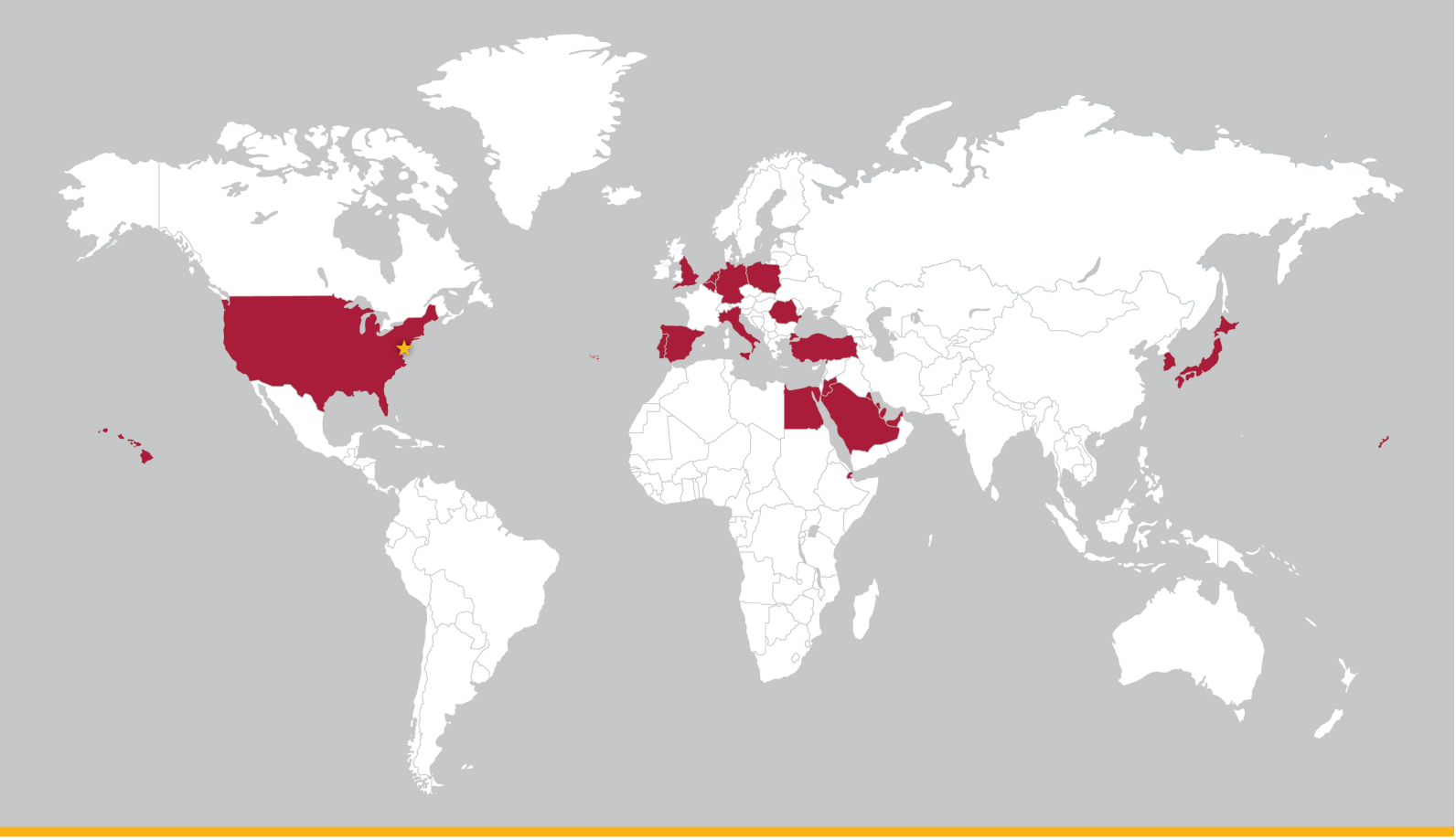
2025–2026
CATALOG

umgc.edu



UNIVERSITY OF MARYLAND
GLOBAL CAMPUS



MISSION

The mission of UMGC is to inspire hope, empower dreams, and transform lives . . . one student at a time. We accomplish this by

- Operating as Maryland's open university, serving working adults, military servicemembers and their families, and veterans who reside in Maryland, across the United States, and around the world
- Providing our students with affordable, open access to valued, quality higher education
- Serving as a recognized leader in career-relevant education, embracing innovation and change aligned with our purpose, and sharing our perspectives and expertise

VISION

The vision of UMGC is to be the school of choice for adults and business because we are learner-centric, data-driven, and skills-based.

VALUES

The core values of UMGC support its institutional vision for the future of learning and ensure the fidelity of the university's commitment to its learners and community.

- **Celebrate Diversity:** Our welcoming of diverse perspectives and ideas differentiates us and drives innovation
- **Optimize Agility:** Curiosity and adaptability—informed and guided by data—drive continuous improvement and transformation
- **Reach Beyond:** Courage and willingness to challenge boundaries lead to transformative solutions, for our institution and our learners alike
- **Embrace Collaboration:** Teamwork, effective communication, and clarity of purpose drive success

From the Acting Chief Academic Officer



Dear UMGC Learners,

Welcome to University of Maryland Global Campus (UMGC)! On behalf of our more than 5,000 faculty and 1,500 staff members around the world, I would like to express our desire to support you in achieving your educational, career, and life goals—whether you are beginning your academic journey, continuing your studies, or returning to pursue a new goal. We are honored that you have chosen UMGC as your educational partner.

At UMGC, our mission is centered on transforming lives through accessible, high-quality education that meets the demands of a rapidly changing world. We are proud to serve a global community of learners—adult learners, active-duty military servicemembers and veterans, working professionals, and lifelong learners—who bring rich experiences and diverse perspectives to our academic environment.

UMGC is committed to supporting your success both inside and outside the classroom. Our dedicated faculty and staff are here to provide the resources, guidance, and support you need to thrive. From innovative online programs to personalized advising and career services, every aspect of the UMGC experience is designed with your success in mind.

As part of that experience, the university catalog serves as more than just a guide to our academic programs and policies—it reflects our shared values of academic excellence, integrity, and student-centered learning. I encourage you to explore it thoroughly and use it as a road map throughout your journey.

We believe in your potential and are excited to support you every step of the way. Thank you for choosing UMGC. We look forward to celebrating your achievements and helping you reach your goals.

With warm regards,

Kimberly D. Whitehead, PhD
Acting Chief Academic Officer

POLICY STATEMENT

This publication and its provisions do not constitute and should not be regarded as a contract between UMGC and any party or parties, nor is it a complete statement of all policies, procedures, rules, regulations, academic requirements, or tuition and fees applicable to UMGC, its students, or its programs. UMGC reserves the right to make changes to the policies, procedures, rules, regulations, and academic requirements set out in this publication without prior notice. Such changes will be reflected on the university's website or other publication.

This catalog provides the degree requirements and recommended curriculum for students who begin continuous enrollment on or after August 1, 2025. 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 pp. 369–372.

Sources for any claims made throughout this catalog may be found on the UMGC website (*umgc.edu*).

This PDF is interactive. If you click on a page number in the table of contents or the index, it will take you directly to that page. Jump back to the table of contents or the index by clicking on the buttons on the outside margin of each page.

Table of Contents

WELCOME TO UMGC 6

OVERVIEW OF ACADEMIC SCHOOLS 7

ABOUT STUDY AT UMGC 8

8 Admission
14 Enrollment Information
16 Ways of Earning Credit
25 Educational Relationships
26 Helping You Get Started

ASSOCIATE DEGREE PROGRAM 28

28 Expectations
28 Requirements
31 Curriculum

BACHELOR'S DEGREE PROGRAMS 32

32 Expectations
32 Requirements
35 Curricula
36 Accounting
38 Applied Technology
39 Artificial Intelligence
42 Biotechnology
44 Business Administration and Management
46 Communication Studies
48 Computer Science
50 Criminal Justice
52 Cyber Operations
54 Cybersecurity Management and Policy
57 Cybersecurity Technology
59 Data Science
62 East Asian Studies
64 English
66 Environmental Health and Safety
68 Finance
70 General Studies
71 Gerontology and Aging Services
73 Graphic Communication
75 Health Services Management
77 History
79 Homeland Security
81 Humanities
83 Human Resource Management
86 Laboratory Management
87 Legal Studies
89 Management Information Systems
92 Marketing
94 Nursing (RN to BSN)
96 Political Science
98 Psychology
100 Public Safety Administration
102 Social Science
104 Sustainable Value Chain
107 Web and Digital Design

Continued

This PDF is interactive. If you click on a page number in the table of contents or the index, it will take you directly to that page. Jump back to the table of contents or the index by clicking on the buttons on the outside margin of each page.

Table of Contents

MASTER'S DEGREE PROGRAMS 110

110 Expectations
110 Requirements
111 Curricula
111 Accounting and Financial Management
113 Acquisition and Contract Management
114 Biotechnology
- 114 Bioinformatics Concentration
- 115 Biosecurity and Biodefense Concentration
- 116 Biotechnology Management Concentration
- 117 Biotechnology Regulatory Affairs Concentration

119 Business Administration
121 Clinical Professional Counseling
123 Cloud Computing Systems
125 CyberAccounting
126 Cyber Operations
128 Cybersecurity Management and Policy
130 Cybersecurity Technology
132 Data Analytics
134 Digital Forensics and Cyber Investigation
136 Distance Education and E-Learning
137 Environmental Management
138 Healthcare Administration
140 Health Information Management and Technology
141 Information Technology
- 141 Database Systems Technology Concentration
- 142 Homeland Security Management Concentration
- 143 Informatics Concentration
- 144 Project Management Concentration
- 146 Software Engineering Concentration
- 147 Systems Engineering Concentration

148 Instructional Technology
150 Learning Design and Technology
151 Management
- 151 Accounting Concentration
- 152 Criminal Justice Management Concentration
- 153 Emergency Management Concentration
- 154 Financial Management Concentration
- 156 Homeland Security Management Concentration
- 157 Human Resource Management Concentration
- 158 Intelligence Management Concentration
- 159 Interdisciplinary Studies in Management Concentration
- 161 Marketing Concentration
- 162 Project Management Concentration

163 Strategic Communications
165 Transformational Leadership

DOCTORAL DEGREE PROGRAM 166

166 Expectations
166 Requirements
167 Management: Community College Policy and Administration

CERTIFICATE PROGRAMS 169

169 Expectations
169 Requirements
170 Curricula
171 Undergraduate Certificate Programs
- 171 Accounting Foundations
- 171 Advanced Management
- 172 American Government and Political Processes
- 172 Applied Social Sciences

Continued

This PDF is interactive. If you click on a page number in the table of contents or the index, it will take you directly to that page. Jump back to the table of contents or the index by clicking on the buttons on the outside margin of each page.

Table of Contents

173 Artificial Intelligence Foundations
173 Augmented and Virtual Reality Design
174 Clinical Mental Health Care
174 Cloud Computing and Networking
175 Computer Networking
175 Crime Scene Investigation
176 Cyber Threat Hunting
176 Data Analytics
177 Decision Support for Business
177 Digital Design
178 Digital Marketing
178 Drones and Autonomous Systems
179 Fundamentals of Workplace Health and Safety
179 Health Information Management and Data Analytics
180 HR People Analytics
180 Human Resource Management
181 Leadership and Ethics
181 Machine Learning
182 Management
182 Management Information Systems
183 Project Management
183 Public Safety Executive Leadership
184 Spanish for Business and the Professions
184 Vulnerability Assessment
185 Watershed Management
185 Web Design
186 Women, Gender, and Sexuality Studies

187 Graduate Certificate Programs

187 Accounting
187 Accounting Information Security
188 Acquisition and Contract Management
188 Bioinformatics
189 Business Analytics
189 Cloud Computing and Networking
190 Cyber Operations
190 Cybersecurity Management and Policy
191 Cybersecurity Technology
191 Digital Forensics and Cyber Investigation
192 Digital Health Leader
192 Global Health Management
193 Homeland Security Management
193 Informatics
194 Instructional Technology Integration
194 Leadership and Management
195 Learning Design and Technology
195 Long-Term Care Administration
196 Multicultural Marketing
196 Project Management
197 Strategic Communications
197 Strategic Human Resource Management
198 Systems Engineering
198 Teaching Cybersecurity

COURSE INFORMATION 199

199 Course Numbering System
199 Unit of Credit
200 Prerequisites
200 Key to Course Descriptions
201 Undergraduate Course Descriptions
284 Graduate Course Descriptions

ACADEMIC AND ADMINISTRATIVE REQUIREMENTS 334

334 Academic Standards
340 Scholastic Recognition
342 Responsibilities of the Student

Continued

This PDF is interactive. If you click on a page number in the table of contents or the index, it will take you directly to that page. Jump back to the table of contents or the index by clicking on the buttons on the outside margin of each page.

