes

The student who graduates with a major in English will be able to

- Interpret literature and apply language in a thoughtful and articulate way in order to reflect on the human condition in today's world.
- Apply models from literature that reflect diversity and cultural competence to promote fair and inclusive interactions in the workplace and the larger society.
- Apply models from literature to ethical leadership and strategic management in for-profit and not-for-profit organizations.
- Access, research, and analyze information using current technologies and library resources to accomplish professional objectives.
- Create professional written and oral communications for specific purposes and provide feedback on grammatical and stylistic conventions.

## Degree Requirements

A degree with a major in English requires the successful completion of 120 credits of coursework, including 33 credits for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree requirements. At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE ENGLISH MAJOR

Coursework for a major in English includes the following:

- Required foundation courses (6 credits): ENGL 240 and 303
- Historical background courses (9 credits): Chosen from ENGL 309, 310, 311, 312, and 386
- Period course (3 credits): ENGL 345, 425, 430, 433, 441, 457, or 459
- Major authors courses (9 credits): Chosen from ENGL 363, 364, 406, 434, 439, and 454
- Supplemental major course (3 credits): Any ENGL course or WRTG 387
- Required capstone course (3 credits): ENGL 495

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BA in English. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

English Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
PHIL 140	Contemporary Moral Issues <i>or a foreign language course or other arts and humanities course</i>	3
Both BIOL 101 and BIOL 102	Concepts of Biology	3
or BIOL 103	Laboratory in Biology	1
	Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	

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<b>Foundation Courses</b> <i>(to be taken within the first 60 credits)</i>		
PSYC 100 or SOCY 100	Introduction to Psychology or Introduction to Sociology or other behavioral and social sciences course <i>(discipline must differ from first)</i>	3
NSCI 100 or ASTR 100	Introduction to Physical Science or Introduction to Astronomy or other biological and physical sciences lecture course	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course <i>(discipline must differ from other humanities course)</i>	3
◆ ENGL 240	Introduction to Fiction, Poetry, and Drama	3
CMIS 111	Social Computing and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
SPCH 100 or COMM 380	Foundations of Oral Communication Language in Social Contexts or other communication, writing, or speech course	3
◆ ENGL 303	Critical Approaches to Literature	3
<b>Additional Required Courses</b> <i>(to be taken after introductory and foundation courses)</i>		
WRTG 391	Advanced Research Writing or other communications/upper-level advanced writing course	3
◆ ENGL 309	Medieval Literature or other historical background course for the major	3
◆ ENGL 310	Renaissance Literature or other historical background course for the major	3
◆ ENGL 311	17th- and 18th-Century British Literature or other historical background course for the major	3
◆ ENGL 425	20th-Century British Literature or other period course for the major	3
◆ ENGL 364	African American Authors from 1900 to the Present or other major authors course for the major	3
◆ ENGL 406	Seminar in Shakespeare Studies or other major authors course for the major	3
◆ ENGL 454	Modern World Drama or other major authors course for the major	3
◆ ENGL 481	Seminar in Creative Writing: Fiction and Creative Nonfiction or other supplemental major course	3
<b>Capstone Course for Major</b> <i>(to be taken after all other courses for the major)</i>		
◆ ENGL 495	Advanced Seminar in English Language and Literature	3
<b>Minor and/or Elective Courses</b> <i>(to be taken in the last 60 credits along with required major courses)</i>		43
<u>Recommended Electives</u>		
EDTP 500	Professional Fundamentals of Teaching and Learning <i>(for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)</i>	

EDTP 535	Adolescent Development and Learning Needs <i>(for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)</i>	
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**Total credits for BA in English** **120**

## Minor in English

The English minor complements the skills the student gains in his or her major discipline by providing exposure to literary analysis, critical thinking and reading, and the study of the relationship of literature to contemporary intellectual issues.

### Requirements for the Minor

A minor in English requires the completion of 15 credits of English coursework. All ENGL courses apply. It is recommended that students take ENGL 240 and 303 as the first courses in the minor (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Environmental Management

Students may seek either an academic major or minor in environmental management.

## Major in Environmental Management

The major in environmental management prepares students to plan, implement and control all facets of environmental management. Focus is on the knowledge and skills students need to be effective environmental managers. The curriculum provides an interdisciplinary approach to environmental management that includes management of air, land, and water; pollution control; policies; regulations; and environmental health and safety. Students are prepared for careers in the fields of public safety, occupational health, pollution remediation, hazard control, risk management, risk assessment, and environmental health policy and regulation.

### Intended Program Outcomes

The student who graduates with a major in environmental management will be able to

- Identify and evaluate current and future air, water, land, and energy resource needs to make appropriate recommendations and advocate regarding environmentally sustainable solutions and practices.
- Ensure compliance with safety, health, and environmental laws, regulations, and policies for the protection of humans and the environment in every activity and aspect of an environmental management plan, procedure, and operation.
- Apply scientific knowledge and principles, quantitative methods, and technology tools to think critically and solve complex environmental management problems in a variety of settings.
- Communicate orally and in writing on environmental issues, principles, and practices in a clear, well-organized manner that effectively persuades, informs, and clarifies ideas, information, plans, and procedures to stakeholders and other interested parties.
- Develop and implement management plans that incorporate scientific principles and comply with environmental laws and ethical principles.
- Evaluate and use information obtained through field inspections, monitoring, and sampling to assess the safety of environments.

### Degree Requirements

A degree with a major in environmental management requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

#### REQUIREMENTS FOR THE ENVIRONMENTAL MANAGEMENT MAJOR

Coursework for a major in environmental management includes the following:

- Required core courses (18 credits): ENMT 301, 303, 321, 322 (or 405), 340, and 390
- Required statistics course (3 credits): STAT 200 or 230
- Supplemental major courses (6 credits): Any ENMT courses
- Required capstone course (3 credits): ENMT 495
- Required related courses (9 credits), which may be applied anywhere in the degree: BIOL 301, CHEM 297, and MATH 115 (or MATH 107–108)

#### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in environmental management. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Environmental Management Degree Courses		Credits
<b>First Courses</b> ( <i>to be taken within the first 18 credits</i> )		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning ( <i>strongly recommended as first course</i> )	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 115	Pre-Calculus	3
<i>or both</i> MATH 107 <i>and</i> MATH 108	College Algebra Trigonometry and Analytical Geometry ( <i>related requirement for the major</i> )	
<b>Introductory Courses</b> ( <i>to be taken within the first 30 credits</i> )		
<i>Both</i> BIOL 101 <i>and</i> BIOL 102	Concepts of Biology Laboratory in Biology	3 1
<i>or</i> BIOL 103	Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	

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IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
CHEM 297	Environmental Chemistry <i>(related requirement for the major and prerequisite to major courses; fulfills the biological and physical sciences lecture requirement)</i>	3
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
◆ STAT 230	Introductory Business Statistics	3
or STAT 200	Introduction to Statistics	
PHIL 140	Contemporary Moral Issues	3
or a foreign language course	<i>or other arts and humanities course</i>	
<b>Foundation Courses (to be taken within the first 60 credits)</b>		
PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	
WRTG 293	Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	3
IFSM 300	Information Systems in Organizations <i>or other interdisciplinary issues/computing course</i>	3
BIOL 301	Human Health and Disease <i>(related requirement for the major and prerequisite to major courses)</i>	3
◆ ENMT 301	Environment and Ecosystems Management	3
<b>Additional Required Courses (to be taken after introductory and foundation courses)</b>		
WRTG 394	Advanced Business Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ ENMT 303	Environmental Regulations and Policy	3
◆ ENMT 321	Environmental Health	3
◆ ENMT 322	Occupational Health and Safety	3
or ENMT 405	Pollution Prevention Strategies	
◆ ENMT 340	Environmental Technology	3
◆ ENMT 390	Environmental Health Risk Assessment	3
◆ ENMT 315	Environmental Audits and Permits <i>or other supplemental major course</i>	3
◆ ENMT 380	Air Quality Management <i>or other supplemental major course</i>	3
<b>Capstone Course for Major (to be taken in the last 15 credits)</b>		
◆ ENMT 495	Global Environmental Management Issues	3

**Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)** 43

## Recommended Electives

ANTH 344	Culture and Language
CMIS 111	Social Computing and Cybersecurity Best Practices
WRTG 490	Writing for Managers

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**Total credits for BS in environmental management** 120

## Minor in Environmental Management

The environmental management minor complements the skills the student gains in his or her major discipline by providing a study of interdisciplinary and multimedia (air, water, land) environmental management and related issues on a fundamental, practical, and global level.

### Requirements for the Minor

A minor in environmental management requires the completion of 15 credits of coursework in environmental management. All courses allowable for the major apply. It is recommended that students take ENMT 301 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Finance

Students may seek either an academic major or minor in finance.

## Major in Finance

The finance major provides the knowledge of financial concepts and analytical skills needed to balance finance theory and practical application. It combines a foundation in the principles of business, economics, and accounting with an in-depth focus on issues and knowledge in finance and financial management. The curriculum covers business finance, financial management, investments, and security analysis and valuation. Students are prepared to pursue a variety of careers in corporate and government financial management, investments, portfolio analysis and management, financial analysis, financial planning, banking, risk management, and insurance.

## Intended Program Outcomes

The student who graduates with a major in finance will be able to

- Prepare, analyze, and interpret financial information and apply financial and economic theories to make sound business decisions.
- Apply basic principles of security markets to effectively create, evaluate, and manage security portfolios.
- Describe and analyze the impact of monetary systems' legal, regulatory, and environmental factors on planning, forecasting, and making financial decisions.
- Communicate, collaborate, lead, and influence across the organization to achieve organizational goals effectively and ethically.
- Identify required information and research, collect, synthesize, and interpret data by applying appropriate technology tools to solve business problems.
- Use market principles and entrepreneurial skills to identify, develop, and implement business opportunities and relationships for financial products and services.

## Degree Requirements

A degree with a major in finance requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and 43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE FINANCE MAJOR

Coursework for a major in finance includes the following:

- Required foundation courses (12 credits): ACCT 220 and 221, STAT 230 (or 200), and BMGT 364
- Required core courses (6 credits): FINC 330 and 340
- Supplemental major courses (15 credits): Chosen from any FINC courses (except FINC 321 and 322) and ECON 430
- Required capstone course (3 credits): FINC 495
- Required related courses (9 credits), which may be applied anywhere in the degree: ACCT 326 (or IFSM 300) and ECON 201 and 203

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in finance. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Finance Degree Courses

### Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
BMGT 110	Introduction to Business and Management <i>(strongly recommended elective for students with no prior business experience)</i>	3

#### Introductory Courses (to be taken within the first 30 credits)

♦ ACCT 220	Principles of Accounting I	3
ECON 201	Principles of Macroeconomics <i>(related requirement for the major; also fulfills the first behavioral and social sciences requirement)</i>	3
NSCI 100	Introduction to Physical Science	3
and NSCI 101	Physical Science Laboratory <i>or other biological and physical sciences lecture and laboratory course(s)</i>	1
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	3
PHIL 140	Contemporary Moral Issues	3
or a foreign language course	<i>or other arts and humanities course</i>	

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## Foundation Courses (to be taken within the first 60 credits)

◆ STAT 230	Introductory Business Statistics	3
or STAT 200	Introduction to Statistics	
GVPT 170	American Government or other behavioral and social sciences course (discipline must differ from first)	3
◆ ACCT 221	Principles of Accounting II	3
BIOL 101	Concepts of Biology	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	
ECON 203	Principles of Microeconomics (related requirement for the major)	3
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
SPCH 100	Foundations of Oral Communication	3
or WRTG 293	Introduction to Professional Writing or other communication, writing, or speech course	
IFSM 300	Information Systems in Organizations	3
or ACCT 326	Accounting Information Systems (related requirement for the major; also fulfills the interdisciplinary issues/computing requirement)	
◆ BMGT 364	Management and Organization Theory	3

## Additional Required Courses (to be taken after introductory and foundation courses)

◆ FINC 330	Business Finance	3
◆ FINC 340	Investments	3
WRTG 394	Advanced Business Writing or other communications/upper-level advanced writing course	3
◆ ECON 430	Money and Banking or other supplemental major course	3
◆ FINC 430	Financial Management or other supplemental major course	3
◆ FINC 440	Security Analysis and Valuation or other supplemental major course	3
◆ FINC 421	Financial Analysis or other supplemental major course	3
◆ FINC 460	International Finance or other supplemental major course	3

## Capstone Course for Major (to be taken in the last 15 credits)

◆ FINC 495	Contemporary Issues in Finance Practice	3
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## Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

### Recommended Minors

Human resource management, marketing, or other business-related minor

### Recommended Electives

BMGT 392	Global Business
BMGT 496	Business Ethics
WRTG 490	Writing for Managers

**Total credits for BS in finance** 120

## Minor in Finance

The finance minor complements the skills the student gains in his or her major discipline by providing a study of the institutions, theory, and practice associated with the allocation of financial resources within the private sector.

### Requirements for the Minor

A minor in finance requires the completion of 15 credits of coursework in finance. All FINC courses apply. It is recommended that students take FINC 330 and 340 as the first courses in the minor (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Fire Service Administration

Students may seek either an academic major or minor in fire service administration.

### Major in Fire Service Administration

The major in fire service administration develops the knowledge, skills, and abilities needed for leadership in fire protection. It covers disaster planning and the administration of fire-protection services, encompassing all areas of incendiary-fire management. It provides an understanding of the interagency coordination necessary for fire prevention, emergency management, safe and successful fire-incident command, and arson investigation. The curriculum includes analytical approaches to fire protection and investigation, personnel management, disaster and fire-defense planning, hazardous materials management, fire-protection structure and system design, the role of the fire service within the community and political structure, and the phenomena of fire propagation. Developed in conjunction with the National Fire Academy of the Federal Emergency Management Agency, the major serves fire-service professionals seeking state-of-the-art knowledge to support advancement to chief executive management and senior leadership positions. It also serves professionals in related fields such as public safety, law enforcement, government, health services, insurance, and private-industry emergency response, as well as those in military fire departments in the United States and abroad.

## Intended Program Outcomes

The student who graduates with a major in fire service administration will be able to

- Apply principles of transformational leadership to negotiate, mentor, motivate, and lead others toward a shared and ethical organizational vision or goal.
- Apply knowledge of leadership, change, business models, organizational issues, and regulations when working with staff and federal officials to ensure organizational effectiveness, resulting in the improvement of emergency services.
- Utilize the methods and resources of research, science, and technology to effectively manage emergency services.
- Use appropriate communication strategies and methods to accomplish organizational goals and objectives.
- Utilize appropriate assessment and planning skills to improve organization and community risk management for emergency services.

## Degree Requirements

A degree with a major in fire service administration requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE FIRE SERVICE ADMINISTRATION MAJOR

Coursework for a major in fire service administration includes the following:

- Required core courses (18 credits): FSCN 302, 304, 305, 412, 415, and 416
- Supplemental major courses (9 credits): Any upper-level FSCN courses
- Required capstone course (3 credits): HMLS 495
- Required related course (3 credits), which may be applied anywhere in the degree: ACCT 326 or IFSM 300

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in fire service administration. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

## Fire Service Administration Degree Courses

Credits

### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3

### Introductory Courses (to be taken within the first 30 credits)

GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
<i>Both</i> BIOL 101 <i>and</i> BIOL 102 <i>or</i> BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
<i>or</i> CMST 303	Advanced Application Software	
PHIL 140	Contemporary Moral Issues	3
<i>or a foreign language course</i> <i>or other arts and humanities course</i>		

### Foundation Courses (to be taken within the first 60 credits)

PSYC 100	Introduction to Psychology	3
<i>or</i> SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course</i> <i>(discipline must differ from first)</i>	
NSCI 100	Introduction to Physical Science	3
<i>or</i> ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	
HIST 142	Western Civilization II	3
<i>or</i> HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course</i> <i>(discipline must differ from other humanities course)</i>	
♦ FSCN 302	Fire and Emergency Services Administration	3
WRTG 293	Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	3
IFSM 300	Information Systems in Organizations	3
<i>or</i> ACCT 326	Accounting Information Systems <i>(fulfills the interdisciplinary issues/computing requirement; students should note prerequisites)</i>	
♦ FSCN 304	Personnel Management for Fire and Emergency Services	3

### Additional Required Courses (to be taken after introductory and foundation courses)

WRTG 394	Advanced Business Writing <i>or other communications/upper-level advanced writing course</i>	3
♦ FSCN 305	Fire-Prevention Organization and Management	3

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◆ FSCN 412	Political and Legal Foundations of Fire Protection	3
◆ FSCN 415	Application of Fire Research	3
◆ FSCN 416	Emergency Services Training and Education	3
◆ FSCN 306	Fire Investigation and Analysis	3
or FSCN 303	Analytic Approaches to Public Fire Protection <i>or other supplemental major course</i>	
◆ FSCN 402	Fire-Related Human Behavior	3
or FSCN 401	Disaster Planning and Control <i>or other supplemental major course</i>	
◆ FSCN 411	Fire Protection and Structure	3
or FSCN 413	Community Risk Reduction for the Fire and Emergency Services <i>or other supplemental major course</i>	
<b>Capstone Course for Major</b> ( <i>to be taken after all other courses for the major</i> )		
◆ HMLS 495	Public Safety Policies and Leadership	3
<b>Minor and/or Elective Courses</b> ( <i>to be taken in the last 60 credits along with required major courses</i> )		
46		
<u>Recommended Electives</u>		
CMIS 111	Social Networking and Cybersecurity	
IFSM 304	Ethics in Information Technology	
STAT 200	Introduction to Statistics	
WRTG 490	Writing for Managers	
<b>Total credits for BS in fire service administration</b>		<b>120</b>

## Minor in Fire Service Administration

The fire service administration minor complements the skills the student gains in his or her major discipline by providing knowledge of disaster planning and the administration of fire-protection services, including organization, planning, operating procedures, management, and allocation of limited resources.

### Requirements for the Minor

A minor in fire service administration requires the completion of 15 credits of coursework in fire service administration. All FSCN courses apply. It is recommended that students take FSCN 302 as the first course for the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Forensics

Students may seek an academic minor in forensics. A related academic major is available in investigative forensics (p. 60).

### Minor in Forensics

The minor in forensics complements the skills the student gains in his or her major discipline by providing interdisciplinary study in selected areas of criminal justice, natural science, social science, investigation and security, information and computer systems, psychology, and sociology. It combines laboratory and field skills in the collection and analysis of physical evidence with further study in the various subfields of forensics.

### Requirements for the Minor

A minor in forensics requires the completion of 15 credits of coursework in forensics, chosen from those listed in the requirements for the major in investigative forensics. It is recommended that students take CCJS 101 and 234 as the first courses for the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# General Studies

The general studies major is available only to active-duty military personnel and certain others who conform to specific stipulations. Students outside UMUC Europe and UMUC Asia should not select this major.

## Major in General Studies

The general studies major allows students to draw from various disciplines that provide a body of knowledge appropriate to an identified area of interest (for example, an aspect of culture, a historical period, or a geographical location). The interdisciplinary approach emphasizes analysis and synthesis of diverse theory and practice.

### Intended Program Outcomes

The student who graduates with a major in general studies will be able to

- Communicate effectively, both orally and in writing, with individuals and groups to convey ideas and knowledge and to establish professional competency.
- Develop the skills and competencies required for sustainable professional success.
- Use appropriate resources to research and critically analyze real-world situations.
- Cultivate an awareness of one's changing relationship to diverse social, historical, and cultural contexts.
- Understand and apply key concepts from chosen disciplines.

### Degree Requirements

A degree with a major in general studies requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

#### REQUIREMENTS FOR THE GENERAL STUDIES MAJOR

Coursework for the major in general studies includes either 15 credits in each of two different disciplines or specific coursework for a particular curriculum as defined by UMUC. The general studies major requires prior approval. Unless the curriculum has already been defined by UMUC, students must submit a formal proposal explaining the focus and intended learning outcomes of the proposed course of study and identifying specific courses to fulfill those learning outcomes. Students should consult an advisor about eligibility for the major and about the requirements and procedure for submitting a proposal.

# Gerontology

Students may seek an academic major or minor in gerontology.

## Major in Gerontology

The major in gerontology prepares students to implement and manage health and human service programs in gerontology. It combines a foundation in the psychosocial and physiological aspects of aging with an understanding of programs, services, and policies related to aging and older adults. Graduates are prepared for careers such as gerontological services or program manager, program and policy analyst, services developer, and housing or facilities manager.

### Intended Program Outcomes

The student who graduates with a major in gerontology will be able to

- Access, interpret, and apply gerontological research findings related to biopsychosocial processes in the context of aging.
- Analyze the impact of sociological and cultural factors, such as race, ethnicity, gender, and social class, on the aging process.
- Analyze the development of policies related to aging and their impact on services and organizations for older adults, both locally and nationally.
- Apply interdisciplinary gerontological knowledge to work with older adults in a chosen area of practice.
- Practice within the legal and ethical standards of the aging services field.

### Degree Requirements

A degree with a major in gerontology requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

#### REQUIREMENTS FOR THE GERONTOLOGY MAJOR

Coursework for a major in gerontology includes the following:

- Required foundation courses (9 credits): GERO 100, 220 (or PSYC 357), and 302 (or BIOL 307)
- Required management courses (9 credits): STAT 225 (or 200 or 230) and GERO 301 (or BMGT 361) and 306
- Health-related course (3 credits): GERO 338, 355, or 460 or BEHS 380
- Supplemental major courses (6 credits): Any GERO courses
- Required internship (3 credits): GERO 486A

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## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in gerontology. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Gerontology Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
♦ GERO 100	Introduction to Gerontology	3
BEHS 210	Introduction to Social Sciences or other behavioral and social sciences course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1 3
WRTG 291	Research Writing or other communications/writing course	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	3
PHIL 140	Contemporary Moral Issues or a foreign language course or other arts and humanities course	3
<b>Foundation Courses</b> (to be taken within the first 60 credits)		
♦ GERO 220 or PSYC 357	Psychological Aspects of Aging Adulthood and Aging	3
♦ STAT 225	Introduction to Statistics for the Behavioral Sciences	3
or STAT 200	Introduction to Statistics	3
or STAT 230	Introductory Business Statistics	3
PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy or other biological and physical sciences lecture course	3

HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
SPCH 100 or COMM 380	Foundations of Oral Communication Language in Social Contexts or other communication, writing, or speech course	3
CMIS 111	Social Networking and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
♦ GERO 302 or BIOL 307	Health and Aging The Biology of Aging	3

## Additional Required Courses (to be taken after introductory and foundation courses)

♦ GERO 301 or BMGT 361	Service/Program Management Health Management	3
♦ GERO 306	Programs, Services, and Policies	3
WRTG 391	Advanced Research Writing or other communications/upper-level advanced writing course	3
♦ GERO 338	Health Promotion in Older Adults or other health-related course for the major	3
♦ GERO 311 or GERO 410	Gender and Aging Cross-Cultural Perspectives of Aging or other supplemental major course	3
♦ GERO 327	Ethnicity and Aging or other supplemental major course	3

## Practicum for Major (to be taken within the last 30 credits)

♦ GERO 486A	Internship in Gerontology Through Co-op	3
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## Minor and/or Elective Courses (to be taken within the last 60 credits along with required major courses)

<b>Recommended Electives</b>		46
ANTH 344	Culture and Language	
SPCH 482	Intercultural Communication	

**Total credits for BS in gerontology** **120**

## Minor in Gerontology

The gerontology minor complements the skills the student gains in his or her major discipline by examining aging from a multi-disciplinary perspective that integrates biological, sociological, psychological, and historical perspectives. It provides the student with the opportunity to study complex processes and aspects of aging and the field of gerontology.

## Requirements for the Minor

A minor in gerontology requires the completion of 15 credits of coursework in gerontology. Courses appropriate for the major in gerontology apply. It is recommended that students take GERO 100 and 220 (or PSYC 357) as the first courses in the minor (if

they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Global Business and Public Policy

Students may seek an academic major in global business and public policy.

## Major in Global Business and Public Policy

The major in global business and public policy prepares students with the requisite knowledge and skills for professional success in the global business environment. It provides a foundation in the principles of business, marketing, and accounting with an in-depth focus on global business and public policy. The curriculum covers international and multinational management; public policy and management; and issues related to international law, marketing, finance, and development. Students are prepared for career opportunities in both private and public economic sectors, including domestic and global corporations; federal, state and local governments; and not-for profit, nongovernmental, and intergovernmental domestic and international organizations and institutions.

### Intended Program Outcomes

The student who graduates with a major in global business and public policy will be able to

- Participate in, manage, and lead global teams to achieve institutional goals and objectives.
- Apply the fundamentals of international finance, marketing, sales, supply chain management, asset management, production, and human capital management to provide added value and reduce risk.
- Employ knowledge of different environments, cultural settings, ethics, and values to negotiate contracts and implement programs.
- Research, analyze, and assess systems, markets, and policies to guide decision making to structure and advance global opportunities.

- Apply an understanding of the global challenge, opportunities, and best practices used by global institutions to maximize stakeholder value.
- Influence or execute institutional programs and practices that comply with local, national, and international laws, policies, and regulations and implement global strategies that will ensure a positive regulatory environment.
- Use critical and creative thinking and communication and team-building skills in business and policy decisions to solve global business issues.

### Degree Requirements

A degree with a major in global business and public policy requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and 43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE GLOBAL BUSINESS AND PUBLIC POLICY MAJOR

Coursework for a major in global business and public policy includes the following:

- Required foundation courses (15 credits): ACCT 220 and 221, BMGT 364, FINC 330, and MRKT 310
- Required core courses (9 credits): BMGT 392, 456, and 482
- Supplemental major courses (12 credits): Chosen from ACCT 425; BMGT 307, 437, and 466; ECON 440; FINC 460; and MRKT 454
- Required related courses (15 credits), which may be applied anywhere in the degree: IFSM 300 (or ACCT 326), BMGT 380, ECON 201 and 203, and STAT 230

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in global business and public policy. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

# BACHELOR'S DEGREE CURRICULA

## Global Business and Public Policy Degree Courses

### Credits

### First Courses (to be taken within the first 18 credits)

**Note:** Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WR TG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
BMGT 110	Introduction to Business and Management <i>(strongly recommended elective for students with no prior business experience)</i>	3

### Introductory Courses (to be taken within the first 30 credits)

◆ ACCT 220	Principles of Accounting I	3
ECON 201	Principles of Macroeconomics <i>(related requirement for the major; also fulfills first behavioral and social sciences requirement)</i>	3
NSCI 100	Introduction to Physical Science	3
and NSCI 101	Physical Science Laboratory <i>or other biological and physical sciences lecture and laboratory course(s)</i>	1
WR TG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	3
PHIL 140	Contemporary Moral Issues	3
or a foreign language course	<i>or other arts and humanities course</i>	

### Foundation Courses (to be taken within the first 60 credits)

STAT 230	Introductory Business Statistics <i>(related requirement for the major)</i>	3
◆ ACCT 221	Principles of Accounting II	3
ECON 203	Principles of Microeconomics <i>(related requirement for the major)</i>	3
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
SPCH 100	Foundations of Oral Communication	3
or WR TG 293	Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	3
BIOL 101	Concepts of Biology	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
◆ BMGT 364	Management and Organization Theory	3
◆ MRKT 310	Marketing Principles	3

IFSM 300	Information Systems in Organizations <i>(related requirement for the major; also fulfills the interdisciplinary issues/computing requirement)</i>	3
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### Additional Required Courses (to be taken after introductory and foundation courses)

WR TG 394	Advanced Business Writing <i>or other communications/upper-level advanced writing course</i>	3
BMGT 380	Business Law I <i>(related requirement for the major)</i>	3
◆ FINC 330	Business Finance	3
◆ BMGT 392	Global Business	3
◆ MRKT 454	Global Marketing <i>or other supplemental major course</i>	3
◆ FINC 460	International Finance <i>or other supplemental major course</i>	3
◆ BMGT 466	Global Business and the Public Sector <i>or other supplemental major course</i>	3
◆ BMGT 456	Managing Across Cultures and Borders	3
◆ BMGT 482	Advanced Federal Contracting	3
◆ BMGT 307	Import and Export: Managing Global Trade <i>or other supplemental major course</i>	3

### Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

28

### Recommended Electives

BMGT 496	Business Ethics
WR TG 490	Writing for Managers

**Total credits for BS in global business and public policy 120**

# Graphic Communication

Students may seek an academic major in graphic communication.

## Major in Graphic Communication

The major in graphic communication provides students with a multidisciplinary study of the skills and technology needed to compete in today's rapidly changing visual arts and communication environments. The curriculum combines training in graphic art and design and computer graphics with studies in communication, including business-oriented writing and publication. Graduates are prepared for careers as graphic designers and related positions that require creative skills as well as an understanding of business communication.

### Intended Program Outcomes

The student who graduates with a major in graphic communication will be able to

- Respond to stakeholder needs with appropriate design solutions that effectively convey a coherent, consistent message for targeted purposes and audiences.
- Use appropriate technologies and sound design principles to create effective solutions for communication needs.
- Synthesize effective visual communication from various oral, written, and visual elements.
- Work within the ethical and legal parameters of the communications professions.
- Manage projects by identifying the steps, roles, responsibilities, and resources to complete a project on time and on budget through effective teamwork.

### Degree Requirements

A degree with a major in graphic communication requires the successful completion of 120 credits of coursework, including 33 credits for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree requirements. At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above).

#### REQUIREMENTS FOR THE GRAPHIC COMMUNICATION MAJOR

Coursework for a major in graphic communication includes the following:

- Required introductory courses (9 credits): ARTT 110 and 120 and GRCO 100
- Required foundation courses (6 credits): ARTT 210 and GRCO 230
- Required core courses (12 credits): ARTH 375, GRCO 350 and 354, and MRKT 310

- Supplemental major course (3 credits): Any ARTT or GRCO course
- Required capstone course (3 credits): GRCO 495

#### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BA in graphic communication. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

#### Graphic Communication Degree Courses

Credits

##### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
♦ GRCO 100	Introduction to Graphic Communication	3

##### Introductory Courses (to be taken within the first 30 credits)

PHIL 140	Contemporary Moral Issues <i>or a foreign language course or other arts and humanities course</i>	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
♦ ARTT 110	Drawing and Design	3
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
<b>Foundation Courses (to be taken within the first 60 credits)</b>		
♦ ARTT 120	Two-Dimensional Design	3
PSYC 100	Introduction to Psychology	3
or BEHS 210	Introduction to Social Sciences <i>or other behavioral and social sciences course (discipline must differ from first)</i>	
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	

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◆ ARTT 210	Drawing	3
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	
CMST 385	Principles of Web Design and Technology I <i>(Fulfills the interdisciplinary issues/computing requirement; prerequisite for later courses)</i>	3
SPCH 100	Foundations of Oral Communication	3
or ENGL 281	Standard English Grammar, Usage, and Diction <i>or other communication, writing, or speech course</i>	
◆ GRCO 230	Typography	3
<b>Additional Required Courses</b> <i>(to be taken after introductory and foundation courses)</i>		
◆ ARTH 375	History of Graphic Art	3
WRTG 391	Advanced Research Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ MRKT 310	Marketing Principles	3
◆ GRCO 350	Commercial Design	3
◆ GRCO 354	Digital Media	3
◆ GRCO 458	Illustration	3
or GRCO 479	Motion Graphics <i>or other supplemental course for the major</i>	
<b>Capstone Course for Major</b> <i>(to be taken after all other courses for the major)</i>		
◆ GRCO 495	Graphic Communication Portfolio	3
<b>Minor and/or Elective Courses</b> <i>(to be taken in the last 60 credits along with required major courses)</i>		
		43
<b>Total credits for BA in graphic communication</b>		<b>120</b>

## History

Students may seek either an academic major or minor in history.

### Major in History

The history major prepares students to read and analyze historical works with critical insight and appreciate the range and variety of resources, as well as demonstrate knowledge of the development and cultural diversity of their respective areas of study. Students develop their research skills using libraries, archives, and online sources to acquire a sense of intellectual property and the responsibility of presenting and interpreting historical issues. They also develop writing skills to clearly express their findings using the language of the discipline. The history major prepares students for graduate study in history and for careers in education, writing and publishing, journalism, law, public relations, business, government, and management.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in history to reduce their total coursework for the Master of Arts in Teaching by 12 credits (two courses) and complete both degrees with a total of 138 credits of coursework. More information is available in the graduate catalog.

### Intended Program Outcomes

The student who graduates with a major in history will be able to

- Organize and use primary and secondary sources for research, interpretation, and presentation of historical knowledge.
- Convey historical information by writing and speaking clearly and appropriately for different audiences and with an appreciation of diverse viewpoints.
- Engage in history as a moral and ethical practice, recognizing a diversity of backgrounds and perspectives.
- Cultivate historical habits of mind, apply historical precedents to contemporary developments, remain open to historical interpretation as an incomplete process, and develop self-reflection to mitigate bias.
- Demonstrate a chronological understanding of the different peoples, events, and cultures that have shaped human civilization.

### Degree Requirements

A degree with a major in history requires the successful completion of 120 credits of coursework, including 33 credits for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree requirements.