Table of Contents

FINANCIAL INFORMATION 346

346 Payment of Tuition and Fees
348 Ways to Finance Your Education

SERVICES AND RESOURCES 355

355 Availability of Services
356 Accessibility Services
356 Admission Assistance
356 Advising
358 Alumni Association
358 Career Services
358 Computer Labs and Services
359 Course Materials
359 Graduation Clearance and Services
360 Library and Archives
360 Student Advisory Council
360 Student Organizations
360 Transcript Services
360 Tutoring and Writing Resources
361 Verification Services
361 Veterans Resources
361 Wellness Resources

LEADERSHIP 362

362 University System of Maryland
362 UMGC

GLOBAL HEADQUARTERS 365

365 UMGC Stateside
365 UMGC Europe
367 UMGC Asia

SUMMARY OF KEY POLICIES 369

369 Annual Security Report and Consumer Disclosures
369 Disclosure of Student Records
370 Nondiscrimination Statement
370 Peer-to-Peer File Sharing
371 Religious Observance
371 Retention of Student Records
371 Sexual Misconduct
372 Smoking
372 Student Classification for Admission and Tuition
372 Student Drug and Alcohol Awareness
372 Transfer of General Education Requirements

APPENDICES 373

373 Community College Alliances
373 MyUMGC Terminology
374 State Authorizations
375 Stateside Classroom Locations with Zip Codes

INDEX 376

Welcome to UMGC

From its founding in 1947, University of Maryland Global Campus (UMGC) has had a single mission: to meet the educational needs of adult students like you—students who must balance study with the demands of work and family life.

Since then, the university has grown to be the largest public university in the nation, serving students throughout the state, the country, and the world. And although its name has changed more than once over the decades (from the College of Special and Continuation Studies to University College, from UMUC to UMGC), the university's mission (stated on the inside front cover) and focus on providing open access to high-quality educational programs and services—eliminating the barriers that can keep you from achieving your educational goals—remain unchanged.

For information on UMGC's mission, history, and values, visit *umgc.edu/mission*.

CARRYING OUT THE MISSION

Students First

At UMGC, your success as a student is of paramount importance. The university seeks not only to help you fulfill your current education goals but also to serve as your educational partner throughout your career.

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

As a global university, UMGC makes it possible for you to take classes at almost any time, any place, by offering a large selection of online programs—in addition to classes at sites throughout Maryland and the Washington, D.C., metropolitan area and at military and civilian sites all over the world. You can also access student services online and by phone, as well as on-site at many locations.

Convenience and flexibility are not the only issues, however. UMGC seeks to create a learning environment that is inclusive, responsive, relevant, and respectful of diverse backgrounds.

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

Excellence

An institutionally accredited university, UMGC is dedicated to providing the highest quality programs and services and ensuring excellence in its online and on-site classes.

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

The success of UMGC's efforts over the years is evident. UMGC has garnered awards from such notable organizations as the World Affairs Council, E-C Council, University Professional and Continuing Education Association, Online Learning Consortium (formerly the Sloan Consortium), and Maryland Distance Learning Association.

Innovation

UMGC has always looked for new and better ways to serve students. Long before the online revolution, the university was delivering courses to students at distant locations, using any and all available technologies—from interactive television to voice mail. Today, you can access both courses and services online, using the university's learning management system and MyUMGC, its online gateway to services and information. Through its Office of Academic Quality, UMGC leads the search for next-generation learning models and best practices for online learning.

PROGRAMS AND FACILITIES

UMGC offers degree programs from the associate level to the doctorate. Most undergraduate and graduate programs are available online. These academic programs are administered by the School of Business, the School of Cybersecurity and Information Technology, and the School of Integrative and Professional Studies, which are described on the following page.

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 College Park Marriott Hotel & Conference Center at UMGC.

FOR ASSISTANCE

Contact us by email at *studentsfirst@umgc.edu* or by phone at 800-888-8682.

Overview of Academic Schools

The School of Business

Pam Carter, PhD
Portfolio Vice President and Dean

Anna V. Seferian, PhD
Associate Dean

busdean@umgc.edu

Vision

The School of Business will be the school where learners acquire innovative business skills that enable them to reach their full potential today and in the future.

Mission

Our mission in the School of Business is to be a leader in career-focused learning that enhances evidence-based decision-making in diverse global environments.

The School of Cybersecurity and Information Technology

Calvin Nobles, PhD
Portfolio Vice President and Dean

S. K. Bhaskar, PhD
Associate Dean

citdean@umgc.edu

Vision

The School of Cybersecurity and Information Technology will be the preferred provider of career-enhancing higher education, preparing a modern workforce in cybersecurity, information technology, and related emerging technologies. Our courses and programs will be innovative and industry-relevant for all learners at the university.

Mission

The mission of the School of Cybersecurity and Information Technology is to

- provide career-enhancing, affordable, accessible, and streamlined educational pathways in cybersecurity, information technology, and related emerging technologies
- prepare students for career and industry growth in all its courses and degree programs
- use highly qualified scholar-practitioners to bring workplace needs and understanding to classrooms and innovative learning models and applications to its students

The School of Integrative and Professional Studies

Randall Hansen, EdD
Associate Dean

ipsdean@umgc.edu

Vision

The School of Integrative and Professional Studies is committed to empowering people to make the world a better place through educational advancement.

Mission

Our mission in the School of Integrative and Professional Studies is to be leaders in innovative, student-centered learning, providing high-quality liberal arts educational experiences to a global community.

Admission

UMGC's admission requirements reflect our mission as Maryland's open university.

General Information

Before the beginning of each academic term, UMGC holds various online events and on-site open houses in the Maryland area for new and prospective students. These events offer an opportunity to learn about UMGC and its programs, student services, academic and career offerings, faculty members, and students. You can apply for admission and enroll in courses during the on-site open houses.

For general information or to be directed to an individual who can answer specific questions, call 800-888-8682.

Undergraduate Admission Requirements

General Requirements

To be considered for admission, you must have fulfilled one of the following conditions:

- You graduated from a state-approved U.S. high school.
- You received passing scores on a state high school equivalency exam, such as the General Educational Development (GED) test (*ged.com*) or HiSET exam (*hiset.org*).
- You graduated from a homeschool or alternative high school program that meets the criteria set forth by state and local education regulations.
- You graduated from a non-U.S. high school with a credential evaluated as equivalent to a U.S. high school diploma by a National Association of Credential Evaluation Services (NACES) member evaluation agency.
- You did not graduate from high school, but you earned an associate degree or higher from a UMGC-approved accredited college or university or at least 60 college credits from a UMGC-approved accredited college or university with at least a 2.0 grade point average (GPA) on a 4.0 scale.
- You served or are serving in the U.S. military and have training/experience documented by a Joint Services Transcript (JST) or Community College of the Air Force (CCAF) transcript.

High school students who meet certain criteria (described on p. 11) may also be considered for admission and concurrent enrollment.

In addition to meeting the academic criterion listed above, you must be at least 13 years old, meet UMGC's English proficiency requirement, and be in good standing at any institutions that you previously attended, as noted in UMGC's Undergraduate Admissions Policy. Standardized test scores are not required.

Eligibility to enroll in UMGC overseas divisions may depend on citizenship and international residency. Special eligibility requirements (described below) apply to admission to the Associate of Arts degree program. Additional admission requirements may apply if you are pursuing certain bachelor's degree programs. See Undergraduate Program-Specific Requirements on p. 9.

You must be admitted to the university before you can register for classes.

UMGC's Undergraduate Admissions Policy is available online at *umgc.edu/policies*.

Requirements for the Associate Degree Program

To be eligible for admission into the Associate of Arts (AA) degree program, you must also provide documentation demonstrating that you belong to one of the following populations:

- Applicants with permanent and mailing addresses outside the state of Maryland
- Full-time active-duty servicemembers, selected reservists, National Guard members, and Commissioned Corps members of the U.S. Public Health Service or the National Oceanic and Atmospheric Administration
- Spouses or dependent children of any servicemember noted above
- Veterans
- Spouses or dependent children of veterans
- Applicants to the Europe or Asia divisions or students who began an AA degree program while admitted to UMGC's European or Asian division and subsequently relocated to the stateside division
- UMGC employees
- Spouses or children of UMGC employees
- Participants in a negotiated business-to-business agreement that includes the option of pursuing an AA degree with UMGC

Undergraduate Student Status

As an undergraduate student, you are assigned regular, provisional, or visiting status.

REGULAR

To be assigned regular student status, you must meet the general admission requirements. If you attended another institution of higher education within the last two years, you must also have a grade point average (GPA) of 2.0 or higher and be in good

TABLE OF CONTENTS
INDEX

academic standing at the last institution of higher education you attended.

As a student in regular status, you are limited to enrolling in the number of credits set forth in UMGC's Student Academic Load and Enrollment Status Policy (available online at *umgc.edu/policies*). Course load is discussed on p. 343.

PROVISIONAL

You will be assigned provisional status if you meet the general admission requirements but one of the following conditions applies:

- You had a GPA lower than 2.0 at the last institution that you attended within the last two years.
- You were on academic probation for poor academic performance at the last institution that you attended within the last two years.
- You were dismissed for poor academic performance from the last institution that you attended within the last two years.
- You are currently a high school student who qualifies for concurrent enrollment. (See p. 11 for information about qualifying for concurrent enrollment.)

If you are a concurrently enrolled high school student, you maintain your provisional status until you submit proof of high school completion; until that time, you are allowed to take a maximum of 7 credits each term. Other provisional students may take more than 7 credits per term, but they must complete 7 credits of graded coursework with a cumulative GPA of 2.0 or higher before being considered for regular student status.

All provisional students must contact an advisor or a success coach to request to be changed to regular student status.

VISITING

If you are attending an institution outside the University System of Maryland (USM), you must apply for admission to UMGC.

If you are currently attending another institution of the USM as an undergraduate or a graduate student, you may take undergraduate courses without applying to UMGC. Instead, you must submit a letter or form from the USM institution you attend authorizing your enrollment at UMGC for the term in which you wish to attend. Your previous coursework will be reviewed by the appropriate UMGC academic department to see if course prerequisites have been met. The number of credits you may take and the transferability of academic work completed at UMGC are determined by your home institution.

Undergraduate Program-Specific Requirements

BIOTECHNOLOGY

To pursue a major in biotechnology, you must have completed the required lower-level coursework for the biotechnology major before being admitted to the program. Consult an advisor or a success coach before electing this major.

LABORATORY MANAGEMENT

To pursue a major in laboratory management, you must have completed the required lower-level coursework for the laboratory management major before being admitted to the program. Consult an advisor or a success coach before electing this major.

NURSING (RN TO BSN)

To pursue a major in nursing, you must meet the following conditions:

- You reside in and have an active, unencumbered registered nursing (RN) license in an approved state.*
- You are in compliance with the RN licensure requirements of your primary state of residence.
- You have an associate degree in nursing or a diploma from a registered nursing education program approved by the Maryland Board of Nursing.

Graduate Admission Requirements

General Requirements for Master's Degree and Graduate Certificate Programs

To be considered for admission, you must have graduated from a UMGC-approved accredited college or university with a bachelor's degree (or higher). Graduates from other institutions may be considered on a case-by-case basis. Applicants who are not seeking a degree or certificate must meet the same criteria and are limited to taking a maximum of 12 credits.

In addition to the academic criteria listed above, you must meet UMGC's English proficiency requirement, as noted in UMGC's Graduate Admissions Policy (available online at *umgc.edu/policies*). Standardized test scores, such as the Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT), are not required for most programs. Additional admission requirements, which may include standardized test scores, may apply if you are pursuing certain degree programs. See Graduate Program-Specific Requirements on p. 10.

Regardless of program, your eligibility for admission may be limited by foreign citizenship or international residency, in

* See *umgc.edu/nursing* for the most up-to-date list of approved states.

accordance with federal law. In such cases, additional admission procedures may apply.

You must be admitted to the university before you can register for classes.

Graduate Student Status

As a graduate student, you are assigned regular or visiting status.

REGULAR

To be assigned regular student status, you must meet the general admission requirements.

As a student in regular status, you are limited to enrolling in the number of credits set forth in UMGC's Student Academic Load and Enrollment Status Policy (available online at *umgc.edu /policies*). Course load is discussed on p. 343.

VISITING

If you are attending an institution outside the University System of Maryland, you must apply for admission to UMGC.

If you are a degree-seeking student in good academic standing in an approved graduate program at another University System of Maryland institution and wish to take courses at UMGC, you need not apply for admission to UMGC. Instead, you must obtain an interinstitutional enrollment form from your home institution, complete it, and submit it to *admissions@umgc.edu.*

Your previous coursework will be reviewed by the appropriate UMGC academic department to see if course prerequisites have been met. The number of credits you may take and the transferability of academic work completed at UMGC are determined by your home institution.