At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE HISTORY MAJOR

Coursework for a major in history includes the following:

- Required foundation course (3 credits): HIST 289
- Required U.S. history sequence (6 credits): HIST 156 and 157
- Required methodology course (3 credits): HIST 309
- World history sequence (6 credits): HIST 115–116 or HIST 141–142
- U.S. distribution course (3 credits): HIST 360, 361, 362, 364, 365, 372, 376, 377, 381, 453, 460, 461, 462, 463, or 467
- European distribution course (3 credits): HIST 324, 325, 326, 327, 332, 333, 334, 335, 336, 337, 358, 375, 430, 431, 432, 433, 434, 437, 438, 439, 440, 441, 443, or 448
- World regions distribution course (3 credits): HIST 341, 342, 353, 354, 382, 383, 389, 392, 464, 465, 466, 480, 481, 482, 483, or 485
- Supplemental major course (3 credits): Any upper-level HIST course
- Required capstone course (3 credits): HIST 495

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BA in history. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

#### History Degree Courses

#### Credits

##### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses (to be taken within the first 30 credits)</b>		
PHIL 140	Contemporary Moral Issues or a foreign language course or other arts and humanities course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3

♦ HIST 115 or HIST 141	World History I Western Civilization I or other first course in required world history sequence for the major	3
GVPT 170	American Government or other behavioral and social sciences course	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
♦ HIST 116 or HIST 142	World History II Western Civilization II or other second course in required world history sequence for the major	3

#### Foundation Courses (to be taken within the first 60 credits)

PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	
♦ HIST 156	History of the United States to 1865	3
ARTH 372	History of Western Art I or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
SPCH 100	Foundations of Oral Communication	3
or COMM 380	Language in Social Contexts or other communication, writing, or speech course	
CMIS 111	Social Networking and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
♦ HIST 157	History of the United States Since 1865	3
♦ HIST 289	Historical Methods	3

#### Additional Required Courses (to be taken after introductory and foundation courses)

WRTG 391	Advanced Research Writing or other communications/upper-level advanced writing course	3
♦ HIST 309	Historical Writing	3
♦ HIST 364	Emergence of Modern America: 1900 to 1945 or other U.S. distribution course for the major	3
♦ HIST 337	Europe's Bloodiest Century or other European distribution course for the major	3
♦ HIST 481	History of China from the Opium War to Deng Xioping	3
or HIST 483	History of Japan Since the Late Edo Period or other world regions distribution course for the major	
♦ HIST 465	World War II or other supplemental major course	3
<b>Capstone Course for Major (to be taken after all other courses for the major)</b>		
♦ HIST 495	Senior Thesis in History	3

# BACHELOR'S DEGREE CURRICULA

Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses) 43

## Recommended Electives

EDTP 500	Professional Fundamentals of Teaching and Learning (for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)
EDTP 535	Adolescent Development and Learning Needs (for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)

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Total credits for BA in history 120

## Minor in History

The history minor complements the skills the student gains in his or her major discipline by offering a historical perspective and by developing critical thinking and an appreciation of the major contributions of various events and individuals to human civilization.

### Requirements for the Minor

A minor in history requires the completion of 15 credits of coursework in history. All HIST courses apply. Students are recommended to take HIST 289 as the first course in the minor and take HIST 309 after all other courses in the minor.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Homeland Security

Students may seek either an academic major or minor in homeland security.

### Major in Homeland Security

The major in homeland security develops the knowledge, skills, and abilities needed for leadership in homeland security, with a focus on the domestic and international security issues of homeland security, including international and domestic terrorism, infrastructure protection, strategic planning for security, international relations, intelligence operations and evaluation, and program management. The curriculum is designed to provide students with a global outlook, interpersonal skills, and awareness of current issues in homeland security. Graduates of the program will have the knowledge and skills to serve as leaders in government and industry security.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in homeland security to reduce their total coursework for the graduate degree by 12 credits (four courses) and complete both degrees with a total of 144 credits of coursework. More information is available in the graduate catalog.

### Intended Program Outcomes

The student who graduates with a major in homeland security will be able to

- Lead, manage, motivate, and develop others to establish and achieve strategic and operational homeland security goals and interface with internal and external audiences.
- Manage technology and information for the protection, response, and recovery of critical infrastructure/information in a hostile or emergency environment.
- Navigate public or private organizations' financial, personnel, legal, and political information to identify, evaluate, and address the organizational needs, requirements, and resources.
- Thoroughly research, critically analyze, and synthesize complex intelligence information using various methods to formulate risk assessments and responses to emerging threats.
- Communicate, negotiate, and educate strategically and tactically across cultural boundaries with diverse audiences within homeland security.
- Write concise and succinct policy, planning, and procedure documents for a variety of audiences to support homeland security operations.

## Degree Requirements

A degree with a major in homeland security requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE HOMELAND SECURITY MAJOR

Coursework for a major in homeland security includes the following:

- Required core courses (15 credits): HMLS 302, 304, 406, 408, and 416
- Supplemental major course in technology (3 credits): Chosen from BIOL 422, CSIA 302 and 303, ENMT 321, FSCN 303, and HMLS 310
- Supplemental major course in operations (3 credits): Chosen from BMGT 466; EMGT 302, 308, 310, and 404; HMLS 312; and IFSM 432
- Supplemental major course in intelligence (3 credits): Chosen from CCJS 390, 412, and 413; CSIA 459; GVPT 408 and 409; and HMLS 414
- Supplemental major course in applied concepts (3 credits): Chosen from ECON 440; EMGT 312; GVPT 200, 306, and 405; HMLS 486A; or SOCY 473
- Required capstone course (3 credits): HMLS 495
- Required related course (3 credits), which may be applied anywhere in the degree: IFSM 300 (or ACCT 326)

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in homeland security. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

#### Homeland Security Degree Courses

#### Credits

##### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WR TG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3

#### Introductory Courses (to be taken within the first 30 credits)

GVPT 170	American Government or other behavioral and social sciences course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1
WR TG 291	Research Writing or other communications/writing course	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
PHIL 140	Contemporary Moral Issues	3
or a foreign language course	or other arts and humanities course	

#### Foundation Courses (to be taken within the first 60 credits)

PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
♦ HMLS 302	Introduction to Homeland Security	3
WR TG 293	Introduction to Professional Writing or other communication, writing, or speech course	3
IFSM 300	Information Systems in Organizations (related requirement for the major; also fulfills the interdisciplinary issues/computing requirement and is prerequisite to recommended major course)	3
♦ HMLS 304	Strategic Planning in Homeland Security	3

#### Additional Required Courses (to be taken after introductory and foundation courses)

WR TG 394	Advanced Business Writing or other communications/upper-level advanced writing course	3
♦ HMLS 406	Legal and Political Issues of Homeland Security	3
♦ HMLS 408	Infrastructure in Homeland Security	3
♦ HMLS 416	Homeland Security and International Relations	3
♦ HMLS 310	Homeland Security Response to Critical Incidents or other supplemental major course in technology	3
♦ HMLS 312	Technology in Homeland Security or other supplemental major course in operations	3
♦ HMLS 414	Homeland Security and Intelligence or other supplemental major course in intelligence	3
♦ HMLS 486A	Internship in Homeland Security Through Co-op or other supplemental major course in applied concepts	3

# BACHELOR'S DEGREE CURRICULA

Capstone Course for Major (to be taken in the last 15 credits)

◆ HMLS 495 Public Safety Policies and Leadership 3

Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses) 46

## Recommended Electives

CMIS 111 Social Computing and Cybersecurity Best Practices

EMGT 310 Continuity of Operations Planning and Implementation  
(may meet requirements for certain graduate degree programs at UMUC)

STAT 200 Introduction to Statistics

WRTG 490 Writing for Managers

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**Total credits for BS in homeland security 120**

## Minor in Homeland Security

The homeland security minor complements the skills the student gains in his or her major discipline by providing knowledge of the concepts of domestic and international security.

### Requirements for the Minor

A minor in homeland security requires the completion of 15 credits of coursework in homeland security. All HMLS courses apply. It is recommended that students take HMLS 302 or 304 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Humanities

Students may seek either an academic major or minor in humanities.

### Major in Humanities

The interdisciplinary major in the humanities enables students to broaden their understanding of themselves and their interaction with the world, providing an understanding of their cultural and intellectual heritage while giving them the tools to use that knowledge as lifelong learners. Students explore how individuals and groups understand their existence, their place within their cultures, and their responsibility to others and the physical world. They learn how to express this understanding—by studies in literature, language, history and through creative and expressive art—and define their own meaning of humanness within an increasingly technological and diverse world. The interdisciplinary curriculum draws on art, art history, cultural history, literature, language, music, philosophy and religious studies, and theater.

### Intended Program Outcomes

The student who graduates with a major in the humanities will be able to

- Use the knowledge, experiences, and skills gained from the study of the humanities to develop one's identity as a lifelong learner and contributing member of one's community and society.
- Plan, communicate, and implement coherent and justifiable practices that improve human conditions.
- Critically analyze ideas and defend recommendations for improving the conditions of all members of society.
- Act in a personally and socially responsible manner, recognizing the complexity and diversity of the human experience.

### Degree Requirements

A degree with a major in humanities requires the successful completion of 120 credits of coursework, including 33 credits for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree requirements. At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE HUMANITIES MAJOR

Coursework for a major in humanities includes the following:

- Required introductory course (3 credits): HUMN 100
- Required foundation courses (12 credits): ARTT 205, HIST 115–116 (or HIST 141–142), and PHIL 140
- Core courses (12 credits): ARTH 372 (or ARTH 373), an upper-level ENGL course, and two upper-level courses designated HUMN and/ or PHIL
- Supplemental major course (3 credits): Any upper-level ARTT, ARTH, GRCO, HUMN, MUSC, PHIL, or THET course
- Required capstone course (3 credits): HUMN 495

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BA in humanities. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Humanities Degree Courses Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3

#### Introductory Courses (to be taken within the first 30 credits)

ENGL 240	Introduction to Fiction, Poetry, and Drama <i>or other arts and humanities course</i>	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1
♦ HUMN 100	Introduction to the Humanities	3
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	

#### Foundation Courses (to be taken within the first 60 credits)

♦ HIST 115 or HIST 141	World History I Western Civilization I	3
PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
♦ HIST 116 or HIST 142	World History II Western Civilization II	3
HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
CMIS 111	Social Networking and Cybersecurity Best Practices <i>or other interdisciplinary issues/computing course</i>	3
♦ PHIL 140	Contemporary Moral Issues	3
SPCH 100 or ENGL 281	Foundations of Oral Communication Standard English Grammar, Usage, and Diction <i>or other communication, writing, or speech course</i>	3
♦ ARTT 205	Art Appreciation	3

#### Additional Required Courses (to be taken after introductory and foundation courses)

WRTG 391	Advanced Research Writing <i>or other communications/upper-level advanced writing course</i>	3
♦ ARTH 372 or ARTH 373	History of Western Art I History of Western Art II <i>(arts breadth course for the major)</i>	3
♦ ENGL 433	Modern American Literature: 1914–1945 <i>or other upper-level ENGL core course for the major</i>	3
♦ HUMN 351	Myth in the World <i>or other PHIL or HUMN core course for the major</i>	3
♦ PHIL 336	Ideas Shaping the 21st Century <i>or other PHIL or HUMN core course for the major</i>	3
♦ PHIL 348	Religions of the East <i>or other supplemental major course</i>	3

#### Capstone Course (to be taken in the last 15 credits)

♦ HUMN 495	Humanities Seminar	3
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#### Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

<b>Total credits for BA in humanities</b>		<b>43</b>
		<b>120</b>

# BACHELOR'S DEGREE CURRICULA

## Minor in Humanities

The humanities minor complements the skills the student gains in his or her major discipline by providing an integrated curriculum for enrichment and exploration of culture and ideas, as well as a broad perspective on human behavior, thought, and values across traditional disciplines.

### Requirements for the Minor

A minor in humanities requires the completion of 15 credits of coursework in humanities and related disciplines. Courses allowable for the major apply.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level humanities-related courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Human Resource Management

Students may seek either an academic major or minor in human resource management.

### Major in Human Resource Management

The human resource major provides 21st-century skills, knowledge, and understanding of human resource functions in private- and public-sector organizational settings. These functions include human resource planning; recruitment, selection, placement, and orientation of employees; training and career development; labor relations; management of performance appraisal, compensation, and benefit programs; and development of personnel policies and procedures. The curriculum also covers management and organization theory, organizational behavior and development approaches, labor relations theory and practice, interpersonal skill development, and special perspectives such as women in management. Students are prepared for work in business administration and human resources in the for-profit, non-profit, or public sector. Through the proper selection of courses, the student can prepare for the certification examinations for Professional in Human Resources, Senior Professional in Human Resources, and Global Professional in Human Resources, which are offered by the Society for Human Resource Management.

### Intended Program Outcomes

The student who graduates with a major in human resource management will be able to

- Apply business knowledge, reflective practices, and ethical leadership skills that drive learning and self-improvement to develop strategic competencies and position the organization competitively.
- Apply knowledge of human behavior, labor relations, and current laws and regulations to produce a working environment that is safe, fair, and compliant with all applicable regulations and where all employees are motivated and valued.
- Develop, implement, and assess training, development, and total rewards programs that foster employee and organizational learning and development.
- Recognize the different cultures and world views that inform human thinking and action and respond constructively to human and global differences in workplaces, communities, and organizations.
- Identify and use technology to research, collect, analyze, and interpret data and effectively communicate information in a professional manner that educates and influences others.

## Degree Requirements

A degree with a major in human resource management requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and 43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE HUMAN RESOURCE MANAGEMENT MAJOR

Coursework for a major in human resource management includes the following:

- Required foundation courses (12 credits): BMGT 110 (or BMGT 364), ACCT 301 (or ACCT 221), FINC 331, and MKTG 310
- Required core courses (18 credits): HRMN 300, 362, 395, 400, 406, and 408
- Supplemental major courses (3 credits): Chosen from any HRMN courses or BMGT 365, 465, and 484
- Required capstone course (3 credits): HRMN 495
- Required related course (3 credits), which may be applied anywhere in the degree: IFSM 300 (or ACCT 326)

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in human resource management. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Human Resource Management Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
♦ BMGT 110 or BMGT 364	Introduction to Business and Management Management and Organization Theory (for students with business experience)	3
ECON 201 or ECON 203	Principles of Macroeconomics Principles of Microeconomics or other behavioral and social sciences course	3

NSCI 100 and NSCI 101	Introduction to Physical Science Physical Science Laboratory or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3
IFSM 201 or CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3 3
PHIL 140 or a foreign language course	Contemporary Moral Issues or other arts and humanities course	3
<b>Foundation Courses</b> (to be taken within the first 60 credits)		
PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	3
♦ ACCT 301 or ACCT 221	Accounting for Nonaccounting Majors Principles of Accounting II (students should note prerequisite)	3
BIOL 101 or ASTR 100	Concepts of Biology Introduction to Astronomy or other biological and physical sciences lecture course	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
IFSM 300 or ACCT 326	Information Systems in Organizations Accounting Information Systems (related requirement for the major; also fulfills the interdisciplinary issues/computing requirement; students should note prerequisite)	3
SPCH 100 or WRTG 293	Foundations of Oral Communication Introduction to Professional Writing or other communication, writing, or speech course	3
♦ MRKT 310	Marketing Principles	3
♦ FINC 331	Finance for the Nonfinancial Manager	3
<b>Additional Required Courses</b> (to be taken after introductory and foundation courses)		
WRTG 394	Advanced Business Writing or other communications/upper-level advanced writing course	3
♦ HRMN 300	Human Resource Management	3
♦ HRMN 362	Labor Relations	3
♦ HRMN 395	The Total Rewards Approach to Compensation Management	3
♦ HRMN 400	Human Resource Management: Issues and Problems	3
♦ HRMN 406	Employee Training and Development	3
♦ HRMN 408	Employment Law for Business	3
♦ HRMN 302 or HRMN 367	Organizational Communication Organizational Culture or other supplemental major course	3

# BACHELOR'S DEGREE CURRICULA

Capstone Course for Major (to be taken in the last 15 credits)

- ◆ HRMN 495 Contemporary Issues in Human Resource Management Practice

Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

Recommended Minors

Business administration, finance, or other business-related minor

Recommended Electives

BMGT 365	Organizational Leadership
BMGT 465	Organizational Development and Transformation
BMGT 484	Managing Teams in Organizations
HRMN 342	Organizational Communication
HRMN 365	Conflict Management in Organizations
HRMN 392	Stress Management in the Workplace
STAT 200	Introduction to Statistics

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**Total credits for BS in human resource management** 120

## Minor in Human Resource Management

The human resource management minor complements the skills the student gains in his or her major discipline by examining the human resource functions in a private- or public-sector organizational setting. These functions include human resource planning; recruitment, selection, and placement; employee appraisal and compensation; employee training and career development; management of labor relations; and development of a human resource department implementation plan.

### Requirements for the Minor

A minor in human resource management requires the completion of 15 credits of coursework in human resource management. Any HRMN course applies. It is recommended that students take HRMN 300 and 400 for the minor (if the courses have not already applied elsewhere in the degree).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Information Systems Management

3

40

Students may seek an academic major in information systems management.

### Major in Information Systems Management

The information systems management major develops students' abilities to conceptualize and manage the design and implementation of high-quality information systems. The curriculum focuses on the concepts, methods, and practical applications of information systems in the workplace. Students are provided with the skills needed to make substantive contributions to the use of information systems in corporate decision making.

### Intended Program Outcomes

The student who graduates with a major in information systems management will be able to

- Evaluate, select, and apply appropriate analytical and measurement methods/tools and system development life cycle (SDLC) methodologies to meet organizational needs.
- Research, assess, recommend/select, and implement information technology that aligns with business needs and meets business objectives.
- Effectively communicate with stakeholders orally, visually, and in writing to determine stakeholders' business requirements, explain how their requirements will be met, and provide ongoing audience-appropriate information.
- Responsibly protect organizations' critical information and assets by integrating cybersecurity best practices and risk management throughout global enterprises.
- Plan, execute, and evaluate technology solutions to achieve strategic goals by managing high-performing teams and projects.

### Degree Requirements

A degree with a major in information systems management requires the successful completion of 120 credits of coursework, including 33 credits for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree requirements. At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE INFORMATION SYSTEMS MANAGEMENT MAJOR

Coursework for a major in information systems management includes the following:

- Required foundation courses (12 credits): IFSM 300, 301, 304, and 310
- Core courses (15 credits): CMIS 320; CSIA 302; and IFSM 311, 438, and 461
- Supplemental major courses (3 credits): Any upper-level CMIS, CMIT, CMSC, CMST, CSIA, or IFSM courses
- Required capstone course (3 credits): IFSM 495
- Required related courses (6 credits), which may be applied anywhere in the degree: CMIS 102 (or programming language course) and IFSM 201

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in information systems management. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Information Systems Management Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
CMIS 102	Introduction to Problem Solving and Algorithm Design or another programming language course (related requirement for the major)	3
PHIL 140 or ENGL 240	Contemporary Moral Issues Introduction to Fiction, Poetry, and Drama or other arts and humanities course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1
IFSM 201	Concepts and Applications of Information Technology (related requirement for the major; also fulfills the interdisciplinary issues/computing requirement)	3

WRTG 291	Research Writing or other communications/writing course	3
GVPT 170	American Government or other behavioral and social sciences course	3

### Foundation Courses (to be taken within the first 60 credits)

PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	3
♦ IFSM 300	Information Systems in Organizations	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy or other biological and physical sciences lecture course	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
♦ IFSM 301	Foundations of Enterprise and Information Systems	3
SPCH 100 or WRTG 293	Foundations of Oral Communication Introduction to Professional Writing or other communication, writing, or speech course	3
♦ IFSM 304	Ethics in Information Technology	3

### Additional Required Courses (to be taken after introductory and foundation courses)

WRTG 393	Advanced Technical Writing or other communications/upper-level advanced writing course	3
♦ IFSM 310	Software and Hardware Infrastructure Concepts	3
♦ CSIA 302	Telecommunication in Information Systems	3
♦ CMIS 320	Relational Database Concepts and Applications	3
♦ IFSM 311	Enterprise Architecture and Systems	3
♦ IFSM 438	Information Systems Project Management	3
♦ IFSM 461	Systems Analysis and Design	3
♦ IFSM 432	Business Continuity Planning or other supplemental major course	3

### Capstone Course for Major (to be taken in the last 15 credits)

♦ IFSM 495	Current Issues and Trends in Information Systems Management	3
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### Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

<b>Recommended Minors</b>		
Computing, business administration, psychology, or marketing		
<b>Recommended Electives</b>		
ANTH 344	Culture and Language	
MATH 140	Calculus I (for students who plan to go on to graduate school; students should note prerequisites)	
WRTG 490	Writing for Managers	

**Total credits for BS in information systems management 120**

# BACHELOR'S DEGREE CURRICULA

## International Business Management

Students may seek an academic minor in international business management.

### Minor in International Business Management

The international business management minor complements the skills the student gains in his or her major discipline by presenting the basic concepts, theories, policies, and practices that support the institutional, environmental, functional, and strategic framework for conducting global business transactions.

#### Requirements for the Minor

A minor in international business management requires the completion of 15 credits of coursework in international business management. Courses that meet core and supplemental course requirements in the global business and public policy major apply.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Investigative Forensics

Students may seek an academic major in investigative forensics. A related minor is available in forensics (p. 44).

### Major in Investigative Forensics

The investigative forensics major prepares students with the knowledge, skills, and ethical principles necessary to process and report on physical evidence at a crime scene or in connection with a civil investigation. Students will understand both the theory and practice of the forensic disciplines and of police work. The curriculum, based on national guidelines, provides students with a basic foundation in investigative, scientific, and laboratory-based forensics, and introduces them to the various disciplines that make up the forensic collaborative workgroup. It prepares students for further education or employment in the field.

#### Intended Program Outcomes

The student who graduates with a major in investigative forensics will be able to

- Apply the scientific method to draw conclusions regarding forensic information.
- Utilize ethical principles and an understanding of legal precedents to make decisions related to investigation, analyses, and testimony as a crime scene or forensic professional.
- Access, interpret, and apply investigative, forensic, and criminal justice research to maintain competency within the field.
- Use effective written and oral communication to clearly report and articulate information, analyses, or findings to relevant end users in a timely manner.
- Recognize and evaluate evidence to determine all appropriate analyses to gather all available forensic information.
- Synthesize forensic, evidential, and investigatory information from multiple sources to generate theories about a crime.
- Use an understanding of the capabilities, processes, and limitations of the crime laboratory to be an informed consumer or practitioner.

#### Degree Requirements

A degree with a major in investigative forensics requires the successful completion of 120 credits of coursework, including 35 credits for the major; 41 credits in general education requirements; and 44 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE INVESTIGATIVE FORENSICS MAJOR

Coursework for a major in investigative forensics includes the following:

- Required foundation courses (20 credits): CCJS 101, 234, 301, 302, and 342 and STAT 200
- Specialization courses (15 credits) chosen from a single area:
  - Scientific specialization as follows:
    - Required core courses (6 credits): CCJS 420 and 461
    - Applied discipline courses (6 credits): Chosen from CCJS 486A, CCJS 486B, BIOL 331, BIOL 356, or any courses designated as forensic lab science
    - Supplemental major course (3 credits): ANTH 351, BIOL 160, BIOL 320, BIOL 350, BIOL 356, FSCN 414, or any chemistry, forensic science, or physics course
  - Digital specialization, as follows:
    - Required core courses (6 credits): CCJS 390 and 421
    - Applied discipline courses (6 credits): Chosen from CCJS 414, CMIT 424, CSIA 303, CSIA 413, or IFSM 300
    - Supplemental major course (3 credits): Chosen from any CSIA or IFSM courses
- Required related course (3 credits): WRTG 393

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in investigative forensics. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Investigative Forensics Degree Courses

### Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3

#### Introductory Courses (to be taken within the first 30 credits)

♦ CCJS 101	Introduction to Investigative Forensics	3
GVPT 170	American Government or other behavioral and social sciences course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3

IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
♦ CCJS 234	Criminal Procedure and Evidence	3
PHIL 140	Contemporary Moral Issues	3
or a foreign language course or other arts and humanities course		

#### Foundation Courses (to be taken within the first 60 credits)

CMIS 111	Social Networking and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
♦ STAT 200	Introduction to Statistics	3
PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	
NSCI 100	Introduction to Physical Science or other biological and physical sciences lecture course	3
♦ CCJS 301	Criminalistics I: The Comparative Disciplines	4
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
SPCH 100	Foundations of Oral Communication or other communication, writing, or speech course	3

#### Additional Required Courses (to be taken after introductory and foundation courses)

WRTG 393	Advanced Technical Writing (related requirement for the major; also fulfills the communications/upper-level advanced writing requirement)	3
♦ CCJS 302	Criminalistics II: The Scientific Disciplines	4
♦ CCJS 342	Crime Scene Investigation	3
♦ CCJS 390	Cyber Crime and Security	3
or CCJS 420	Medical and Legal Investigations of Death	
♦ CCJS 421	Computer Forensics	3
or CCJS 461	Psychology of Criminal Behavior	
♦ CCJS 414	Intelligence Analysis	3
or CCJS 486A	Internship in Criminal Justice Through Co-op	
♦ IFSM 300	Information Systems in Organizations	3
or BIOL 331	Concepts in Microbiology	
♦ CSIA 303	Introduction to Cybersecurity	3
or ANTH 351	Anthropology in Forensic Investigations or other specialization course for the major	

#### Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

41

#### Recommended Minors

- Biology (for scientific specialization)
- Computing (for digital specialization)

#### Total credits for BS in investigative forensics

120

# BACHELOR'S DEGREE CURRICULA

## Journalism

Students may seek an academic minor in journalism.

### Minor in Journalism

The journalism minor complements the skills the student gains in his or her major discipline by introducing the fundamental concepts and techniques in public relations and mass media writing. Students learn how to create highly effective messages in both traditional and new media for different audiences and contexts. They also develop an understanding of the legal and ethical implications of communication.

### Requirements for the Minor

A minor in journalism requires the completion of 15 credits of coursework in journalism and communication studies. All JOUR and COMM courses apply. At least 9 credits must be earned in JOUR courses. It is recommended that students take JOUR 201 and 202 first, followed by COMM 300 and 400 (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Laboratory Management

Students who have completed the required lower-level coursework for the laboratory management major—either within an Associate of Applied Science degree program at a community college with which UMUC has an articulation agreement or within another appropriate transfer program—may seek an academic major in laboratory management. Students should consult an advisor before electing this major.

### Major in Laboratory Management

The laboratory management major prepares students to manage and coordinate the nontechnical activities that contribute to a safe and well-run laboratory. It builds on the technical and scientific knowledge gained through the associate's degree program and direct experience in the field. The curriculum provides both in-depth study of scientific concepts and procedures and management skills related to inventory, budget, personnel, and operations. It is designed to prepare students to meet employer needs for scientific technicians trained in both the sciences and the management of laboratory activities.

### Intended Program Outcomes

The student who graduates with a major in laboratory management will be able to

- Create a healthy, safe, and productive workplace by effectively and appropriately hiring, training, supporting, and evaluating laboratory personnel.
- Manage (plan, organize, and direct) the daily work activities of a laboratory setting by working independently and as a member of a team, meeting job expectations, and adhering to organizational policies and goals.
- Communicate thoughts orally and in writing in a clear, well-organized manner that effectively persuades, informs, and clarifies ideas, information, and lab techniques/procedures to staff, the scientific community, and the public.
- Practice ethical standards of integrity, honesty, and fairness as a laboratory manager and professional.
- Monitor and maintain laboratory-related documentation, equipment, and supplies necessary for conducting efficient, safe, cost-effective, and hygienic laboratory operations.
- Manage scientific and laboratory practices and procedures by complying with and adhering to national, state, and local standards, policies, protocols, and regulations.

## Degree Requirements

A degree with a major in laboratory management requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and 43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE MAJOR

Coursework for a major in laboratory management includes the following lower-level coursework taken as part of an appropriate degree program at an approved community college or other institution:

- Foundation courses (15 credits, at least 12 of which should be in laboratory science coursework): Chosen from biology, biochemistry, biotechnology, chemistry, microbiology, and molecular biology courses
- Additional required related science coursework (14 credits), which may be applied anywhere in the bachelor's degree

Coursework for a major in laboratory management also includes the following:

- Required upper-level core courses (12 credits): BIOL 325, BMGT 364, FINC 331, and NSCI 301
- Supplemental major course (3 credits): Chosen from BMGT 317 and 487; BIOL 400; COMM 300; IFSM 300; and SPCH 324, 397, 426, 470, and 482
- Required Co-op internship (6 credits): Courses numbered 486A or 486B in any related discipline
- Required related courses (6 credits), which may be applied anywhere in the degree: STAT 200 and WRTG 393

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BTPS or the BS in laboratory management (if the student selects appropriate courses as part of the transfer coursework). Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

## Laboratory Management Degree Courses

## Credits

### Required Courses from Transfer Institution

♦ Lower-level coursework in biology, biochemistry, biotechnology, chemistry, microbiology, and molecular biology	15
Additional required science coursework <i>(should also fulfill requirements in biological and physical sciences)</i>	14

**First Courses** *(to be taken within the first 18 credits at UMUC if not brought in transfer)*

**Note:** Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3

**Introductory and General Education Courses** *(to be taken within the first 30 credits)*

IFSM 201	Concepts and Applications of Information Technology	3
<i>or</i> CMST 303	Advanced Application Software	
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
PHIL 140	Contemporary Moral Issues <i>or a foreign language course</i> <i>or other arts and humanities course</i>	3
STAT 200	Introduction to Statistics <i>(related requirement for the major)</i>	3
PSYC 100	Introduction to Psychology	3
<i>or</i> SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course</i> <i>(discipline must differ from first)</i>	
HIST 142	Western Civilization II	3
<i>or</i> HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course</i> <i>(discipline must differ from other humanities course)</i>	
SPCH 100	Foundations of Oral Communication	3
<i>or</i> WRTG 293	Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	
CMIS 111	Social Networking and Cybersecurity Best Practices <i>or other interdisciplinary issues/computing course</i>	3

**Required Upper-Level Courses for Major** *(to be taken after introductory and foundation courses)*

WRTG 393	Advanced Technical Writing <i>(related requirement for the major; also fulfills the communications/upper-level advanced writing requirement)</i>	3
♦ BIOL 325	Inquiries in Biological Science	3
♦ BMGT 364	Management and Organization Theory	3
♦ FINC 331	Finance for the Nonfinancial Manager	3
♦ NSCI 301	Laboratory Organization and Management	3

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◆ BMGT 317	Decision Making <i>or other supplemental major course</i>	3
<b>Internship for Major</b> ( <i>to be taken in the last 30 credits</i> )		
◆ Internship through Cooperative Education		6
<b>Minor and/or Elective Courses</b> ( <i>to be taken in the last 60 credits along with required major courses</i> )		
		33
<b>Total credits for BS or BTPS in laboratory management</b>		<b>120</b>

## Legal Studies

Students may seek an academic major in legal studies.

### Major in Legal Studies

The legal studies program prepares students with the knowledge, skills, and ethical principles necessary to research and produce legal information and documents in law-related environments. Focus is on fundamental legal knowledge, skills, and ethical principles. The curriculum addresses the organization, function, and processes of the lawmaking institutions in the American legal system, as well as the role of the paralegal in the legal system and the governing rules of legal ethics. It emphasizes legal analysis, legal writing and drafting, legal research, and computer competence in the legal environment. The major in legal studies provides a solid foundation for challenging paralegal work in various legal settings as well as for further education in a variety of fields.

### Intended Program Outcomes

The student who graduates with a major in legal studies will be able to

- Conduct research using appropriate resources to identify relevant, current legal authority.
- Draft writings that reflect critical thinking and legal reasoning to inform, advocate, or persuade on legal matters.
- Use interpersonal and leadership skills to be a cooperative and self-reliant member of a legal team.
- Apply knowledge of legal systems, concepts, and methodologies to efficiently and ethically support the resolution of legal disputes.
- Gather relevant information and properly complete a wide variety of forms and documents used in private practice and government service.

### Degree Requirements

A degree with a major in legal studies requires the successful completion of 120 credits of coursework, including 33 credits

for the major; 41 credits in general education requirements; and 46 credits in the minor, electives, and other degree requirements. At least 17 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE LEGAL STUDIES MAJOR

Coursework for a major in legal studies includes the following:

- Required foundation courses (12 credits): LGST 101, 200, 201, and 204
- Required gateway skills course (3 credits): LGST 300 and 301
- Substantive and procedural foundation courses (9 credits): Chosen from LGST 312, 320, 322, 325, 330, and 340
- Substantive law course (3 credits): LGST 315, 316, 327, 335, 343, 350, 411, 415, 420, 442, or 450 or any three 1-credit LGST courses
- Senior experience course (3 credits): LGST 425, 460, 470, or 486A/B

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in legal studies. Coursework for the major is indicated by ◆. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Legal Studies Degree Courses		Credits
<b>First Courses</b> ( <i>to be taken within the first 18 credits</i> )		
<b>Note:</b> Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WR TG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
<b>Introductory Courses</b> ( <i>to be taken within the first 30 credits</i> )		
PHIL 140	Contemporary Moral Issues	3
<i>or a foreign language course or other arts and humanities course</i>		
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
Both BIOL 101 and BIOL 102	Concepts of Biology	3
or BIOL 103	Laboratory in Biology	1
<i>Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)</i>		
WR TG 291	Research Writing <i>or other communications/writing course</i>	3

IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
CCJS 100	Introduction to Criminal Justice	3
or SOCY 100	Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	
<b>Foundation Courses (to be taken within the first 60 credits)</b>		
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	
SPCH 100	Foundations of Oral Communication	3
or WRTG 293	Introduction to Professional Writing or other communication, writing, or speech course	
◆ LGST 101	Introduction to Law	3
◆ LGST 200	Techniques of Legal Research	3
◆ LGST 201	Legal Writing	3
◆ LGST 204	Legal Ethics	3
CMIS 111	Social Networking and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
<b>Additional Required Courses (to be taken after introductory and foundation courses)</b>		
WRTG 394	Advanced Business Writing or other communications/upper-level advanced writing course	3
◆ LGST 300	Advanced Legal Research and Analysis	3
◆ LGST 301	Advanced Legal Writing	3
◆ LGST 312	Torts or other substantive and procedural foundation course for the major	3
◆ LGST 320	Criminal Law and Procedures or other substantive and procedural foundation course for the major	3
◆ LGST 325	Litigation or other substantive and procedural foundation course for the major	3
◆ LGST 450	Bankruptcy Law or other substantive law course	3
<b>Senior Experience Course for the Major (to be taken in the last 15 credits)</b>		
◆ LGST 425	Advanced Advocacy or other senior experience course	3
<b>Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)</b>		
		43
<b>Total credits for BS in legal studies</b>		<b>120</b>

# Management Studies

Students may seek an academic major in management studies.

## Major in Management Studies

The management studies major provides an interdisciplinary and holistic approach to developing skills and knowledge in decision making, problem solving, and leadership. The curriculum includes a foundation in business, accounting, economics, statistics, communications, and management theory and focuses on analysis and decision making across a wide spectrum of management activities. The major prepares students for a variety of management-related careers.