Graduate Program-Specific Requirements

CLINICAL PROFESSIONAL COUNSELING

To be admitted to the Master of Science in Clinical Professional Counseling program, you must meet the standard criteria for graduate admission (detailed on p. 9) and have a minimum GPA of 3.0 in your last earned bachelor's or more advanced degree from a UMGC-approved accredited college or university. Admission to this program is selective and not guaranteed. The academic department will make the determination regarding admission to the program.

Information on required documentation, additional materials (i.e., written statement and letters of recommendation), and procedures for applying to the clinical professional counseling program are on p. 13.

Note: In general, only residents of Maryland and certain other states and territories (listed at *umgc.edu/counseling*) are eligible for admission into the clinical professional counseling program.

TRANSFORMATIONAL LEADERSHIP

To be admitted to the Master of Science in Transformational Leadership program, you must meet the standard criteria for graduate admission and belong to one of the following military populations:

- Full-time active-duty members of the U.S. Armed Forces
- Members of the National Guard
- Reservists
- Veterans of the U.S. Armed Forces
- Commissioned Corps members of the U.S. Public Health Service
- Commissioned Corps members of the National Oceanic and Atmospheric Administration

General Requirements for the Doctoral Degree Program

Admission to the doctoral program is competitive. Meeting or exceeding the eligibility standards does not guarantee admission.

To apply to the doctoral program, you must have a master's degree in an appropriate field of study. You cannot enroll in the first course in the program until your application has been reviewed and accepted by the department.

The doctoral program may require a brief residency at a stateside UMGC location each semester. If you are residing outside the United States, you may be required to affirm as part of the admission process that you understand the program's residency requirement. It is your responsibility to ensure that you can enter the United States each term to complete the on-site residencies. UMGC cannot advise you on the process or the requirements for entering the United States. If you have questions, you should contact the U.S. embassy in your home country for information.

Special Situations

Applicants Educated Outside the United States

If you were educated outside the United States and English is not your native language, you must demonstrate English proficiency. If you are providing test scores to do so, you must arrange to have the official score reports sent directly from the testing agency to UMGC and marked Incoming Transcripts. The Test of English as a Foreign Language (TOEFL) score recovery code for UMGC is 5804.

Test scores must be less than two years old. Alternative evidence may be accepted as demonstrating English proficiency. Contact Admissions at *admissions@umgc.edu* for more information.

Note: UMGC does not issue Form I-20 A-B Certificate of Eligibility for F-1 student status. However, you may be eligible to pursue a program online from outside the United States.

TABLE OF CONTENTS
INDEX

ABOUT STUDY AT UMGC

UNDERGRADUATE

If you are applying for admission to an undergraduate program and you graduated from a high school not located in the United States or one of the countries listed at *umgc.edu /internationalstudent,* you must demonstrate English language proficiency in one of the following ways:

- Certifying on the admission application that you earned a passing score on a U.S. GED test or HiSET exam
- Having earned at least 24 transferable credits from a UMGC-approved accredited college or university or from an institution in one of the countries listed at *umgc.edu /internationalstudent*
- Submitting a passing score on an approved English proficiency examination, as follows:
  - A minimum score of 71 on the internet-based version of the Test of English as a Foreign Language (TOEFL)
  - A minimum score of 525 on the paper-based version of the TOEFL *and* a minimum score of 4 on the Test of Written English (TWE)
  - A minimum overall score of 6 on the International English Language Testing System (IELTS), including the academic writing and academic reading modules
  - A minimum grade of Pre-1 on the Eiken Test in Practical English Proficiency
  - A score of 95 on the Duolingo English Proficiency Test

See Admission Procedures for information on required documentation related to high school completion.

GRADUATE

If you are applying for admission to a graduate (master's or doctoral degree) program and you obtained a bachelor's or master's degree from an institution not located in the United States or one of the countries listed at *umgc.edu/internationalstudent,* you must demonstrate English language proficiency in one of the following ways:

- Submitting transcript(s) indicating completion of at least 12 credits of graduate coursework taken within the last two years with a grade of B or higher from a UMGC-approved accredited college or university in the United States, which will be considered on a case-by-case basis
- Submitting a passing score on an approved English proficiency examination, as follows:
  - A minimum score of 79 on the internet-based version of the Test of English as a Foreign Language (TOEFL)
  - A minimum score of 550 on the paper-based version of the TOEFL *and* a minimum score of 4 on the Test of Written English (TWE)
  - A minimum overall score of 6.5 on the International English Language Testing System (IELTS), including the academic writing and academic reading modules
  - A minimum grade of Pre-1 on the Eiken Test in Practical English Proficiency
  - A score of 105 on the Duolingo English Proficiency Test

Applicants Expelled or Suspended from Another Institution

FOR ACADEMIC MISCONDUCT

If you were expelled for academic misconduct from any institution in the USM, you are not eligible for admission to UMGC. If you were suspended from any USM institution for that reason, you are not eligible for admission to UMGC during the period of your suspension.

If you were expelled or suspended for academic misconduct from an institution outside the USM, your application must be reviewed before an admission decision can be made.

FOR DISCIPLINARY MISCONDUCT

If you were expelled under the USM's Event-Related Misconduct Policy, you will not be admitted to UMGC for one year from the effective date of the expulsion. After that time, you may be considered for admission on a case-by-case basis. If you were suspended from a USM institution under that policy, you will not be admitted to UMGC during the term of your suspension.

If you were expelled or suspended from a non-USM institution for any type of disciplinary misconduct or you were expelled or suspended from a USM institution for disciplinary misconduct that was not event-related, you may be considered for admission on a case-by-case basis.

High School Students Seeking Concurrent Enrollment

If you have not earned your high school diploma but are currently attending a U.S. state-approved high school, you may be admitted as a provisional student. With your application for admission, you must provide a letter of recommendation from the appropriate officials at your high school and a high school transcript. If UMGC determines after a review of this documentation that your record reflects superior scholarship and college readiness, you may be admitted with provisional status.

If you are currently being homeschooled or attending an alternative high school program, you may qualify for concurrent enrollment if your homeschool or alternative high school program complies with applicable state and local education regulations.

As a concurrently enrolled student, you are assigned provisional non-degree-seeking status and limited to 7 credits per term. Once you meet all the general admission requirements, you may contact an advisor or a success coach to request to be changed to regular and degree-seeking status.

Admission Procedures

To apply for admission, you must complete an admission application online at *umgc.edu/apply* and pay the nonrefundable fee. Documentation required to prove eligibility is detailed in the following sections. Documentation required for proof of English proficiency is detailed under Applicants Educated Outside the United States.

If you are a former UMGC student and have not attended UMGC for at least two years, you must submit a new application before you will be allowed to register. However, you will not be required to pay another application fee unless you change degree level.

Applicants or current students who submit false information on their application may be subject to disciplinary action, as detailed in UMGC's Code of Student Conduct Policy (available at *umgc.edu/policies*).

Applicants to Undergraduate Certificate and Associate and Bachelor's Degree Programs

Once you are admitted to UMGC, you will be assigned an admit term (the academic term in which you are officially admitted, e.g., fall 2025), which will be reflected in your MyUMGC student portal. You should submit documentation as soon as your application is processed. You may not be able to enroll for a second term if your documentation has not been accepted.

Appropriate documentation varies according to your situation, as follows:

- If you graduated from a state-approved high school, you must submit an official transcript from that school. You may be eligible to complete and submit a UMGC-issued attestation form certifying your graduation from high school. Contact Advising for more information.
- If you served or are currently serving in the U.S. Armed Forces, you may submit a Joint Services Transcript (JST) or Community College of the Air Force (CCAF) transcript as proof of high school equivalency.
- If you completed a state high school equivalency exam, such as the GED or HiSET, you must submit an official score report.
- If you graduated from a homeschool or alternative high school program, you must submit documentation showing high school completion and compliance with state and local education regulations for the state in which you were homeschooled or attended an alternative high school program.
- If you graduated from a non-U.S. high school, you must submit documentation of your education to a NACES member evaluation agency and have the evaluation agency submit its recommendations to UMGC. For a list of NACES members, visit *naces.org/members*.
- If you graduated from high school and have completed at least 30 college-level credits, you are not required to submit documentation of high school graduation if you submit official documentation of at least 30 completed college-level credits from one or more of the following sources:
  - UMGC-approved two- and four-year colleges and universities
  - Military occupational specialties and experience
  - Vocational and technical coursework
  - Professional or technical coursework based on statewide agreements and alliances
- If you have not graduated from high school but have completed an associate degree or higher or at least 60 college-level credits, you may submit official documentation of the completed degree or at least 60 college-level credits from one or more of the sources listed above.

You need not submit proof of standard examinations.

Applicants to Graduate Certificate and Master's Degree Programs

To be admitted to most master's degree and graduate certificate programs or to take graduate courses without pursuing a degree, you must submit official transcripts demonstrating completion of a bachelor's degree from a UMGC-approved accredited college or university or from another institution (approved on a case-by-case basis). You should submit documentation as soon as your application is processed. You may not be able to enroll for a second term if your documentation has not been accepted.

Until the university receives your official transcript(s) and verifies your completion of a bachelor's degree, you are limited to enrolling in no more than 6 credits of graduate coursework. Failure to submit official transcripts will prevent you from enrolling in additional graduate courses until such transcripts are received and verified by UMGC.

TABLE OF CONTENTS
INDEX

PROGRAM-SPECIFIC PROCEDURES

Some master's degree programs require the submission of official transcripts before you can be admitted and enroll in classes. These programs have specific admission requirements and/or prerequisite coursework, described under Graduate Program-Specific Requirements and on the UMGC website. A list of the programs that require submission of a transcript before admission is available at *umgc.edu/admission-transcript*.

Depending on your program, your official transcript may need to reflect specific coursework and/or a given GPA. You may also be required to provide documentation of industry certification, test scores, or military status.

Master of Science in Clinical Professional Counseling

If you are applying to the MS in Clinical Professional Counseling program, you must also provide two recommendations, a statement of purpose, a résumé or curriculum vitae, and an attestation of residence in Maryland or in one of the states or territories listed on the program web page before posted deadlines. Details are available at *umgc.edu/counseling*.

Applicants to the Doctoral Program

If you are applying for admission to the DM program in community college policy and administration, you must submit the following documentation along with your completed application before the posted deadlines:

- An official transcript indicating completion of a master's degree or higher from a UMGC-approved accredited college or university (Equivalent degrees from other institutions may be considered on a case-by-case basis.)
- An up-to-date résumé or curriculum vitae
- Two letters of recommendation from academic or professional references, using the doctorate recommendation form available at *umgc.edu/dmccpa*
- Responses to specific writing prompts (300–500 words per prompt)

All applications are prescreened by doctoral program faculty and staff based on the documentation submitted. If you pass the prescreening process, you are required to interview with the program admissions committee, comprising faculty members, a staff member, and the portfolio director, who use a common interview guide. Final recommendations for admission are based on evaluation of written submissions and interview recommendations from faculty.

Maryland residents are excluded from admission to the program. The complete admission file must be reviewed and accepted by UMGC before you can enroll in program coursework.

Military-Affiliated Students

Most military servicemembers may apply to all UMGC programs online at *umgc.edu/apply*.

Note: If you intend to use military TA benefits, you must contact your educational services officer or counselor within your branch of service for details on eligibility and your military branch's process for submitting TA forms *before* you submit an application for admission to UMGC.

RELOCATING BETWEEN UMGC DIVISIONS

It is important that you notify UMGC when you are relocating to a new duty station so that residency classification and tuition rate can be accurately determined.

If you plan to relocate from one UMGC division (stateside, Europe, or Asia) to another and you have attended classes with UMGC within the last two years, you must amend the Student Information Update form before the start date of the term in which you intend to begin study at the new division. This form may be accessed via the MyUMGC student portal under Helpful Links. If you have not attended UMGC within the last two years, you will need to complete the regular UMGC admission application and indicate the division that you wish to attend by answering the questions presented. There is no fee for relocation or readmission at the same degree level.

Students Seeking Readmission

If you have not enrolled in classes at UMGC for a period of two years (six or eight terms, depending on the program) or more, you must reapply for admission before you will be allowed to resume enrollment. However, you need not pay another application fee unless you change degree level. Refer to the requirements section of the degree or certificate you plan to pursue for information on continuous enrollment and the requirements you must follow.

If you were academically dismissed, you may not register for classes. Unless you are a doctoral student, you may apply for reinstatement. Reinstatement is not guaranteed. If you were dismissed from the doctoral program, you may not be readmitted. For more information on reinstatement after academic dismissal, see pp. 338 and 339.

MILITARY SERVICEMEMBERS SEEKING READMISSION

If you discontinued your studies with UMGC because of your military service obligations and would like to return as a UMGC student, contact *military@umgc.edu* within three years after completion of military service to seek readmission. The cumulative length of time for all absences due to military service may not exceed five years. If the program in which you were enrolled no longer exists, UMGC will enroll you in the most similar program, unless you request or agree to a different program.

TABLE OF CONTENTS
INDEX

Unless precluded by military necessity, you should provide oral or written notice of a service obligation to Military Advising at *military@umgc.edu* or 240-684-2105 or 877-275-8682 as far in advance as possible. Refer to UMGC's Readmission for Military Servicemembers Policy at *umgc.edu/policies* for more information.

Students Changing Programs

If you are considering a change to your major or certificate program at the undergraduate level or a change from one master's degree program, concentration, or certificate program to another at the graduate level, you must first consult an advisor or a success coach, who can help you determine the impact of changing degree programs.

The advisor or success coach can determine if another application is required, if any previous credit is likely to apply, and when you may begin to take classes in the new program. Generally, the requirements for completing your new program are those in place when you enroll in the new program.

After speaking with an advisor or a success coach, send an email request to Advising at *studentsfirst@umgc.edu,* including your name, student ID number, current program, and requested program.

If you are using veterans education benefits or transferred benefits, you are required to submit certain forms to the Veterans Administration. Refer to *umgc.edu/major-change* for more information.

Cross-Enrollment Between Programs

You may be admitted either as an undergraduate or a graduate student, but you may not hold both classifications simultaneously. Generally, you are not eligible to enroll in courses outside your degree program. However, if UMGC has developed an accelerated pathway between undergraduate and graduate programs, specific courses may apply to both degree programs. In such cases, you are eligible to cross-enroll and will be charged the undergraduate rate for undergraduate courses and the graduate rate for graduate courses.

As a graduate student, you may be enrolled in only one master's degree program at a time, and you may not enroll in courses outside your degree program. If you change graduate degree programs, you may not enroll in courses in the new degree program until the current term is completed.

Golden Identification Program for Senior Citizens

The Golden Identification program allows qualified senior citizens to register for up to a total of 7 credits of undergraduate coursework or 6 credits of graduate coursework per term, on a space-available basis, without paying tuition. All other fees apply. Tuition charges associated with portfolio assessment and credit by examination will not be waived.

To qualify for the Golden Identification program, you must meet all of the following criteria:

- Reside in Maryland
- Be a U.S. citizen or permanent resident
- Be 60 years of age by the beginning of the term for which you are applying
- Not be employed more than 20 hours a week

The Golden ID tuition waiver does not apply to specialty program courses (listed at *umgc.edu/tuition*), doctoral program courses, or noncredit courses. More information on this program is available online at *umgc.edu/goldenid.*

You are required to apply for admission to UMGC, meet UMGC's admission criteria, and provide additional documentation to qualify for the Golden ID tuition waiver. To apply, go to *umgc.edu/apply.*

Enrollment Information

Ways to Register

Registration begins each session as soon as the course schedule becomes available on the web and continues until the deadline listed. Check the current online schedule of classes (*umgc.edu/schedule*) and the undergraduate and graduate academic calendars (*umgc.edu/calendar*) for registration information and deadlines.

UMGC offers a number of ways to register for most courses, including online (via MyUMGC) and on-site registration. Detailed information and instructions are available each session online at *umgc.edu/register.*

Schedule Adjustments

The university reserves the right to make changes to class sections to ensure that such sections are adequately sized to create an appropriate learning environment. Such class section changes include changing faculty members and moving students between course sections to balance enrollments.

TABLE OF CONTENTS
INDEX

Waiting List

If an on-site or a hybrid class is already full at the time of registration, you can place your name on a waiting list for that class.

Regardless of how you register, the following procedures apply:

- You may put your name on the waiting list for up to six hybrid classes or sections.
- You may not attend a hybrid class for which you are on the waiting list.
- If you are already enrolled in a different section of the same class for which you are waitlisted, you will not be enrolled in the waitlisted section even if space becomes available.
- If you are already enrolled in the maximum number of allowable credits and you are on a waiting list for another course, you will not be registered in the additional course even if space becomes available in the class.
- Faculty members and advisors or success coaches are not authorized to add you to a closed class.
- If a space becomes available and you are the next person on the waiting list, you will automatically be registered for that class, and the charge will appear on your account. You will be notified of the enrollment by email. If you are ineligible for enrollment (because you have not met prerequisites or are enrolled in another class that conflicts in time), the space will go to the next person on the waiting list.

If you no longer want to enroll in the class, you should remove your name from the waiting list to prevent the possibility of being automatically enrolled.

The waiting list option is not available for online classes.

Priority Enrollment for Veterans

If you have a past-due balance, you may be disenrolled from one or all of your UMGC courses. An exception may apply if you are receiving veterans education benefits. Once you have completed the steps to request certification of your enrollments for veterans benefits, and if your benefit type pays directly to the school, you will be excluded from disenrollment. This exception is designed to allow eligible veterans to enroll while awaiting payment of veterans education benefits.

Dropping or Withdrawing from Classes

Procedures

To cancel your enrollment in a class without any mark on your transcript (dropping a class), you must access MyUMGC (*my.umgc.edu*) and follow the steps for dropping a class before the end of the drop period. The dates for the drop period are available at *umgc.edu/academiccalendar.*

When you drop a class, all tuition charges for that course are removed from your student account and no mark or record of the course will appear on your transcript.

If you wish to cancel enrollment in a class after the drop period ends (i.e., withdraw from a class), you must access MyUMGC and follow the steps for withdrawing from a class before the end of the withdrawal period. The dates for the withdrawal period are available at *umgc.edu/academiccalendar.*

Withdrawing from a class will result in a mark of W (described on p. 336) on your academic transcript. You may be refunded a portion of your tuition based on the withdrawal date and the refund schedule posted at *umgc.edu/refunds.* You will be responsible for any remaining tuition due.

You should be careful to note deadlines according to your class format (online or hybrid/on-site) and division (stateside, Europe, or Asia).

Failure to drop or withdraw from a class in the appropriate manner or by the posted deadlines may result in your receiving a failing grade and forfeiting any refund. The following actions do not constitute dropping or withdrawing from a course:

- Stopping payment on checks
- Nonpayment of tuition charges
- Never attending or participating in a class
- Ceasing to attend or participate in a class

If you have additional questions concerning withdrawing from or dropping a course, see UMGC's Course Withdrawal Policy at *umgc.edu/policies.*

Effect on Student Aid

If you are using financial aid and/or veterans benefits, you are strongly encouraged to contact the Financial Aid Office or Veterans Advising before you drop or withdraw from a class to fully understand the impact of such an action on your current and future financial aid awards and/or veterans benefits. Withdrawing from a class could leave you responsible for a portion of the tuition. For more information, email *veterans@umgc.edu* or contact the Office of Financial Solutions at 800-888-8682.

If you are using military tuition assistance, you must contact your military education counselor or education services officer for guidance on withdrawals related to emergencies or official duty requirements before dropping or withdrawing from a class to fully understand the impact of such an action on your current and future military tuition assistance benefits.

TABLE OF CONTENTS
INDEX

Ways of Earning Credit

UMGC excels in combining access with academic quality. It opens doors to learning by bringing education to you wherever you may be.

Because UMGC understands the importance of lifelong learning, it has established academic policies that encourage the appropriate use of transfer credit from other institutions as well as credit from less traditional sources. Recognizing that adult students bring to the university not only a willingness to learn but also an educational history informed by experiential learning, UMGC incorporates the assessment of nontraditional learning (i.e., learning gained outside the classroom) into the evaluation of student competencies and academic credit.

The various ways in which one may earn credit toward a degree—beyond taking courses at UMGC—are detailed below. Limits to the amount of credit from such sources that may be applied to a degree or certificate follow on pp. 24–25.

Transfer Credit from External Sources

Be sure to discuss all previous experience and training with an advisor or a success coach to ensure that you request evaluation from all the sources that apply to you.

Sources, Requirements, and Restrictions

UMGC accepts credit from a variety of outside sources, including the following:

- Institutionally accredited two- and four-year colleges and universities and other accredited institutions, including vocational and technical colleges, that have been approved by UMGC
- Other higher education institutions with which UMGC has an articulation agreement for acceptance of credit and/or a joint program
- Non-U.S. institutions, based on UMGC review of the report of a NACES member international credit evaluation agency
- High schools with which UMGC has an articulation agreement for acceptance of credit
- Corporate training or coursework; military occupational specialties, training, and experience; vocational and technical organizations; and industry certifications evaluated by nationally recognized credit evaluation agencies, such as the American Council for Education (ACE) or National College Credit Recommendation Service (NCCRS), or evaluated and approved by UMGC
- Standardized examinations (listed on p. 19)

If you have earned credit at another college or university, you are responsible for determining whether courses you plan to take at UMGC would duplicate any previously earned credit and for submitting all official transcripts from colleges and universities you attended, as well as documentation of military and professional learning and pertinent test scores (CLEP, AP, etc.)—regardless of whether they appear on a previous college transcript or not.

UMGC does not accept transfer credits for remedial, precollege, or sectarian religious courses. If you plan to transfer credit from other institutions to UMGC, you may request an evaluation of your previous credit and experience to determine whether UMGC will accept transfer credit and how those credits may apply to a degree from UMGC. Official transcripts are required for UMGC to evaluate and award transfer credit. For nontraditional sources of credit, other documentation is required as set forth in the sections that follow. Transfer credit is granted only if it is applicable to your chosen program.

If you are in doubt about whether a UMGC course duplicates previous study, you should consult an advisor or a success coach before registering.

More information on the process of transferring credit is provided on p. 372. UMGC's Undergraduate Transfer Credit Evaluation and Appeal Process Policy and Graduate Transfer Credit Evaluation and Appeal Process Policy are available at *umgc.edu/policies.*

Criteria for each type of credit are detailed in the following paragraphs.

CREDIT FROM COMMUNITY COLLEGES, JUNIOR COLLEGES, AND VOCATIONAL AND TECHNICAL COLLEGES

Credits from UMGC-approved accredited two-year institutions (community colleges, junior colleges, or vocational and technical colleges) may be applied toward an undergraduate degree at UMGC.

If you initially enrolled in any of the public community colleges in Maryland, general education credit is transferred in conformance with the policy developed and approved by the Maryland Higher Education Commission, subject to any limitations under federal law. (Details are given on p. 357.) If you have participated or are participating in one of the community college alliances with UMGC and plan to enroll in courses at both institutions concurrently, you should consult with advisors or success coaches at both institutions.

TABLE OF CONTENTS
INDEX

CREDIT FROM OTHER COLLEGES AND UNIVERSITIES

Undergraduate

Transfer credits from UMGC-approved accredited two- and four-year colleges and universities for courses in which you earned a grade of at least C (2.0) may be accepted for courses that apply to your undergraduate program and do not duplicate other courses for which credit has been awarded. Transfer credit from another institution's course challenge examinations and prior learning program may be accepted if it is listed on your transcript with a passing grade.

Graduate

Transfer credits from UMGC-approved accredited four-year colleges and universities for courses in which you earned a grade of at least B (3.0) may be accepted for courses that apply to your graduate program and do not duplicate other courses for which credit has been awarded.

Graduate credits offered for transfer credit must also meet the following criteria:

- The credits must have been earned as graduate credit.
- For some programs, the credits must not have been applied to an earned degree. To determine if credits earned in a completed degree program are transferable, contact an advisor or a success coach for details on any restrictions specific to your program.
- The credits must be equivalent to graduate-level coursework or recommended for graduate-level credit by the American Council on Education (ACE) or other nationally recognized bodies or as part of an approved articulation agreement.

Decisions regarding your eligibility to enter a graduate program and receive transfer credit based on agreements with third parties are made at the time of admission and may not be made retroactive after enrollment.

For most graduate programs (those that do not require DCL 600M), the credits also must have been completed within three years of your first term of enrollment in a graduate degree or certificate program at UMGC.

If you have previously earned a master's degree from a UMGC-approved accredited college or university, you are eligible to receive transfer credit for DCL 600M in recognition of the fundamental competencies essential for successful completion of a graduate degree program. If you have earned graduate credit but have not earned a master's degree, you may request a review of transfer credit for DCL 600M.

CREDIT FROM MILITARY INSTITUTIONS OR MILITARY EXPERIENCE

UMGC may award credit for military experience, military service occupations, and military training offered by the U.S. Armed Forces or military institutions on the basis of the recommendations by the American Council on Education (ACE) in its *Guide to the Evaluation of Educational Experiences in the Armed Services.* Courses taken at accredited military institutions may also be accepted as part of an articulation agreement; they must meet other UMGC requirements for transfer credit, and they are subject to the same limitations as those placed on nonmilitary credit. UMGC generally accepts ACE recommendations for lower- and upper-level credit.