### Intended Program Outcomes

The student who graduates with a major in management studies will be able to

- Apply leadership skills to promote communication, ethical behavior, and quality performance.
- Implement appropriate employment practices, encourage team building, and mentor junior members of the staff.
- Effectively communicate with culturally diverse audiences using a variety of formats and technology.
- Assess and develop performance measures, feedback, and coaching that facilitate employee development.
- Employ self-reflection and mindfulness of individual and cultural differences when interacting with others.
- Research, plan, and develop processes and procedures that ensure organizational performance.

### Degree Requirements

A degree with a major in management studies requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and 43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE MANAGEMENT STUDIES MAJOR

Coursework for a major in management studies includes the following:

- Required foundation courses (12 credits): BMGT 110 (or prior business experience and an additional supplemental course), ACCT 220 (or ACCT 301), HRMN 302, and STAT 230
- Required core courses (9 credits): BMGT 364, 365, and 464 (or 465)
- Supplemental major courses (12 credits): Any ACCT, BMGT, ENMT, FINC, HRMN, and MRKT courses

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- Required capstone course (3 credits) BMGT 485
- Required related courses (6 credits), which may be applied anywhere in the degree: IFSM 300 (or ACCT 326) and ECON 201 (or 203)

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in management studies. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Management Studies Degree Courses

### Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning <i>(strongly recommended as first course)</i>	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
♦ BMGT 110	Introduction to Business and Management <i>(students with business experience should substitute a supplemental major course in the last 60 credits of study)</i>	3

#### Introductory Courses (to be taken within the first 30 credits)

ECON 201	Principles of Macroeconomics	3
or ECON 203	Principles of Microeconomics <i>(related requirement for the major; also fulfills the behavioral and social sciences requirement)</i>	3
NSCI 100	Introduction to Physical Science	3
and NSCI 101	Physical Science Laboratory <i>or other biological and physical sciences lecture and laboratory course(s)</i>	1
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	3
PHIL 140	Contemporary Moral Issues <i>or a foreign language course</i> <i>or other arts and humanities course</i>	3

#### Foundation Courses (to be taken within the first 60 credits)

♦ STAT 230	Introductory Business Statistics	3
or STAT 200	Introduction to Statistics	3
GVPT 170	American Government <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
♦ ACCT 220	Principles of Accounting I	3

BIOL 101	Concepts of Biology	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
SPCH 100	Foundations of Oral Communication	3
or WRTG 293	Introduction to Professional Writing <i>or other communication, writing, or speech course</i>	3
IFSM 300	Information Systems in Organizations	3
or ACCT 326	Accounting Information Systems <i>(related requirement for the major; also fulfills the interdisciplinary issues/computing requirement; students should note prerequisites)</i>	3
♦ HRMN 302	Organizational Communication	3

#### Additional Required Courses (to be taken after introductory and foundation courses)

WRTG 394	Advanced Business Writing <i>or other communications/upper-level advanced writing course</i>	3
♦ BMGT 364	Management and Organization Theory	3
♦ BMGT 365	Organizational Leadership	3
♦ BMGT 464	Organizational Behavior	3
or BMGT 465	Organizational Development and Transformation	3
♦ MRKT 310	Marketing Principles <i>or other supplemental major course</i>	3
♦ FINC 330	Business Finance <i>or other supplemental major course</i>	3
♦ HRMN 300	Human Resource Management <i>or other supplemental major course</i>	3
♦ BMGT 317	Decision Making <i>or other supplemental major course</i>	3

#### Capstone Course for Major (to be taken in the last 15 credits)

♦ BMGT 485	Leadership for the 21st Century	3
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#### Minor and Elective Courses (to be taken in the last 60 credits along with required major courses)

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<b>Total credits for BS in management studies</b>		<b>120</b>
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# Marketing

Students may seek either an academic major or minor in marketing.

## Major in Marketing

The marketing major prepares students with the marketing skills and business acumen necessary for professional and personal success in today's global business environment. The curriculum provides a balanced course of study that exposes students to a common body of knowledge and leads them to understand marketing processes and situations, think independently, communicate effectively, and appreciate their own and other cultures. Students with a major in marketing will be well-positioned to enter a broad spectrum of marketing positions in private and public corporations, marketing agencies, or entrepreneurial endeavors.

## Intended Program Outcomes

The student who graduates with a major in marketing will be able to

- Apply marketing knowledge and skills to meet organizational goals through analytic and managerial techniques related to customers, executives, finance, information technology, law, operational domains, and customer relations.
- Employ strategic marketing skills, including scenario planning, market intelligence, customer profiles, marketing plans, and competitive analysis, to respond to organizational marketing challenges.
- Conduct research, analyze data, create an effective marketing plan, and support decisions that meet the needs and wants of global customers.
- Utilize verbal and nonverbal communication skills, including strategic communication, technology, fluency in business language, and effective customer communication, to achieve personal and organizational goals.
- Act with personal and professional integrity, conveying an ethical orientation in the global marketplace of employers, peers, and customers.
- Cultivate and maintain positive interpersonal relationships based on demonstrated character, behavior, engagement, and positive interaction with teams, managers, and customers.

## Degree Requirements

A degree with a major in marketing requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and

43 credits in the minor, electives, and other degree requirements. At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE MARKETING MAJOR

Coursework for a major in marketing includes the following:

- Required business courses (15 credits): ACCT 301 (or 221); BMGT 364, 380, and 496; and STAT 230
- Required marketing courses (12 credits): MRKT 310, 354, 410, and 412
- Supplemental major courses (6 credits): Any MRKT courses
- Required capstone course (3 credits): MRKT 495
- Required related courses (9 credits), which may be applied anywhere in the degree: ACCT 326 (or IFSM 300) and ECON 201 and 203

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in marketing. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Marketing Degree Courses

### Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
BMGT 110	Introduction to Business and Management (strongly recommended elective for students with no prior business experience)	3

#### Introductory Courses (to be taken within the first 30 credits)

ECON 201	Principles of Macroeconomics (related requirement for the major; also fulfills the first behavioral and social sciences requirement)	3
NSCI 100	Introduction to Physical Science	3
and NSCI 101	Physical Science Laboratory or other biological and physical sciences lecture and laboratory course(s)	1
WRTG 291	Research Writing or other communications/writing course	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
♦ STAT 230	Introductory Business Statistics	3

# BACHELOR'S DEGREE CURRICULA

PHIL 140	Contemporary Moral Issues	3
<i>or a foreign language course</i>		
<i>or other arts and humanities course</i>		
<b>Foundation Courses</b> <i>(to be taken within the first 60 credits)</i>		
PSYC 100	Introduction to Psychology	3
<i>or</i> SOCY 100	Introduction to Sociology	
<i>or other behavioral and social sciences course</i>		
<i>(discipline must differ from first)</i>		
BIOL 101	Concepts of Biology	3
<i>or</i> ASTR 100	Introduction to Astronomy	
<i>or other biological and physical sciences lecture course</i>		
HIST 142	Western Civilization II	3
<i>or</i> HIST 157	History of the United States Since 1865	
<i>or other arts and humanities/historical perspective course</i>		
<i>(discipline must differ from other humanities course)</i>		
ECON 203	Principles of Microeconomics	3
<i>(related requirement for the major)</i>		
◆ ACCT 301	Accounting for Nonaccounting Majors	3
<i>or</i> ACCT 221	Principles of Accounting II	
<i>(students should note prerequisite)</i>		
SPCH 100	Foundations of Oral Communication	3
<i>or</i> WRTG 293	Introduction to Professional Writing	
<i>or other communication, writing, or speech course</i>		
◆ BMGT 364	Management and Organization Theory	3
IFSM 300	Information Systems in Organizations	3
<i>or</i> ACCT 326	Accounting Information Systems	
<i>(related requirement for the major; fulfills the interdisciplinary issues/computing requirement; students should note prerequisite)</i>		
◆ MRKT 310	Marketing Principles	3
<b>Additional Required Courses</b> <i>(to be taken after introductory and foundation courses)</i>		
WRTG 394	Advanced Business Writing	3
<i>or other communications/upper-level advanced writing course</i>		
◆ BMGT 380	Business Law I	3
◆ MRKT 354	Integrated Marketing Communications	3
◆ MRKT 395	Managing Customer Relationships	3
<i>or other supplemental major course</i>		
◆ MRKT 410	Consumer Behavior	3
◆ BMGT 496	Business Ethics	3
◆ MRKT 454	Global Marketing	3
<i>or other supplemental major course</i>		
◆ MRKT 412	Marketing Research	3
<b>Capstone Course for Major</b> <i>(to be taken in the last 15 credits)</i>		
◆ MRKT 495	Strategic Marketing Management	3
<b>Minor and/or Elective Courses</b> <i>(to be taken in the last 60 credits along with required major courses)</i>		
		34
<b>Total credits for BS in marketing</b>		<b>120</b>

## Minor in Marketing

The marketing minor complements the skills the student gains in his or her major discipline by enhancing the knowledge and skills related to marketing situations and processes and the emerging global marketplace.

## Requirements for the Minor

A minor in marketing requires the completion of 15 credits of coursework in marketing. All MRKT courses apply. It is recommended that students take MRKT 310 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Mathematical Sciences

Students may seek an academic minor in mathematical sciences.

## Minor in Mathematical Sciences

The mathematical sciences minor complements the skills the student gains in his or her major discipline by developing skills in solving mathematical problems and addressing complex and technical materials and by providing a mathematical background to support study in other areas, such as business and management, computer and information technology, and the biological and social sciences.

## Requirements for the Minor

A minor in mathematical sciences requires the completion of 17 credits of coursework in mathematics. All MATH courses numbered 130 or above apply.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 6 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Microbiology

Students may seek an academic minor in microbiology.

## Minor in Microbiology

The microbiology minor complements the skills the student gains in his or her major discipline by providing a laboratory-based approach to the study of microorganisms, with applications to biotechnology, molecular and cellular biology, research and development, and public health.

### Requirements for the Minor

A minor in microbiology requires the completion of 15 credits of coursework in microbiology, drawn from various disciplines as appropriate.

Students must take one course from the following:

BIOL 230	General Microbiology
BIOL 331	Concepts in Microbiology
BIOL 430–439	Advanced microbiology series

Students may choose the remaining courses from those above and the following:

BIOL 220	Human Genetics
BIOL 222	Principles of Genetics
BIOL 301	Human Health and Disease
BIOL 302	Bacteria, Viruses, and Health
BIOL 305	The Biology of AIDS
BIOL 320	Forensic Biology
BIOL 330–339	Applied microbiology series
BIOL 350	Molecular and Cellular Biology
BIOL 356	Molecular Biology Laboratory
BIOL 400	Life Science Seminar
BIOL 486A or 486B	Internship in Life Science Through Co-op

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Natural Science

Students may seek an academic minor in natural science.

## Minor in Natural Science

The natural science minor complements the skills the student gains in his or her major by providing an underlying scientific basis upon which to build a career in natural science, life science, physical science, and the allied health fields, as well as bioinformatics, environmental management, science journalism, and science education.

### Requirements for the Minor

A minor in natural science requires the completion of 17 credits of coursework in natural science, chosen from any courses in astronomy, biology, chemistry, geology, natural science, and physics.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Philosophy

Students may seek an academic minor in philosophy.

## Minor in Philosophy

The philosophy minor complements the skills the student gains in his or her major discipline by providing a study of the relationships between personal opinions and real-world issues faced by members of a pluralistic, open society.

### Requirements for the Minor

A minor in philosophy requires the completion of 15 credits of coursework in philosophy. All PHIL courses and GVPT 101 apply. It is recommended that students take PHIL 140 and a course in critical thinking or logic, such as PHIL 110 or 170 (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# BACHELOR'S DEGREE CURRICULA

## Political Science

Students may seek an academic major or minor in political science.

### Major in Political Science

A major in political science provides students with valuable, comprehensive knowledge of American government and global politics, preparing them to analyze complex political problems and recognize potential solutions in both the public and private sector. Students gain an understanding of political structure, theory, and methodology. They develop their research skills and sense of intellectual property using libraries, archives, and online sources. They develop their writing skills and learn the responsibility for clearly presenting and interpreting political issues using the language of the discipline. Students with a major in political science will be able to analyze complex political problems and recognize potential solutions in both the public and private sectors.

### Intended Program Outcomes

The student who graduates with a major in political science will be able to

- Analyze and participate in the formulation and implementation of public policy at the local, state, federal, and international level by building consensus and using effective lobbying techniques.
- Participate in and/or influence government at all levels through an understanding of the establishment, structure, and interaction of such governmental institutions.
- Use effective writing, research, analysis, advocacy, and coalition-building skills to develop and influence policy at the national and international levels.
- Conduct, analyze, and evaluate theoretical and empirical research for specific problems to affect domestic and international policy by applying political theory, systems, and processes in organizational environments.
- Apply knowledge of ethical principles and issues to public-policy and politics.

### Degree Requirements

A degree with a major in political science requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE POLITICAL SCIENCE MAJOR

Coursework for a major in political science includes the following:

- Required foundation courses (6 credits): GVPT 100 and 101
- Required statistics course: (3 credits): STAT 200
- Core courses (9 credits): GVPT 170 (or 200), 280, and 444 (or 457)
- Supplemental major courses (9 credits): Any 400-level GVPT courses
- Required capstone course (3 credits): GVPT 495

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in political science. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Political Science Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
♦ GVPT 100	Introduction to Political Science	3
SOCY 100	Introduction to Sociology or other behavioral and social sciences course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3
IFSM 201 or CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3 3
PHIL 140	Contemporary Moral Issues or a foreign language course or other arts and humanities course	3
♦ GVPT 101	Introduction to Political Theory	3
<b>Foundation Courses</b> (to be taken within the first 60 credits)		
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3

◆ GVPT 170 or GVPT 200 PSYC 100	American Government International Political Relations Introduction to Psychology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3 3 3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3 3
◆ GVPT 280 SPCH 100 or COMM 380	Comparative Politics and Government Foundations of Oral Communication Language in Social Contexts <i>or other communication, writing, or speech course</i>	3 3 3
◆ STAT 200 CMIS 111	Introduction to Statistics Social Networking and Cybersecurity Best Practices <i>or other interdisciplinary issues/computing course</i>	3 3
<b>Additional Required Courses</b> <i>(to be taken after introductory and foundation courses)</i>		
WRTG 391	Advanced Research Writing <i>or other communications/upper-level advanced writing course</i>	3
◆ GVPT 444 or GVPT 457	American Political Theory American Foreign Relations	3
◆ GVPT 401	Understanding 21st-Century Global Challenges <i>or other supplemental major course</i>	3
◆ GVPT 403	Law, Morality, and War <i>or other supplemental major course</i>	3
◆ GVPT 406	Global Terrorism <i>or other supplemental major course</i>	3
<b>Capstone Course for Major</b> <i>(to be taken in the last 15 credits)</i>		
◆ GVPT 495	Advanced Seminar in Political Science	3
<b>Minor and/or Elective Courses</b> <i>(to be taken in the last 60 credits along with required major courses)</i>		46
<b>Total credits for BS in political science</b>		<b>120</b>

## Minor in Political Science

The political science minor complements the skills the student gains in his or her major discipline by providing systematic study of politics and government. It exposes the student to the basic concepts, theories, policies, and the role of government at local, state, and national levels in domestic and foreign settings.

### Requirements for the Minor

A minor in political science requires the completion of 15 credits of coursework in government and politics. All GVPT courses apply. It is recommended that students take GVPT 100, 101, or 170 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the

minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a list of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Psychology

Students may seek either an academic major or minor in psychology.

### Major in Psychology

The psychology major provides students with a knowledge base of theory, research, and practice in psychological sciences. The curriculum enables students to use the principles of psychology and prepares students for graduate study or for careers in professions for which psychological training is crucial.

### Intended Program Outcomes

The student who graduates with a major in psychology will be able to

- Apply major concepts, theoretical perspectives, empirical findings, and historical trends in psychology to prepare for graduate studies or careers in which psychological training is relevant.
- Apply basic knowledge of research methodology, statistics, measurement, guidelines, ethical standards, laws, and regulations to design, participate in, and evaluate research in a variety of contexts.
- Apply knowledge of human behavior to inform personal growth, communicate effectively, solve problems, make decisions, and interact with individuals, communities, and organizations.
- Use critical and creative thinking, skeptical inquiry, and (where possible) appropriate technology and the scientific approach to solve problems related to current and emerging trends within the domains of psychology.
- Value diversity and different perspectives, tolerate ambiguity, and act ethically to communicate appropriately with various sociocultural and international populations.

### Degree Requirements

A degree with a major in psychology requires the successful completion of 120 credits of coursework, including 36 credits for the major; 41 credits in general education requirements; and 43 credits in the minor, electives, and other degree requirements.

# BACHELOR'S DEGREE CURRICULA

At least 18 credits in the major must be earned in upper-level courses (numbered 300 or above).

## REQUIREMENTS FOR THE PSYCHOLOGY MAJOR

Coursework for a major in psychology includes the following:

- Required foundation courses (9 credits): PSYC 100 and 300 and STAT 225
- Biological science psychology courses (6 credits): Chosen from BIOL 362 and PSYC 301, 310, and 341
- Professional psychology courses (6 credits): Chosen from PSYC 335, 353, 432, 436, and 437
- Social psychology courses (6 credits): Chosen from PSYC 321, 351, 354, and 361
- Supplemental major courses (6 credits): Any PSYC courses (but no more than three 1-credit courses)
- Required capstone course (3 credits): PSYC 495

## RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in psychology. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Psychology Degree Courses Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3

#### Introductory Courses (to be taken within the first 30 credits)

PHIL 140	Contemporary Moral Issues or a foreign language course or other arts and humanities course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	3 1
WRTG 291	Research Writing or other communications/writing course	3
♦ PSYC 100	Introduction to Psychology	3

IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	3
SOCY 100	Introduction to Sociology or other behavioral and social sciences course	3
♦ STAT 225	Introduction to Statistics for the Behavioral Sciences	3
or STAT 200	Introduction to Statistics	3
<b>Foundation Courses (to be taken within the first 60 credits)</b>		
GVPT 170	American Government	3
or GERO 100	Introduction to Gerontology or other behavioral and social sciences course (discipline must differ from first)	3
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	3
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	3
CMIS 111	Social Networking and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
SPCH 100	Foundations of Oral Communication	3
or COMM 380	Language in Social Contexts or other communication, writing, or speech course	3
♦ PSYC 300	Research Methods in Psychology	3
<b>Additional Required Courses (to be taken after introductory and foundation courses)</b>		
WRTG 391	Advanced Research Writing or other communications/upper-level advanced writing course	3
♦ PSYC 321	Social Psychology or other social psychology course for the major	3
♦ PSYC 301	Biological Basis of Behavior or other biological psychology course for the major	3
♦ PSYC 353	Abnormal Psychology or other professional psychology course for the major	3
♦ PSYC 354	Cross-Cultural Psychology or other social psychology course for the major	3
♦ PSYC 310	Sensation and Perception or other biological psychology course for the major	3
♦ PSYC 436	Introduction to Clinical Psychology or other professional psychology course for the major	3
♦ PSYC 352	Child and Adolescent Psychology or other supplemental major course	3
♦ PSYC 334	Psychology of Interpersonal Relationships or other supplemental major course	3
<b>Capstone Course for Major (to be taken in the last 15 credits)</b>		
♦ PSYC 495	Senior Seminar in Psychology	3

Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

40

Recommended Electives

PSYC 415	History and Systems (for students who plan to go on to graduate school)
PSYC 451	Tests and Measurements

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**Total credits for BS in psychology**

**120**

## Minor in Psychology

The psychology minor complements the skills the student gains in his or her major discipline by investigating the nature of mind and behavior, including the biological basis of behavior, perception, memory and cognition, the influence of environmental and social forces on the individual, personality, lifespan development and adjustment, research methods, and statistical analysis.

### Requirements for the Minor

A minor in psychology requires the completion of 15 credits of coursework in psychology.

Students must choose one of the following foundation courses:

PSYC 100	Introduction to Psychology
PSYC 300	Research Methods in Psychology
STAT 225	Introduction to Statistics for the Behavioral Sciences

They must also choose one biological psychology course, one social psychology course, and one professional psychology course from those listed under the requirements for the major. The remaining course may be chosen from any PSYC course.

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# Social Science

Students may seek an academic major in social science.

## Major in Social Science

The social science major provides breadth of knowledge in the social sciences through interdisciplinary study in areas such as anthropology, behavioral sciences, economics, gerontology, government and politics, psychology, and sociology and depth through focused study in a single area. It also offers depth and focus through selection of core courses in one social science area. Graduates in social science may pursue a variety of careers in which understanding of social science issues is important, including business administration, elder care, government, health services, law enforcement, human resources, and community service.

An articulation agreement between UMUC's School of Undergraduate Studies and Graduate School of Management and Technology allows eligible students who complete their undergraduate degree at UMUC with a major in social science to reduce their total coursework for the Master of Arts in Teaching by 12 credits (two courses) and complete both degrees with a total of 138 credits of coursework. More information is available in the graduate catalog.

### Intended Program Outcomes

The student who graduates with a major in social science will be able to

- Analyze issues, identify improvements, and recommend solutions using statistics, data analysis, and appropriate quantitative and qualitative methods for social science research and/or program evaluation.
- Communicate effectively to professional and nonprofessional individuals and groups through an appropriate media to provide information about social science research, services, or programs.
- Apply an understanding of the relationship between micro- and macro-level problems and issues to identify and evaluate individual and community needs.
- Analyze complex social problems and work towards realistic solutions using awareness, acceptance and appreciation of diversity, social factors, and global multicultural perspectives.
- Recognize and apply ethical principles and standards to support the professional responsibilities and conduct of social scientists in the workplace.
- Apply critical and creative thinking, information literacy, technology, and an interdisciplinary perspective to solve practical problems in the social sciences.

# BACHELOR'S DEGREE CURRICULA

## Degree Requirements

A degree with a major in social science requires the successful completion of 120 credits of coursework, including 30 credits for the major; 41 credits in general education requirements; and 49 credits in the minor, electives, and other degree requirements. At least 15 credits in the major must be earned in upper-level courses (numbered 300 or above).

### REQUIREMENTS FOR THE SOCIAL SCIENCE MAJOR

Coursework for a major in social science includes the following:

- Required foundation courses (6 credits): BEHS 210 and 220
- Other foundation course (3 credits): SOCY 100, ANTH 102, PSYC 100, or GERO 100
- Required statistics course (3 credits): STAT 225 (or 200 or 230)
- Required research methods course (3 credits): BEHS 300
- Core courses (9 credits in a single focus area): Chosen from upper-level ANTH, SOCY, GERO, or PSYC courses
- Supplemental major course (3 credits): Chosen from any ANTH, BEHS, GERO, GEOG, PSYC, or SOCY courses or WMST 200
- Required capstone course (3 credits): BEHS 495

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the BS in social science. Coursework for the major is indicated by ♦. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

Social Science Degree Courses		Credits
<b>First Courses</b> (to be taken within the first 18 credits)		
Note: Placement tests are required for math and writing courses.		
EDCP 100	Principles and Strategies of Successful Learning (strongly recommended as first course)	3
LIBS 150	Introduction to Research	1
WR TG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
<b>Introductory Courses</b> (to be taken within the first 30 credits)		
Note: General education courses may not be applied to major requirements.		
GVPT 170	American Government or other behavioral and social sciences course	3
Both BIOL 101 and BIOL 102	Concepts of Biology	3
or BIOL 103	Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course(s)	1

WR TG 291	Research Writing or other communications/writing course	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	3
PHIL 140	Contemporary Moral Issues	3
or a foreign language course or other arts and humanities course		
PSYC 100	Introduction to Psychology or other behavioral and social sciences course (discipline must differ from first)	3
♦ BEHS 210	Introduction to Social Sciences	3
<b>Foundation Courses</b> (to be taken within the first 60 credits)		
CMIS 111	Social Networking and Cybersecurity Best Practices or other interdisciplinary issues/computing course	3
♦ STAT 225	Introduction to Statistics for the Behavioral Sciences	3
or STAT 200	Introduction to Statistics	
or STAT 230	Introductory Business Statistics	
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy or other biological and physical sciences lecture course	
♦ SOCY 100	Introduction to Sociology or other foundation course for the major	3
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 or other arts and humanities/historical perspective course (discipline must differ from other humanities course)	
SPCH 100	Foundations of Oral Communication	3
or COMM 380	Language in Social Contexts or other communication, writing, or speech course	
♦ BEHS 220	Diversity Awareness	3
<b>Additional Required Courses</b> (to be taken after introductory and foundation courses)		
WR TG 391	Advanced Research Writing or other communications/upper-level advanced writing course	3
♦ BEHS 300	Research Methods in the Social Sciences	3
♦ The first of three core courses in a single area (recommendations available on social science degree planning worksheet)		3
♦ A second core course for the major (in the same discipline as the first)		3
♦ A third core course for the major (in the same discipline as the first and second)		3
♦ ANTH 344	Culture and Language or another supplemental major course	3
<b>Capstone Course for Major</b> (to be taken in the last 15 credits)		
♦ BEHS 495	Advanced Seminar in Social Sciences	3

Minor and/or Elective Courses (to be taken in the last 60 credits along with required major courses)

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Recommended Electives

EDTP 500	Professional Fundamentals of Teaching and Learning (for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)
EDTP 535	Adolescent Development and Learning Needs (for qualified students who plan to enter the MAT program at UMUC; students should note prerequisites and consult an advisor)

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Total credits for BS in social science

120

## Sociology

Students may seek an academic minor in sociology.

### Minor in Sociology

The sociology minor complements the skills the student gains in his or her major discipline by providing a study of contemporary sociological theory and research and applying it to social issues, including globalization, social inequality, diversity, health care, education, family, work, and religion.

#### Requirements for the Minor

A minor in sociology requires the completion of 15 credits of coursework in sociology. All SOCY courses apply. Students should take SOCY 100 as the first course in the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Speech Communication

Students may seek an academic minor in speech communication.

### Minor in Speech Communication

The minor in speech communication complements the skills the student gains in his or her major discipline by developing communication skills, particularly oral communication, as well as providing a greater understanding of human interaction in a variety of personal and professional contexts.

#### Requirements for the Minor

A minor in speech communication requires the completion of 15 credits of coursework in speech communication. All SPCH and COMM courses apply, but at least 9 credits must be earned in SPCH courses. It is recommended that students take COMM 300 and SPCH 100 as the first courses for the minor (if they have not already applied the courses toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

**Note:** Students should have taken SPCH 100 or have comparable public speaking experience before enrolling in courses for the speech communication minor.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# BACHELOR'S DEGREE CURRICULA

## Strategic and Entrepreneurial Management

Students may seek an academic minor in strategic and entrepreneurial management.

### Minor in Strategic and Entrepreneurial Management

The strategic and entrepreneurial management minor complements the skills the student gains in his or her major discipline by providing a study of current issues in the effective use of information, the globalization of business, and strategic management and by exploring the mind-set of an innovator and an entrepreneur.

#### Requirements for the Minor

A minor in strategic and entrepreneurial management requires the completion of 15 credits of coursework in strategic and entrepreneurial management, chosen from the following courses:

BMGT 339	Introduction to Federal Contracting
BMGT 364	Management and Organization Theory
BMGT 365	Organizational Leadership
BMGT 392	Global Business
BMGT 464	Organizational Behavior
BMGT 495	Strategic Management
BMGT 496	Business Ethics
FINC 310	Entrepreneurship and New Venture Planning
HRMN 302	Organizational Communication

Students are recommended to take BMGT 364 as the first course for the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

## Women's Studies

Students may seek an academic minor in women's studies.

### Minor in Women's Studies

The women's studies minor complements the skills the student gains in his or her major discipline by providing an interdisciplinary study of the history, status, and experiences of women.

#### Requirements for the Minor

A minor in women's studies requires the completion of 15 credits of coursework in women's studies, chosen from the following courses:

WMST	Any courses
BEHS 220	Diversity Awareness
BEHS 343	Parenting Today
BEHS 453	Domestic Violence
BMGT 312	Gender Issues in Business
ENGL 354	American Women Writers Since 1900
ENGL 358	British Women Writers Since 1900
GERO 311	Gender and Aging
HIST 375	Modern European Women's History
HIST 376	Women and the Family in America to 1870
HIST 377	U.S. Women's History: 1870 to 2000
PHIL 343	Sexual Morality
PHIL 346	Contemporary Sexual Ethics
PSYC 334	Psychology of Interpersonal Relationships
PSYC 338	Psychology of Gender
SOCY 325	The Sociology of Gender
SOCY 443	The Family and Society
SOCY 462	Women in the Military
SPCH 324	Communication and Gender

Students are recommended to take WMST 200 as the first course for the minor (if they have not already applied the course toward other degree requirements).

Courses already applied toward other degree requirements (e.g., major or general education) may not be applied toward the minor. At least 9 credits must be earned in upper-level courses (numbered 300 or above). Prerequisites apply for all courses.

For a listing of all the requirements for the bachelor's degree, students should refer to their major and pp. 8–9.

# ASSOCIATE OF ARTS DEGREE

The curricula and courses listed below are available only to active-duty military personnel and certain others who conform to special stipulations.

## REQUIREMENTS

The Associate of Arts degree (AA) requires the completion of a minimum of 60 credits, at least 15 of which must be taken through UMUC. Of these 60 credits, 35 credits must be earned in courses that fulfill the general education requirements listed below. The remaining 25 credits must satisfy the requirements of the curriculum the student has selected.

A grade point average of 2.0 or higher in all courses taken through UMUC is required. A student should complete one associate's degree before applying for another.

## General Education Requirements (35 credits)

The general education requirements for the associate's degree generally correspond to those for the bachelor's degree (listed on p. 8), with the following exception: The second computing course and the upper-level advanced writing course are not required for the associate's degree.

## Curriculum Requirements (25 credits)

In addition to the general education requirements, students must take 25 credits of coursework related to their educational goals. They may choose a general curriculum (described at right) or a specialized curriculum with its own particular requirements (detailed on the following pages). Students must earn a grade of C or higher in all core or core-related curriculum courses. For the specialized curricula, at least 9 credits of coursework taken through UMUC must be earned in core or core-related courses for the chosen curriculum. Students who anticipate seeking a bachelor's degree should select courses that will advance that goal.

## Intended Program Outcomes

The student who graduates with an associate of arts degree will be able to

- Utilize academic skills to transition to further academic and professional studies (if he or she is transitioning to a bachelor's degree program).
- Employ academic skills and specialized knowledge to succeed and advance in chosen career and professional fields (if he or she is completing studies at this level).

## CURRICULA

### General Curriculum

The Associate of Arts general curriculum is for adult students who wish to pursue their own educational goals.

#### REQUIREMENTS FOR THE GENERAL CURRICULUM

Students may choose related courses from several disciplines, explore several interests at once, or choose a variety of courses from UMUC's offerings. Students in this program accept responsibility for developing a curriculum that meets their intended learning outcomes. They are encouraged to seek assistance from academic advisors in arranging their curriculum as appropriate to their personal interests and future educational plans.

#### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

General Curriculum Courses		Credits
<b>First Courses</b> ( <i>to be taken within the first 18 credits</i> )		
<b>Note:</b> Placement tests are required for math and writing courses.		
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
<b>Introductory Courses</b> ( <i>to be taken within the first 30 credits</i> )		
HIST 142	Western Civilization II	3
<i>or</i> HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course</i>	
<i>Both</i> BIOL 101	Concepts of Biology	3
<i>and</i> BIOL 102	Laboratory in Biology	1
<i>or</i> BIOL 103	Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
<i>or</i> CMST 303	Advanced Application Software	
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
Curriculum course	<i>(to be selected based on educational and career goals)</i>	3

# ASSOCIATE OF ARTS DEGREE

## Additional Required Courses (to be taken after first and introductory courses)

PSYC 100 or SOCY 100	Introduction to Psychology Introduction to Sociology or other behavioral and social sciences course (discipline must differ from first)	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy or other biological and physical sciences lecture course	3
PHIL 140 or a foreign language course	Contemporary Moral Issues or other arts and humanities course (discipline must differ from other humanities course)	3
SPCH 100 or JOUR 201	Foundations of Oral Communication Introduction to News Writing or other communication, writing, or speech course	3
Curriculum course	(to be selected based on educational and career goals)	3
Curriculum course	(to be selected based on educational and career goals)	3
Curriculum course	(to be selected based on educational and career goals)	3
Elective Courses (to be chosen from any courses to complete the 60 credits for the degree)		13
<b>Total credits for AA with general curriculum</b>		<b>60</b>

## Specialized Curricula

The Associate of Arts specialized curricula are for adult students who wish to pursue a specific career or educational goal, often as a basis for further study toward the bachelor's degree. Specialized curricula are recommended but optional within the AA degree in general studies. Appropriate coursework for each of the specialized curricula is indicated by ♦. Students should take careful note of course prerequisites and recommended course sequences. Curricula may be available only in limited geographic areas.

## Accounting Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in accounting will allow the student to demonstrate competencies in fundamental accounting practices to transition toward a bachelor's degree in accounting and related fields.

### COURSEWORK FOR THE ACCOUNTING CURRICULUM

Coursework for the accounting curriculum includes the following (students should note prerequisites and other sequencing requirements):

- Required core courses (6 credits): ACCT 220 and 221
- Additional core courses (9 credits): Any ACCT, BMGT (except BMGT 140), or FINC courses

- Accounting-related courses (9 credits): Chosen from any ACCT and FINC courses; BMGT 110, 364, 380, 381, and 496; CMIS 102; ECON 201 and 203; IFSM 300; MRKT 310; and STAT 200 (or 230)
- Elective (1 credit): Any course related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in accounting. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Accounting Curriculum Courses

### Credits

#### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3
♦ BMGT 110	Introduction to Business and Management (recommended accounting-related course for the curriculum for students with no prior business experience)	3
♦ ACCT 220	Principles of Accounting I	3

#### Introductory Courses (to be taken within the first 30 credits)

♦ ACCT 221	Principles of Accounting II	3
ECON 201 or ECON 203	Principles of Macroeconomics Principles of Microeconomics (required for BS in accounting) or other behavioral and social sciences course	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course	3 1
WRTG 291	Research Writing or other communications/writing course	3
IFSM 201 or CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3

#### Additional Required Courses (to be taken after first and introductory courses)

PHIL 140 or a foreign language course	Contemporary Moral Issues or other arts and humanities requirement	3
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PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	
◆ A core course for the curriculum		3
HIST 142	Western Civilization II	3
or HIST 157	History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	
SPCH 100	Foundations of Oral Communication	3
or WRTG 490	Writing for Managers <i>or other communication, writing, or speech course</i>	
◆ BMGT 380	Business Law I	3
or STAT 230	Introductory Business Statistics <i>or other accounting-related course for the curriculum</i>	
◆ BMGT 364	Management and Organization Theory <i>or other accounting-related course for the curriculum</i>	3
◆ A core course for the curriculum		3
◆ A core course for the curriculum		3
Elective Course ( <i>to be chosen from any course to complete the 60 credits for the degree</i> )		1
<b>Total credits for AA in general studies with accounting curriculum</b>		<b>60</b>

## Business and Management Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in business and management will allow the student to utilize core business concepts and principles to pursue related professional goals.

### COURSEWORK FOR THE BUSINESS AND MANAGEMENT CURRICULUM

Coursework for the business and management curriculum includes the following:

- Core courses (15 credits): Chosen from BMGT 110 (required for students with no previous business experience), ACCT 220 and 221, ECON 201 and 203, and STAT 230 (or 200)
- Management-related courses (6 credits): Chosen from any ACCT, BMGT, CMIS, ECON, FINC, HRMN, IFSM, and MRKT courses; any 3-credit CMST courses; GVPT 210; and PSYC 321 and 361
- Electives (4 credits): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in business and management. Since some recommended courses fulfill more than one requirement,

substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Business and Management Curriculum Courses Credits

#### First Courses (*to be taken within the first 18 credits*)

**Note:** Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
◆ BMGT 110	Introduction to Business and Management <i>(required core course for the curriculum for students with no prior business experience; also required for BS in business administration)</i>	3

#### Introductory Courses (*to be taken within the first 30 credits*)

ECON 201	Principles of Macroeconomics <i>(required for BS in business administration; strongly recommended) or other behavioral and social sciences course</i>	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course</i>	3 1
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
◆ ACCT 220	Principles of Accounting I <i>(core course for the curriculum)</i>	3
PHIL 140	Contemporary Moral Issues <i>or a foreign language course or other arts and humanities course</i>	3

#### Additional Required Courses (*to be taken after first and introductory courses*)

◆ STAT 230	Introductory Business Statistics <i>(core course for the curriculum)</i>	3
PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	
◆ ACCT 221	Principles of Accounting II <i>(core course for the curriculum)</i>	3
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	

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◆ ECON 203	Introduction to Microeconomics <i>(core course for the curriculum)</i>	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
SPCH 100 or WRTG 490	Foundations of Oral Communication Writing for Managers <i>or other communication, writing, or speech course</i>	3
◆ Management-related course for the curriculum <i>(course required for BS in business administration is recommended)</i>		3
◆ Management-related course for the curriculum <i>(course required for BS in business administration is recommended)</i>		3
<b>Elective Courses</b> <i>(to be chosen from any courses to complete the 60 credits for the degree—courses applicable to the BS in business administration are recommended)</i>		4
<b>Total credits for AA in general studies with business and management curriculum</b>		<b>60</b>

## Computer Studies Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in computer studies will allow the student to apply a selected range of fundamental computer-based skills to advance professional and career goals.

### COURSEWORK FOR THE COMPUTER STUDIES CURRICULUM

Coursework for the computer studies curriculum includes the following:

- Required core course (3 credits): CMIS 102 or a programming language course
- Computer studies–related course (12 credits): Any CMIS, CMST, CMIT, CMSC, CSIA, or IFSM courses
- Electives (10 credits): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in computer studies. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

<b>Computer Studies Curriculum Courses</b>		<b>Credits</b>
<b>First Courses</b> <i>(to be taken within the first 18 credits)</i>		
<b>Note:</b> Placement tests are required for math and writing courses.		
LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
<b>Introductory Courses</b> <i>(to be taken within the first 30 credits)</i>		
◆ CMIS 102	Introduction to Problem Solving and Algorithm Design <i>(required for BS in computer studies; first required core course for the curriculum)</i>	3
◆ Computer studies–related course for the curriculum		3
PHIL 140	Contemporary Moral Issues <i>or a foreign language course or other arts and humanities course</i>	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course</i>	3 1
IFSM 201 <i>or CMST 303</i>	Concepts and Applications of Information Technology Advanced Application Software	3 3
◆ Computer studies–related course for the curriculum		3
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
<b>Additional Required Courses</b> <i>(to be taken after first and introductory courses)</i>		
PSYC 100 <i>or SOCY 100</i>	Introduction to Psychology Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
NSCI 100 <i>or ASTR 100</i>	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
HIST 142 <i>or HIST 157</i>	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
SPCH 100 <i>or WRTG 490</i>	Foundations of Oral Communication Writing for Managers <i>or other communication, writing, or speech course</i>	3
◆ Computer studies–related course for the curriculum		3
◆ Computer studies–related course for the curriculum		3
<b>Elective Courses</b> <i>(chosen from any courses to complete 60 credits for the degree—CMIS, CMST, CSIA, or IFSM courses that may be applied to the BS in a computing field are recommended)</i>		<b>10</b>
<b>Total credits for AA in general studies with computer studies curriculum</b>		<b>60</b>

## Criminal Justice Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in criminal justice will allow the student to apply knowledge of the criminal justice system to advance professional and educational goals.

### COURSEWORK FOR THE CRIMINAL JUSTICE CURRICULUM

Coursework for the criminal justice curriculum includes the following:

- Core courses (12 credits): Any CCJS courses
- Electives (13 credits): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in criminal justice. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

#### Criminal Justice Curriculum Courses

#### Credits

##### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
◆ CCJS 100 <i>or CCJS 105</i>	Introduction to Criminal Justice Introduction to Criminology <i>or other core course for the curriculum</i>	3

##### Introductory Courses (to be taken within the first 30 credits)

GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
Both BIOL 101 <i>and</i> BIOL 102 <i>or</i> BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201  <i>or</i> CMST 303 ◆ CCJS 230	Concepts and Applications of Information Technology Advanced Application Software Criminal Law in Action <i>or other core course for the curriculum</i>	3 3 3

PHIL 140	Contemporary Moral Issues <i>or a foreign language course or other arts and humanities course</i>	3
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##### Additional Required Courses (to be taken after first and introductory courses)

PSYC 100 <i>or</i> SOCY 100	Introduction to Psychology Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
NSCI 100 <i>or</i> ASTR 100	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
HIST 142 <i>or</i> HIST 157	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
SPCH 100 <i>or</i> COMM 380	Foundations of Oral Communication Language in Social Contexts <i>or other communication, writing, or speech course</i>	3
◆ CCJS 340	Law Enforcement Administration <i>or other core course for the curriculum</i>	3
◆ CCJS 345	Introduction to Security Management <i>or other core course for the curriculum</i>	3

**Elective Courses** (chosen from any courses to complete 60 credits for the degree—courses that may be applied to the BS in criminal justice are recommended) 13

**Total credits for AA in general studies with criminal justice curriculum** 60

## Foreign Language Area Studies Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in foreign language area studies will allow the student to utilize intermediate foreign language skills and related cultural knowledge in a variety of personal and professional settings.

### COURSEWORK FOR THE FOREIGN LANGUAGE AREA STUDIES CURRICULUM

Coursework for the foreign language area studies curriculum includes the following (see also the specific requirements for each language area):

- Language core courses (12 credits): Sequential courses in a single language, usually numbered 111–112 and 114–115 (or 211–212)
- Related area studies courses (12 credits): Any courses in the culture, history, language, literature, or government and politics of the area (see specific courses for each language area)
- Elective (1 credit): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in foreign language area

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studies if the appropriate core and related courses for the specific language area are selected. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

## Foreign Language Area Studies Curriculum Courses Credits

### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3

◆ Language core course (numbered 111) for the curriculum 3

### Introductory Courses (to be taken within the first 30 credits)

Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology or other biological and physical sciences lecture and laboratory course	3 1
WRTG 291	Research Writing or other communications/writing course	3
IFSM 201 or CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3 3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 or other arts and humanities/historical perspective course	3 3

◆ Language core course (numbered 112) for the curriculum 3

◆ Language core course (numbered 114) for the curriculum 3  
GVPT 200 International Political Relations  
or other behavioral and social sciences course 3

◆ Language core course (numbered 115) for the curriculum 3

### Additional Required Courses (to be taken after first and introductory courses)

◆ Related area studies course for the curriculum		3
◆ Related area studies course for the curriculum		3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy or other course to fulfill the biological and physical sciences lecture requirement	3 3
ANTH 102	Introduction to Cultural Anthropology or other course to fulfill the second behavioral and social sciences requirement (discipline must differ from first)	3

◆ Related area studies course for the curriculum		3
PHIL 140	Contemporary Moral Issues or other arts and humanities course (discipline must differ from other humanities course)	3
SPCH 100	Foundations of Oral Communication or other communication, writing, or speech course	3
◆ Related area studies course for the curriculum		3
Elective Course (to be chosen from any courses to complete the 60 credits for the degree)		1

**Total credits for AA in general studies with foreign language area studies curriculum 60**

## Legal Studies Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in legal studies will allow the student to apply knowledge of legal systems to advance professional and educational goals.

### COURSEWORK FOR THE LEGAL STUDIES CURRICULUM

Coursework for the legal studies curriculum includes the following:

- Required core courses (12 credits): LGST 101, 200, 201, and 204
- Legal studies–related courses (6 credits): Any LGST courses
- Electives (7 credits): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in legal studies. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

## Legal Studies Curriculum Courses Credits

### First Courses (to be taken within the first 18 credits)

Note: Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics or a higher-level math course	3

### Introductory Courses (to be taken within the first 30 credits)

PHIL 140	Contemporary Moral Issues or a foreign language course or other arts and humanities course	3
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GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course</i>	3 1 3
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201 or CMST 303 CCJS 100 or SOCY 100	Concepts and Applications of Information Technology Advanced Application Software Introduction to Criminal Justice Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3 3 3 3
<b>Additional Required Courses</b> ( <i>to be taken after first and introductory courses</i> )		
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3 3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3 3
SPCH 100 or WRTG 490	Foundations of Oral Communication Writing for Managers <i>or other communication, writing, or speech course</i>	3 3
◆ LGST 101	Introduction to Law <i>(required core course for the curriculum)</i>	3
◆ LGST 200	Techniques of Legal Research <i>(required core course for the curriculum)</i>	3
◆ LGST 201	Legal Writing <i>(required core course for the curriculum)</i>	3
◆ LGST 204	Legal Ethics <i>(required core course for the curriculum)</i>	3
◆ LGST 320	Criminal Law and Procedures <i>(or other legal studies–related course for the curriculum)</i>	3
◆ LGST 312	Torts <i>(or other legal studies–related course for the curriculum)</i>	3
<b>Elective Courses</b> ( <i>to be chosen from any courses to complete 60 credits for the degree—courses that may be applied to the BS in legal studies are recommended</i> )		
		7
<b>Total credits for AA in general studies with legal studies curriculum</b>		<b>60</b>

## Management Studies Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in management studies will allow the student to apply knowledge from management-related disciplines to advance professional and educational goals.

### COURSEWORK FOR THE MANAGEMENT STUDIES CURRICULUM

Coursework for the management studies curriculum includes the following:

- Management-related courses (15 credits): Chosen from any ACCT, BMGT, CMIS, CMST, ECON, FINC, HRMN, IFSM, and MRKT courses; GVPT 210; PSYC 321 and 361; STAT 230 (or 200); and WRTG 490
- Electives (10 credits): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in management studies. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Management Studies Curriculum Courses

### Credits

#### First Courses (*to be taken within the first 18 credits*)

**Note:** Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
◆ BMGT 110	Introduction to Business and Management <i>(recommended management-related course for the curriculum for students with no prior business experience; also required for BS in business administration)</i>	3

#### Introductory Courses (*to be taken within the first 30 credits*)

GVPT 170	American Government <i>or other behavioral and social sciences course</i>	3
Both BIOL 101 and BIOL 102 or BIOL 103	Concepts of Biology Laboratory in Biology Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course(s)</i>	3 1

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ECON 201 or ECON 203	Principles of Macroeconomics Principles of Microeconomics <i>(required for BS in management studies) or other behavioral and social sciences course (discipline must differ from first)</i>	3
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201 or CMST 303	Concepts and Applications of Information Technology Advanced Application Software	3
PHIL 140 or a foreign language course	Contemporary Moral Issues <i>or other arts and humanities course</i>	3
<b>Additional Required Courses</b> <i>(to be taken after first and introductory courses)</i>		
◆ STAT 230	Introductory Business Statistics <i>(recommended management-related course for the curriculum; required for BS in management studies)</i>	3
NSCI 100 or ASTR 100	Introduction to Physical Science Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	3
HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course (discipline must differ from other humanities course)</i>	3
SPCH 100 or WRTG 394	Foundations of Oral Communication Advanced Business Writing <i>or other communication, writing, or speech course</i>	3
◆ BMGT 364 or BMGT 160	Management and Organization Theory Principles of Supervision <i>or other management-related course for the curriculum</i>	3
◆ Management-related course for the curriculum	Management-related course for the curriculum <i>(course that may be applied to BS in management studies is recommended)</i>	3
◆ Management-related course for the curriculum	Management-related course for the curriculum <i>(course that may be applied to BS in management studies is recommended)</i>	3
<b>Elective Courses</b> <i>(chosen from any courses to complete 60 credits for the degree—courses that may be applied to BS in management studies are recommended)</i>		10
<b>Total credits for AA in general studies with management studies curriculum</b>		60

## Mathematics Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in mathematics will allow the student to employ appropriate mathematical methods and technologies to accomplish quantitative tasks in professional and educational contexts.

### COURSEWORK FOR THE MATHEMATICS CURRICULUM

Coursework for the mathematics curriculum includes the following:

- Required mathematics core courses (18–20 credits): MATH 130, 131, and 132 (or 140 and 141); 240 (or 246); 241; and STAT 230 (or 200)
- Mathematics-related course (3 credits): Chosen from any ACCT or FINC courses; CHEM 103 and 113; CMIS 102, 170 (or CMSC 150), and 242; ECON 201, 203, 430, and 440; any MATH course numbered 108 or higher; and PHYS 111 or higher
- Electives (2–4 credits): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in mathematics. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

## Mathematics Curriculum Courses

## Credits

### First Courses *(to be taken within the first 18 credits)*

**Note:** Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 107	College Algebra <i>(fulfills general education requirement in mathematics) or a higher-level math course</i>	3
MATH 108	Trigonometry and Analytical Geometry <i>(prerequisite for later courses)</i>	3

### Introductory Courses *(to be taken within the first 30 credits)*

HIST 142 or HIST 157	Western Civilization II History of the United States Since 1865 <i>or other arts and humanities/historical perspective course</i>	3
NSCI 100 and NSCI 101	Introduction to Physical Science Physical Science Laboratory <i>or other biological and physical sciences lecture and laboratory course</i>	3 1
WRTG 291	Research Writing <i>or other communications/writing course</i>	3

IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	
ECON 201	Principles of Macroeconomics	3
or ECON 203	Principles of Microeconomics <i>or other behavioral and social sciences course</i>	
◆ MATH 130	Calculus A <i>(required core course for the curriculum)</i>	3
◆ MATH 131	Calculus B <i>(required core course for the curriculum)</i>	3
◆ MATH 132	Calculus C <i>(required core course for the curriculum)</i>	3
<b>Additional Required Courses</b> <i>(to be taken after first and introductory courses)</i>		
BIOL 101	Concepts of Biology	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	
PSYC 100	Introduction to Psychology	3
or SOCY 100	Introduction to Sociology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	
PHIL 140	Contemporary Moral Issues	3
or a foreign language course	<i>or other arts and humanities course (discipline must differ from other humanities course)</i>	
SPCH 100	Foundations of Oral Communication <i>or other communication, writing, or speech course</i>	3
◆ MATH 241	Calculus III <i>(required core course for the curriculum)</i>	4
◆ MATH 246	Differential Equations	3
or MATH 240	Introduction to Linear Algebra <i>(required core course for the curriculum)</i>	
◆ STAT 230	Introductory Business Statistics	3
or STAT 200	Introduction to Statistics <i>(required core course for the curriculum)</i>	
◆ A mathematics-related course for the curriculum		3
<b>Total credits for AA in general studies with mathematics curriculum</b>		<b>60</b>

## Women's Studies Curriculum

### INTENDED PROGRAM OUTCOMES

Within the overall outcomes of the AA degree in general studies (listed on p. 77), the specialized curriculum in women's studies will allow the student to apply knowledge of the history, status, and experience of women in professional, personal, and educational contexts.

### COURSEWORK FOR THE WOMEN'S STUDIES CURRICULUM

Coursework for the women's studies curriculum includes the following:

- Required core course (3 credits): WMST 200
- Women's studies-related courses (15 credits): Chosen from ARTH 199U and 478, BEHS 220, PHIL 343, and related women's studies and special topics courses (with prior approval)
- Electives (7 credits): Any courses related to interests and goals

### RECOMMENDED SEQUENCE

The following course sequence will fulfill all the requirements for the AA in general studies while incorporating coursework in women's studies. Since some recommended courses fulfill more than one requirement, substituting courses for those listed may make it necessary to take additional courses to meet degree requirements. Students should consult an advisor whenever taking advantage of other options. Information on alternate courses (where allowable) to fulfill general education requirements (in communications, arts and humanities, behavioral and social sciences, biological and physical sciences, mathematics, and interdisciplinary issues) may be found on p. 8.

### Women's Studies Curriculum Courses

### Credits

#### First Courses *(to be taken within the first 18 credits)*

**Note:** Placement tests are required for math and writing courses.

LIBS 150	Introduction to Research	1
WRTG 101	Introduction to Writing	3
MATH 106	Finite Mathematics <i>or a higher-level math course</i>	3
◆ WMST 200	Introduction to Women's Studies: Women and Society <i>(required core course for the curriculum)</i>	3

#### Introductory Courses *(to be taken within the first 30 credits)*

Both BIOL 101 and BIOL 102	Concepts of Biology	3
or BIOL 103	Laboratory in Biology	1
	Introduction to Biology <i>or other biological and physical sciences lecture and laboratory course</i>	
WRTG 291	Research Writing <i>or other communications/writing course</i>	3
IFSM 201	Concepts and Applications of Information Technology	3
or CMST 303	Advanced Application Software	

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HIST 141	Western Civilization I	3
or HIST 142	Western Civilization II <i>or other arts and humanities/historical perspective course</i>	
◆ BEHS 220	Diversity Awareness <i>or other women's studies–related course for the curriculum</i>	3
GVPT 200	International Political Relations <i>or other behavioral and social sciences course</i>	3
◆ Women's studies–related course for the curriculum		3
<b>Additional Required Courses</b> ( <i>to be taken after first and introductory courses</i> )		
SPCH 100	Foundations of Oral Communication <i>or other communication, writing, or speech course</i>	3
◆ Women's studies–related course for the curriculum		3
NSCI 100	Introduction to Physical Science	3
or ASTR 100	Introduction to Astronomy <i>or other biological and physical sciences lecture course</i>	
ANTH 102	Introduction to Cultural Anthropology <i>or other behavioral and social sciences course (discipline must differ from first)</i>	3
PHIL 140	Contemporary Moral Issues <i>or other arts and humanities course (discipline must differ from other humanities course)</i>	3
◆ Women's studies–related course for the curriculum		3
◆ Women's studies–related course for the curriculum		3
<b>Electives Courses</b> ( <i>chosen from any courses to complete 60 credits for the degree</i> )		7
<hr/> <b>Total credits for AA in general studies with women's studies curriculum</b>		<b>60</b>

# CERTIFICATE PROGRAMS

To help nontraditional students meet their educational goals, UMUC offers a full range of certificate programs that respond to current trends in today's demanding job market. Certificate programs offer working adults a convenient, flexible way to earn credentials for career advancement. Many programs are available online.

The undergraduate certificate programs generally require 16 to 21 credits (except for the certificate in Paralegal Studies, which requires 60 credits). All courses for the certificate programs carry college credit and may be applied toward a degree.

## CURRICULA

In addition to the certificates listed below, some certificates are available only to active-duty military personnel and certain others who conform to special stipulations.

Accounting—Introductory  
Accounting—Advanced  
Applied Behavioral and Social Sciences  
Business Project Management  
Clinical Mental Health Care  
Computer Graphics and Design  
Computer Networking  
Criminal Justice Intelligence  
Database Design and Implementation  
Database Management  
Desktop Publishing  
Diversity Awareness  
Financial Management  
Fraud Investigation  
Game Development  
Health Issues for the Aging Adult  
Human Development  
Human Resource Management  
Information Assurance  
Information Management  
Internet Technologies  
Management Foundations  
Object-Oriented Design and Programming  
Paralegal Studies  
Project Management for IT Professionals  
Terrorism and Institutions: Prevention and Response  
Visual Basic Programming  
Web Design  
Workplace Communications  
Workplace Spanish

## REQUIREMENTS

- Students pursuing certificate programs must be admitted as UMUC students.
- Students are responsible for notifying UMUC of their intention to complete certificate work before completion of their last course. (The application is available at <https://my.umuc.edu>.)
- Students may pursue a degree and certificate simultaneously or pursue a degree after completing the certificate, but the application for any certificate completed while in progress toward the bachelor's degree must be submitted before award of the bachelor's degree.
- Students may not use the same course toward completion of more than one certificate. In cases where the same course is required for two certificates, the student must replace that course with an approved substitute for the second certificate.
- No more than half of the total credits for any certificate may be earned through credit by examination, prior-learning portfolio credit, internship/cooperative education credit, or transfer credit from other schools.
- Certificates consisting primarily of upper-level coursework may assume prior study in that area. Students should check prerequisites for certificate courses. Prerequisites for certificate courses may be satisfied by coursework, credit by examination, or prior-learning portfolio credit, under current policies for such credit.
- At least half of the total credits for any certificate must be earned through graded coursework.
- Students must complete all required coursework for the certificate with a minimum grade of C (2.0) in all courses. Certificate courses may not be taken pass/fail.

The individual certificate coursework requirements specified in the following section are applicable to students enrolling on or after August 1, 2011. However, should certificate requirements change, students must either complete these requirements within two years of the change or fulfill the new requirements.

## FOR MORE INFORMATION

More details about certificate programs, including graduation rates, median debt of students who completed the program, and other information, is available online at [www.umuc.edu/undergrad/ugcertificates/index.cfm](http://www.umuc.edu/undergrad/ugcertificates/index.cfm).

# CERTIFICATE PROGRAMS

## CERTIFICATE DESCRIPTIONS

Unless otherwise specified, course sequences for each certificate suggest but do not require that courses be taken in a prescribed order.

## Accounting—Introductory

The introductory accounting certificate is designed to meet the needs of nonaccounting personnel and managers who feel they require knowledge of accounting to advance in their professions. It can also be used by individuals who are interested in pursuing new careers in accounting and need to learn the major elements. Students without a background in economics, basic mathematics, and statistics are encouraged to take courses in those subjects before starting the certificate program. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in accounting.

Overall certificate requirements are listed on p. 87.

<b>Accounting—Introductory</b>	<b>Credits</b>
<b>Certificate Requirements</b>	

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Four required courses:**

ACCT 220	Principles of Accounting I	3
ACCT 221	Principles of Accounting II	3
ACCT 321	Cost Accounting	3
ACCT 323	Federal Income Tax I	3

**One supporting elective chosen from the following:** 3

ACCT 310	Intermediate Accounting I
ACCT 311	Intermediate Accounting II
ACCT 326	Accounting Information Systems
ACCT 328	Accounting Software
ACCT 426	Advanced Cost Accounting
ACCT 486A	Internship in Accounting
FINC 330	Business Finance

**A second supporting elective chosen from the above list** 3

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**Total credits for certificate in Accounting—Introductory** 18

## Accounting—Advanced

The advanced accounting certificate is designed to meet the needs of accounting professionals who want to enhance their accounting skills. Before starting the certificate program, students are encouraged to take courses in economics, basic mathematics, and statistics in addition to fulfilling all prerequisites. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in accounting.

Overall certificate requirements are listed on p. 87.

<b>Accounting—Advanced</b>	<b>Credits</b>
<b>Certificate Requirements</b>	

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Four required courses:**

ACCT 310	Intermediate Accounting I	3
ACCT 311	Intermediate Accounting II	3
ACCT 417	Federal Income Tax II	3
ACCT 422	Auditing Theory and Practice	3

**A supporting elective chosen from the following:** 3

ACCT 321	Cost Accounting
ACCT 323	Federal Income Tax I
ACCT 326	Accounting Information Systems
ACCT 410	Accounting for Government and Not-for-Profit Organizations
ACCT 411	Ethics and Professionalism in Accounting
ACCT 424	Advanced Accounting
ACCT 425	International Accounting
ACCT 426	Advanced Cost Accounting
ACCT 427	Advanced Auditing
ACCT 436	Internal Auditing
FINC 330	Business Finance

**A second supporting elective chosen from the above list** 3

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**Total credits for certificate in Accounting—Advanced** 18

# Applied Behavioral and Social Sciences

The certificate in applied behavioral and social sciences is designed to provide a range of skills and knowledge in the behavioral and social sciences. The key ideas and methods of various disciplines within the behavioral and social sciences are explored to gain an understanding of contemporary social and cultural issues. Focus is on practical applications. The certificate is useful for students seeking career opportunities and/or graduate study in social work, human services, and public health. With appropriate selection of courses, this certificate may be completed while pursuing the Bachelor of Science in social science.

Overall certificate requirements are listed on p. 87.

## Applied Behavioral and Social Sciences Certificate Requirements

### Credits

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

#### Three required courses:

PSYC	100	Introduction to Psychology	3
BIOL	160	Human Biology	3
PSYC	351	Lifespan Development	3

#### A statistics course chosen from the following:

STAT	200	Introduction to Statistics	3
STAT	225	Introduction to Statistics for the Behavioral Sciences	3
STAT	230	Introductory Business Statistics	3

#### A supporting elective chosen from the following:

ANTH	350	Health, Illness, and Healing	3
BEHS	320	Disability Studies	3
BEHS	343	Parenting Today	3
BEHS	364	Alcohol in U.S. Society	3
BEHS	453	Domestic Violence	3
GERO	306	Programs, Services, and Policies	3
PSYC	300	Research Methods in Psychology	3
PSYC	432	Introduction to Counseling Psychology	3

A Cooperative Education internship in the social sciences (ANTH, BEHS, GERO, PSYC, or SOCY 486A)

A second supporting elective chosen from the above list 3

#### Total credits for certificate in

**Applied Behavioral and Social Sciences 18**

# Business Project Management

The business project management certificate prepares students for supervisory and midlevel management positions involving project management and team management. It enables project managers, project team members, and other employees assigned to project teams within a private- or public-sector organization to upgrade their skills with the theory and practical knowledge needed to advance to a higher level.

Overall certificate requirements are listed on p. 87.

## Business Project Management

### Certificate Requirements

### Credits

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

#### Three required courses:

BMGT	487	Project Management I	3
BMGT	488	Project Management II	3
FINC	330	Business Finance	3

#### A supporting elective chosen from the following:

BMGT	317	Decision Making	3
BMGT	339	Introduction to Federal Contracting	3
BMGT	484	Managing Teams in Organizations	3
FINC	351	Risk Management	3
WRITG	494	Grant and Proposal Writing	3

A second supporting elective chosen from the above list 3

A third supporting elective chosen from the above list 3

**Total credits for certificate in Business Project Management 18**

# CERTIFICATE PROGRAMS

## Clinical Mental Health Care

The clinical mental health care certificate is designed to meet the needs of individuals who currently work or desire to work in mental health care settings. The program focuses on mental health disorders, diagnostic procedures, and treatment protocols. It is designed to better prepare students to work in clinical settings (such as hospitals, outpatient clinics, and nonprofit outreach programs) under the supervision of a licensed psychologist or medical doctor. With appropriate choice of courses, the certificate may be completed while pursuing the Bachelor of Science in psychology.

Overall certificate requirements are listed on p. 87.

<b>Clinical Mental Health Care</b>		
<b>Certificate Requirements</b>		<b>Credits</b>
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Five required courses:</b>		
PSYC 100	Introduction to Psychology	3
PSYC 300	Research Methods in Psychology	3
PSYC 353	Abnormal Psychology	3
PSYC 335	Theories of Personality	3
PSYC 436	Introduction to Clinical Psychology	3
<b>A supporting elective or electives totaling 3 credits chosen from the following:</b>		<b>3</b>
PSYC 301	Biological Basis of Behavior	
PSYC 307X	Substance Abuse: An Introduction	
PSYC 309C	Psychology of Eating Disorders	
PSYC 309X	Ethics in Mental Health and Psychological Treatment	
PSYC 310	Sensation and Perception	
PSYC 451	Tests and Measurements	
<b>Total credits for certificate in Clinical Mental Health Care</b>		<b>18</b>

## Computer Graphics and Design

The computer graphics and design certificate is for students who seek to develop design and composition skills in a computer environment. Emphasis is on integrating effective design principles with Internet applications and mixed media.

Overall certificate requirements are listed on p. 87.

<b>Computer Graphics and Design</b>		
<b>Certificate Requirements</b>		<b>Credits</b>
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Four required courses:</b>		
GRCO 350	Commercial Design	3
GRCO 354	Digital Media	3
GRCO 479	Motion Graphics	3
CMST 386	Principles of Web Design and Technology II	3
<b>A supporting elective chosen from the following:</b>		<b>3</b>
CMST 310	Fundamentals of Electronic Publishing	
CMST 311	Advanced Electronic Publishing	
CMST 450	Web Development Using XML	
COMM 493	Strategies for Visual Communication	
<b>A second supporting elective chosen from the above list</b>		<b>3</b>
<b>Total credits for certificate in Computer Graphics and Design</b>		<b>18</b>

# Computer Networking

The computer networking certificate is appropriate for students who want to work as network administrators for a business, government, or nonprofit organization. The program provides hands-on training in state-of-the-art computer technology. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in computer networking and security.

Overall certificate requirements are listed on p. 87.

<b>Computer Networking</b>		
<b>Certificate Requirements</b>		<b>Credits</b>
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Four required courses:</b>		
CMIT 265	Fundamentals of Networking	3
CMIT 368	Windows Server Administration	3
CMIT 376	Windows Network Infrastructure	3
CMIT 377	Windows Directory Services Infrastructure	3
<b>A supporting elective chosen from the following:</b>		<b>3</b>
CMIT 320	Network Security	
CMIT 331	Wireless Network Administration	
CMIT 350	Interconnecting Cisco Devices	
<b>A second supporting elective chosen from the above list</b>		<b>3</b>
<b>Total credits for certificate in Computer Networking</b>		<b>18</b>

# Criminal Justice Intelligence

The criminal justice intelligence certificate prepares students for work in high-intensity drug trafficking areas nationwide. Students learn about the importance of interagency communication and cooperation among officers and personnel in this area, the history of the intelligence community and the political underpinnings for its current structure and processes, and the current intelligence cycle. Legal and ethical issues are presented within given scenarios. The program also provides experience with the decision-making process and reviews possible outcomes in common situations. With appropriate choice of major and elective courses, this certificate may be completed while pursuing the Bachelor of Science in criminal justice.

Overall certificate requirements are listed on p. 87.

<b>Criminal Justice Intelligence</b>		
<b>Certificate Requirements</b>		<b>Credits</b>
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Six required courses:</b>		
CCJS 341	Criminal Investigation	3
CCJS 411	History of Intelligence and the U.S. National Intelligence Community	3
CCJS 412	The Intelligence Cycle	3
CCJS 413	Legal and Ethical Issues in Intelligence	3
CCJS 414	Intelligence Analysis	3
CCJS 415	Advanced Intelligence Analysis	3
<b>Total credits for certificate in Criminal Justice Intelligence</b>		<b>18</b>

# CERTIFICATE PROGRAMS

## Database Design and Implementation

The certificate in database design and implementation is appropriate for technical professionals who want to work as advanced users or database designers or administrators. Students are taught Structured Query Language (SQL) and learn about issues in database design and implementation. With appropriate choice of major and elective courses, this certificate may be completed while pursuing the Bachelor of Science in computer studies or in computer and information science.

Overall certificate requirements are listed on p. 87.

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### Database Design and Implementation Certificate Requirements Credits

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

#### Four required courses:

CMIS	170	Introduction to XML	3
CMIS	320	Relational Database Concepts and Applications	3
CMIS	420	Advanced Relational Database Concepts and Applications	3
CMIS	485	Web Database Development	3

#### A supporting elective chosen from the following: 3

CMIS	430	Enterprise Database Administration Using Oracle
CMST	385	Principles of Web Design and Technology I
CMST	460	Web Application Development Using ColdFusion

#### A second supporting elective chosen from the above list 3

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**Total credits for certificate in Database Design and Implementation 18**

## Database Management

The database management certificate offers an introduction to the design and management of database systems in a business environment. In-depth practice in the use of Structured Query Language (SQL) is provided in the context of business-related case studies. The program covers advanced database concepts, including database administration, database technology, and selection and acquisition of database management systems. Supporting elective courses include database mining and the systems analysis required to begin developing the information technology (IT) infrastructure in a business environment. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in computer studies.

Overall certificate requirements are listed on p. 87.