Credit from the Community College of the Air Force

UMGC awards undergraduate credit for study at technical schools of the U.S. Air Force in accordance with recommendations from the Community College of the Air Force (CCAF). Credits must be applicable to your chosen degree program at UMGC, must meet other UMGC requirements for transfer credit, and are subject to the same limitations as those placed on nonmilitary credit.

The following conditions apply:

- All credit from the CCAF is awarded as lower level.
- Since the CCAF records satisfactorily completed courses as S (satisfactory) and specifies that S equals a grade of C or higher, credit may be applied to your undergraduate UMGC degree program as determined by UMGC.
- Courses that are vocational or technical may be used only as electives in an undergraduate degree program.

CREDIT FROM INSTITUTIONS OUTSIDE THE UNITED STATES

Study at institutions outside the United States must be evaluated by a NACES member evaluation agency to be considered for transfer credit.

If you are seeking a review of potential transfer credit from a non-U.S. postsecondary educational institution, you must

- Mail your official international transcripts to a NACES member evaluation agency (listed at *naces.org/members*)
- Pay fees associated with the international evaluation

More details are available online at *umgc.edu/internationalcredit.*

CREDIT FROM NONCOLLEGIATE COURSES AND TRAINING

UMGC may accept for credit noncollegiate courses and training applicable to your degree program that have been evaluated by either ACE (if the courses have been given credit recommenda-

TABLE OF CONTENTS
INDEX

tions in the *National Guide to Educational Credit for Training Programs*) or the National College Credit Recommendation Service (NCCRS, formerly PONSI).

Initial Estimate of Transfer Credit

You can have a review of your potential transfer credit done by an advisor or a success coach. This review provides an estimate of the academic credit UMGC might accept toward a particular program and of the requirements that would remain to be fulfilled. This review is not binding on either you or UMGC and is subject to change.

Credit for Prior or Current Experiential Learning

Prior Learning Assessment

There are several methods for obtaining credit for your work and life experiences, including Course Challenge (available for undergraduate credit only), Portfolio Assessment, and a variety of recognized external standardized assessments. Advisors or success coaches can help you determine the best routes to use in fulfilling any academic plan.

UNDERGRADUATE COURSE CHALLENGE

Course Challenge is a comprehensive assessment of the material that is normally presented through a full, term-length UMGC undergraduate course. The assessment provides the opportunity for you to establish academic credit for competencies gained outside the classroom for which you have not already earned academic credit.

While some course challenges may consist of a final exam, the challenge can include other requirements based on the course chosen. These can include research papers, computer programs, audio/video recordings, or other documents that exhibit the competency for which you are seeking credit. Requirements are set by the applicable academic department.

If you are an undergraduate degree- or certificate-seeking student at UMGC, have received an academic advisement report, and have a cumulative GPA of at least 2.0 in UMGC coursework, you may be eligible for course challenge. Students enrolled at other USM institutions are not eligible to take UMGC course challenge assessments.

Course Challenge is not intended as a substitute for independent study. Not all courses are available for course challenge. Prior Learning office staff can inform you about specific courses that may not be challenged.

Only one course in a sequence may be challenged at a time, and you may not challenge a course that is prerequisite for a higher-level course you have already taken. In addition, you may not challenge CAPL 398A, EXCL 301, Workplace Learning courses (numbered 486A/B), or capstone courses (usually numbered 485 or 495).

You may not seek to challenge foreign language courses in your native language, except upper-level courses in your native language when those courses emphasize linguistics, literature, or written translation to and from English. You may not receive credit for 100- or 200-level courses in your native language.

Course challenge assessments may not be taken more than twice and may not be taken for courses for which you have previously enrolled at UMGC or another transfer source. Other restrictions may apply.

Credit earned by course challenge is assigned a letter grade that is computed in your grade point average and may be applied toward a first or second bachelor's degree or toward a certificate.

Course challenges may only be canceled before you receive the assessment. Refunds are given only if a suitable assessment cannot be prepared.

Contact the Prior Learning office at *priorlearning@umgc.edu* for more information about eligibility and the challenge process.

UNDERGRADUATE PORTFOLIO ASSESSMENT

Portfolio Assessment is a unique way for you to identify and articulate learning you have gained from work, community or political involvement, or other noncollegiate experiences and earn credit for it. To be eligible for Portfolio Assessment, you must

- Have been admitted to UMGC as an undergraduate student
- Have a recent copy of your academic advisement report, updated in the last six months by an advisor or a success coach
- Have completed an application for Portfolio Assessment

After you are accepted into the program, you must enroll in EXCL 301 Prior Learning Portfolio. EXCL 301 is a 3-credit course in which you prepare a portfolio describing and documenting the learning you have gained from past experiences and how it aligns to a particular UMGC course. Because EXCL 301 is a demanding and complex writing-intensive course, UMGC recommends that you complete a writing course before taking EXCL 301 and that you not register for more than one other course during the session to enhance your prospects for success in the course.

EXCL 301 is graded on a Satisfactory/D/Fail basis (explained on p. 335). If the quality of your work in the portfolio merits a grade of C or higher, a grade of S is awarded and the portfolio is forwarded for credit evaluation. Faculty members assess the portfolio and recommend whether to award credits. Credit earned as a result of portfolio evaluation also earns a grade of S.

TABLE OF CONTENTS
INDEX

The S grade is not computed in the grade point average and is not applicable toward honors.

If the quality of your work in the portfolio merits a grade of D or lower, the portfolio will not be forwarded for credit evaluation.

If you successfully complete EXCL 301 with a grade of S and submit a portfolio for evaluation, you may enroll in a supplemental class (EXCL X001) to complete additional portfolios. The supplemental class may be taken more than once. While the course confers no credit and may not be applied toward degree completion, it is graded on a Satisfactory/Unsatisfactory basis. If you enroll in supplemental classes, you may not target courses for which you were previously denied credit in EXCL 301 or EXCL X001.

Portfolio Assessment credits may be awarded at both the upper and lower levels. Credits earned do not fulfill requirements for graded coursework and so may not exceed half the total credits for a major or certificate.

You may not request or receive credit through Portfolio Assessment for learning for which credit has been awarded by other means. You may not request portfolio assessment for 100- and 200-level courses in your native language. In addition, certain specialized courses may not be available for credit via Portfolio Assessment.

Tuition for EXCL 301 is charged at the current undergraduate tuition rate for your residency or military status and covers evaluation of documentation for up to three courses. Tuition for EXCL X001 costs $75 and does not include the cost for evaluation of documentation. Evaluations for courses/portfolios beyond the first three for EXCL 301 and any documentation submitted for EXCL X001 incur an additional fee, currently $150 per portfolio/course. Course/portfolio assessment evaluation fees are applicable regardless of your Golden ID or financial aid status. Tuition and fees are subject to change. Visit *umgc.edu/tuition-archive* for information on tuition and fees.

You should carefully review the requirements, rules, and procedures for Portfolio Assessment. For more information, visit *umgc.edu/priorlearning* or contact the Prior Learning office by email at *priorlearning@umgc.edu* or by phone at 800-888-8682, ext. 2-2890.

GRADUATE PORTFOLIO ASSESSMENT

For specific graduate programs, you may earn graduate credit for prior experiential learning that aligns with a UMGC graduate course through a portfolio process in which you document your experience and learning. In such cases, you are rostered into GCPL 601 Graduate Credit for Prior Learning, a self-paced noncredit course, at no cost to document your experiences and learning. Each portfolio submission costs $250 and is reviewed by a subject matter expert for a specific targeted course. Contact *gradpriorlearning@umgc.edu* for more information about process and eligibility.

Credit by Examination and Industry Certification

UMGC may award credit toward an undergraduate degree or certificate for various external standardized examinations, provided that there is no duplication of other academic credit and the scores presented meet UMGC standards.

Examinations may include

- Advanced Placement examinations administered by the College Board
- Cambridge International Examinations
- College-Level Examination Program (CLEP) examinations
- DANTES Subject Standardized Test (DSST) examinations
- Excelsior College Examinations (formerly called ACT/PEP and Regents examinations)
- International Baccalaureate exam
- Approved industry certification examinations (listed online at *umgc.edu/industry-certification*)

UMGC also accepts credit for the following:

- Various professional examinations evaluated by the American Council on Education (ACE) or the National College Credit Recommendation Services (NCCRS)
- Examinations offered by other approved colleges and universities that appear on an official transcript, approved on a case-by-case basis

If you intend to transfer exam credit that was awarded at another institution, you must have a transcript of those scores sent directly to UMGC from the examining body. When those scores have been received, an advisor or a success coach will determine whether they meet the standards established at UMGC for granting credit and how much credit may be awarded. Credit earned through examinations may be used to fulfill major, general education, or elective requirements, as applicable.

Consult an advisor or a success coach or visit *umgc.edu/creditbyexam* for more information about credit by examination.

Workplace Learning

Workplace Learning offers an opportunity for you to gain experience and develop new knowledge and skills in your chosen discipline while you earn college credit through an integrated model that combines new learning opportunities with academic assignments, putting theory into practice and enabling you to accelerate progress on both your academic and career goals.

TABLE OF CONTENTS
INDEX

Criteria for participating in the program as an undergraduate or graduate student are listed below. If you meet the listed criteria for your degree level, you must first apply to the program at least six weeks before you plan to enroll to determine whether credit may be applicable to your program. Deadlines are published in the MyUMGC student portal. Once you are notified of your eligibility, you must develop a learning proposal that identifies project outcomes representing the new learning to be acquired during the work experience. A UMGC faculty member will review your learning proposal to ensure that it constitutes the appropriate level of learning. Once your learning proposal is approved, you will be registered for the Workplace Learning class. The Workplace Learning class must be taken concurrently with your new learning experiences.

Throughout the Workplace Learning experience, you work under the supervision of your employer to complete your identified projects. During that time, you, your supervisor, and your faculty mentor are required to communicate regularly. Your project tasks constitute the course content. You also complete reflective academic assignments that complement your professional work and are reviewed and evaluated by your faculty mentor. For each credit, you must work a minimum of 45 hours.

Tuition for the Workplace Learning course is charged at the current rate per credit. See *umgc.edu/tuition* for current rates.

A standard letter grade is awarded for successful completion of Workplace Learning courses. It is strongly recommended that you consult with a UMGC advisor or success coach to determine whether Workplace Learning will fit into your program or how Workplace Learning credits may help you fulfill degree requirements.

Review the information, policies, and procedures detailed online at *umgc.edu/wkpl* or email *workplacelearning@umgc.edu* for assistance.

UNDERGRADUATE

If you are an undergraduate student at UMGC, you must meet the following criteria to be eligible for Workplace Learning:

- Have completed 30 credits, including transfer credit, toward a degree (if you are seeking a degree)
- Have completed at least 9 credits in the discipline in which you plan to do your Workplace Learning project
- Have completed at least 6 credits at UMGC
- Have a GPA of 2.0 or higher at UMGC
- Have submitted all official transcripts and contacted an advisor or a success coach to request an official evaluation
- Be working in a position (paid or unpaid, part- or full-time) or have identified an opportunity to work in a position that allows you to apply classroom theory to practical projects that involve significant analysis and problem-solving and are directly related to a given academic discipline. The position should allow you to have new learning experiences; Workplace Learning will not be approved for day-to-day work tasks that have already been mastered.

As an undergraduate student, you may earn either 3 or 6 credits during the Workplace Learning session, which lasts 15 weeks. Undergraduate Workplace Learning projects may be developed in any discipline and may be applied to electives as well as to certain upper-level requirements in the major. They may not be used to satisfy general education requirements or specific required academic coursework in your major. Courses are listed in the UMGC catalog with the designator of the discipline and numbered 486A (for 3 credits) or 486B (for 6 credits). For example, a 3-credit Workplace Learning course in business and management would be listed as BMGT 486A, a 6-credit course as BMGT 486B.

GRADUATE

Graduate Workplace Learning credit may be used only in programs that indicate Workplace Learning is an option. If you are a graduate student in such a program at UMGC, you must meet the following criteria to be eligible for Workplace Learning:

- Be seeking a graduate degree or certificate
- Have completed 12 credits in the graduate program
- Have a cumulative GPA of 3.0 or higher
- Have submitted all official transcripts and confirmed remaining degree requirements with an academic advisor or success coach
- Be working in a position (paid or unpaid, part- or full-time) or have identified an opportunity to work in a position that allows you to apply classroom theory to practical projects that involve significant analysis and problem-solving and are directly related to a given academic discipline. The position should allow you to have new learning experiences; Workplace Learning will not be approved for day-to-day work tasks that have already been mastered.