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### Database Management Certificate Requirements Credits

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

#### An introductory computing course chosen from the following: 3

CMIS	102	Introduction to Problem Solving and Algorithm Design
CMST	306	Introduction to Visual Basic .NET Programming <i>or previous workplace experience with C, C++, Visual Basic, Ada, COBOL, or another high-level language plus an additional supporting elective from the list below</i>

#### Three required courses:

CMIS	320	Relational Database Concepts and Applications	3
CMIS	420	Advanced Relational Database Concepts and Applications	3
CMIS	430	Enterprise Database Administration Using Oracle	3

#### A supporting elective chosen from the following: 3

CMIS	485	Web Database Development
CMST	460	Web Application Development Using ColdFusion
IFSM	304	Ethics in Information Technology
IFSM	461	Systems Analysis and Design

#### A second supporting elective chosen from the above list 3

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**Total credits for certificate in Database Management 18**

# Desktop Publishing

The desktop publishing certificate is designed for entry-level personnel whose goal is to become proficient using popular software programs in desktop publishing. It includes study of both desktop publishing techniques and design elements.

Overall certificate requirements are listed on p. 87.

Desktop Publishing Certificate Requirements		Credits
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Four required courses:</b>		
CMST 310	Fundamentals of Electronic Publishing	3
CMST 311	Advanced Electronic Publishing	3
CMST 320	Illustration Graphics	3
CMST 325	Image Editing	3
<b>A supporting elective chosen from the following:</b>		3
COMM 493	Strategies for Visual Communication	
CMST 425	Advanced Image Editing	
GRCO 354	Digital Media	
<b>A second supporting elective chosen from the above list</b>		3
<b>Total credits for certificate in Desktop Publishing</b>		<b>18</b>

# Diversity Awareness

The diversity awareness certificate provides an interdisciplinary perspective on diversity in contemporary society, geared toward practical application in the workplace. The program is based in the social sciences and grounded in sociological concepts. Focus is on applying social science concepts to foster an awareness and sensitivity to the diverse groups that an individual is likely to encounter in today's workplace. It provides students with the requisite concepts to adapt, think flexibly, and appreciate the inter-relatedness of different groups and perspectives in the workplace. The certificate allows those currently working in human resource, personnel, and management sectors to update and expand their knowledge, understanding, and awareness of contemporary diversity issues. It is appropriate for students pursuing degrees in business administration, communication studies, criminal justice, gerontology, global business and public policy, humanities, human resource management, legal studies, management studies, political science, or psychology. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in social science.

Overall certificate requirements are listed on p. 87.

Diversity Awareness Certificate Requirements		Credits
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Two required foundation courses:</b>		
BEHS 220	Diversity Awareness	3
SOCY 100	Introduction to Sociology	3
<b>A course in anthropology chosen from the following:</b>		3
ANTH 102	Introduction to Cultural Anthropology	
ANTH 344	Culture and Language	
<b>A course in cultural/racial aspects of diversity chosen from the following:</b>		3
PSYC 354	Cross-Cultural Psychology	
SOCY 423	Minorities in the United States	
SOCY 424	Race and Ethnic Relations	
SPCH 482	Intercultural Communication	
<b>A course in gender- and age-related aspects of diversity chosen from the following:</b>		3
BMGT 312	Gender Issues in Business	
GERO 311	Gender and Aging	
GERO 327	Ethnicity and Aging	
PSYC 338	Psychology of Gender	
PSYC 357	Adulthood and Aging	
SOCY 325	The Sociology of Gender	
SPCH 324	Communication and Gender	

# CERTIFICATE PROGRAMS

A course in specialized aspects of diversity chosen from the following:

BEHS	320	Disability Studies
HUMN	351	Myth in the World
PHIL	315	Ethical Issues in American Business
SOCY	426	Sociology of Religion
SOCY	432	Social Movements

**Total credits for certificate in Diversity Awareness** 18

## Financial Management

The financial management certificate is designed to meet the needs of new financial managers, other managers who feel they require greater knowledge of finance to advance in their professions, individuals interested in pursuing new careers in financial management, and financial management professionals who want to upgrade their skills. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in finance.

Overall certificate requirements are listed on p. 87.

### Financial Management Certificate Requirements Credits

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

A finance course chosen from the following: 3

FINC	330	Business Finance
FINC	331	Finance for the Nonfinancial Manager

Four required courses:

FINC	340	Investments	3
FINC	351	Risk Management	3
FINC	430	Financial Management	3
FINC	460	International Finance	3

A supporting elective chosen from the following: 3

ACCT	301	Accounting for Nonaccounting Managers
ECON	430	Money and Banking
FINC	321	Personal Financial Management
FINC	352	Life and Health Insurance
FINC	440	Security Analysis and Valuation
FINC	441	Financial Derivatives and Portfolio Risk Management
FINC	450	Commercial Bank Management

**Total credits for certificate in Financial Management** 18

## Fraud Investigation

The fraud investigation certificate provides an interdisciplinary foundation of the core knowledge needed in the field of fraud investigation, both by law enforcement personnel and internal organizational personnel and consultants. The certificate is designed to enhance one's understanding of fraud, including motives, rationalization, and opportunity (the fraud triangle). Case studies and current events are used to analyze fraud from various points of view: incentives and pressures, the capacity to commit fraud, opportunity, and integrity (the fraud diamond).

Overall certificate requirements are listed on p. 87.

### Fraud Investigation Certificate Requirements Credits

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

One of the following accounting foundation courses: 3

ACCT	220	Principles of Accounting I
ACCT	301	Accounting for Nonaccounting Managers

The following criminal justice foundation course: 3

CCJS	234	Criminal Procedure and Evidence
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One of the following investigation and deterrence courses in accounting: 3

ACCT	320	Fraud Detection and Deterrence
ACCT	438	Fraud and Forensic Accounting

One of the following investigation and deterrence courses in criminal justice: 3

CCJS	341	Criminal Investigation
CCJS	453	White-Collar Crime

One of the following courses: 3

ACCT	433	Audit and Control of Information Technology
CCJS	390	Cyber Crime and Security
CCJS	421	Computer Forensics

The following required course: 3

ACCT	440	Forensic and Investigative Accounting
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**Total credits for certificate in Fraud Investigation** 18

# Game Development

The game development certificate prepares students for entry-level programming positions in the gaming industry. Through a hands-on, project-based approach, students are able to create their own video games and become familiar with the core programming language skills necessary for game development. The certificate also helps them become proficient in the areas of mathematics common to most game projects. To gain a thorough understanding of the main concepts involved in real-time 3D graphics programming, students are given the opportunity to work with an industry-standard gaming engine. With appropriate choice of major and elective courses, students may complete this certificate while pursuing the Bachelor of Science in computer science.

Overall certificate requirements are listed on p. 87.

Game Development Certificate Requirements			Credits
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.			
<b>Four required courses:</b>			
CMSC	350	Data Structures and Analysis	3
CMSC	335	Object-Oriented and Concurrent Programming	3
CMSC	325	Game Design and Development	3
CMIS	255	Mobile Phone Application Development	3
<b>A supporting elective chosen from the following courses:</b>			3
CMIS	440	Advanced Programming in Java	
CMIS	445	Distributed Systems	
MATH	240	Introduction to Linear Algebra	
<b>A second supporting elective chosen from the above list</b>			3
<b>Total credits for certificate in Game Development</b>			<b>18</b>

# Health Issues for the Aging Adult

The certificate in health issues for the aging adult is designed for students who seek the knowledge and skills necessary to effectively work with older adults in a variety of roles. The certificate integrates gerontological knowledge and skills from the fields of health/biology, sociology, psychology, and policy/services and provides the opportunity to apply these skills to work with older adults. Coursework may help students seeking a bachelor's degree in a variety of areas to integrate gerontology knowledge with their major area of academic study or prepare students who are vocationally oriented and not seeking a higher education degree to improve work skills. Through a practicum or Co-op experience, students work with professionals to apply knowledge acquired through coursework to practical experience with aging individuals or aging issues in different settings that address the needs of older adults (e.g., assisted living centers, retirement communities, nursing homes, hospitals, senior centers, companies producing products and services for seniors, or area agencies on aging).

Overall certificate requirements are listed on p. 87.

Health Issues for the Aging Adult Certificate Requirements			Credits
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.			
<b>A required course:</b>			
GERO	100	Introduction to Gerontology	3
<b>A course on the sociocultural aspects of aging chosen from the following:</b>			3
GERO	331	Sociology of Aging	
GERO	410	Cross-Cultural Perspectives of Aging	
<b>A psychology course chosen from the following:</b>			3
GERO	220	Psychological Aspects of Aging	
PSYC	357	Adulthood and Aging	
<b>A life health and science course or courses totaling 3 credits chosen from the following:</b>			3
BIOL	307	The Biology of Aging	
GERO	302	Health and Aging	
GERO	355	Nutritional Concerns of Aging	
GERO	495D	Adaptation to Sensory Changes and Aging	
GERO	495H	Illness and Aging	
GERO	495K	Geriatric Nutrition	
<b>A required practicum experience:</b>			3
GERO	486A	Internship in Gerontology Through Co-op	

# CERTIFICATE PROGRAMS

A course specific to the student's academic goals chosen from the following:

GERO	306	Programs, Services, and Policies	3
BEHS	380	End of Life: Issues and Perspectives	

**Total credits for certificate in Health Issues for the Aging Adult** **18**

## Human Development

The human development certificate is designed to meet the needs of individuals who work in health care settings that require a thorough background in human development from birth to an advanced age. It enables students to understand and recognize developmental milestones across the lifespan and examines age-specific related topics. The program is particularly useful for individuals either currently working or desiring to work in settings such as childcare, adult care, boys' and girls' clubs, and other community-related settings. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in psychology.

Overall certificate requirements are listed on p. 87.

<b>Human Development</b>	
<b>Certificate Requirements</b>	<b>Credits</b>

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Five required courses:**

PSYC	100	Introduction to Psychology	3
PSYC	300	Research Methods in Psychology	3
PSYC	351	Lifespan Development	3
PSYC	352	Child and Adolescent Psychology	3
PSYC	357	Adulthood and Aging	3

**A supporting elective chosen from the following:** **3**

PSYC	332	Psychology of Human Sexuality
PSYC	334	Psychology of Interpersonal Relationships
PSYC	338	Psychology of Gender

**Total credits for certificate in Human Development** **18**

## Human Resource Management

The human resource management certificate prepares students for supervisory and midlevel management positions in human resource management and enables employees in public- and private-sector organizations to upgrade their skills with the theory and practical knowledge necessary to advance to a higher level. The certificate prepares the student for the Professional in Human Resources (PHR) and Senior Professional in Human Resources (SPHR) certification examinations. With appropriate choice of major and elective courses, this certificate may be completed while pursuing the Bachelor of Science in human resource management.

Overall certificate requirements are listed on p. 87.

<b>Human Resource Management</b>	
<b>Certificate Requirements</b>	<b>Credits</b>

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Three required courses:**

BMGT	364	Management and Organization Theory	3
HRMN	300	Human Resource Management	3
HRMN	400	Human Resource Management: Issues and Problems	3

**A labor management course chosen from the following:** **3**

HRMN	362	Labor Relations
HRMN	365	Conflict Management in Organizations

**A supporting elective chosen from the following:** **3**

BMGT	391	Supervision
BMGT	464	Organizational Behavior
BMGT	465	Organization Development and Transformation
BMGT	484	Managing Teams in Organizations
HRMN	367	Organizational Culture
HRMN	395	The Total Awards Approach to Compensation Management
HRMN	406	Employee Training and Development
HRMN	495	Contemporary Issues in Human Resource Management Practice

**A second supporting elective chosen from the above list** **3**

**Total credits for certificate in Human Resource Management** **18**

# Information Assurance

The information assurance certificate supports those who wish to acquire or improve information security knowledge in response to the national imperative for maintaining the security of the technology and information infrastructure of government and industry. Students gain specific skills and are instructed in areas of policy formation, needs assessment, security applications, and disaster prevention and recovery. Laboratories employing both state-of-the-art and industry-standard tools are used. With appropriate choice of major and elective courses, this certificate may be completed while pursuing the Bachelor of Science in cybersecurity.

Overall certificate requirements are listed on p. 87.

Information Assurance		Credits
Certificate Requirements		
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Two required courses:</b>		
CSIA 302	Telecommunications in Information Systems	3
CSIA 303	Foundations of Information System Security	3
<b>A supporting elective chosen from the following:</b>		3
CMIT 265	Fundamentals of Networking	
CMIT 320	Network Security	
CSIA 454	Information System Security Mechanisms	
CSIA 457	Cyberterrorism and Cyber Crime	
CSIA 459	Evaluating Emerging Technologies	
IFSM 432	Business Continuity Planning	
IFSM 433	Information Security Planning and Needs Assessment	
<b>A second supporting elective chosen from the above list</b>		3
<b>A third supporting elective chosen from the above list</b>		3
<b>A fourth supporting elective chosen from the above list</b>		3
<b>Total credits for certificate in Information Assurance</b>		<b>18</b>

# Information Management

The information management certificate offers an overview of information systems, their role in organizations, and the relation of information systems to the objectives and structure of an organization. An introduction to the design and management of database systems in a business environment is provided. A study of the methods used in analyzing information needs and specifying application system requirements is complemented with a study of the concepts and techniques used in specifying the physical design of the targeted system. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in information systems management.

Overall certificate requirements are listed on p. 87.

Information Management		Credits
Certificate Requirements		
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>An introductory computing course chosen from the following:</b>		3
CMIS 102	Introduction to Problem Solving and Algorithm Design	
CMST 306	Introduction to Visual Basic .NET Programming or previous workplace experience with C, C++, Visual Basic, Ada, COBOL, or another high-level language plus an additional supporting elective from the lists below	
<b>Three required courses:</b>		
CMIS 320	Relational Database Concepts and Application	3
IFSM 300	Information Systems in Organizations	3
IFSM 461	Systems Analysis and Design	3
<b>A 300-level supporting elective course chosen from the following:</b>		3
IFSM 302	Workplace Productivity	
IFSM 303	Human Factors in Information Systems	
IFSM 304	Ethics in Information Technology	
<b>A 400-level supporting elective course chosen from the following:</b>		3
CSIA 303	Foundations of Information System Security	
IFSM 438	Information Systems Project Management	
<b>Total credits for certificate in Information Management</b>		<b>18</b>

# CERTIFICATE PROGRAMS

## Internet Technologies

The Internet technologies certificate is designed to provide an introduction to Internet applications and their design and development. Hands-on experience is provided in Web site management and design, with an emphasis on subject-related projects.

Overall certificate requirements are listed on p. 87.

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<b>Internet Technologies</b>	<b>Credits</b>
<b>Certificate Requirements</b>	

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Four required courses:**

CMST 385	Principles of Web Design and Technology I	3
CMST 386	Principles of Web Design and Technology II	3
CMST 388	Fundamentals of JavaScript	3
CMST 450	Web Development Using XML	3

**A supporting elective chosen from the following:** 3

CMIS 242	Intermediate Programming	
CMIS 440	Advanced Programming in Java	
CMIS 485	Web Database Development	
CMST 460	Web Application Development Using ColdFusion	
CMST 461	Web Application Development Using PHP/MySQL	

**A second supporting elective chosen from the above list** 3

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**Total credits for certificate in Internet Technologies** **18**

## Management Foundations

The management foundations certificate prepares students for supervisory and midlevel management positions and enables employees in public- and private-sector organizations to upgrade their skills with the theory and practical knowledge necessary to advance to a higher level. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in business administration.

Overall certificate requirements are listed on p. 87.

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<b>Management Foundations</b>	<b>Credits</b>
<b>Certificate Requirements</b>	

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Four required courses:**

IFSM 300	Information Systems in Organizations	3
BMGT 364	Management and Organization Theory	3
MRKT 310	Marketing Principles	3
HRMN 300	Human Resource Management	3

**A finance course chosen from the following:** 3

FINC 330	Business Finance	
FINC 331	Finance for the Nonfinancial Manager	

**A supporting elective chosen from the following:** 3

BMGT 365	Organizational Leadership	
BMGT 380	Business Law I	
BMGT 464	Organizational Behavior	
BMGT 496	Business Ethics	

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**Total credits for certificate in Management Foundations** **18**

# Object-Oriented Design and Programming

The certificate in object-oriented design and programming is appropriate for technical professionals who will be working as programmer/analysts or application developers. Students are taught introductory and advanced features of object-oriented languages, as well as program design concepts. Students should check course descriptions to ensure that they have taken all prerequisites for each course. With appropriate choice of major and elective courses, this certificate may be completed while pursuing the Bachelor of Science in computer and information science.

Overall certificate requirements are listed on p. 87.

## Object-Oriented Design and Programming

### Certificate Requirements

Credits

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

#### An introductory programming course chosen from the following: 3

CMIS 141	Introductory Programming
CMIS 115	Programming in Objective-C for the Mac
CMIS 125	Programming in C#

#### An intermediate programming course chosen from the following: 3

CMIS 242	Intermediate Programming
CMIS 215	Programming for the iPhone or iPad
CMIS 225	Developing Windows Presentation Foundation Applications Using C#

#### One required course:

CMIS 330	Software Engineering Principles and Techniques	3
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#### A supporting elective chosen from the following: 3

CMIS 440	Advanced Programming in Java
CMIS 455	Requirements Development
CMIS 460	Software Design and Development
CMIS 465	Software Verification and Development

#### A second supporting elective chosen from the above list 3

#### A third supporting elective chosen from the above list 3

**Total credits for certificate in Object-Oriented Design and Programming 18**

# Paralegal Studies

The paralegal studies certificate focuses on the legal concepts, procedures, and skills used in a wide variety of legal environments. The program addresses the organization, functions, and processes of institutions in the U.S. legal system; roles and issues in the paralegal field; legal ethics; and selected specialty areas. The curriculum emphasizes important skills, including legal analysis, communication, legal research, computer competence, legal drafting, investigation, organization, and specialized legal skills. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in legal studies. (However, students may not pursue the paralegal studies certificate within the associate of arts curriculum in legal studies.)

Overall certificate requirements are listed on p. 87.

## Paralegal Studies

### Certificate Requirements

Credits

#### General education and other college coursework 36

This requirement may be fulfilled through transfer credit, and up to 30 credits may be earned through credit by examination or prior-learning portfolio credit. Total must include 18 credits in general education courses (described on p. 8) covering at least three different disciplines and WRTG 101 (unless the student already has earned an associate's or bachelor's degree before taking the first legal studies course).

**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses. No more than six 1-credit courses may be applied toward this certificate. No more than 12 credits of certificate coursework as listed below may be fulfilled through transfer credit.

#### Six required legal studies courses:

LGST 101	Introduction to Law	3
LGST 200	Techniques of Legal Research	3
LGST 201	Legal Writing	3
LGST 204	Legal Ethics	3
LGST 300	Advanced Legal Research and Analysis	3
LGST 301	Advanced Legal Writing	3

#### A substantive and procedural or substantive law elective chosen from the following: 3

LGST 312	Torts
LGST 320	Criminal Law and Procedures
LGST 327	Alternative Dispute Resolution
LGST 340	Contract Law
LGST 442	Business Organizations

#### A second substantive and procedural or substantive law course chosen from the above list 3

**Total credits for certificate in Paralegal Studies 60**

# CERTIFICATE PROGRAMS

## Project Management for IT Professionals

The certificate in project management for IT professionals offers an overview of information systems, their role in organizations, and the relationship of information systems to the objectives and structure of an organization. The planning, scheduling, and controlling of a system project during its life cycle is explored. A survey of techniques for improving the productivity of workplace practices and procedures is included. With appropriate choice of courses, this certificate may be completed while pursuing the Bachelor of Science in information systems management.

Overall certificate requirements are listed on p. 87.

### Project Management for IT Professionals

Certificate Requirements	Credits
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**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Four required courses:**

IFSM 201	Concepts and Applications of Information Technology	3
IFSM 300	Information Systems in Organizations	3
IFSM 438	Information Systems Project Management	3
IFSM 461	Systems Analysis and Design	3

**A supporting elective chosen from the following:** 3

CSIA 302	Telecommunications in Information Systems
CSIA 303	Foundations of Information System Security
CSIA 457	Cyberterrorism and Cyber Crime
IFSM 302	Workplace Productivity
IFSM 303	Human Factors in Information Systems
IFSM 304	Ethics in Information Technology

**A second supporting elective chosen from the above list** 3

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**Total credits for certificate in Project Management for IT Professionals** 18

## Terrorism and Institutions: Prevention and Response

The certificate in terrorism and institutions explores how institutions confront terrorism and the aftermath of terrorist acts. Institutions examined include government agencies, private security organizations, schools, and commercial enterprises. The certificate addresses emerging terrorist threats and the institutional response to terrorist acts. It can benefit security individuals who are in charge of protecting government facilities, private security agency employees, police officers, detective agents, public health and public safety administrators and officers, counterterrorism professionals, and the general public.

Overall certificate requirements are listed on p. 87.

### Terrorism and Institutions: Prevention and Response

Certificate Requirements	Credits
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**Note:** Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.

**Three required courses:**

CCJS 491	Institutional Security	3
GVPT 406	Global Terrorism	3
GVPT 409	Terrorism, Antiterrorism, and Homeland Security	3

**An institutional response elective chosen from the following:** 3

GVPT 240	Political Ideologies
GVPT 407	State Terrorism
GVPT 408	Counterterrorism
HIST 319A	History of Terrorism
PSYC 386	Psychology of Stress

**A specialized supporting elective chosen from the following:** 3

CCJS 390	Cyber Crime and Security
CMIS 335	Software Safety
ENMT 310	Emergency Planning and Operations Management
FSCN 306	Fire Investigation and Analysis
FSCN 401	Disaster Planning and Control
IFSM 432	Business Continuity Planning

**A second specialized supporting elective chosen from the above list** 3

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**Total credits for certificate in Terrorism and Institutions: Prevention and Response** 18

# Visual Basic Programming

The Visual Basic programming certificate is designed for students seeking entry-level programming positions. Hands-on experience using Visual Basic software is provided. With appropriate choice of major and elective courses, this certificate may be completed while pursuing the Bachelor of Science in computer studies.

Overall certificate requirements are listed on p. 87.

Visual Basic Programming Certificate Requirements	Credits
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.	
<b>An introductory course:</b>	3
CMIS 102 Introduction to Problem Solving and Algorithm Design	
<b>Two required courses:</b>	
CMST 306 Introduction to Visual Basic .NET Programming	3
CMST 416 Advanced Visual Basic .NET Programming	3
<b>A computer systems course chosen from the following:</b>	3
CMIS 310 Computer Systems and Architecture	
IFSM 310 Software and Hardware Concepts	
<b>A supporting elective chosen from the following:</b>	3
CMIS 242 Intermediate Programming	
CMIS 320 Relational Database Concepts and Applications	
CMIS 420 Advanced Relational Database Concepts and Applications	
CMIS 440 Advanced Programming in Java	
CMST 385 Principles of Web Design and Technology I	
CMST 386 Principles of Web Design and Technology II	
<b>A second supporting elective chosen from the above list</b>	3
<b>Total credits for certificate in Visual Basic Programming</b>	<b>18</b>

# Web Design

The Web design certificate prepares students to use Internet applications and design principles to produce effective Web pages. The program is appropriate for nontechnical employees who wish to advance within their organizations and who want to learn how to establish, develop, and maintain a Web site.

Overall certificate requirements are listed on p. 87.

Web Design Certificate Requirements	Credits
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.	
<b>Four required courses:</b>	
CMST 325 Image Editing	3
CMST 385 Principles of Web Design and Technology I	3
CMST 386 Principles of Web Design and Technology II	3
CMST 390 Fundamentals of JavaScript	3
<b>A supporting elective chosen from the following:</b>	3
CMST 425 Advanced Image Editing	
CMST 450 Web Development Using XML	
CMST 455 Introduction to Digital Video Editing	
GRCO 350 Commercial Design	
<b>A second supporting elective chosen from the above list</b>	3
<b>Total credits for certificate in Web Design</b>	<b>18</b>

# CERTIFICATE PROGRAMS

## Workplace Communications

The workplace communications certificate is designed to prepare students in the basics of communication vehicles and modes in the modern workplace. It introduces them to the vocabulary of the field and to the tools and techniques used to create workplace documents. With appropriate choice of major and elective courses, this certificate may be completed while pursuing the Bachelor of Arts in communication studies.

Overall certificate requirements are listed on p. 87.

<b>Workplace Communications</b>		
<b>Certificate Requirement</b>		<b>Credits</b>
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Four required courses:</b>		
WRTG 101	Introduction to Writing	3
IFSM 201	Concepts and Applications of Information Technology	3
CMST 310	Fundamentals of Electronic Publishing	3
WRTG 293	Introduction to Professional Writing	3
<b>A writing course chosen from the following:</b>		3
WRTG 393	Advanced Technical Writing	
WRTG 394	Advanced Business Writing	
<b>An editing course chosen from the following:</b>		3
WRTG 289	Principles of Text Editing	
WRTG 489	Advanced Technical Editing	
<b>Total credits for certificate in Workplace Communications</b>		<b>18</b>

## Workplace Spanish

The workplace Spanish certificate combines language and professional study to give students a language foundation that will prepare them to work and communicate in a Spanish-speaking environment.

**Note:** This certificate is not intended for students who already have native or near-native ability in Spanish. Students may send an e-mail to [languages@umuc.edu](mailto:languages@umuc.edu) for additional information on course content and eligibility.

Overall certificate requirements are listed on p. 87.

<b>Workplace Spanish</b>		
<b>Certificate Requirements</b>		<b>Credits</b>
<b>Note:</b> Courses may be applied to only one certificate; some prerequisites may need to be fulfilled before beginning certificate courses.		
<b>Five required courses:</b>		
SPAN 111	Elementary Spanish I	3
SPAN 112	Elementary Spanish II	3
SPAN 211	Intermediate Spanish I	3
SPAN 212	Intermediate Spanish II	3
SPAN 318	Commercial and Workplace Spanish	4
<b>Total credits for certificate in Workplace Spanish</b>		<b>16</b>

# INFORMATION ON COURSES

## THE UNIT OF CREDIT

The unit of credit defines the amount of university-level credit to be awarded for course completion, transfer of coursework from another institution, or evaluation of college-level prior learning. One credit is awarded on the basis of either of two sets of criteria, as follows:

- At least 15 hours (50 minutes each) of actual class meeting or the equivalent in guided learning activity (exclusive of registration and study days, holidays, and final examinations);
- At least 30 hours (50 minutes each) of supervised laboratory or studio work (exclusive of registration and study days, holidays, and final examinations).

## PREREQUISITES

Prerequisites, normally stated in terms of numbered courses, represent the level of knowledge a student is expected to have before enrolling in a given course. Students may be barred from enrolling in or may be removed from courses for which they do not have the necessary prerequisites. Courses listed as “corequisite” are required but may be taken at the same time. Taking courses listed as “recommended” is advisable but not absolutely required.

It is each student’s responsibility to check the prerequisites listed in the course description and make certain that he or she is academically prepared to take a course. If the prerequisite course was not taken recently, the student should consult advisors or the academic department about whether he or she is sufficiently prepared to perform well in a given course. Faculty members are not expected to repeat material listed as being prerequisite.

Prerequisites may also be fulfilled by Prior Learning credit for the appropriate course, earned through course-challenge examinations or Portfolio (described on p. 228). Advisors can explain the procedures for seeking this credit. Some courses are not eligible for challenge examination or Portfolio, and students may not take course-challenge examinations or seek Portfolio credit for lower-level courses that are prerequisite to courses for which they have already received credit.

WRTG 101 Introduction to Writing is prerequisite to any higher-level course in English, communication studies, and writing, as well as many other advanced courses. MATH 107 College Algebra is prerequisite to any higher-level course in mathematics, and MATH 107 or MATH 106 Finite Mathematics is prerequisite to any of the introductory statistics courses. Many other prerequisites for advanced courses may be found in the course descriptions.

Placement testing is required for enrollment in WRTG 101 and for MATH 012, 106, 107, 108, 115, 140, and 220, unless the student has taken the prerequisite course or its equivalent. More

information on writing and mathematics placement tests may be obtained by calling 800-888-UMUC or visiting [www.umuc.edu/testing](http://www.umuc.edu/testing). For introductory language courses, students with prior experience in the language should take a placement test to assess appropriate level. Information on language placement tests can be found by consulting the department or visiting [www.umuc.edu/language/testing](http://www.umuc.edu/language/testing).

## KEY TO COURSE DESCRIPTIONS

Undergraduate courses that have been (or may be) offered by UMUC are listed on the following pages. They are arranged alphabetically by academic discipline or subject. The number of credits is shown by an arabic numeral in parentheses—e.g., (3)—after the title of the course.

Course numbers are designated as follows:

- 000–099 Noncredit and institutional credit courses (which do not count toward any degree or certificate)
- 100–199 Primarily freshman courses
- 200–299 Primarily sophomore courses
- 300–399 Upper-level, primarily junior courses
- 400–499 Upper-level, primarily senior courses
- 500–599 Senior-level courses acceptable for credit toward some graduate degrees

Subject	Catalog Number	Title	Number of Credits
BMGT	394	Real Estate Principles II	(3)

(With BMGT 393, designed to fulfill the requirements for the Maryland licensing examination to sell real estate.) Prerequisite: BMGT 393. A continuation of the study and functional analysis and application of the legal principles relevant to the conduct of real estate transactions. The goal is to prepare to take the Maryland licensing examination to sell real estate. Topics include home ownership, environmental issues, real estate appraisals and financing, agency and brokerage agreements, seller and buyer representation, fair housing and discrimination, and settlement procedures. Students may receive credit for only one of the following courses: BMGT 394 or BMGT 398H.

1. Explanatory material, if needed, may
  - Explain course sequence, purpose, or audience.
  - Identify courses fulfilling general education requirements (listed on p. 8).
  - Identify courses requiring a special fee, equipment, or materials.
2. Prerequisites represent the level of knowledge a student should have acquired before enrolling in this course. A prerequisite is usually stated as a specific numbered course; sometimes the prerequisite calls for a specific course “or equivalent experience.”
3. The course description describes the focus and level of the course.
4. Statements beginning “Students may receive credit for only one of the following courses” are designed to avoid course duplication and, therefore, loss of credit. The courses listed are courses that duplicate or significantly overlap content. If a course in the list is not described elsewhere in the catalog, that means that the course has changed designator or number over the years or that the course is not offered at all UMUC locations.

# INFORMATION ON COURSES

## INDEX TO COURSE DESCRIPTIONS

The courses summarized in the following pages are listed alphabetically by discipline or subject, as follows. The discipline designators that precede the course numbers are listed in parentheses.

Students should check the course descriptions carefully to avoid duplicating previous coursework. UMUC will not award credit for courses that repeat material the student has already been credited with learning.

Accounting (ACCT) .....	105	Finance (FINC) .....	160
African American Studies (AASP)* .....	109	Fire Science (FSCN) .....	162
Anthropology (ANTH)* .....	110	Geography (GEOG)* .....	164
Arabic (ARAB)* .....	111	Geology (GEOL)* .....	164
Art (ARTT).....	112	German (GERM)* .....	165
Art History (ARTH)* .....	113	Gerontology (GERO) .....	165
Asian Studies (ASTD)* .....	114	Government and Politics (GVPT).....	169
Astronomy (ASTR)* .....	115	Graphic Communication (GRCO) .....	172
Behavioral and Social Sciences (BEHS) .....	115	History (HIST).....	173
Biology (BIOL).....	117	Homeland Security (HMLS).....	179
Business and Management (BMGT).....	121	Humanities (HUMN).....	180
Career Planning (CAPL)* .....	127	Human Resource Management (HRMN).....	181
Chemistry (CHEM)* .....	127	Information Systems Management (IFSM) .....	183
Chinese (CHIN)* .....	127	Japanese (JAPN)* .....	185
Communication Studies (COMM).....	128	Journalism (JOUR)* .....	185
Computer and Information Science (CMIS).....	129	Legal Studies (LGST).....	187
Computer Information Technology (CMIT).....	133	Library Skills and Information Literacy (LIBS)* .....	192
Computer Science (CMSC) .....	135	Marketing (MRKT) .....	192
Computer Studies (CMST).....	137	Mathematics (MATH) .....	194
Cooperative Education.....	140	Music (MUSC)* .....	197
Criminology/Criminal Justice (CCJS).....	141	Natural Science (NSCI) .....	198
Cybersecurity (CSIA) .....	146	Philosophy (PHIL)* .....	199
Economics (ECON) .....	148	Psychology (PSYC).....	201
Educational Principles (EDCP)* .....	149	Sociology (SOCY).....	206
Education: Teacher Preparation (EDTP)* .....	150	Spanish (SPAN)* .....	208
Emergency Management (EMGT).....	150	Speech Communication (SPCH) .....	209
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\* Only a limited number of courses are available each session in this discipline.

## UNDERGRADUATE COURSES

The following entries describe courses offered through University of Maryland University College. Requirements pertain only to degrees conferred at UMUC. To use these courses toward degrees offered by other institutions in the University System of Maryland, students should refer to the catalogs of those institutions for restrictions that may apply. In transferring to UMUC—particularly from a community college—students should be careful not to enroll in courses that duplicate their previous studies.

# Accounting

Courses in accounting (designated ACCT) may be applied as appropriate (according to individual program requirements) toward

- a major in accounting, business administration, finance, global business and public policy, human resource management, management studies, or marketing;
- a minor in accounting, business administration, customer service management, human resource management, management studies, marketing, or strategic and entrepreneurial management;
- a certificate in Introductory Accounting, Advanced Accounting, Fraud Investigation, or a number of other business-related areas;
- certain UMUC graduate degree programs, where recognized as equivalent coursework (specific equivalencies are detailed in the UMUC graduate catalog); and
- electives.

### **ACCT 220 Principles of Accounting I (3)**

An introduction to the basic theory and techniques of contemporary financial accounting. The objective is to identify the fundamental principles of accounting, identify and analyze business transactions, prepare financial statements, and communicate this information to users with different needs. Topics include the accounting cycle, transactions, and the preparation of financial statements for single-owner business organizations that operate as service companies or merchandisers. Students may receive credit for only one of the following courses: ACCT 220 or BMGT 220.

### **ACCT 221 Principles of Accounting II (3)**

Prerequisite: ACCT 220. Further study of contemporary accounting practices, with an emphasis on financial and managerial accounting. The goal is to identify and analyze business transactions, define the characteristics of business entities, identify the interdependency of financial statements, employ managerial accounting techniques, and communicate this information to users with different needs. Financial accounting topics include liabilities, equities, investments, and business entities. Managerial accounting topics include job order and process costing, cost-volume-profit analysis, and budgets. Students may receive credit for only one of the following courses: ACCT 221, ACCT 301, BMGT 221, MGMT 301, or MGST 301.

### **ACCT 301 Accounting for Nonaccounting Managers (3)**

(May not be applied toward a major or minor in accounting.) A survey of accounting principles relevant in making business decisions on the basis of financial information. The aim is to apply critical thinking skills and ethical principles to accounting issues. Topics include internal controls, financial reporting, analysis of financial statements, and elements of managerial accounting and budgeting. Students may receive credit for only one of the following courses: ACCT 221, ACCT 301, BMGT 221, MGMT 301, or MGST 301.

### **ACCT 310 Intermediate Accounting I (3)**

(Students should be cautious about enrolling in ACCT 310 or ACCT 311. These are professional courses requiring intensive study and analysis and are not to be undertaken casually. Students who have not taken ACCT 221 within the last two years may have difficulty.) Prerequisite: ACCT 221. A comprehensive analysis of financial accounting topics involved in preparing financial statements for external reporting. The objective is to identify and analyze complex business transactions and their impact on financial statements. Students may receive credit for only one of the following courses: ACCT 310 or BMGT 310.

### **ACCT 311 Intermediate Accounting II (3)**

(A continuation of ACCT 310. Students should be cautious about enrolling in ACCT 310 or ACCT 311. These are professional courses requiring intensive study and analysis and are not to be undertaken casually. Students who have not taken ACCT 310 within the last two years may have difficulty.) Prerequisite: ACCT 310. A comprehensive analysis of financial accounting topics, including preparation of financial statements and external reports. The aim is to identify and analyze complex business transactions and their impact on financial statements. Students may receive credit for only one of the following courses: ACCT 311 or BMGT 311.

# INFORMATION ON COURSES

## **ACCT 320 Fraud Detection and Deterrence (3)**

Prerequisite: ACCT 301 or ACCT 220. A study of the principles and standards for examining, identifying, detecting, and deterring fraud. The objective is to differentiate types of fraud, assess organizational characteristics conducive to fraud, and develop a plan to detect and deter fraud. Topics include the fraud triangle, cash larceny, check tampering, skimming, register disbursement schemes, cash receipts schemes, billing schemes, payroll and expense reimbursement issues, asset misappropriations, corruption, accounting principles and fraud, fraudulent financial statements, whistle-blowing, interviewing witnesses, and writing reports.

## **ACCT 321 Cost Accounting (3)**

Prerequisite: ACCT 221. A study of basic cost accounting concepts. The goal is to apply basic cost accounting concepts, use technology to prepare financial deliverables, evaluate business and financial data, and communicate financial information. Topics include the evaluation of business and financial data to make profit-maximizing decisions and ethics and corporate social responsibility. Discussion also covers the role of accountants in decision making; cost behavior; cost planning and control; and costing methods, such as standard costing, budgeting, and inventory valuation. Students may receive credit for only one of the following courses: ACCT 321 or BMGT 321.

## **ACCT 323 Federal Income Tax I (3)**

Prerequisite: ACCT 220. Recommended: ACCT 310 and 311. A study of federal income tax for individuals and other entities. The objective is to identify the legislative process, conduct tax research, evaluate tax implications, and complete an individual tax return. Topics include the legislative process, tax policy, research, and the evaluation of transactions and decisions for planning and compliance. Emphasis is on ethics and professional responsibilities. Students may receive credit for only one of the following courses: ACCT 323 or BMGT 323.

## **ACCT 326 Accounting Information Systems (3)**

Prerequisite: ACCT 221. An introduction to accounting information systems (AIS) concepts. The aim is to evaluate how AIS tools are used to record, process, and analyze financial data; determine how best to integrate AIS tools and processes in a given organization; review and recommend controls to secure AIS applications and processes; and evaluate how technology can be used in AIS applications. Topics include transactional processing concepts and core AIS transactional cycles, basic control frameworks used to secure AIS applications and processes, strategies for implementing or upgrading AIS applications, information technology and accounting standards, and e-commerce and e-business. Students may receive credit for only one of the following courses: ACCT 326, BMGT 320, and BMGT 326.

## **ACCT 327 Enterprise Management Systems for Accountants (3)**

Prerequisites: ACCT 221 and either ACCT 326 or IFSM 300. An overview of integrated financial and business resource information systems, with an emphasis on accounting information systems and management reporting. The goal is to research and evaluate culture, trends, and technologies that affect informational systems; use various tools and techniques to evaluate the effectiveness of informational systems; and apply project management techniques to resolve critical business issues. Practical experience in using computer-based tools (Excel, MS Project, etc.) to evaluate information systems is provided. Topics include the impact of information systems on business operations, the economic value of financial systems, financial and economic considerations in software selection, organizational culture and its impact on enterprise management systems, and implementation strategies and operational reengineering.

## **ACCT 328 Accounting Software (3)**

Prerequisite: ACCT 326. An introduction to accounting software, focusing on evaluation of the benefits, costs, and risks of specific programs. The objective is to operate accounting software, enter data into a computerized accounting system, and evaluate accounting software. Specific PC-based software packages are used to record and analyze financial data, review the general ledger, and prepare financial statements. Accounting software is evaluated to determine its appropriateness to meet organizational needs, and executive summaries are produced to advise management of the costs and benefits of acquiring and implementing a new software package. Projects and assignments integrate the principles of accounting information systems with the evaluation of accounting software and the process of converting manual accounting data into a computerized accounting system. Students may receive credit for only one of the following courses: ACCT 328 or ACCT 398A.

**ACCT 350 Federal Financial Management (3)**

Prerequisite: ACCT 220 or ACCT 301. Analysis and discussion of issues relating to federal financial management. The goal is to apply knowledge of the federal process to accounting practice, administer federal grants and contracts, and research federal laws and regulations. Topics include the CFO Act, the federal budget, federal contracts and grants, and federal financial and information systems. Discussion also covers detection and deterrence of fraud, waste, and abuse.

**ACCT 410 Accounting for Government and Not-for-Profit Organizations (3)**

Prerequisite: ACCT 310. An introduction to the theory and practice of accounting as applied to governmental entities and not-for-profit organizations. The objective is to evaluate transactions, prepare and analyze financial statements, write financial briefings, and apply accounting rules and procedures. Topics include the evaluation and preparation of reports required for governmental and not-for-profit entities. Students may receive credit for only one of the following courses: ACCT 410 or BMGT 410.

**ACCT 411 Ethics and Professionalism in Accounting (3)**

Prerequisite: ACCT 311. An examination of the importance of ethical behavior in organizations and for the accounting and auditing professions. The goal is to identify ethical dilemmas, research regulations, and apply problem-solving methodology to resolve unethical situations. Discussion covers the AICPA Code of Professional Conduct and the ethical codes and requirements of other standard-setting organizations. Corporate governance and legal and regulatory obligations are explored within an ethical framework. Issues related to accounting ethics and professionalism are examined and analyzed using philosophical models and ethical theories.

**ACCT 417 Federal Income Tax II (3)**

Prerequisites: ACCT 311 and 323. A continuing study of federal income taxation as applied to different business entities, including corporations, flow-through entities, estates, and trusts. The aim is to analyze tax planning and compliance issues, conduct tax research, analyze and define tax implications, and evaluate and communicate tax implications. Discussion covers tax research, planning, procedure, compliance, ethics, and professional responsibility. Topics also include the tax implications of financial and business decisions and transactions for various entities. Students may receive credit for only one of the following courses: ACCT 417 or BMGT 417.

**ACCT 422 Auditing Theory and Practice (3)**

Prerequisite: ACCT 311. Recommended: ACCT 326. A study of the auditing profession, audit process, and other assurance and nonassurance services related to the CPA profession. The objective is to design an audit plan, apply audit procedures, evaluate audit findings, and assess the impact of standards and emerging issues. Topics include generally accepted auditing standards, tests of controls and substantive tests, statistical sampling, report forms, and opinions. Various techniques are used to study auditing concepts and practices; these may include the use of problem sets, case studies, computer applications, and other materials. Students may receive credit for only one of the following courses: ACCT 422 or BMGT 422.

**ACCT 424 Advanced Accounting (3)**

Prerequisite: ACCT 311. Recommended: ACCT 326. A study of advanced accounting theory, applied to specialized topics and contemporary problems. The aim is to prepare, present, and explain financial statements in five sectors—consolidated, international, partnership, not-for-profit, and state and local governments—and analyze a firm's dissolution or reorganization. Emphasis is on consolidated statements and partnership accounting. Various techniques are used to study accounting theory and practice; these may include the use of problem sets, case studies, computer applications, and other materials. Students may receive credit for only one of the following courses: ACCT 424 or BMGT 424.

**ACCT 425 International Accounting (3)**

Prerequisite: ACCT 311. A study of accounting in a multinational context. Discussion covers the historical development and current status of international financial reporting standards. The goal is to recognize the influence of politics and culture on the development of accounting systems, prepare financial statements according to international financial reporting standards, and analyze the financial statements of a multinational enterprise. Strategies to manage and hedge against foreign currency exposure are developed. Topics include evolving international accounting and reporting standards, foreign exchange and taxation, inter-company transfer pricing, and emerging issues in international accounting. Students may receive credit for only one of the following courses: ACCT 425 and ACCT 498A.

# INFORMATION ON COURSES

## **ACCT 426 Advanced Cost Accounting (3)**

Prerequisite: ACCT 321. An in-depth study of advanced costing concepts that emphasizes managerial planning and control, problem solving, performance measurement, and profit maximization. The aim is to evaluate financial and nonfinancial data, conduct high-level research on contemporary issues, apply best practices and tools, and prepare and present findings to management and clients. Research, technology, and global best practices are used in evaluating financial and nonfinancial data in decision making from both an entity and an industry perspective. Leadership skills are developed through collaborative assignments. Students may receive credit for only one of the following courses: ACCT 426 or BMGT 426.

## **ACCT 427 Advanced Auditing (3)**

Prerequisite: ACCT 422. An examination and analysis of special auditing topics. The objective is to demonstrate familiarity with regulatory and auditing standards, analyze financial statements and the business environment, apply professional and ethical standards, identify and evaluate special topics in auditing, and identify and assess significant audit risk. Topics include statistical sampling, information systems auditing, attestation standards, assurance services, and SEC compliance requirements. Various techniques are used to study auditing theory and practice; these may include the use of problem sets, case studies, computer applications, and other materials. Students may receive credit for only one of the following courses: ACCT 427 or BMGT 427.

## **ACCT 428 Advanced Accounting Information Systems (3)**

Prerequisite: ACCT 326. A comprehensive review of advanced accounting information system (AIS) topics. The objective is to operate accounting software; research and evaluate organizational trends and technologies; determine what strengths and weaknesses exist in its accounting information system; and review accounting, auditing, and information technology standards. Topics include transactional processing concepts and core AIS transactional cycles, the impact of fraud and other threats to AIS applications and processes, advanced control frameworks used to secure AIS applications and processes, emerging technologies (such as REA modeling and XBRL) that can be used to enhance AIS applications, and strategies for implementing or upgrading AIS applications.

## **ACCT 433 Audit and Control of Information Technology (3)**

Prerequisite: ACCT 422 and either ACCT 326 or IFSM 300. Analysis and discussion of issues related to accounting information systems. The goal is to analyze accounting information systems; research and evaluate various auditing procedures and techniques; develop an audit plan; and identify, extract, and analyze data, using appropriate computer-based tools. Topics include information technology audit guidelines and frameworks; technology-based and process-based risks and controls; automated and nonautomated audit tools; and emerging trends, such as forensic accounting.

## **ACCT 436 Internal Auditing (3)**

(Designed to align with the Institute of Internal Auditors and the Certified Internal Auditor examination.) Prerequisite: ACCT 311. An exploration of the role of internal auditing and its consultative role in the management of risk. The aim is to identify the professional and ethical standards that apply to internal auditors; design, plan, and apply audit procedures; assess the impact of emerging issues and trends; and identify internal control deficiencies. Topics include internal auditing standards, scope, responsibilities, ethics, controls, techniques, and reporting practices. Practice in PC-based software such as ACL and IDEA is provided. Students may receive credit for only one of the following courses: ACCT 436, ACCT 498E, or BMGT 498E.

## **ACCT 438 Fraud and Forensic Accounting (3)**

Prerequisite: ACCT 311. An analysis and discussion of issues relating to fraud and forensic accounting. The objective is to identify the resources for detecting fraud, evaluate the conditions that encourage fraud, and design effective fraud detection and prevention plans. Focus is on the perspectives of public, internal, and private accountants. Discussion covers the principles and standards for proactive and reactive investigation, as well as detection and control of fraud.

## **ACCT 440 Forensic and Investigative Accounting (3)**

Prerequisite: ACCT 320 or ACCT 438. An analysis and discussion of issues relating to forensic and investigative accounting. The goal is to research and describe the use of forensic accounting evidence, identify the role of the forensic accountant, apply investigative and forensic accounting practices, and present forensic accounting evidence as an expert witness. Forensic and investigative methods, including use of auditing and technology, are demonstrated. Topics include criminal and civil litigation support, rules of evidence, and accreditation of expert witnesses.

### **ACCT 451 Federal Accounting Management (3)**

Prerequisite: ACCT 221. Recommended: ACCT 311. An overview of federal budgeting and accounting processes. The aim is to learn to formulate, propose, manage, and execute a federal budget; execute federal grants and contracts; analyze and manage federal programs; comply with federal oversight and reporting guidance; and detect and deter fraud, waste, and abuse. Topics include the budget life cycle, formulation, execution, and program evaluation. Emphasis is on budget presentation. Discussion also covers contracts, grants, fraud, waste, and abuse. Federal Acquisition Regulations (FAR) and related rules on compliance with federal oversight are examined, especially as they relate to detection and deterrence of fraud, waste, and abuse.

### **ACCT 452 Federal Auditing (3)**

Prerequisite: ACCT 221. Recommended: ACCT 422 or ACCT 436. An overview of the federal auditing life cycle. The objective is to plan, manage, and execute a federal audit; identify and evaluate program and financial risks; and identify and recommend enhancements to operations and technology. Topics include planning and executing a federal audit, communicating audit findings to stakeholders, providing advisory support, evaluating program and financial risks, identifying enhancements to technology, maximizing economy and efficiency through the audit process, and minimizing fraud waste and abuse. Discussion also covers the auditing of grants and contracts.

### **ACCT 486A Internship in Accounting Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **ACCT 486B Internship in Accounting Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **ACCT 495 Contemporary Issues in Accounting Practice (3)**

(Intended as a final, capstone course to be taken in a student's last 15 credits.) Prerequisites: ACCT 311, 321, and 422 and BMGT 364. An intensive study of accounting that integrates knowledge gained through previous coursework and experience and builds on that conceptual foundation through integrative analysis, practical application, and critical thinking. The aim is to use current technology, research, and analytical tools proficiently to perform accounting and business functions, work collaboratively, facilitate decision making, and communicate to financial and nonfinancial audiences. Focus is on researching and analyzing emerging issues in accounting, business transactions, and financing. Students may receive credit for only one of the following courses: ACCT 495 or ACCT 498C.

## African American Studies

Courses in African American studies (designated AASP) may be applied as appropriate (according to individual program requirements) toward

- a minor in African American studies;
- the general education requirement in behavioral and social sciences; and
- electives.

UMUC offers only a limited number of courses each session in this discipline.

### **AASP 201 Introduction to African American Studies (3)**

(Fulfills the general education requirement in behavioral and social sciences.) An interdisciplinary study of significant aspects of African American history and culture, emphasizing the development of African American communities from the Middle Passage to the present. The objective is to conduct research, apply critical thinking skills, and articulate diverse historical perspectives in the context of African American history and culture. Topics include definitions of African American identity, influences, and achievements within American culture, as well as issues confronting African Americans. Students may receive credit for only one of the following courses: AASP 100 or AASP 201.

# INFORMATION ON COURSES

## Anthropology

Courses in anthropology (designated ANTH) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the behavioral and social sciences;
- a major in social science;
- a major or minor in East Asian studies;
- a certificate in Diversity Awareness; and
- electives.

### **ANTH 101 Introduction to Biological Anthropology (3)**

A survey of general patterns in the development of human culture, addressing the biological and morphological aspects of humans viewed in their cultural setting. The aim is to apply anthropological knowledge to understanding human origins and how human populations adapt to the environment. Discussion examines human evolution and adaptation, including biocultural patterns in humans and other primates. Students who complete both ANTH 101 and 102 may not receive credit for ANTH 340, BEHS 340, or BEHS 341.

### **ANTH 102 Introduction to Cultural Anthropology (3)**

A survey of social and cultural principles inherent in ethnographic descriptions. The objective is to apply anthropological knowledge of human behavior to everyday situations and problems. Students who complete both ANTH 101 and 102 may not receive credit for ANTH 340, BEHS 340, or BEHS 341.

### **ANTH 298 Special Topics in Anthropology (1–3)**

A presentation of anthropological perspectives on selected topics of broad general interest. May be repeated to a maximum of 6 credits when topics differ.

### **ANTH 343 Becoming Human (3)**

An interdisciplinary intermediate-level exploration of contemporary and applied issues in biological anthropology and archaeology. The goal is to apply relevant anthropological theories to concerns in our global society. Discussion covers human evolution, human biological variation, primate studies, and archaeological frameworks. Students may receive credit for only one of the following courses: ANTH 340, ANTH 343, or BEHS 340.

### **ANTH 344 Culture and Language (3)**

An intermediate-level exploration of contemporary issues in cultural anthropology and the anthropology of language. The aim is to apply relevant anthropological theories to concerns in our global society. Topics include ethnographic methods, variation in human social organization and worldviews, and the cultural dimensions of language. Students may receive credit for only one of the following courses: ANTH 340, ANTH 344, or BEHS 340.

### **ANTH 350 Health, Illness, and Healing (3)**

Recommended: ANTH 102 or ANTH 344. An overview of health, illness, and healing from a cross-cultural perspective. The objective is to apply the perspectives of medical anthropology to promote individual and public health in local, national, and global contexts. Topics include cultural and social influences on health and healing, the experience and meaning of illness, and current issues in public and global health.

### **ANTH 351 Anthropology in Forensic Investigations (3)**

Recommended: BIOL 160 or BIOL 201. An introduction to the application of forensic anthropology, designed to provide a basic understanding of the analysis of human skeletal remains and how forensic anthropologists work as part of the forensic team. The aim is to understand how anthropologists apply scientific principles and processes to the collection and analysis of evidence and how they communicate their conclusions. Topics include the scope of anthropology within the context of forensic investigations, human skeletal biology, research methods, scientific reporting, crime scene protocols, and the application of professional standards and ethics. Specific examples of forensic anthropology cases are reviewed.

### **ANTH 398 Intermediate Special Topics in Anthropology (1–3)**

A presentation of anthropological perspectives on selected topics of broad general interest. May be repeated to a maximum of 6 credits when topics differ.

### **ANTH 398C Parenting in Monkeys (1)**

An exploration of parenting behavior in monkeys, from evolutionary and socioecological perspectives. Topics include maternal, paternal, and sibling care; the costs and benefits of parental care; parental investment; allomothering (i.e., nonmaternal infant care); and parent/offspring conflict.

### **ANTH 398K The Great Apes (1)**

An introduction to the behavior, ecology, and life history of great apes (bonobos, chimpanzees, gorillas, and orangutans), emphasizing conservation of great ape populations in the wild. The objective is to apply a biological anthropological perspective to distinguish great apes from other primates and to recognize the importance of great ape conservation for global biodiversity. Topics include the cognitive and behavioral adaptations of great apes, great ape rights, and the impact of human activities on wild ape populations.

### **ANTH 398L Anthropology in Death Investigations (1)**

A study of how anthropological skills are used in investigations into cause of death. The objective is to apply anthropological perspectives—archaeological, biological, cultural, and linguistic—to inquiry about cause of death and to other aspects of personal and professional life. Discussion covers the application of anthropology to crime scene investigations, mass disasters, and other scenarios.

### **ANTH 398S Peoples and Cultures: South Asia (1)**

Recommended: ANTH 102 or ANTH 344. An anthropological overview of the peoples and cultures of South Asia, comprising the modern nations of India, Pakistan, Bangladesh, Nepal, Sri Lanka, the Maldives, and Bhutan. Two modern social institutions of South Asia—family structure and religion—are examined from an anthropological point of view. The goal is to interpret the significance and roles of family through the cultural lens of food production and consumption. Topics include the major religions of South Asia (Hinduism, Buddhism, Islam, Jainism, and Sikhism) and their expression in the daily activities and contemporary culture of the people of South Asia.

### **ANTH 486A Internship in Anthropology Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **ANTH 486B Internship in Anthropology Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## Arabic

Courses in Arabic (designated ARAB) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the arts and humanities; and
- electives.

UMUC offers a limited number of foreign language courses each session.

### **ARAB 111 Elementary Arabic I (3)**

(Not open to native speakers of Arabic; assumes no prior knowledge of Arabic. Students with prior experience with the Arabic language should take a placement test to assess appropriate level.) An introduction to spoken and written modern standard Arabic. The objective is to communicate in Arabic in some concrete, real-life situations using culturally appropriate language and etiquette. Practice in Arabic pronunciation and the structures needed for everyday communication is provided.

### **ARAB 112 Elementary Arabic II (3)**

(Not open to native speakers of Arabic.) Prerequisite: ARAB 111 or appropriate score on a placement test. A continued introduction to spoken and written modern standard Arabic. The goal is to communicate in Arabic in concrete, real-life situations using culturally appropriate language and etiquette. Practice is provided in improving pronunciation and developing the oral and written skills used in everyday communication.

### **ARAB 114 Elementary Arabic III (3)**

(Not open to native speakers of Arabic.) Prerequisite: ARAB 112 or appropriate score on a placement test. Further development of skills in elementary spoken and written modern standard Arabic. The aim is to communicate in Arabic in a variety of real-life situations, using culturally appropriate language. Practice is provided in improving pronunciation and developing the oral and written skills used in everyday communication.

### **ARAB 115 Elementary Arabic IV (3)**

(Not open to native speakers of Arabic.) Prerequisite: ARAB 114 or appropriate score on a placement test. Further development of skills in elementary spoken and written modern standard Arabic. The objective is to interact effectively with native Arabic speakers in a variety of real-life situations, using culturally appropriate language. Practice in fine-tuning pronunciation and applying language skills to a range of contexts is provided.

# INFORMATION ON COURSES

## Art

Courses in art (designated ARTT) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the arts and humanities;
- a minor in art;
- a major in graphic communication;
- a major or minor in humanities; and
- electives.

### **ARTT 110 Drawing and Design (3)**

A hands-on introduction to various drawing media and related techniques. The objective is to translate the three-dimensional world into two dimensions, communicate through a visual medium, and critique visual works of art. Projects are based on nature and still life.

### **ARTT 120 Two-Dimensional Design (3)**

A project-driven study of the theoretical design elements of a composition as they relate to its overall expression. The aim is to apply elements and principles of design to create a variety of compositions that effectively communicate ideas and emotions.

### **ARTT 205 Art Appreciation (3)**

An introduction to a variety of two- and three-dimensional art forms, with particular emphasis on two-dimensional arts. The goal is to examine the elements and principles of design, materials, and techniques used in personal and professional settings. Examples from different media—including illustration; painting with oils, acrylics, and watercolors; and sculpture—are used to consider form, light, color, perspective, and other elements of art.

### **ARTT 210 Drawing (3)**

Prerequisite: ARTT 110. A continuing examination of materials and techniques of drawing. The objective is to apply drawing techniques and visual principles to various subjects, communicate through drawing, and critique works of art. More advanced media, compositions, techniques, and subjects are explored. Students may receive credit for only one of the following courses: ARTS 210 or ARTT 210.

### **ARTT 220 Color Theory (3)**

Prerequisite: ARTT 120. A hands-on, project-based study of color theory. The goal is to analyze and apply the vocabulary and characteristics of color. Topics include the properties, aesthetics, relationships, and applications of color. Appropriate methods and technologies are explored.

### **ARTT 320 Painting (3)**

Prerequisite: ARTT 110. Practice in the basic tools and vocabulary of painting. The goal is to apply an understanding of compositional strategies, visual principles, and basic materials and techniques to produce paintings using oil/watercolor/acrylic paints.

### **ARTT 428 Advanced Painting (3)**

Prerequisite: ARTT 320. Creation of original compositions based on the figure, nature, and still life, as well as expressive painting. Emphasis is on the development of personal directions. May be repeated to a maximum of 12 credits.

### **ARTT 486A Internship in Art Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **ARTT 486B Internship in Art Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

# Art History

Courses in art history (designated ARTH) may be applied as appropriate (according to individual program requirements) toward

- the general education requirements in the arts and humanities;
- a major in graphic communication or humanities;
- a minor in art history or humanities; and
- electives.

UMUC offers a limited number of ARTH courses each session. To complete a minor, students may need to take courses at other institutions in the University System of Maryland or extend the time spent fulfilling the degree requirements. Students are advised to consult an advisor before selecting this discipline.

## **ARTH 204 Film and American Culture Studies (3)**

An introductory study of the relationship between film and American culture. The objective is to improve one's ability to understand a film's message and to expand one's cultural awareness. Discussion covers the way one of our most popular media portrays American culture and influences our interpretation of cultural issues. Various films, filmmaking issues, and representative filmmakers' work are examined. Students may receive credit for only one of the following courses: ARTH 204, AMST 204, or HUMN 204.

## **ARTH 334 Understanding Movies (3)**

(Formerly HUMN 334.) An analysis of one of the most important means of artistic expression of the 20th century. The goal is to acquire a deeper understanding of the aesthetic qualities of film by considering the stylistic elements of film as it has evolved throughout the century and weighing the special relationship between cinema and literature. Students may receive credit for only one of the following courses: ARTH 334, HUMN 334, or HUMN 498D.

## **ARTH 372 History of Western Art I (3)**

(Formerly ARTH 370.) A survey of the development of the Western tradition of visual art in its various forms that examines and compares the expression of cultural and aesthetic values in different parts of the Western world from prehistory through the Middle Ages. The objective is to apply principles of visual literacy; describe, analyze, and contextualize content and elements of art; and differentiate historic periods and styles of art. Students may receive credit for only one of the following courses: ARTH 370 or ARTH 372.

## **ARTH 373 History of Western Art II (3)**

(Formerly ARTH 371.) A survey of the development of visual art of the Western world in its various forms that examines and compares the expression of cultural and aesthetic values in Europe and the United States from 1300 to the present day. The aim is to apply principles of visual literacy; describe, analyze, and contextualize content and elements of art; and differentiate historic periods and styles of art. Students may receive credit for only one of the following courses: ARTH 371 or ARTH 373.

## **ARTH 375 History of Graphic Art (3)**

Prerequisite: ARTT 205. ARTT 100 recommended. A survey of the development of graphic design with an emphasis on the historical, technological, and sociological influences on the production of typography and the aesthetics of visual media. The aim is to recognize the philosophy of graphic arts, identify various movements within the field, and analyze the impact of graphic arts upon society. Topics include major works and artists and cultural, social, and religious movements and their impact on graphic arts.

## **ARTH 380 Masterpieces of Painting (3)**

Analysis of selected masterworks of painting, intended to reveal the creative process, the personality of the artist, and the cultural context. Students may receive credit for only one of the following courses: ARTH 320 or ARTH 380.

## **ARTH 388 Contemporary Art (3)**

Prerequisite: ARTH 373. A thematic survey of contemporary art from 1970 to the present. The goal is to actively engage and find meaning with diverse artistic expressions, including art that ranges from the sublime to the outrageous. Discussion covers contemporary art, the people who create it, and the institutions that support it.

## **ARTH 478 History of Women in the Visual Arts (3)**

A survey of the work, roles, and representations of women in the visual arts, from the 16th century to the present. The aim is to evaluate the role of women artists and assess the impact of gender on visual arts as a way to understand the complexity and diversity of human experience and culture. Emphasis is on women working in the tradition of Western art in painting, sculpture, the decorative arts, performance art, photography, and other media. Discussion also evaluates how gender affected the art and careers of women artists.

# INFORMATION ON COURSES

## **ARTH 486A Internship in Art History Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## **ARTH 486B Internship in Art History Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## Asian Studies

Courses in Asian studies (designated ASTD) may be applied as appropriate (according to individual program requirements) toward

- the general education requirements in the arts and humanities or the behavioral and social sciences (based on course content);
- a major or minor in East Asian studies; and
- electives.

## **ASTD 198 Special Topics in Asian Studies (3)**

An investigation of a special topic, problem, or issue of particular relevance to countries or peoples of the Pacific Rim or Indian Ocean. Typical investigations include historical or contemporary subjects focusing on cultural, economic, military, or political issues.

## **ASTD 284 Foundations of East Asian Civilization (3)**

(Formerly HIST 284.) An interdisciplinary survey of the foundations of East Asian civilization from its beginnings to the 17th century. The goal is to analyze philosophical, religious, artistic, economic, and political aspects of the region's historical experience. Focus is on China, Korea, and Japan. Topics include East Asian belief systems (including Confucianism and Buddhism), the dynastic cycle, relations between steppe and agrarian societies, warrior and scholar-gentry cultures, technological change and economic development, and the role of class and gender in early East Asian society. Students may receive credit for only one of the following courses: ASTD 150, ASTD 284, or HIST 284.

## **ASTD 285 Introduction to Modern East Asia (3)**

(Formerly HIST 285.) An interdisciplinary survey of East Asia from the late 17th century—beginning with Ming-Qing China, Tokugawa Japan, and Choson Korea—to the present. The objective is to trace how transformations on global, regional, and local levels led to the development of the modern nation-states of East Asia and to examine how those developments affected the culture of the areas. Topics include the rise of imperialism and colonialism; cross-cultural interactions; and issues of gender, class, and ethnicity in East Asian culture. Students may receive credit for only one of the following courses: ASTD 160, ASTD 285, or HIST 285.

## **ASTD 398 Advanced Special Topics in Asian Studies (3)**

An investigation of a special topic, problem, or issue of particular relevance to countries or peoples of the Pacific Rim or Indian Ocean. Typical investigations include historical or contemporary subjects focusing on cultural, economic, military, or political issues. Assignments include advanced reading and research.

## **ASTD 485 Great Issues in Asian Studies (3)**

(Intended as a final, capstone course to be taken in a student's last 15 credits.) Prerequisites: ASTD 284 (or ASTD 150) and 285 (or ASTD 160). A project-based, interdisciplinary study of East Asia. The aim is to integrate knowledge gained through previous coursework and experience and build on that conceptual foundation through integrative analysis, practical application, and critical thinking. Discussion covers emerging issues and current scholarship in East Asian studies.

## **ASTD 486A Internship in Asian Studies Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## **ASTD 486B Internship in Asian Studies Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

# Astronomy

Courses in astronomy (designated ASTR) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the biological and physical sciences;
- a minor in natural science; and
- electives.

UMUC offers only a limited number of courses each session in this discipline.

## **ASTR 100 Introduction to Astronomy (3)**

(Not open to students who have taken or are taking any astronomy course numbered 250 or higher. For students not majoring or minoring in a science.) Prerequisite: MATH 012 or higher. An examination of the major areas of astronomy. The objective is to use scientific and quantitative reasoning to make informed decisions about topics related to space science. Topics include the solar system, stars and stellar evolution, and galaxies. Current topics in astronomy are also discussed. Students may receive credit for only one of the following courses: ASTR 100, ASTR 101, ASTR 120, or GNSC 125.

## **ASTR 399 Independent Study in Astronomy (1-6)**

Prerequisite: 6 credits in ASTR courses and agreement of faculty member to act as supervisor. Directed independent study of topics of special interest not covered by regularly scheduled courses in astronomy. May be repeated to a maximum of 6 credits when topics differ.

# Behavioral and Social Sciences

Courses in behavioral and social sciences (designated BEHS) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the behavioral and social sciences;
- a major in social science;
- a minor in women's studies;
- a certificate in Applied Behavioral and Social Sciences or Diversity Awareness; and
- electives.

## **BEHS 210 Introduction to Social Sciences (3)**

Recommended: WRTG 101. An interdisciplinary introduction to the study of society that addresses the issue of what it is to be a social scientist from a variety of social science perspectives. The objective is to use the empirical and theoretical contributions of the different social science disciplines to better understand the nature of society. Topics include research methods in the social science disciplines and the relationships among the different social science disciplines. Discussion surveys the various social sciences, including psychology, sociology, anthropology, and gerontology. A historical overview of the development of the social sciences is provided, and an analysis of social phenomena that integrates insights from the social sciences is presented. Students may receive credit for only one of the following courses: BEHS 201 or BEHS 210.

## **BEHS 220 Diversity Awareness (3)**

An examination of the many dimensions of diversity within the framework of modern culture and principles of social justice. The aim is to interact and communicate effectively and appropriately within a diverse society. Emphasis is on raising consciousness of diversity and using critical thinking with respect to stereotypes, prejudice, and discrimination. Discussion covers issues related to age, disability, race, religion, gender, sexual orientation, national origin, and socioeconomic status, as well as current issues in diversity studies.

# INFORMATION ON COURSES

## **BEHS 300 Research Methods in the Social Sciences (3)**

Prerequisite: BEHS 210. Recommended: STAT 225. An introduction to the core concepts, research methods, and skills that apply to work in the social sciences. The goal is to begin the process of conducting social science research. Discussion covers the scientific method, as well as quantitative and qualitative research methods specific to the social science disciplines of psychology, sociology, anthropology, and gerontology. Topics also include reliability and validity of data, correlation versus causality, research ethics, institutional review boards, proposal writing, and the unique contribution of “interdisciplinarity” in social science research.

## **BEHS 320 Disability Studies (3)**

An interdisciplinary study of disability issues that focuses on understanding and evaluating traditional and current interpretations of the meaning of disability. The goal is to interact and communicate effectively and appropriately in situations relevant to issues of disability. Topics include the construction of images of people with disabilities, attitudes and actions toward those with disabilities, approaches taken by major social institutions (e.g., law, education, religion, the arts) toward disability, distinctions between different models of disability, and current issues in disability studies.