As a graduate student, you may earn a total of 3 credits during the Workplace Learning session, which lasts eight weeks. Courses are listed in the UMGC catalog with the designator of the discipline and numbered 686, such as DATA 686.

TABLE OF CONTENTS
INDEX

Credit Through Linked Programs

Accelerated Pathways Between UMGC's Undergraduate and Graduate Programs

Accelerated pathways between UMGC's undergraduate and graduate programs have been established in many academic areas to allow you to reduce your total coursework for certain related graduate degrees and certificate programs. Details on each of these pathways are provided on the following pages. The following apply to all pathways:

- Eligible credits must have been completed no earlier than two years before the beginning of graduate studies at UMGC.
- Graduate admission requirements and time limits for degree completion apply to all applicants.

Pathways are listed by undergraduate major; related graduate degrees are indicated in the text in **bold.**

ACCOUNTING

If you completed your undergraduate degree at UMGC with a major in accounting, an accelerated pathway between UMGC's undergraduate and graduate programs in accounting allows you to reduce your total coursework for a related graduate degree and/or a certificate in Accounting or Accounting Information Security. Depending on your undergraduate coursework and the graduate program to which you apply, you may earn up to 9 credits.

Specific undergraduate courses may earn credit toward one of the following degree programs:

- **MBA**
- MS in **Accounting and Financial Management**
- MS in **CyberAccounting**
- MS in **Management** with a **concentration in accounting**

For the **MBA**, you may be awarded 3 credits for ACCT 605 Accounting for Managers.

For the **MS** and certificate programs, you may earn up to 9 credits, as follows:

- If you completed ACCT 438 Fraud and Forensic Accounting and ACCT 440 Forensic and Investigative Accounting, you may be awarded credit for ACCT 630 Fraud Examination.
- If you completed ACCT 422 Auditing Theory and Practice and ACCT 436 Internal Auditing, you may be awarded credit for ACCT 628 Auditing and Attestation.
- If you completed ACCT 323 Federal Income Tax I and ACCT 417 Federal Income Tax II, you may be awarded credit for ACCT 613 Tax Compliance and Planning.

The substitutions listed above are the only ones possible. A minimum grade of B must be earned in each undergraduate course for the credits to be accepted at the graduate level.

ARTIFICIAL INTELLIGENCE

If you completed your undergraduate degree at UMGC with a major in artificial intelligence, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in **Data Analytics** or a graduate certificate in Business Analytics by 6 credits (two courses).

To be eligible for the pathway, you must complete the bachelor's degree with a cumulative GPA of 3.0 or higher.

If you are eligible for the pathway, you may be awarded credit for DATA 615 AI Ethics and either DATA 625 Data Visualization or DATA 645 Machine Learning, depending on your undergraduate track.

CRIMINAL JUSTICE

If you completed your undergraduate degree at UMGC with a major in criminal justice, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in **Management** with a **concentration in criminal justice management** by 6 credits (two courses).

To be eligible for the pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

If eligible, you may be awarded credit for CJMS 600 Critical Analysis of the Criminal Justice System and CJMS 620 Issues in Correctional Administration.

CYBER OPERATIONS

If you completed your undergraduate degree at UMGC with a major in cyber operations,* an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework by 9 credits (three courses) for a graduate certificate in Cyber Operations and/or one of the following degree programs:

- MS in **Cloud Computing Systems**
- MS in **Cyber Operations**
- MS in **Cybersecurity Management and Policy**
- MS in **Cybersecurity Technology**
- MS in **Data Analytics**
- MS in **Digital Forensics and Cyber Investigation**

To be eligible for the pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

* Previously called software development and security.

TABLE OF CONTENTS
INDEX

If eligible for the pathway, you may be awarded credit for CYOP 605 Introduction to Cyber Operations, CYOP 615 Networking and Communication Technologies, and CYOP 625 Legal, Ethical, and Forensic Foundations.

CYBERSECURITY MANAGEMENT AND POLICY

If you completed your undergraduate degree at UMGC with a major in cybersecurity management and policy, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework by 9 credits (three courses) for a graduate certificate in Cybersecurity Management and Policy and/or one of the following degree programs:

- MS in **Cloud Computing Systems**
- MS in **Cyber Operations**
- MS in **Cybersecurity Management and Policy**
- MS in **Cybersecurity Technology**
- MS in **Data Analytics**
- MS in **Digital Forensics and Cyber Investigation**

To be eligible for the pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

If eligible for the pathway, you may be awarded credit for CMAP 605 Foundations of Cybersecurity Management, CMAP 615 Cybersecurity Strategies, and CMAP 625 Cybersecurity Risk Management.

CYBERSECURITY TECHNOLOGY

If you completed your undergraduate degree at UMGC with a major in cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework by 9 credits (three courses) for a graduate certificate in Cybersecurity Technology and/or one of the following degree programs:

- MS in **Cloud Computing Systems**
- MS in **Cyber Operations**
- MS in **Cybersecurity Management and Policy**
- MS in **Cybersecurity Technology**
- MS in **Data Analytics**
- MS in **Digital Forensics and Cyber Investigation**

To be eligible for any of these pathways, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

If eligible for the pathway , you may be awarded credit for CTCH 605 Introduction to Cybersecurity, CTCH 615 Cybersecurity Threats and Analysis, and CTCH 625 Cybersecurity for Systems and Networks.

DATA SCIENCE

If you completed your undergraduate degree at UMGC with a major in data science, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in **Data Analytics** and/or a graduate certificate program in Business Analytics by 6 credits (two courses).

To be eligible for the pathway, you must complete the bachelor's degree with a cumulative GPA of 3.0 or higher.

If you are eligible for the pathway, you may be awarded credit for DATA 625 Data Visualization and DATA 635 Data Management.

ENVIRONMENTAL HEALTH AND SAFETY

If you completed your undergraduate degree at UMGC with a major in environmental health and safety, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in **Environmental Management** by 6 credits (two courses).

To be eligible for the pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

If eligible for the pathway, you may be awarded credit for ENVM 600 Fundamentals of Environmental Systems and ENVM 647 Environmental Risk Assessment.

FINANCE

If you completed your undergraduate degree at UMGC with a major in finance, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for one of the following programs. Depending on the program, you may earn 3 or 6 credits (one or two courses).

- **MBA**
- MS in **Accounting and Financial Management**
- MS in **Management** with a **concentration in financial management**
- MS in **Management** with a **concentration in interdisciplinary studies in management**

To be eligible for any of these pathways, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

For the pathway to the **MBA,** you may be awarded credit for ACCT 605 Accounting for Managers and FIN 610 Financial Management in Organizations.

For the pathway to either the MS in **Accounting and Financial Management** or the MS in **Management** with a **concentration in financial management**, you may be awarded credit for FIN 605 Fintech and Decision-Making and FIN 610 Financial Management in Organizations.

TABLE OF CONTENTS
INDEX

For the pathway to the MS in **Management** with a **concentration in interdisciplinary studies in management**, you may be awarded credit for MGMT 640 Financial Decision-Making for Managers.

HEALTH SERVICES MANAGEMENT

If you completed your undergraduate degree at UMGC with a major in health services management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in **Healthcare Administration** or the MS in **Health Information Management and Technology** and/or a certificate in Digital Health Leader or Long-Term Care Administration by 6 credits (two courses).

To be eligible for either pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

If eligible for either pathway, you may be awarded credit for HCAD 600 Introduction to Healthcare Administration and HCAD 610 Information Technology for Healthcare Administration.

HOMELAND SECURITY

If you completed your undergraduate degree at UMGC with a major in homeland security, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the **concentration in homeland security managemen**t within either the MS in **Information Technology** or the MS in **Management** by 6 credits (two courses).

To be eligible for the pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

If eligible for the pathway, you may be awarded credit for HSMN 610 Concepts in Homeland Security and HSMN 625 Critical Infrastructures.

HUMAN RESOURCE MANAGEMENT

If you completed your undergraduate degree at UMGC with a major in human resource management, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for a certificate in Strategic Human Resource Management and/or one of the following degree programs. Depending on the program, you may be awarded 3 or 6 credits (one or two courses).

- **MBA** with a **specialization in human resource management**
- MS in **Management** with a **concentration in human resource management**
- MS in **Management** with a **concentration in interdisciplinary studies in management**

To be eligible for any of these pathways, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

For the pathway to the certificate in Strategic Human Resource Management and/or the **MBA** with a **specialization in human resource management** or the **MS in Management with a concentration in human resource management**, you may be awarded credit for HRMD 610 Issues and Practices in Human Resource Management and HRMD 630 Recruitment and Selection.

For the pathway to the MS in **Management** with a **concentration in interdisciplinary studies in management**, you may be awarded credit for HRMD 610 Issues and Practices in Human Resources Management.

MANAGEMENT INFORMATION SYSTEMS

If you completed your undergraduate degree at UMGC with a major in management information systems, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in **Information Technology** by 6 credits (two courses) or the MS in **Management** with a **concentration in interdisciplinary studies in management** by 3 credits (one course).

To be eligible for either pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

For the pathway to the MS in **Information Technology** you may be awarded credit for ITEC 630 Information Systems Analysis, Modeling, and Design and ITEC 640 Information Technology Project Management.

For the pathway to the MS in **Management** with a **concentration in interdisciplinary studies in management**, you may be awarded credit for PMAN 634 Foundations of Project Management.

MARKETING

If you completed your undergraduate degree at UMGC with a major in marketing, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in **Management** with a **concentration in interdisciplinary studies in management** by 3 credits (one course).

To be eligible for the pathway, you must have completed the bachelor's degree with a cumulative GPA of 3.0 or higher.

If eligible for the pathway, you may be awarded credit for NPMN 601 Fundamentals of Nonprofit Management.

TABLE OF CONTENTS
INDEX

Dual Master's Degree Programs

If you have earned a first master's degree from UMGC within the last two years, you may be able to reduce the total credit required to earn a second master's degree by pursuing an approved dual degree program. Details on each of these pathways are provided on the next page.

- If you earned a Master of Science in Cybersecurity Management and Policy, Cybersecurity Technology, or Data Analytics, you may be able to reduce the total credits required to earn a second master's degree in business administration. To complete the Master of Business Administration, you must complete all core and capstone courses for that program for a total of 21 credits.
- If you earned a Master of Science in Healthcare Administration, you may be able to reduce the total credits required to earn a second master's degree in health information management and technology. To complete the Master of Science in Health Information Management and Technology, you must complete the following courses for a total of 21 credits:

ITEC 610	Information Technology Foundations
HIMS 645	Healthcare Databases and Medical Technology Integration
HIMS 650	Health Informatics and Data Analytics
HIMS 655	Health Data Management
HIMS 661	The Application of Information Technology in Healthcare Administration
ITEC 640	Information Technology Project Management
HIMS 690	Health Information Management and Technology Capstone

- If you earned a Master of Science in Health Information Management and Technology, you may be able to reduce the total credits required to earn a second master's degree in data analytics. To complete the Master of Science in Data Analytics, you must complete all the core and capstone courses for that program for a total of 18 credits.

If you are interested in pursuing a second degree through the dual degree program, contact a success coach or an academic advisor. Before beginning the second degree program, consult the catalog for the academic year in which you will begin study for the second degree for program availability. Each degree must be completed within five years of beginning study for that degree.

Limits on Credit Earned Outside UMGC or Outside the Classroom

Undergraduate Credit Limits

UMGC's Undergraduate Transfer Credit Evaluation and Appeal Process Policy may be found at *umgc.edu/policies*.

CREDIT FROM EXTERNAL SOURCES

Credit transferred from external sources is subject to maximum allowances, including

- 45 credits from two-year institutions toward the associate degree
- 45 credits from all sources combined toward the associate degree
- 70 credits from two-year institutions toward the bachelor's degree
- 90 credits from all sources combined toward the bachelor's degree

No more than half the credits required (usually 8 or 9 credits) from all sources combined may be applied to an undergraduate certificate program.

External sources of undergraduate credit, restrictions, and requirements are described on p. 25.

CREDIT FROM INTERNAL SOURCES OUTSIDE THE CLASSROOM

Overall requirements for the associate and bachelor's degrees and for an undergraduate certificate (stated at the beginning of those sections) include requirements for graded, upper-level, and resident (taken at UMGC) coursework. These requirements may limit the amount of credit from internal sources outside the classroom (e.g., Prior Learning assessment) you may apply to your degree or certificate program. Consult an advisor or a success coach to determine your best options for completing your program.

Graduate Credit Limits

UMGC's Graduate Transfer Credit Evaluation and Appeal Process Policy may be found at *umgc.edu/policies*.

For most graduate programs, no more than 50 percent of the credits required for a graduate program can be composed of credit earned outside program coursework taken at UMGC. Within that 50 percent, the following limits apply.