## **BEHS 343 Parenting Today (3)**

An overview of critical issues of parenthood in the United States today using an interdisciplinary perspective. The objective is to apply research and theory in family development to practical decision making. Topics include characteristics of effective parenting styles, disciplinary strategies, the role of diverse family structures, and the social forces that cause changes in parent/child relationships.

## **BEHS 364 Alcohol in U.S. Society (3)**

An interdisciplinary examination of the use and abuse of alcoholic beverages from the perspectives of psychology, physiology, sociology, medicine, and public health. The effects of alcohol on all age groups throughout the lifespan are explored in relation to gender, families, race, the workplace, and public safety. Analysis covers current research and trends in the treatment of alcoholism, including prevention, assessment, and intervention, as well as legal aspects.

## **BEHS 380 End of Life: Issues and Perspectives (3)**

(Formerly GERO 380.) An exploration of death, dying, and bereavement from social, cultural, psychological, biomedical, economic, and historical perspectives. The objective is to clarify one’s personal perspective on death and dying, based on a better understanding of end-of-life planning issues, stages of death, and models of care for the dying. Topics include definitions of death, needs of the dying and their support systems, pain management, palliative and hospice care, end-of-life decision making, cultural meanings and rituals, suicide, euthanasia, homicide, natural disaster, the economics of death and life-sustaining care, family conflict and coping, bereavement, and grieving. Students may earn credit for only one of the following courses: BEHS 380 or GERO 380.

## **BEHS 453 Domestic Violence (3)**

An examination of the complex phenomenon of domestic violence from a multidisciplinary perspective that integrates individual, social, political, cultural/ethnic, economic, legal, and medical viewpoints. The aim is to evaluate research and theoretical models of domestic violence; assess institutional, community, and individual responses to domestic violence; and locate effective resources. Topics include neglect and the physical, emotional, and sexual abuse of children, partners, and the elderly. Discussion also covers response systems and mechanisms to prevent and treat violence. Students may receive credit for only one of the following courses: BEHS 453 or BEHS 454.

## **BEHS 486A Internship in Behavioral Science Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## **BEHS 486B Internship in Behavioral Science Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **BEHS 495 Advanced Seminar in Social Sciences (3)**

Prerequisite: BEHS 300. A study of the social sciences that integrates perspectives from various disciplines in the field. The aim is to apply theoretical perspectives and empirical evidence to address complex contemporary social problems and become better consumers and purveyors of knowledge and research. Topics include ethical and professional issues inherent in working in the social sciences and the role of advocacy in promoting social change.

## Biology

Courses in biology (designated BIOL) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the biological and physical sciences;
- a major in biotechnology, homeland security, investigative forensics, laboratory management, or psychology;
- a minor in biology, forensics, microbiology, natural science, or psychology; and
- electives (including related requirements for the environmental management major).

### **BIOL 101 Concepts of Biology (3)**

(For students not majoring in a science.) An introduction to the structure and function of living organisms. The objective is to use knowledge about biological principles and scientific reasoning to make informed decisions about the natural world. Topics include the chemical foundations of life, cell biology, genetics, evolution, ecosystems, and interdependence of living organisms. Discussion also covers the importance of the scientific method to biological inquiry and the impact of biological knowledge on human societies. Students may receive credit for only one of the following courses: BIOL 101, BIOL 103, BIOL 105, or BSCI 105.

### **BIOL 102 Laboratory in Biology (1)**

(For students not majoring in a science. Fulfills the laboratory science requirement only with previous or concurrent credit for BIOL 101.) Prerequisite or corequisite: BIOL 101. A hands-on study of the concepts underlying the structure and function of living organisms. The goal is to apply the scientific method and to use scientific and quantitative reasoning to make informed decisions about experimental results in the biological sciences. Laboratory exercises emphasize the scientific method and explore topics such as the chemical foundations of living organisms, cell structure and function, and the classification of organisms. Students may receive credit for only one of the following courses: BIOL 102, BIOL 103, BIOL 105, or BSCI 105.

### **BIOL 103 Introduction to Biology (4)**

(Not open to students who have completed BIOL 101 or BIOL 102. For students not majoring in a science. Fulfills the laboratory science requirement.) An introduction to the concepts underlying the structure and function of living organisms. The aim is to apply the scientific method and use scientific and quantitative reasoning to make informed decisions about experimental results in the biological sciences. Topics include the chemical foundations of life, cell biology, genetics, evolution, ecosystems, and interdependence of living organisms. Discussion also covers the importance of the scientific method to biological inquiry and the impact of biological knowledge on human societies. Laboratory activities emphasize the scientific method. Students may receive credit for only one of the following courses: BIOL 101, BIOL 102, BIOL 103, BIOL 105, or BSCI 105.

### **BIOL 160 Human Biology (3)**

(Science background not required.) A general introduction to human structure, functions, genetics, evolution, and ecology. The aim is to use scientific reasoning to make informed decisions about topics related to human biology. The human organism is examined from the basic cellular level and genetics, through organ systems, to interaction with the outside world. Discussion also covers pertinent health topics. Students may receive credit for only one of the following courses: BIOL 160 or GNSC 160.

### **BIOL 181 Life in the Oceans (3)**

An introductory study of the major groups of plants and animals in various marine environments, as well as their interactions with each other and the nonliving components of the ocean. The objective is to use scientific reasoning to make informed decisions about topics related to marine biology. Discussion covers the impact of human activity on life in the ocean and the potential uses and misuses of the ocean. Students may receive credit for only one of the following courses: BIOL 181 or ZOO 181.

### **BIOL 211 Environmental Science (3)**

A survey of ecological principles as they apply to the interrelated dilemmas of sustainability. Topics include overpopulation, pollution, over-consumption of natural resources, and the ethics of land use. Students may receive credit for only one of the following courses: BIOL 211, BOTN 211, or PBIO 235.

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## **BIOL 215 Population Biology and General Ecology (3)**

A general introduction to population and community biology. Topics include evolution, population genetics, population growth and steady states, age structure of populations, multi-species dependencies, and ecosystem energetics. Illustrations are drawn both from both natural and human populations. Students may receive credit for only one of the following courses: BIOL 215 or ZOOL 270.

## **BIOL 220 Human Genetics (3)**

(For students not majoring in a science.) An introduction to genetics, focusing on the human organism. Topics include transmission and biochemical genetics, mutation, the behavior of genes in populations, and genetic engineering. The roles of recent discoveries in the treatment of genetic diseases, cancer, and organ transplantation are examined. Students may receive credit for only one of the following courses: BIOL 220, BIOL 346, ZOOL 146, or ZOOL 346.

## **BIOL 222 Principles of Genetics (3)**

Prerequisite: BIOL 101, BIOL 103, or BIOL 105. Recommended: CHEM 103. A study of the principles and mechanisms of heredity and gene expression. Plant, animal, and microbial organisms are considered. Students may receive credit for only one of the following courses: BIOL 220, BIOL 222, or BSCI 222.

## **BIOL 226 Evolution (3)**

Prerequisite: BIOL 101, BIOL 103, BIOL 105, or BIOL 161. An introduction to biological evolution, its principles, and their application to understanding the history of life on Earth. Discussion covers the history and evidence for modern evolutionary concepts and mechanisms, the origin of life, the molecular mechanisms of evolution, the evolution of plants, the evolution of animals (including man), the relationship between ontogeny and phylogeny, and the reciprocal relationships of evolution to the environment (including human culture).

## **BIOL 301 Human Health and Disease (3)**

(For students majoring in both science and nonscience disciplines.) A survey of the mechanisms of disease and their expression in major organ systems of the human body. The goal is to use scientific reasoning to make informed decisions about matters related to human biology and health. Topics include infections, cancer, heart disease, lung disease, diabetes, stroke, malnutrition, poisoning by environmental toxins, stress, inflammation, disorders of the immune system, and aging. Emphasis is on analysis of factors that cause disruption of healthy body functions leading to disease and on prevention of disease through control of risk factors and early detection. Students may receive credit for only one of the following courses: BIOL 301 or BIOL 398H.

## **BIOL 302 Bacteria, Viruses, and Health (3)**

(For students majoring in both science and nonscience disciplines.) An introductory study of the basic structure, genetic and regulatory systems, and life cycles of bacteria and viruses and how they relate to health, infectious disease, and illness. The objective is to apply knowledge of cellular and molecular processes and communicate synthesized knowledge of microbial pathogenesis and disease prevention methods. Students may receive credit for only one of the following courses: BIOL 230, BIOL 302, BIOL 331, BIOL 398G, BSCI 223, MICB 200, or MICB 388A.

## **BIOL 304 The Biology of Cancer (3)**

(For students majoring in both science and nonscience disciplines.) An overview of the biological basis of cancer. The development and progression of cancer are considered at the level of cell structure and function. The roles of genes and proteins are also examined. Students may receive credit for only one of the following courses: BIOL 304 or GNSC 398C.

## **BIOL 305 The Biology of AIDS (3)**

(For students majoring in both science and nonscience disciplines.) An overview of Acquired Immune Deficiency Syndrome (AIDS) from a biological perspective. The development and treatment of AIDS and human immunodeficiency virus (HIV) infection are considered with respect to cells, viruses, genes, and proteins.

**BIOL 307 The Biology of Aging (3)**

(For students majoring in both science and nonscience disciplines.) An overview of the biological basis of aging. Topics include typical changes that occur in cells, molecules, metabolism, and structure during the aging process. The development and progression of several diseases (such as Alzheimer's and Parkinson's disease, osteoporosis, and loss of visual acuity and memory) are discussed with respect to the role of genes, proteins, and environmental influences. Students may receive credit for only one of the following courses: BIOL 307 or BIOL 398V.

**BIOL 320 Forensic Biology (3)**

(For students majoring in both science and nonscience disciplines.) Recommended: BIOL 101, BIOL 103, BIOL 105, or BSCI 105. An introduction to the basic principles of biology as applied to the field of forensic science. The aim is to use scientific reasoning to draw conclusions and make decisions about forensic techniques, analyses, and results. Topics include the biological features and characteristics of evidentiary materials, as well as the basic principles of chemistry, cell biology, microbiology, and genetics that underlie forensic analyses.

**BIOL 325 Inquiries in Biological Science (3)**

Prerequisite: BIOL 101 or equivalent. An overview of biological science. The goal is to critically analyze current research and to use knowledge of core biological principles to make ethical and informed decisions related to applications in the biological sciences. Topics include the scientific process, core biological concepts, careers in biology-related fields, and safety and health policies relevant to biological research.

**BIOL 328 Bioethics (3)**

Recommended: WRTG 101 and BIOL 101. An introduction to ethical decision making related to human life and health. The aim is to form defensible positions and carefully crafted arguments based on well-supported evidence. Discussion covers reproductive issues, biological research, and health care. Emphasis is on scientific and philosophical thinking.

**BIOL 331 Concepts in Microbiology (4)**

(Fulfills the laboratory science requirement.) Prerequisite: BIOL 102, BIOL 103, or BIOL 105. An examination of the morphology, genetics, ecology, physiology, immunology, and pathogenesis of microorganisms. The use of microorganisms in the fields of medicine, food design and safety, and biotechnology are also explored. Student may receive credit for only one of the following: BIOL 230, BIOL 302, BIOL 331, BIOL 398G, BSCI 223, MICB 200, or MICB 388A.

**BIOL 334 Vaccines and Society (3)**

(For students majoring in both science and nonscience disciplines.) An overview of the development and testing of vaccines, the prevention of disease by vaccines, and the role of vaccines in society. The scientific, clinical, and practical aspects of vaccines and vaccination are considered with regard to the immune system. Vaccine development is considered from a historical perspective, as well as in the context of current vaccine research. Students may receive credit for only one of the following courses: BIOL 334, BIOL 335, BIOL 398R, GNSC 398H, or MICB 388D.

**BIOL 350 Molecular and Cellular Biology (3)**

(For students majoring or minoring in a science.) Prerequisite: BIOL 325 or another upper-level BIOL course. A thorough examination of the basic structure and function of cells, with an emphasis on eukaryotic cell biology. The objective is to use knowledge of molecular biology to interpret results and draw conclusions about research findings and technological applications. Topics include cell-cycle growth and death; protein structure; DNA replication, repair, and recombination; gene expression; RNA processing; and molecular transport, traffic, and signaling. Discussion also covers the application of recombinant DNA, genetic engineering, and other current molecular biology technologies. Students may receive credit for only one of the following courses: BIOL 350 or BIOL 398S.

**BIOL 356 Molecular Biology Laboratory (4)**

(For students majoring or minoring in a science. Fulfills the laboratory science requirement.) Recommended: BIOL 325. A laboratory study of current molecular biology and genetic engineering procedures, including the isolation of DNA, RNA, and proteins; electrophoresis; the use of restriction enzymes; cloning procedures; polymerase chain reaction (PCR) analysis; and gene expression analysis. Students may receive credit for only one of the following courses: BIOL 355 or BIOL 356.

**BIOL 357 Bioinformatics (3)**

Recommended: MATH 106 (or higher) and IFSM 201. An introduction to the use of computers in the analysis of DNA and protein sequences and the significance of these analyses. Topics include genome analysis, evolutionary relationships, structure-function identification, pattern recognition, database searches and structures, and algorithms. Students may receive credit for only one of the following: BIOL 357 or BIOL 398U.

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## **BIOL 360 Developmental Biology (3)**

Prerequisite: BIOL 101, BIOL 103, or BIOL 105. An overview of animal development, with an emphasis on the underlying cellular and molecular mechanisms that guide it. Topics include fertilization, embryonic cleavage, gastrulations, early vertebrate morphogenesis, neural development, fate determination by cytoplasm specification and cell-cell interactions, transcriptional and post-transcriptional gene regulation mechanisms that mediate developmental processes, homeobox gene families, protein gradients, pattern formation, and sex determination and gametogenesis. Students may receive credit for only one of the following: BIOL 360 or BIOL 398T.

## **BIOL 362 Neurobiology (3)**

(For students majoring or minoring in a natural science or psychology.) Prerequisite: BIOL 101, BIOL 103, or BIOL 105. An in-depth discussion of the biology and development of the nervous system. The goal is to apply knowledge of neurobiological principles to advanced studies or careers and be more informed health care consumers. Topics include neuronal structure and function; communication at the synapse; membrane receptors and intra- and intercellular signaling systems; gross organization of the brain and spinal cord; the processing of sensory information; the programming of motor responses; research techniques; ethics; brain development; plasticity; and higher functions such as learning, memory, cognition, and speech.

## **BIOL 398A Human Evolution and Ecology (1)**

(For students majoring or minoring in a science.) An examination of paleontological and biological evidence supporting human evolution, human migration, and human impact on ecosystems. The aim is to apply the scientific method to data analysis and critically evaluate findings from paleontological, linguistic, and genetic studies. Support for the theory of evolution is provided through examination of fossil records, DNA analysis, geology, and biogeographical changes. Emphasis is on basic tenets of evolution and natural selection as they relate to human impact on biodiversity within ecosystems. Topics include biotechnological approaches for exploring genetic drift and the expression of genetic traits in various human populations.

## **BIOL 398J The Role of Nutrition in Cancer and Heart Disease (1)**

A study of the relationship between diet and the development of cancer and heart disease at the level of molecules, cells, and genes. Topics include the scientific and epidemiological evidence supporting the roles of various foods, nutrients, antioxidants, fiber, fats, and genetics in the progression or prevention of these two major causes of mortality. Students may receive credit for only one of the following courses: BIOL 398J or GNSC 398E.

## **BIOL 398K Stem Cells in Society (1)**

An introduction to the biological principles that govern the origin, development, and utility of stem cells. Topics include the features of stem cells, their various sources, and potential uses in medicine, agriculture, and industry. The risks and legal and ethical issues associated with stem cell technologies are also examined.

## **BIOL 398P Pesticides and the Environment (1)**

A survey of the history of pesticides, their importance in America's environmental awakening, and their significance as contaminants. The evolution of pesticide usage, from overdependence to attempts at reduction, is also covered.

## **BIOL 400 Life Science Seminar (3)**

(For students majoring or minoring in a science.) Prerequisite: BIOL 325. An examination of current topics in the life sciences through seminars and discussions based on representative publications in the recent and primary literature. The aim is to use scientific reasoning, quantitative reasoning, and knowledge of biological principles to interpret results, make inferences, and draw conclusions about research findings.

## **BIOL 422 Epidemiology of Emerging Infections (3)**

Prerequisite: BIOL 230, BIOL 302, or BIOL 398G. Recommended: WRTG 393. An investigation of factors contributing to the emergence of new infectious diseases and the resurgence of diseases once thought to have been controlled. The goal is to synthesize and apply knowledge of research methods, integrate epidemiological information, and communicate knowledge to scientific and nonscientific communities. Topics include socioeconomic and environmental factors that contribute to the inability to prevent or control malaria, tuberculosis, and AIDS. Disease symptoms, patterns of spread, and possible control measures are examined for new infectious diseases (such as Lyme disease and those caused by *E. coli* O157, the Ebola virus, hantaviruses, and cryptosporidia). Discussion also covers resurgent diseases such as anthrax, bubonic plague, dengue, influenza, and cholera. Students may receive credit for only one of the following courses: BIOL 422 or MICB 388E.

### **BIOL 434 General Virology (3)**

(Students seeking to satisfy the laboratory science requirement should take BIOL 435). Prerequisite: BIOL 230. A broad investigation of viruses. Topics include the physical and chemical nature of viruses, methods of cultivation and assay, modes of replication, characteristics of the major viral groups, and the types of viral diseases. Emphasis is on viral genetics and the oncogenic viruses. Students may receive credit for only one of the following courses: BIOL 434, BIOL 435, MICB 460, or MICB 461.

### **BIOL 435 General Virology with Laboratory (4)**

(Fulfills the laboratory science requirement.) Prerequisite: BIOL 230 or BIOL 302. Comprehensive survey of viruses and techniques for their investigation. Topics include the physical and chemical nature of viruses, methods of cultivation and assay, modes of replication, characteristics of the major viral groups, and the types of viral diseases. Emphasis is on viral genetics and the oncogenic viruses. Students may receive credit for only one of the following courses: BIOL 434, BIOL 435, MICB 460, or MICB 461.

### **BIOL 438 Immunology (4)**

(Fulfills the laboratory science requirement.) Prerequisite: BIOL 230 or BIOL 302. An exposition of the principles of immunity and hypersensitivity. The fundamental techniques of immunology are presented. Students may receive credit for only one of the following courses: BIOL 438 or MICB 450.

### **BIOL 486A Internship in Life Science Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **BIOL 486B Internship in Life Science Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## Business and Management

Courses in business and management (designated BMGT) may be applied as appropriate (according to individual program requirements) toward

- a major in business administration, emergency management, finance, global business and public policy, homeland security, human resource management, laboratory management, management studies, or marketing;
- a minor in business administration, business law and public policy, business supply chain management, customer service management, international business management, or strategic and entrepreneurial management;
- a certificate in various business-related areas; and
- electives.

### **BMGT 110 Introduction to Business and Management (3)**

(For students with little or no business background. Recommended preparation for many other BMGT courses.) An introduction to the fundamental concepts of business management and leadership. The objective is to understand the interrelated dynamics of business, society, and the economy. Discussion covers business principles and practices in the context of everyday business events and human affairs and from a historical perspective.

### **BMGT 160 Principles of Supervision (3)**

(Formerly MGST 160.) An introductory study of the skills required to effectively supervise and manage employees in organizations, such as knowing how to plan, organize, and control the workload and understanding worker behavior. Topics include the role and function of supervisors, recruitment and evaluation of workers, management by objectives, task delegation, motivation strategies, training and professional development, communication and conflict management, and time management. Students may receive credit for only one of the following courses: BMGT 160 or MGST 160.

### **BMGT 305 Knowledge Management (3)**

A practical approach to knowledge management. The aim is to understand the value of knowledge management and the roles of knowledge workers and knowledge managers. Discussion covers how organizations capture, acquire, and share knowledge to maintain corporate memory and to develop collaborative energy. Topics include both formal and informal approaches to knowledge sharing and ways in which organizations use knowledge management techniques for competitive advantage. Students may receive credit for only one of the following courses: BMGT 305 or BMGT 388C.

# INFORMATION ON COURSES

## **BMGT 307 Import and Export: Managing Global Trade (3)**

(Formerly BMGT 407.) Prerequisite: BMGT 392. An exploration and analysis of managing global trade within today's fast-paced, highly interconnected global economy. The aim is to research business opportunities and make informed decisions, use public and private resources in the development of an import and export program, evaluate contractual arrangements, and assess regulations and rules to assure procedural compliance. Discussion covers international trade policy, export-import strategies (including licensing and franchising), direct investment, conflict resolution, safety and security, and current policy issues. Topics also include sales negotiation, price quotations, landed cost, standard international commercial terms, commercial financing, trade documentation, global e-commerce, transportation logistics, and compliance with import and export regulations. Students may receive credit for only one of the following courses: BMGT 307, BMGT 407, or BMGT 498S.

## **BMGT 312 Gender Issues in Business (3)**

Prerequisite: BMGT 110 or at least two years of business and management experience. An examination of gender roles in the business environment. The objective is to identify the implications of gender differences for organizational effectiveness and understand how to transform the challenges into opportunities. Topics include changing workplace dynamics and differences in leadership and communication styles. Students may receive credit for only one of the following courses: BMGT 312, BMGT 398I, or MGMT 398I.

## **BMGT 317 Decision Making (3)**

A practical examination of decision making. The goal is to use a proven problem-solving framework to generate potential solutions for effective decision making. Discussion covers the cultural impacts of decision making, including stakeholders' expectations. Topics also include root cause analysis, risks and uncertainty, critical success factors, key performance indicators, psychological traps, and the steps to assure effectiveness before and after decision implementation. Students may receive credit for only one of the following courses: BMGT 317 or TMGT 310.

## **BMGT 324 Starting a Small Business (1)**

An introduction to entrepreneurship and small business start-up. The aim is to identify the fundamental skills necessary for managing a small business, the critical elements of a business plan, and associated risks and challenges. Topics include business structures, competitor analysis, capital acquisition, and marketing. Students may receive credit for only one of the following courses: BMGT 324, BMGT 398F, MGMT 324, MGMT 398B, or SBUS 398B.

## **BMGT 325 The Small-Business Plan (1)**

Recommended: BMGT 324. An introduction to the preparation of a business plan for starting a small business. The goal is to be able to draft a small-business plan using research to identify prospects and resources. Topics include prior performance, business expenses, customer service, competitive analysis, and financial management. Students may receive credit for only one of the following courses: BMGT 325, BMGT 398G, MGMT 325, MGMT 330, MGMT 398C, SBUS 200, or SBUS 398C.

## **BMGT 339 Introduction to Federal Contracting (3)**

An overview of the federal contracting process, including the requirements and techniques of federal contracting. The objective is to be able to document needs in writing, develop evaluation criteria, and review and assess contractor performance. Activities include planning, evaluating award criteria, and assessing performance. Discussion also covers critical contract issues. Students may receive credit for only one of the following courses: BMGT 339, MGMT 220, or MGMT 339.

## **BMGT 361 Health Management (3)**

Conceptual and functional analysis and application of management principles and theories for effective leadership in the health care services environment. Focus is on relevant theories of organization and management, leadership, communication, motivation, and decision making; organizational change and strategic planning; human resource administration; and management control systems. Discussion covers the structure of health systems in the United States and in other countries, current policy issues, and advocacy for public health and health care reform. Students may receive credit for only one of the following courses: BMGT 361 or HMGT 320.

## **BMGT 364 Management and Organization Theory (3)**

Prerequisite: BMGT 110 or at least two years of business and management experience. An examination of the four functions of management—planning, organizing, leading, and controlling—with emphasis on the application of management concepts and theories to achieve organizational goals. The aim is to develop strategies, goals, and objectives to enhance performance and sustainability. Topics include ethics, social responsibility, globalization, and change and innovation. Students may receive credit for only one of the following courses: BMGT 364, TEMN 202, TEMN 300, TMGT 301, or TMGT 302.

### **BMGT 365 Organizational Leadership (3)**

Prerequisite: BMGT 110 or BMGT 364. An exploration of leadership as a critical skill for the 21st century, when change occurs rapidly and consistently. The objective is to be able to use leadership theory and assessment tools to evaluate one's own leadership skills. Focus is on the leadership skills needed to develop committed and productive individuals and high-performing organizations. Topics include vision, values, culture, ethics, and the interaction between the organization and the external environment. Students may receive credit for only one of the following courses: BMGT 365, MGMT 300, MGST 310, or TEMN 310.

### **BMGT 372 Supply Chain Management (3)**

Prerequisite: BMGT 364. An examination of supply chain management systems, with a focus on maximizing the value generated by an organization. The goal is to explain the implications of supply chains for customer expectations and the competitive advantage of the organization. Discussion covers effective practices and tradeoffs among separate supply chain functions and the use of performance measures to monitor outcomes. Topics also include logistics, forecasting, negotiating, trust and collaboration, and supply chain status reporting.

### **BMGT 375 Purchasing Management (3)**

Prerequisite: BMGT 364. A study of purchasing management and the roles of purchasing specialists in medium to large organizations under the guidance of the chief purchasing officer. The aim is to understand how organizations use purchasing for competitive advantage; how suppliers are evaluated, selected, and managed; how metrics and models are used to make purchasing more effective; how cross-functional collaboration is vital to achieving economic efficiencies; and how important ethics and integrity in purchasing is to good business practices. Topics include the duties of a buyer, the ways information technology supports purchasing, materials management, controlling costs, best practices, outsourcing and insourcing, and measuring purchasing effectiveness. Students may receive credit for only one of the following courses: BMGT 375, MGMT 375, or TEMN 360.

### **BMGT 380 Business Law I (3)**

(Strongly recommended for students seeking careers as CPAs, lawyers, or managers.) A conceptual and functional analysis and application of legal principles and concepts relevant to the conduct and understanding of commercial business transactions in the domestic and global environments. The aim is to evaluate sources of law, legal process, procedures, and remedies and to analyze tort, criminal, and contractual rights, obligations, liabilities, and remedies in the business environment. Topics include the legal, ethical, and social environment of business, civil and criminal law, agency, types of business organizations, and contracts and sales agreements.

### **BMGT 381 Business Law II (3)**

(Strongly recommended for students seeking careers as CPAs, lawyers, or managers.) Prerequisite: BMGT 380. Further conceptual and functional analysis and application of legal principles relevant to the conduct and understanding of commercial business transactions in the domestic and global environment. The aim is to evaluate sources of law, legal process, procedures, and remedies and to analyze tort, criminal, and contractual rights, obligations, liabilities, and remedies in the business environment. Topics include personal and real property, leases, antitrust, business insurance, accountants' liability, negotiable instruments, secured transactions, government regulation affecting consumer protection, environmental protection, debtor/creditor relationships, and bankruptcy and reorganization.

### **BMGT 388G Effective Business Presentations (1)**

An introduction to best practices and methodologies for creating and delivering effective business presentations. The aim is to be able to prepare a presentation plan and use the plan to prepare and deliver a PowerPoint presentation. Topics include presentation objectives, audience analysis, storyboarding, presentation delivery techniques, best practices of developing PowerPoint slides, and selection of presentation resource materials.

### **BMGT 391 Supervision (3)**

Prerequisite: BMGT 364. A survey of traditional and contemporary supervisory practices. The objective is to apply interpersonal communication, decision making, performance management, and other supervisory skills to the practice of management. Discussion covers the five managerial functions of a supervisor: planning, organizing, staffing, leading, and controlling. Students may receive credit for only one of the following courses: BMGT 391, BMGT 398S, or HRMN 394.

# INFORMATION ON COURSES

## **BMGT 392 Global Business (3)**

Prerequisite: BMGT 110 or at least two years of business and management experience. An overview of key concepts and issues relevant to conducting business in the global environment. Emphasis is on applying fundamental knowledge of global business and analyzing and evaluating global business variables for informed decision making. The objective is to analyze property rights, obligations, liabilities, and remedies; evaluate regulations in the business environment; and assess implications of transactions and negotiable instruments in the business environment. Topics include the nature and scope of global business; cultural, political, legal, and economic environments; marketing; trade; and foreign investments. Students may receive credit for only one of the following courses: BMGT 392, MGMT 305, or TMGT 390.

## **BMGT 393 Real Estate Principles I (3)**

(With BMGT 394, designed to fulfill the requirements for the Maryland licensing examination to sell real estate.) Recommended: ECON 203. A conceptual and functional analysis and application of legal principles and related concepts relevant to the conduct of real estate transactions concerning types of home ownership. The aim is to prepare to take the Maryland licensing examination to sell real estate. Topics include definition and scope of real estate, contracts, brokerage services, licensing and practice of salespeople, property descriptions, encumbrances, and methods and concepts of financing such as mortgages.

## **BMGT 394 Real Estate Principles II (3)**

(With BMGT 393, designed to fulfill the requirements for the Maryland licensing examination to sell real estate.) Prerequisite: BMGT 393. A continuation of the study and functional analysis and application of the legal principles relevant to the conduct of real estate transactions. The goal is to prepare to take the Maryland licensing examination to sell real estate. Topics include home ownership, environmental issues, real estate appraisals and financing, agency and brokerage agreements, seller and buyer representation, fair housing and discrimination, and settlement procedures. Students may receive credit for only one of the following courses: BMGT 394 or BMGT 398H.

## **BMGT 398 Special Topics in Business and Management (1-3)**

Intensive inquiry into special topics in business and management that reflect the changing needs and interests of students and faculty.

## **BMGT 398F Conflict Management in Organizations (1)**

(Formerly MGST 398F.) A study of the proper management of conflict as a natural and healthy element of effective organizational functioning. Focus is on understanding why inappropriate conflict management leads to dysfunctional employee behavior, while appropriate conflict management leads to motivated and supportive behavior. A model of basic conflict management strategies is presented, and the circumstances under which each strategy is (or is not) appropriate are discussed. Students may receive credit for only one of the following courses: BMGT 398F or MGST 398F.

## **BMGT 398I Communication Skills for Supervisors (1)**

(Designed to help supervisors improve their communication skills.) An introduction to the basic aspects of communication. Focus is on practical applications. Elementary skills are practiced and the dynamics of interpersonal communication are analyzed to provide experience, confidence, and insight into one-to-one communication situations.

## **BMGT 398J Motivation and Performance in Organizations (1)**

(Formerly MGST 398J.) An exploration of various theoretical perspectives on motivation-related performance problems. The implications for policy formulation, managerial strategy, and problem resolution are assessed. Focus is on the definition of motivation and performance within organizational settings, the analysis of performance problems, and the implications of motivation theory and research for managers and supervisors. Assignments include advanced reading and research. Students may receive credit for only one of the following courses: BMGT 398J, MGST 198J, or MGST 398J.

## **BMGT 411 Process Improvement and Performance Measurements (3)**

A hands-on, project-based introduction to process improvement and performance management. The objective is to assess the root cause of a problem, apply a variety of proven tools to improve processes, and select and apply performance measures to evaluate the results of process improvements. Emphasis is on process improvements that are cost-effective and add value to organizational missions. Topics include meeting customer expectations, waging the war on waste, flowcharting, and selecting approaches to change management. Students may receive credit for only one of the following courses: BMGT 411 or TMGT 411.

**BMGT 437 International Business Law (3)**

(Formerly BMGT 498P.) Prerequisite: BMGT 380. A conceptual and functional analysis and application of transnational legal principles relevant to the conduct and understanding of global business and economic transactions. The goal is to analyze business transactions, structure international business transactions, and recommend means of protecting against risk of loss. Topics include the international legal environment and process; transactional dimensions, including business forms and foreign investments; international and regional organizations; international contracts and sales; the regulation of international trade; national and international economic controls; legal aspects of management, marketing, and finance that focus on global issues related to employment, the environment, technology transfer, and trade financing; and dispute resolution. Students may receive credit for only one of the following courses: BMGT 437 or BMGT 498P.

**BMGT 456 Managing Across Cultures and Borders (3)**

(Formerly BMGT 498R.) Prerequisite: BMGT 392. An examination and analysis of multinational management across cultures and borders. The aim is to apply critical thinking and analytical skills in global management settings. Focus is on the role of business managers in today's complex global environment. Topics include cross-cultural strategic planning, multinational organizational structures, global leadership, cross-cultural communication, environmental factors, decision making, and negotiations. Students may receive credit for only one of the following courses: BMGT 456 or BMGT 498R.

**BMGT 464 Organizational Behavior (3)**

Prerequisites: BMGT 110 (or at least two years of business and management experience), 364, and 365. An examination of research and theory on the forces underlying the way members of an organization behave and their effect on employee and organizational productivity and effectiveness. The aim is to participate, lead, and manage teams and maximize individual contributions to an organization. Topics include the impact that individual characteristics, group dynamics, and organizational structure, policies, and culture have on employee behaviors and organizational outcomes (i.e., productivity, absenteeism, turnover, deviant workplace behavior, satisfaction, and citizenship).

**BMGT 465 Organizational Development and Transformation (3)**

Prerequisites: BMGT 364 and 365. An introduction to organizational development—a systematic process of data collection, diagnosis, action planning, intervention, and evaluation aimed at increasing the effectiveness of the organization and developing the potential of all individuals. The goal is to identify and diagnose organizational problems and opportunities and apply management principles to support organizational change. Students may receive credit for only one of the following courses: BMGT 465, MGMT 398K, MGMT 465, or TMGT 350.

**BMGT 466 Global Business and the Public Sector (3)**

(Formerly BMGT 366.) Prerequisite: BMGT 392. Recommended: BMGT 364 or BMGT 365. A conceptual and functional analysis and application of management principles and strategies encompassing state and nonstate institutional actors, such as intergovernmental and nongovernmental organizations (IGOs and NGOs), in the global environment. Focus is on the nature, scope and application of public management. Topics include the evolution of public-sector management; theoretical, administrative, ethical, and policy models of decision making and accountability; the dynamics of organizational behavior, bureaucratic structures, and processes; core functionalities; strategic planning; and issues involving public-sector management, planning, leadership, human resources, and marketing; public finance; and governance. Students may receive credit for only one of the following courses: BMGT 366, BMGT 466, or TMGT 305.