The doctoral program does not accept transfer or internal/experiential credit.

TABLE OF CONTENTS
INDEX

CREDIT FROM EXTERNAL SOURCES

Credit transferred from external sources is subject to maximum allowances, depending on the academic program in which you are enrolling, including

- 6 credits for the MS program in Acquisition and Contract Management
- 12 credits for all other master's degree programs

No more than 6 credits from all external sources combined may be applied to a graduate certificate program.

UMGC may accept more than the usual maximum of 12 credits toward a degree program (or 6 credits for a certificate program) based on agreements with third parties.

CREDIT FROM INTERNAL SOURCES

Credit earned from internal sources is subject to maximum allowances, including

- 3 credits through Workplace Learning (where allowed) toward both master's degree and graduate certificate programs
- 12 credits through Prior Learning Portfolio assessment toward a master's degree program, 6 credits toward a graduate certificate
- 9 credits for undergraduate coursework taken at UMGC as part of an Accelerated Pathway toward both master's degree and graduate certificate programs

The MS in Clinical Professional Counseling does not accept credit from internal/experiential sources.

Educational Relationships

Corporate Alliances

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

UMGC has developed customized programs for employers and organizations across the country and values employers' viewpoints. Consistent with its mission of bringing convenient and relevant learning opportunities to the workforce, UMGC has forged strong relationships with many prominent employers in the area and around the country, including Amazon, CareFirst, and ManTech International.

Military Relationships

UMGC has a rich history of educating the armed forces that dates back to World War II. Through contracts with the Department of Defense, the university offers courses and services to servicemembers at military sites throughout Asia and Europe, including sites in combat zones. Courses and services are also available at numerous military sites stateside through memoranda of understanding.

UMGC participates in the General Education Mobile program and the Air University Associate-to-Baccalaureate Cooperative program. UMGC also maintains a partnership with the U.S. Naval Community College for eligible active-duty enlisted sailors, marines, and coast guardsmen and Coast Guard reservists. For more information on these programs, see *umgc.edu/military* or speak to your education counselor.

At the graduate level, UMGC offers the Master of Science in Transformational Leadership, a specialized program designed for students with military experience who want to build on and maximize their leadership training to transition to civilian corporate, nonprofit, and government organizations. More information on the Master of Science in Transformational Leadership is available on p. 165.

Community College and Other Higher Education Alliances

UMGC is dedicated to collaboration and cooperation with other Maryland educational institutions, both public and private, and actively seeks relationships with those institutions to benefit Maryland citizens. The university also reaches out through educational collaborations around the world.

UMGC 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.

In support of the university's mission to extend access to educational opportunities to Maryland's working adult students, UMGC has formed alliances with all 16 Maryland community colleges (listed in the Appendices), enabling students to earn an associate degree at an allied community college and finish a bachelor's degree by completing required coursework at UMGC. These Maryland alliances offer a seamless transition between curricula through linked degree programs in numerous disciplines. Each of the Maryland community colleges is visited regularly by UMGC representatives. In addition to online options, numerous class locations in Maryland and the Washington, D.C., area enable

TABLE OF CONTENTS
INDEX

alliance students to complete bachelor's degrees conveniently close to home. Special UMGC scholarships are also available for graduates of Maryland community colleges.

In addition, UMGC has established alliance agreements with more than 60 community colleges across the United States.

More information on these alliances is available online at *umgc.edu/alliances*.

The university has also developed articulated programs with international secondary and postsecondary educational institutions.

Helping You Get Started

At UMGC, your success as a student is very important. The university seeks to help you fulfill your current education goals and to create an educational partnership with you that will last throughout your life.

To help you, UMGC looks first for ways to make it easy for you to get started. Admission policies are designed to simplify the admission process (standardized tests are not generally required), making it possible for you to apply and register for most programs at the same time. Shorter terms and multiple start dates mean you don't have to wait to take that first class (described on the next page), which is geared to help you prepare for college-level study. Recognizing that financial concerns often present the most challenging obstacle to higher education, UMGC works hard to keep tuition costs low and provides numerous financial aid opportunities, including scholarships for eligible military and community college students, to help you finance your education (described on pp. 348–354). And to support you at every step—from finding the right program, applying for admission, registering for class, and getting academic and career assistance, to applying for your diploma and graduating—services and resources (described on pp. 355–361) are conveniently available online and by phone, as well as on-site at many locations.

Course Formats and Expectations

As a global university, UMGC makes it possible for you to take classes any time, any place. For your convenience, UMGC offers a large selection of online classes, as well as hybrid classes that combine on-site and online instruction and are available at a number of military and civilian sites across the United States and at military sites all over the world.

Hybrid classes typically meet on-site at a UMGC location for a number of sessions per term; the remainder of the teaching and learning in the course occurs in the online classroom. The schedule of on-site sessions is provided online at the beginning of the term. Classes offered in a hybrid format are identified by location in the schedule of classes.

Online courses maintain the same academic standards as hybrid courses. Course content, learning materials, requirements, assignments, and class participation are comparable for online and hybrid courses, and faculty members are engaged and supportive of students in either format.

Both online and hybrid course formats require that you have access to appropriate technology to participate in asynchronous, computer-based class discussions; study groups; online database searches; course evaluations; and other online activities.

Technology Requirements

GENERAL REQUIREMENTS

To be successful in online study, you must have some type of internet access. Barring individual course requirements, this access may be through use of a UMGC computer lab; university or public library; or other readily available, reliable source if you do not have internet access at home. In addition, you must have a current email address. You are responsible for your own internet access costs. For more information about technology requirements, refer to *umgc.edu/techreqs*.

Note: Tablets, Chromebooks, and cell phones are not compatible with all components of the virtual learning environment.

DISCIPLINE-SPECIFIC REQUIREMENTS

Some academic disciplines may have specific technology requirements, such as requiring you to download and install certain computer programs. Additional equipment, beyond the general requirements, may also be required for some cybersecurity and information technology courses, particularly upper-level courses. To determine if such requirements apply to your coursework, consult the course descriptions.

Expectations

Before registering, you may want to consider the following requirements for success as a student:

- You need strong reading and writing skills in English, because much course communication is written.
- You need to be competent in the use of computers and commonly used software programs.
- Because the online classroom is asynchronous and you are expected to be an active participant, you should log in frequently to check what has transpired in your online classroom.
- You will need a distraction-free study environment, effective time management skills, and the ability to work both alone and collaboratively.

TABLE OF CONTENTS
INDEX

First-Year Courses

An array of "first" and preparatory courses are managed by Student Affairs, which is committed to promoting your development and success as a student by providing programs and services that enable you to reach your educational goals. These courses are designed to provide a well-supported and productive start to your academic programs. Faculty members who teach these courses have been selected for their academic credentials as well as for their high degree of engagement and commitment to student success.

Since students come to UMGC with a wide range of academic preparedness and backgrounds in very different fields, the first courses introduce you to UMGC's student support services and focus on core skills that will prepare you to do well throughout your program.

Required Introductory Courses

UNDERGRADUATE

As an undergraduate degree-seeking student, you must take PACE 111 Program and Career Exploration as your first course at UMGC. You may elect to take another course concurrently with PACE 111 (or PACE 100).

PACE 111 provides an introduction to UMGC's student support services and an exploration of how UMGC academic programs align with professional goals and career options. It also helps you develop foundational skills to be successful in college. There are six models of the course to provide focused insight into the fields of business, communications and humanities, multidisciplinary studies (i.e., any field), public safety, sciences and healthcare, and technology.

If you begin undergraduate study at UMGC with 60 or more credits, you may be eligible to take PACE 100 Program and Career Exploration for Transfer Students, which is a condensed introduction to UMGC and exploration of how UMGC academic programs align to professional goals and career options. If you successfully complete this four-week course, you will earn 3 credits equivalent to PACE 111.

Note: If eligible, you may attempt PACE 100 only once.

GRADUATE

For most master's degree or graduate certificate programs, you must begin your studies with UMGC by taking UCSP 615 Orientation to Graduate Studies within the first 6 credits. This five-week noncredit course is designed to help you develop the skills and techniques you need to understand and manage the challenges involved in a graduate program and to familiarize you with research strategies and online library resources—material that is critical for 21st-century professionals.

In the Acquisition and Contract Management and Transformational Leadership programs, you are required to take DCL 600M Decisive Thinking, Communicating, and Leading in Multidisciplinary Fields, a 6-credit introductory course tailored toward the academic area.

Undergraduate Preparatory Courses

If you are an undergraduate student, you may find a number of courses helpful to your success both during and after your undergraduate studies with UMGC. These include LIBS 150 Introduction to Research, CAPL 198A Effective Time Management, and CAPL 398A Career Planning Management.

TABLE OF CONTENTS
INDEX

ASSOCIATE DEGREE PROGRAM
DEGREE REQUIREMENTS

The following program is available only to students with permanent and mailing addresses outside the state of Maryland, full-time active-duty servicemembers, selected reservists, National Guard members, Commissioned Corps members of the U.S. Public Health Service and the National Oceanic and Atmospheric Administration, spouses and children of any of the aforementioned servicemembers, veterans, spouses and children of veterans, students who began an associate degree with UMGC overseas and have now relocated stateside, UMGC employees, and spouses and children of UMGC employees.

Expectations

The Associate of Arts in General Studies allows you to pursue your own personal, educational, and career goals by developing an interdisciplinary course of study.

The associate degree incorporates core competencies that build toward and support both associate and bachelor's degrees. The following essential core competencies are emphasized across all programs:

- Effective writing and oral communication
- The use of information technology
- Information literacy
- Mathematical and quantitative reasoning
- Critical analysis, critical reasoning, and problem-solving
- Understanding of key concepts and principles of the natural, social, and behavioral sciences

Requirements

Continuous Enrollment

In general, the UMGC degree requirements that apply to you are those that were in effect when you completed the first credit-bearing course in a given program at UMGC. If you cease to be continuously enrolled, the program requirements that apply to you are those in effect at UMGC when you return to UMGC and enroll in a credit-bearing course for the program you wish to pursue at that time.

To be considered continuously enrolled, you must have had no more than two sequential years of nonenrollment. After two years of nonenrollment, you must apply for admission to resume enrollment.

If you change your degree program while continuously enrolled, then the program requirements that apply to you are those in effect at the time you enroll in the first required course for the new program. Previously completed coursework may not apply to the new requirements.

Information about the catalog year that applies to you is provided in the MyUMGC student portal.

The following requirements for the Associate of Arts (AA) are applicable to students who begin continuous enrollment on or after August 1, 2025.

Overall Requirements

The Associate of Arts degree requires the completion of a minimum of 60 credits, at least 15 of which (normally the final 15) must be taken through UMGC. Of these 60 credits, 35 credits must be earned in courses that fulfill the general education requirements listed on the following page. The remaining 25 credits must satisfy elective area requirements, including 4 credits of required core coursework and 21 credits in eligible courses of interest. Eligible courses are those for which you have met prerequisites.

In addition to the general education requirements and elective requirements, the following overall requirements pertain to the associate degree.

- You must be admitted as an undergraduate UMGC student.
- You must complete a minimum of 60 credits.
- At least 15 credits (normally the final 15) must be taken through UMGC.
- You must complete all general education and elective requirements listed on the following page.
- You must maintain a minimum grade point average of 2.0 (C) overall in all courses taken through UMGC. See p. 337 for information on maintaining satisfactory academic standing.

General Education Requirements (35 credits)

Credit applied to general education requirements may not be applied toward elective requirements. Courses applied to general education requirements may not be taken pass/fail.

	Credits
Communications	**6**

WRTG 111 or another writing course (3 credits)
All 3-credit WRTG courses (except WRTG 288, WRTG 388, WRTG 486A, or WRTG 486B), COMM 390, COMM 492, ENGL 102, and JOUR 201 apply.

WRTG 112 (3 credits)
Must be completed with a grade of C- or better within the first 24 credits. May not be earned through Prior Learning (Portfolio or Course Challenge) assessment.

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

Mathematics	**3**

MATH 105, MATH 107, MATH 115, MATH 140, STAT 200, or a mathematics course approved by the department

Must be completed within the first 24 credits. Prerequisites must be fulfilled before taking MATH 108, MATH 140, or any higher-numbered MATH or STAT courses.

Note: Check individual curricula for recommended math courses.

Arts and Humanities	**6**

Two 3-credit courses chosen from the following disciplines: ARTH, ARTT, ASTD, ENGL (except ENGL 281 and ENGL 384), GRCO, HIST, HUMN, MUSC, PHIL, THET, dance, literature, or a foreign language

Behavioral and Social Sciences	**6**

Two 3-credit courses chosen from the following disciplines: AASP (AASP 201 only), ANTH, ASTD, BEHS, CCJS (CCJS 100, CCJS 105, CCJS 350, CCJS 360, and CCJS 461 only), ECON, GEOG, GERO (except GERO 342 and GERO 351), GVPT, PSYC, SOCY, or WMST (WMST 200 only)

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 apply: ASTR, BIOL, CHEM, GEOL, NSCI, NUTR, or PHYS. Science courses in other disciplines may also apply.