**BMGT 482 Advanced Federal Contracting (3)**

Prerequisites: BMGT 110 (or at least two years of business and management experience) and 339. An in-depth examination of the procurement life cycle. The objective is to assess the intricate relationships between the contracting activity and contractors involved in ongoing contract performance and see how these relationships can become mutually beneficial instead of adversarial. Topics include ethics, socioeconomics, key decision points, terminations, modifications, and related performance issues. Students may receive credit for only one of the following courses: BMGT 482 or TMGT 340.

# INFORMATION ON COURSES

## **BMGT 484 Managing Teams in Organizations (3)**

Prerequisite: BMGT 364. A theoretical and practical investigation into the factors involved in building and managing effective work groups or teams in organizations. The aim is to lead and manage teams—establishing goals, roles, and processes; managing resources and relationships; and using effective interpersonal communication and team-building practices to enhance team members' individual and collective motivation, productivity, and performance. Topics include the conscious and unconscious dynamics of team development, conflict and decision making, commitment and trust, assessment and rewards, and other factors that foster team cohesion and performance. Students may receive credit for only one of the following courses: BMGT 484, BMGT 498H, or MGMT 498H.

## **BMGT 485 Leadership for the 21st Century (3)**

(Intended as the final capstone course for management studies majors, to be taken in the last 15 credits, but appropriate for anyone who aspires to a leadership position.) Prerequisites: BMGT 364, 365, and 464 (or BMGT 465). An examination of leadership in organizations, with a focus on issues pertinent to the 21st century. Discussion covers the leadership qualities and behaviors that help organizations thrive: valuing employees, having a clear vision, acting ethically, relying on core values, and building positive relationships. The goal is to develop the skills necessary to achieve individual and organizational excellence.

## **BMGT 486A Internship in Business and Management Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## **BMGT 486B Internship in Business and Management Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## **BMGT 487 Project Management I (3)**

(The first course in the two-course series BMGT 487–488.) Prerequisites: BMGT 364 and FINC 330. An introduction to project management principles, concepts, and software applications. The goal is to manage a project simulation through all phases of the project life cycle. Project management is examined in terms of practical applications and practices. Appropriate organizational structures, such as collegial and matrix types, are described and assessed. Discussion also covers the practical considerations of designing a project management system. Students may receive credit for only one of the following courses: BMGT 487, IFSM 438, or TMGT 430.

## **BMGT 488 Project Management II (3)**

(The second course in the two-course series BMGT 487–488.) Prerequisite: BMGT 487. An examination of project management processes and applications beyond introductory principles and concepts. The goal is to manage a project simulation through all phases of the project life cycle. Emphasis is on the practical applications of project management principles and processes in real-world situations. Projects depict real-world situations, such as information systems implementations; service business/e-commerce projects; and consulting projects that occur in research, information systems, manufacturing, and engineering firms. Students may receive credit for only one of the following courses: BMGT 488 or TMGT 430.

## **BMGT 495 Strategic Management (3)**

(Access to spreadsheet, word processing, and presentation software is required. Intended as a final, capstone course to be taken in a student's last 15 credits.) Prerequisites: BMGT 364 and 365, FINC 330 (or BMGT 340), and MRKT 310. A study of strategic management that focuses on integrating management, marketing, finance/accounting, production/operations, services, research and development, and information systems functions to achieve organizational success. The aim is to apply integrative analysis, practical application, and critical thinking to the conceptual foundation gained through previous study and personal experience. Emphasis is on developing an organizational vision and mission, developing and implementing strategic plans, and evaluating outcomes. Students may receive credit for only one of the following courses: BMGT 495, HMG 430, MGMT 495, or TMGT 380.

### **BMGT 496 Business Ethics (3)**

A study of the relationship of business ethics and social responsibility in both domestic and global settings. The aim is to explore ethical and moral considerations of corporate conduct, social responsibilities, policies, and strategies. Emphasis is on the definition, scope, application, and analysis of ethical values as they relate to issues of public and organizational consequence and business decision making in the domestic and global business environments.

## Career Planning

Courses in career planning (designated CAPL) may be applied toward

- electives.

UMUC offers only a limited number of courses each session in this discipline.

### **CAPL 398A Career Planning Management (1)**

A survey of strategies for managing career change. Focus is on examining, evaluating, and assessing individual skill sets; networking; and researching career and economic markets. The objective is to formulate a career path and develop the resources needed to enter that path. Topics include résumé and cover letter development, interviewing techniques, negotiation strategies, and tools for ongoing career planning.

## Chemistry

Courses in chemistry (designated CHEM) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the physical and biological sciences;
- a major in investigative forensics;
- a minor in natural science; and
- electives (including related requirements for the environmental management major).

### **CHEM 121 Chemistry in the Modern World (3)**

For students not majoring or minoring in science.) An exploration of chemistry as it relates to human life and the environment. The goal is to use a working knowledge of chemical principles, scientific reasoning, and quantitative reasoning to make informed decisions about health and safety matters. Discussion examines natural processes and human factors in the modern world using the principles of chemistry and the scientific method. Students may receive credit for only one of the following courses: CHEM 102, CHEM 103, CHEM 104, CHEM 107, CHEM 121, or GNSC 140.

### **CHEM 297 Environmental Chemistry (3)**

Prerequisite: MATH 115 (or MATH 107–108). An examination of chemistry in the context of environmental systems and an exploration of interactions among ecosystems, living resources, waste, and pollutants. The aim is to identify and evaluate fundamental principles of chemistry in relation to environmental systems and ecosystem health. Discussion covers sources, effects, prevention, and management of pollution and environmental degradation. Students may receive credit for only one of the following courses: CHEM 102, CHEM 103, CHEM 105, CHEM 107, CHEM 121, or GNSC 140.

## Chinese

Courses in Chinese (designated CHIN) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in the arts and humanities;
- a major or minor in East Asian studies; and
- electives.

UMUC offers a limited number of foreign language courses each session.

### **CHIN 111 Elementary Chinese I (3)**

(Not open to native speakers of Chinese; assumes no prior knowledge of Chinese. Students with prior experience with the Chinese language should take a placement test to assess appropriate level.) An introduction to spoken and written Mandarin Chinese. The objective is to communicate in Chinese in some concrete real-life situations using culturally appropriate language and etiquette, to read and write pinyin, and to begin to recognize and type Chinese characters. Practice is provided in using the correct pronunciation, vocal tone, and structures needed for everyday communication.

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## **CHIN 112 Elementary Chinese II (3)**

(Not open to native speakers of Chinese.) Prerequisite: CHIN 111 or appropriate score on a placement test. A continued introduction to spoken and written Mandarin Chinese. The goal is to communicate in Chinese in concrete real-life situations using culturally appropriate language and etiquette and to recognize and type some high frequency Chinese characters. Practice is provided in improving pronunciation and developing oral and written skills used in everyday communication.

## **CHIN 114 Elementary Chinese III (3)**

(Not open to native speakers of Chinese.) Prerequisite: CHIN 112 or appropriate score on a placement test. Further development of skills in elementary spoken and written Mandarin Chinese. The aim is to communicate in Chinese in a variety of real-life situations using culturally appropriate language, recognize and distinguish more commonly used Chinese characters, and read in context. Practice is provided in improving pronunciation and developing the oral and written skills used in everyday communication.

## **CHIN 115 Elementary Chinese IV (3)**

(Not open to native speakers of Chinese.) Prerequisite: CHIN 114 or appropriate score on a placement test. Further development of skills in elementary spoken and written Mandarin Chinese. The aim is to interact effectively with native speakers of Chinese in a variety of real-life situations using culturally appropriate language and to recognize and distinguish more commonly used Chinese characters in context. Practice in fine-tuning pronunciation and applying language skills to a range of contexts is provided.

## Communication Studies

Courses in communication studies (designated COMM) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in communications;
- a major in communication studies or laboratory management;
- a minor in communication studies, journalism, or speech communication;
- a certificate in Desktop Publishing; and
- electives.

## **COMM 200 Military Communication and Writing (3)**

(Fulfills the general education requirement in communication.) A study of managing business communication in a military context. Topics include communication theories, research methods, organization of information, formats, writing and editing strategies, guiding subordinate communication, interviews, and meeting management. Assignments may include speech presentation; classroom instruction; interviewing; meeting management; and the writing and editing of reports, letters, e-mails, proposals, and personnel evaluations.

## **COMM 300 Communication Theory (3)**

(Fulfills the general education requirement in communications but is not a writing course.) Prerequisite: WRTG 101 or ENGL 101. An introduction to communication theory. The objective is to apply communication theory and evaluate communication situations. The basic theories of human communication, mass communication, and new media and technology are explored. Focus is on the relationships among communication theory, research, and practice. Topics include intra- and interpersonal communication, public communication, mass media, and contemporary issues associated with mediated communication.

## **COMM 302 Mass Communication and Media Studies (3)**

(Formerly COMM 379A. Fulfills the general education requirement in communications but is not a writing course.) Prerequisite: WRTG 101 or ENGL 101. A survey of mass communication designed to enhance media literacy. The goal is to interpret, evaluate, and produce media messages. Topics include media industries and the impact of the media, as well as regulation, policy, and ethical issues. Emphasis is on critical thinking and analysis of vital aspects of pervasive elements of popular culture, such as news, advertising, children's entertainment, and a free press. Students may receive credit for only one of the following courses: COMM 379A or COMM 302.

## **COMM 380 Language in Social Contexts (3)**

(Fulfills the general education requirement in communications but is not a writing course.) Prerequisite: WRTG 101 or ENGL 101. An examination of the components of languages, with special emphasis on the English language, its origins, continued development, and use in speaking and writing. The aim is to examine categories of speech and methods of written communication from the perspective of regional and social variation. Discussion covers cultural, gender, and racial variations, as well as underlying perspectives and assumptions.

### **COMM 400 Mass Media Law (3)**

(No previous study of law required. Fulfills the general education requirement in communications but is not a writing course.) Recommended: WRTG 391, WRTG 393, or WRTG 394. An examination of important legal issues that affect mass media and communications professionals. The objective is to analyze mass media law, its evolution, and its relationship with society, culture, and politics. Topics include copyright, intellectual property, fair use, defamation, privacy, freedom of information, freedom of speech, and freedom of the press, as well as issues raised by the growth of the Internet. Discussion also covers ethics in mass media, digital technologies, and the creation of media content. Students may receive credit for only one of the following courses: COMM 400 or JOUR 400.

### **COMM 410 History of Mass Media**

(Formerly JOUR 410). Prerequisite: WRTG 101 or ENGL 101. Recommended: COMM 300 or a journalism class. A discussion of the development of newspapers, magazines, radio, television, and motion pictures as media of mass communication. The influence of the media on the historical development of the nation is considered. Students may receive credit for only one of the following courses: COMM 410 or JOUR 410.

### **COMM 486A Internship in Communication Studies Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **COMM 486B Internship in Communication Studies Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **COMM 493 Strategies for Visual Communication (3)**

(Access to a desktop publishing program, preferably InDesign or QuarkXPress, is required; instruction on software is not provided. Fulfills the general education requirement in communications but is not a writing course.) Recommended: CMST 310. An introduction to visual communication that explores the integration of text and graphics in formal and practical design. The goal is to develop strategic solutions to enhance communication and apply critical and creative processes to produce and evaluate design. Topics include design principles (such as color theory, typography, and content organization) and meaning and rhetoric.

### **COMM 495 Senior Seminar in Communication Studies (3)**

(Intended as a final, capstone course to be taken in a student's last 15 credits.) Prerequisites: COMM 300 and WRTG 391, WRTG 393, or WRTG 394. A project-based examination of communication. The aim is to integrate knowledge, practices, and principles gained from previous study and build on that conceptual foundation through integrative analysis, practical application, and critical thinking. Tasks include assembling and analyzing a portfolio and completing a final project (such as a research-based report and presentation, feasibility study, feature article, or career strategic plan) that requires conducting research and exploring ethical issues.

## Computer and Information Science

Courses in computer and information science (designated CMIS) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in computing;
- a major in computer and information science, computer networking and security, computer science, digital media and Web technology, or information systems management;
- a minor in computing;
- a certificate in various computer- and information science-related areas; and
- electives.

Students without recent experience in problem solving with computers must take CMIS 102. It is recommended that for the first two academic sessions students should not take two (or more) courses that involve programming.

# INFORMATION ON COURSES

## **CMIS 102 Introduction to Problem Solving and Algorithm Design (3)**

A study of techniques for finding solutions to problems through structured programming and step-wise refinement. The objective is to design programs using pseudocode and participate in hands-on debugging, testing, and documenting activities. Topics include principles of programming, the logic of constructing a computer program, and the practical aspects of integrating program modules into a cohesive application. Algorithms are used to demonstrate programming as an approach to problem solving. Students may receive credit for only one of the following courses: CMIS 102, CMIS 102A, or CMSC 101.

## **CMIS 111 Social Networking and Cybersecurity Best Practices (3)**

A hands-on study of current social networking applications and approaches to protect against cyber attacks and enhance personal cybersecurity. The goal is to collaborate and interact through personal and professional social networking while developing and using computer security best practices. Discussion covers issues associated with the impact of social computing on individuals and society.

## **CMIS 115 Programming in Objective-C for the Mac (3)**

(Access to a Mac computer running Leopard or higher is required.) Prerequisite: CMIS 102 or prior programming experience. A hands-on introduction to object-oriented programming using Objective-C. The aim is to design, implement, test, debug, and document programs using the Xcode integrated development platform and other appropriate tools.

## **CMIS 125 Programming in C# (3)**

Prerequisite: CMIS 102 or prior programming experience. A hands-on introduction to object-oriented programming using C#. The aim is to design, implement, test, debug, and document programs, using the Microsoft Visual Studio integrated development environment. Topics include data types, iterative and decision statements, exception handling, input/output, and classes and objects.

## **CMIS 141 Introductory Programming (3)**

(Not open to students who have taken CMIS 340. The first in a sequence of courses in Java.) Prerequisite: CMIS 102 or prior programming experience. Recommended: MATH 107. A study of structured and object-oriented programming using the Java language. The goal is to design, implement, test, debug, and document Java programs, using appropriate development tools. Projects require use of algorithms, simple data structures, and object-oriented concepts. Students may receive credit for only one of the following courses: CMIS 141, CMIS 141A, or CMSC 130.

## **CMIS 170 Introduction to XML (3)**

Prerequisite: CMIS 102 or CMIS 141. An introduction to the principles of Extensible Markup Language (XML) and its use in business data exchange. The goal is to design and create well-formed, validated XML documents. Discussion covers the structure, transformation, presentation, and implementation of XML technologies, including document type definitions (DTDs) and schemas. Hands-on projects and exercises are provided.

## **CMIS 215 Programming for the iPhone and iPad (3)**

(Access to a Mac computer running Leopard or higher required.) Prerequisite: CMIS 115. A hands-on introduction to programming mobile devices. The aim is to design, implement, test, debug, document, and deploy business and graphical mobile applications.

## **CMIS 225 Developing Windows Presentation Foundation (WPF) Applications Using C# (3)**

Prerequisite: CMIS 125. A hands-on introduction to applications development using C#. The aim is to analyze, design, develop, test, and deploy rich client applications using Windows Presentation Foundation (WPF), C#, and common .Net class libraries. The XAML markup language and the event-programming model of WPF are introduced. Topics also include LINQ, data binding, and data access.

## **CMIS 242 Intermediate Programming (3)**

Prerequisite: CMIS 141. Further study of the Java programming language. The objective is to design, implement, test, debug, and document Java programs, using appropriate development tools. Topics include object-oriented design, event-driven programming, exceptions, recursion, arrays, and data structures.

**CMIS 255 Mobile Phone Application Development (3)**

Prerequisite: CMIS 225. A hands-on, project-based introduction to the development of applications for Windows mobile phones. The goal is to design, implement, test, debug, and document programs. Integrated development environments and tools from Microsoft are used to design, develop, and test Windows phone solutions for business, service-oriented, multimedia, and data-driven applications.

**CMIS 310 Computer Systems and Architecture (3)**

(Not open to students who have completed CMSC 311.)

Prerequisite: CMIS 115, CMIS 125, or CMIS 141. A study of the fundamental concepts of computer architecture and factors that influence the performance of a system. The aim is to apply practical skills to computer systems architecture. Topics include data representation, assembly language, central processing unit architecture, memory architecture, and input/output (I/O) architecture. Students may receive credit for only one of the following courses: CMIS 270, CMIS 310, CMSC 311, or IFSM 310.

**CMIS 315 Programming in C++ (3)**

Prerequisite: CMIS 141, CMIS 115, or CMIS 125. A hands-on, comprehensive study of the C++ programming language, including basic C++ syntax, arrays and strings, pointers and references, operator overloading, object-oriented concepts, inheritance and polymorphism, and templates. The aim is to design, implement, test, debug, and document C++ programs using basic computation, simple input/output (I/O), standard conditional and iterative structures, and functions. Students may receive credit for only one of the following courses: CMIS 240 or IFSM 315.

**CMIS 320 Relational Database Concepts and Applications (3)**

Prerequisite: CMIS 102 or CMIS 141. A study of the functions, underlying concepts, and applications of enterprise relational database management systems (RDBMS) in a business environment. The aim of the course is to appropriately use databases to meet business requirements. Discussion covers entity/relationship diagrams, relational theory, normalization, integrity constraints, the Structured Query Language (SQL), and physical and logical design. Business case studies and projects include hands-on work using an industry-standard RDBMS. Students may receive credit for only one of the following courses: CMIS 320 or IFSM 410.

**CMIS 325 UNIX with Shell Programming (3)**

Prerequisite: CMIS 141, CMIS 115, or CMIS 125. A hands-on, project-based introduction to the UNIX operating system. The aim is to use basic UNIX commands to design, create, and execute shell programs. Topics include file structures, editors, pattern-matching facilities, shell commands, and shell scripts.

**CMIS 330 Software Engineering Principles and Techniques (3)**

Prerequisite: CMIS 115, CMIS 125, or CMIS 141. A study of software engineering from initial concept through design, development, testing, and maintenance of the product. Discussion covers software development life-cycle models. The goal is to analyze, customize, and document multiple processes to solve information technology problems. Topics include configuration management, quality, validation and verification, security, human factors, and organizational structures. Students may receive credit for only one of the following courses: CMIS 330 or CMIS 388A.

**CMIS 420 Advanced Relational Database Concepts and Applications (3)**

Prerequisite: CMIS 320, IFSM 410, or IFSM 411. A comprehensive study of the features and techniques of relational database management appropriate to the advanced end user, database designer, or database administrator. The goal is to complete hands-on work using an industry-standard enterprise relational database management system. Topics include basic database administration functions, advanced SQL and complex data types, stored procedures, user-defined functions, triggers, and data warehousing. Students may receive credit for only one of the following courses: CMIS 420, IFSM 420, or IFSM 498I.

**CMIS 430 Enterprise Database Administration Using Oracle (3)**

Prerequisite: CMIS 420 or CMIT 261. A hands-on study of database administration. The aim is to create and manage a secure enterprise database in an effective and efficient manner. Discussion covers evaluation and implementation of security solutions, backup and recovery, use of graphic user interface (GUI) tools and scripts to monitor and maintain an enterprise database, and Oracle database architecture. Students may receive credit for only one of the following courses: CMIS 430, CMIT 381, or CMIT 381O.

**CMIS 435 Computer Networking (3)**

Prerequisite: CMIS 310. An investigation of the effects of computer networking on information systems. The aim is to apply skills to the optimization of network design. Topics include the seven-layer Open Systems Interconnection (OSI) reference model, physical aspects of computer networking, ethernet and TCP/IP protocols, quality of service (QoS) issues, and security implications. A project involves the design of a computer network. Students may receive credit for only one of the following courses: CMIS 435 or CMSC 440.

# INFORMATION ON COURSES

## **CMIS 440 Advanced Programming in Java (3)**

Prerequisites: CMIS 242 and CMIS 320. An exploration of advanced Java programming, using the Java Enterprise edition. The objective is to analyze, design, develop, test, deploy, and document small- to medium-scale Web applications. Hands-on projects in Java server pages, servlets, and Java database connectivity are included. Students may receive credit for only one of the following courses: CMIS 440 or CMIS 498A.

## **CMIS 445 Distributed Systems (3)**

Prerequisite: CMIS 435. Recommended: CMIS 325. An examination of the concepts and design principles of distributed computer systems. The objective is to apply skills to the design of distributed systems. Topics include client/server architecture, distributed systems, middleware, processes, marshalling, interprocess communications, distributed objects, Web services, distributed file systems, name services, time services, distributed multimedia systems, network quality of service, security, and replication. Discussion also covers standards for distributed object-oriented programming. A distributed programming project illustrates many of the concepts. Students may receive credit for only one of the following courses: CMIS 445 or CMSC 445.

## **CMIS 455 Requirements Development (3)**

Prerequisite: CMIS 330. A study of concepts and techniques used in developing a statement of required functionality and behavior of a system. The aim is to develop a complete and accurate software specification. Discussion covers the fundamentals of elicitation, analysis, verification, validation, and documentation of software requirements. Projects using these techniques are included.

## **CMIS 460 Software Design and Development (3)**

Prerequisite: CMIS 330. An in-depth study of the concepts and techniques for designing and developing software for large projects. Focus is on Unified Modeling Language (UML) and its application to the system architectural design using established patterns. Discussion covers design strategies, principles, methodologies, and paradigms, as well as evaluation and representation. Topics also include architectural models, development tools and environments, implementation guidelines, and documentation. Students may receive credit for only one of the following courses: CMIS 460 or CMSC 415.

## **CMIS 465 Software Verification and Validation (3)**

Prerequisite: CMIS 330. A study of tools, methods, and current practices for assessing the quality and correctness of software. The goal is to establish and use a development and test environment. Topics include the roles of testing and formal verification, fundamentals and formal models of program verification and validation, planning and documentation for quality assurance, methods of performing technical reviews, strategies of system testing and integration planning, and principles and practices used in conducting tests.

## **CMIS 485 Web Database Development (3)**

Prerequisites: CMIS 141 and 320. An exploration of the current Web technologies and programming language options used to interface a relational database to Web servers. The aim is to build relational databases and Web-based applications. Hands-on projects using Web technologies such as Perl, PHP, ASP.NET, and Java are constructed and evaluated within a three-tiered architecture. Students may receive credit for only one of the following courses: CMIS 485, CMIS 398B, or CMIS 498B.

## **CMIS 486A Internship in Computer Information Science Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## **CMIS 486B Internship in Computer Information Science Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

## **CMIS 498 Special Topics in Computer and Information Science (3)**

Prerequisites: Vary according to topic. An examination of topics in computer and information science. May be repeated to a maximum of 6 credits when topics differ.

# Computer Information Technology

Courses in computer information technology (designated CMIT) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in computing;
- a major in computer networking and security, cybersecurity, digital media and Web technology, or information systems management;
- a minor in computing;
- a certificate in various computer-related areas; and
- electives.

## **CMIT 202 Fundamentals of Computer Troubleshooting (3)**

(Designed to help prepare for the CompTIA A+ exams.) Prerequisite: IFSM 201. A thorough review of computer hardware and software with emphasis on the application of current and appropriate computing safety and environmental practices. The goal is to evaluate, install, configure, maintain, and troubleshoot computer hardware components and operating systems.

## **CMIT 265 Fundamentals of Networking (3)**

(Designed to help prepare for the CompTIA Network+ certification exam.) Prerequisite: CMIT 202. An introduction to networking technologies for local area networks, wide area networks, and wireless networks. The aim is to recognize the type of network design appropriate for a given scenario. Topics include the OSI (open system connectivity) model, security, and networking protocols. Students may receive credit for only one of the following courses: CMIT 265 or CMIT 265M.

## **CMIT 320 Network Security (3)**

(Designed to help prepare for the CompTIA Security+ exam.) Prerequisite: CMIT 265, CSIA 302, or CompTIA Network+ certification. A study of the fundamental concepts of computer security and its implementation. The aim is to assess and mitigate risk, evaluate and select appropriate technologies, and apply proper security safeguards.

## **CMIT 321 Ethical Hacking (3)**

(Formerly CMIT 398E. Designed to help prepare for EC-Council Certified Ethical Hacker certifications.) Prerequisite: CMIT 265 or CSIA 302. Development of the knowledge and skills required to discover vulnerabilities and recommend solutions for tightening network security and protecting data from potential attackers. The goal is to use penetration-testing tools and techniques that security testers and ethical hackers use to protect computer networks. Students may receive credit for only one of the following courses: CMIT 398E or CMIT 321.

## **CMIT 331 Wireless Network Administration (3)**

(Designed to help prepare for the Certified Wireless Network Administrator certification exam. Access to a dd-wrt/tomato-compatible wireless access point/router with administration privileges is required; use of a secondary or separate router for coursework is recommended to preserve Internet connectivity.) Prerequisite: CMIT 265. A comprehensive review of the fundamentals of wireless network technologies. The objective is to design, implement, and manage secure and scalable wireless networks based on organizational requirements. Students may receive credit for only one of the following courses: CMIT 331 and CMIT 499W.

## **CMIT 350 Interconnecting Cisco Devices (3)**

(Designed to help prepare for the Cisco Certified Network Associate Examination 640-802.) Prerequisite: CMIT 265. Presentation of and practice in the concepts and commands required to configure Cisco switches and routers in multiprotocol Internetworks. Focus is on developing the skills necessary to install, configure, and operate Cisco routers and switches within local area network and wide area network environments, including VoIP (voice over Internet protocol) and wireless networks. Discussion covers routing and switching concepts (Layer 2 and Layer 3 technologies) using Cisco switches and routers. Projects include configuring various protocols, including IP, RIP, IGRP, EIGRP, OSPF, RSTP, and Frame Relay. Students may receive credit for only one of the following courses: CAPP 498E, CMIT 350, or CMIT 499D.

## **CMIT 364 Windows Desktop Operating Systems (3)**

(Designed to help prepare for the Windows Client Configuration exam, part of MCITP Enterprise Administrator Certification.) Prerequisite: CMIT 265. An overview of the configuration and management of Windows desktop operating systems. The aim is to install, configure, manage, and troubleshoot Windows desktop operating systems. Students may receive credit for only one of the following courses: CMIT 364 or CMIT 499X.

# INFORMATION ON COURSES

## **CMIT 368 Windows Server Administration (3)**

(Designed to help prepare for the Windows Server Administrator exam, part of MCITP Server Administrator Certification.) Prerequisite: CMIT 265. An overview of the configuration and management of Windows Server operating systems. The goal is to install, configure, manage, and troubleshoot Windows Server operating systems.

## **CMIT 376 Windows Network Infrastructure (3)**

(Formerly CMIT 376M. Designed to help prepare for the Windows Server Network Infrastructure exam, part of MCITP Server Administrator and MCITP Enterprise Administrator Certifications.) Prerequisite: CMIT 368. Development of the knowledge and skills necessary to install, configure, manage, and support the Windows Server network infrastructure. The objective is to configure network addressing, name resolution, network access, and file and print services, as well as to proactively monitor and manage the Windows Server network infrastructure. Students may receive credit for only one of the following courses: CMIT 376 or CMIT 376M.

## **CMIT 377 Windows Directory Services Infrastructure (3)**

(Designed to help prepare for the Windows Server Active Directory exam, part of MCITP Server Administrator and MCITP Enterprise Administrator Certifications.) Prerequisite: CMIT 368. Development of the knowledge and skills necessary to install, configure, manage, and support the Windows Directory Services infrastructure. The goal is to configure, deploy, and maintain Windows Directory Services infrastructure and Domain Name System (DNS). Students may receive credit for only one of the following courses: CMIT 377 or CMIT 377M.

## **CMIT 378 Windows Server Applications Infrastructure (3)**

(Designed to help prepare for the Microsoft Windows Applications Infrastructure exam, part of MCITP Enterprise Administrator Certification.) Prerequisite: CMIT 376. A study of the various Windows Server application services as they relate to supporting business needs. The aim is to deploy, configure, and secure Windows Server application services, including Web, terminal, and file services.

## **CMIT 391 Linux System Administration (3)**

(Designed to help prepare for the Linux Profession Institute Certification 1 [LPIC-1] exams.) Prerequisite: CMIT 265. A study of the Linux operating system. The goal is to configure and manage processes, user interfaces, device files, print facilities, file systems, task automation, the boot-up/shutdown sequence, disk storage, network connectivity, system security, users, and groups. Students may receive credit for only one of the following courses: CMIS 390, CMIT 391, or CMIS 398U.

## **CMIT 424 Advanced Digital Forensics (3)**

(Designed to help prepare for the Certified Computer Examiner [CCE] certification exam.) Prerequisite: CMIT 320 or CompTIA Security+ Certification. Recommended: CCJS 421 Digital Forensics. A project-driven study of the digital forensic evaluation process. The objective is to build forensic workstations, collect evidence, extract artifacts, identify unknown files, and reassemble evidence from network packet captures.

## **CMIT 425 Advanced Information System Security (3)**

(Formerly CMIT 499S. Designed to help prepare for the [ISC]<sup>2</sup> Certified Information System Security Professional [CISSP] certification exam.) Prerequisites: CompTIA Network+ certification (or CMIT 265 or equivalent knowledge) and CompTIA Security+ certification (or CMIT 320 or equivalent knowledge). Recommended: BMGT 110, IFSM 300, or two years of business and management experience. A comprehensive study of information systems security to enhance organizational security. The goal is to manage risks by identifying and mitigating them. Students may receive credit for only one of the following courses: CMIT 499S or CMIT 425.

## **CMIT 450 Designing Cisco Networks (3)**

(Designed to help prepare for the Cisco Certified Design Associate Examination 640-863.) Prerequisite: CMIT 350. Development of the knowledge and skills necessary for network design using Cisco Systems technologies. Focus is on developing the skills to identify Cisco products, local and wide area network (LAN and WAN) technologies, routing and bridging protocols, wireless and VoIP (voice over Internet protocol), and Cisco IOS software features that meet customer requirements for performance, capacity, and scalability in small- to medium-sized networks. Fundamentals of small- and medium-sized network design are introduced. Projects include designing routed LAN, routed WAN, switched LAN, and ATM (asynchronous transfer mode) LAN networks. Students may receive credit for only one of the following courses: CAPP 398C, CMIT 450, or CMIT 499C.

## **CMIT 471 Windows Server Enterprise Administration (3)**

(Designed to help prepare for the Microsoft Windows Server Enterprise Administrator exam, part of MCITP Enterprise Administrator Certification.) Prerequisites: CMIT 377 and 378. A comprehensive study of the planning, design, and management of a Windows server infrastructure in an enterprise environment. The aim is to plan and design directory services, Domain Name Systems (DNS), remote access, security policies, and virtualization infrastructure to support business goals.

### **CMIT 486A Internship in Computer Information Technology Through Co-op (3)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **CMIT 486B Internship in Computer Information Technology Through Co-op (6)**

Prerequisite: 9 credits in the discipline and prior Co-op program approval (requirements detailed on pp. 228–29 and online at [www.umuc.edu/coop](http://www.umuc.edu/coop)). The integration of discipline-specific knowledge with new experiences in the work environment. Tasks include completing a series of academic assignments that parallel work experiences.

### **CMIT 495 Current Trends and Projects in Computer Networks and Security (3)**

(Intended as a final capstone course to be taken in a student's last 9 credits.) Prerequisites: CMIT 320, 350, and 368 and an additional 15 credits in CMIT coursework. A comprehensive project-driven study of network design and security, with an emphasis on the integration of knowledge, practical applications, and critical thinking. The objective is to implement a secure and scalable network to meet organizational needs. Topics include advanced concepts in network and security design.

### **CMIT 499 Special Topics in Computer Technology (1–5)**

An inquiry into special topics in computer information technology that reflect the changing field. May be repeated when topics differ.

### **CMIT 499E Implementing Cisco IP Routing (3)**

(Designed to help students prepare for the Cisco 642-902 ROUTE [Implementing Cisco IP Routing] Exams.) Prerequisite: CMIT 350. Development of the knowledge and skills necessary to use advanced IP address management and routing protocols in implementing scalable and secure Cisco integrated services routers (ISRs) connected to local and wide area networks. The goal is to configure and troubleshoot various routed environments (access, distributed, and core). Discussion covers configuration of secure routing solutions to support branch offices and mobile workers. Topics also include managing access and controlling overhead traffic in growing, routed networks after establishing basic connectivity.

### **CMIT 499F Implementing Cisco IP Switched Networks (3)**

(Designed to help students prepare for the Cisco 642-813 SWITCH [Implementing Cisco IP Switched Networks] Exams.) Prerequisite: CMIT 350. Development of the knowledge and skills necessary to plan, configure, and verify the implementation of complex enterprise switching solutions using Cisco's Campus Enterprise Architecture. Topics include secure integration of VLANs (virtual local area networks), WLANs (wireless local area networks), and voice and video into campus networks.

### **CMIT 499G Troubleshooting and Maintaining Cisco IP Networks (3)**

(Designed to help students prepare for the Cisco 642-832 TSHOOT [Troubleshooting and Maintaining Cisco IP Switched Networks] Exams.) Prerequisites: CMIT 499E and 499F. Development of the knowledge and skills to plan and perform regular maintenance on complex enterprise routed and switched networks. Discussion covers technology-based practices and a systematic ITIL (information technology infrastructure library)–compliant approach to perform network troubleshooting.

## Computer Science

Courses in computer science (designated CMSC) may be applied as appropriate (according to individual program requirements) toward

- the general education requirement in computing;
- a major in computer science, computer and information science, computer networking and security, digital media and Web technologies, or information systems management;
- a minor in computing;
- a certificate in Game Development; and
- electives.

### **CMSC 150 Introduction to Discrete Structures (3)**

Prerequisite or corequisite: MATH 140. A survey of fundamental mathematical concepts relevant to computer science. The objective is to address problems in computer science. Proof techniques presented are those used for modeling and solving problems in computer science. Discussion covers functions, relations, infinite sets, and propositional logic. Topics also include graphs and trees, as well as selected applications. Students may receive credit for only one of the following courses: CMSC 150 or CMSC 250.