Research and Computing Literacy	**7**

Professional exploration course (3 credits)
PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, and PACE 111T apply. To be taken as the first course.

Research skills and professional development course (1 credit)
LIBS 150, CAPL 398A, and any general education courses apply.

Computing or information technology course (3 credits)
One 3-credit course or three 1-credit courses selected from IFSM 201; DATA 200; or courses designated ARIN, CMIT, CMSC, CMST, CSIA, CYOP, and IFSM

Total General Education Requirements	**35**

TABLE OF CONTENTS
INDEX

Elective Requirements (25 credits)

In addition to the general education requirements, you must take 25 credits of elective coursework related to your interests and educational goals. Of these 25 credits, 4 must be taken in required core courses; the remaining 21 interdisciplinary elective courses may be chosen from any eligible courses of interest. Eligible courses are those for which you have met prerequisites.

	Credits
Required Core Courses	**4**
A course in communication, writing, or speech (3 credits) ENGL 102; ENGL 281; JOUR 201; and all 3-credit COMM, SPCH, and WRTG courses (except those numbered 486A and 486B) apply.	
CAPL 198A, CAPL 198B, CAPL 198C, or any 1-credit course (1 credit)	
Interdisciplinary Elective Courses	**21**
Courses for which prerequisites have been met, from any discipline or from a focused elective option, listed on the next page (21 credits)	
Total Elective Requirements	**25**

The responsibility for developing a curriculum that meets your intended learning outcomes is yours. You can choose related courses from several disciplines; explore several interests at once; or follow one of seven focused elective options, including accounting and finance, business and management, computer studies, criminal justice, foreign language area studies, military history, and psychology. Suggestions for following a focused elective option follow.

If you anticipate seeking a bachelor's degree, you should select courses that will advance that goal. You must earn a grade of C or better for a course to be applicable toward a major in a bachelor's degree program.

You are encouraged to seek assistance from advisors or success coaches in arranging your curriculum as appropriate to your personal interests and future educational plans.

Focused Elective Options (21 credits)

If you wish to pursue a specific career or educational goal, you may decide to focus 21 credits of core/interdisciplinary elective coursework in an area that aligns with your interests or prepares you for further study toward the bachelor's degree.

ACCOUNTING AND FINANCE

Accounting- and finance-related courses—Chosen from any ACCT or FINC courses

BUSINESS AND MANAGEMENT

Business- and management-related courses—Chosen from any ACCT, BMGT, ECON, FINC, HMGT, HRMN, or MRKT courses

COMPUTER STUDIES

Computer studies–related courses—Chosen from any ARIN, CMIT, CMSC, CMST, CSIA, CYOP, DATA, or IFSM courses

Courses in the computer studies curriculum area may have requirements beyond the minimum technology requirements for online study. Review the appropriate course description sections to determine the technology requirements for the classes in which you are enrolling.

CRIMINAL JUSTICE

Any CCJS courses

FOREIGN LANGUAGE AREA STUDIES

Language core courses—Sequential courses in a single language, usually numbered 111–112 and 114–115 (or 211–212)

Related foreign language area studies courses—Any courses in the culture, history, language, literature, or government and politics of the area (see specific courses for each language area)

If you have previous experience in the foreign language you wish to study, contact the department at *languages@umgc.edu* about a placement test.

MILITARY HISTORY

Military history–related courses, including courses that may be applicable to the BA in History, such as the following:

HIST 202	Principles of War
HIST 381	America in Vietnam
HIST 462	The U.S. Civil War
HIST 464	World War I
HIST 465	World War II

PSYCHOLOGY

Any PSYC courses

TABLE OF CONTENTS
INDEX

AA IN GENERAL STUDIES

	Credits
General Education Courses	35
Required Core Courses	4
Interdisciplinary Elective Courses	21
Total	60

Second Associate Degree

If you have already received an associate degree from an approved institution other than UMGC, you can broaden your education by earning a second associate degree. The following conditions apply:

- You must have received the first associate degree to be eligible to begin the second.
- For a second associate degree, you must complete at least 15 credits of new coursework with UMGC. The combined credit must add up to at least 75 credits.
- The 15 new credits must be uniquely applicable to the second AA.
- Before beginning work toward a second associate degree, you must request an academic advisement report (discussed on p. 357).
- As with other degrees, continuous enrollment at UMGC is required.
- A minimum grade point average of 2.0 in all courses taken through UMGC is required for graduation.

Consult an advisor or a success coach for more information on earning a second associate degree.

Before beginning work or considering nontraditional options toward a second degree, consult an advisor or a success coach. Advisors or success coaches will be glad to explain the requirements for a second associate degree and clarify its limitations.

Curriculum

What You'll Learn

Through your coursework, you'll learn how to

- Communicate orally and in writing in a clear, well-organized manner
- Conduct academic research
- Think critically

UMGC conducts learning outcomes assessments to measure and improve your learning in these general education areas.

Course Sequencing

Visit *umgc.edu/aa* for an optimal order for taking both required and recommended general education and elective courses for this program. Your plan will be unique to you, based on your previous education and credit earned. See pp. 28–31 for information on general education and overall requirements for completing an associate degree.

Contact an advisor or a success coach for alternative course recommendations and answers to questions about your official plan.

TABLE OF CONTENTS
INDEX

BACHELOR'S DEGREE PROGRAMS
DEGREE REQUIREMENTS

At the undergraduate level, UMGC offers the Bachelor of Arts (BA), Bachelor of Science (BS), and Bachelor of Science in Nursing (BSN). The BSN program is available only to students who have an associate degree in nursing or have completed a registered nursing education program that is recognized by the Maryland Board of Nursing and who reside in and have an active, unencumbered registered nursing license in an approved state.*

Except for the BSN program, UMGC's current bachelor's degree programs are open to you from virtually anywhere in the world. However, offerings sufficient to complete every program may not be available at every location or in every format. You should consult your advisor or success coach, current schedules, and site-specific materials to determine which programs you may normally expect to complete from your geographic location.

Requirements for degrees vary according to the major. The requirements you must meet to complete your bachelor's degree, regardless of your academic major, are summarized in the following sections.

Expectations

Within each academic major, a UMGC degree incorporates program-specific and core competencies. The following essential core competencies are emphasized across all programs:

- Effective writing and oral communication
- The use of information technology
- Information literacy
- Mathematical and quantitative reasoning
- Critical analysis, critical reasoning, and problem-solving
- Understanding of key concepts and principles of the natural, social, and behavioral sciences

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

Your academic major allows you 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 you are expected to acquire in completing the major.

Requirements

Continuous Enrollment

In general, the UMGC degree requirements that apply to you are those that were in effect when you completed the first credit-bearing course in a given program at UMGC. If you cease to be continuously enrolled, the program requirements that apply to you are those in effect at UMGC when you return to UMGC and enroll in a credit-bearing course for the program you wish to pursue at that time.

To be considered continuously enrolled, you must have had no more than two sequential years of nonenrollment. After two years of nonenrollment, you must reapply for admission to resume enrollment.

If you change your program while continuously enrolled, then the program requirements that apply to you are those in effect at the time you enroll in the first required course for the new program. Previously completed coursework may not apply to the new requirements.

Information about the catalog year that applies to you is provided in the MyUMGC student portal.

The following requirements for the BA, BS, and BSN are applicable to students who begin continuous enrollment on or after August 1, 2025.

Overall Bachelor's Degree Requirements

In addition to the general education requirements and the major, related requirements or business core (if applicable), and elective requirements, the overall requirements listed below pertain to all bachelor's degrees.

- You must be admitted as an undergraduate UMGC student.
- You must complete a minimum of 120 credits.
- You 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. See p. 337 for information on maintaining satisfactory academic standing.
- You must complete all general education requirements listed on the following page.
- You must complete all coursework required for an academic major, which typically requires 30 to 39 credits of core coursework and may also include related or business core requirements (if applicable), as described in the following section.

* See *umgc.edu/nursing* for the most up-to-date list of approved states.

- At least half the required number of credits for any academic major must be earned through graded coursework. Credits earned by examination, industry certifications, portfolio assessment, and noncollegiate training do not count as graded coursework.
- At least 30 credits (normally the final 30) must be completed at UMGC.
- Half the required number of credits within the major (if you are not majoring in applied technology, described on p. 38, or general studies, described on p. 70) must be completed at UMGC.
- At least 15 credits of upper-level coursework (i.e., earned in courses numbered 300 to 499) must be completed at UMGC.

Major Requirements

Requirements for the major include academic core coursework and, depending on the major, may also include related or business core courses.

Credits

Academic Core Requirements — 30–39

The number of credits required to complete an academic major varies according to program. At least half the credits earned within the major must be earned through UMGC. No grade may be lower than C. Specific coursework is prescribed for each major and is described in the following section.

You may receive a double major; requirements and restrictions are described on the next page.

Related Requirements — 0–21

Many majors require specific supporting coursework in other fields in addition to coursework in the major. These courses are required to complete the major and graduate. Coursework that fulfills related requirements may be applied to general education or elective requirements, which are described in the following sections.

Business Core Requirements — 0–42

Majors in business fields (accounting, business administration and management, finance, health services management, human resource management, marketing, and sustainable value chain) require that you complete a common set of business core courses in addition to coursework in the major. These courses are required to complete the major and graduate. Coursework that fulfills business core requirements may be applied to general education or elective requirements, which are described in the following sections.

Total Major Requirements — 30–78

General Education Requirements

Recommendations for fulfilling general education requirements are provided for each major in the recommended sequence. Some related and business core requirements for the major may be applied to general education requirements.

Note: Any course that may be applied toward a general education requirement may not also be applied toward major or elective requirements. Courses applied to meet general education requirements may not be taken pass/fail.

Credits

Communications — 12

WRTG 111 or another writing course (3 credits)
All 3-credit WRTG courses (except WRTG 288, WRTG 388, WRTG 486A, or WRTG 486B), COMM 390, COMM 492, ENGL 102, and JOUR 201 apply.

WRTG 112 (3 credits)
Must be completed with a grade of C- or better within the first 24 credits. May not be earned through Prior Learning (Portfolio or Course Challenge) assessment.

A course in communication, writing, or speech (3 credits)
ENGL 102; ENGL 281; JOUR 201; and all 3-credit COMM, SPCH, and WRTG courses (except those numbered 486A and 486B) apply.

An upper-level advanced writing course (3 credits)
WRTG 391, WRTG 393, and WRTG 394 apply.

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

Mathematics — 3

MATH 105, MATH 107, MATH 115, MATH 140, STAT 200, or a mathematics course approved by the department

Must be completed within the first 24 credits. Prerequisites must be fulfilled before taking MATH 108, MATH 140, or any higher-numbered MATH or STAT courses.

Note: Check individual majors for recommended math courses and related requirements.

Arts and Humanities — 6

Two 3-credit courses chosen from the following disciplines: ARTH, ARTT, ASTD, ENGL (except ENGL 281 and ENGL 384), GRCO, HIST, HUMN, MUSC, PHIL, THET, dance, literature, or a foreign language

TABLE OF CONTENTS
INDEX

Behavioral and Social Sciences **6**

Two 3-credit courses chosen from the following disciplines: AASP (AASP 201 only), ANTH, ASTD, BEHS, CCJS (CCJS 100, CCJS 105, CCJS 350, CCJS 360, and CCJS 461 only), ECON, GEOG, GERO (except GERO 342 and GERO 351), GVPT, PSYC, SOCY, or WMST (WMST 200 only)

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 apply: ASTR, BIOL, CHEM, GEOL, NSCI, NUTR, or PHYS. Science courses in other disciplines may also apply.

Research and Computing Literacy **7**

Professional exploration course (3 credits)
Must be taken within the first 6 credits.
PACE 100, PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, and PACE 111T apply.

LIBS 150, CAPL 398A, or other general education course (1 credit)

One 3-credit course or three 1-credit courses in computing or information technology (3 credits)
Unless otherwise specified, upper- or lower-level courses designated ARIN, CMIT, CMSC, CMST, CSIA, CYOP, and IFSM and ACCT 326 and DATA 200 apply. Refer to your specific major for requirements or recommendations.

Total General Education Requirements **41 Credits**

Elective Requirements

	Credits
Electives	**1–49**

Electives may be taken in any academic discipline. Pass/fail credit, up to a maximum of 18 credits, may be applied toward electives only. Many related requirements for the major may be applied to electives.

Total Elective Requirements **1–49**

BACHELOR'S DEGREE REQUIREMENTS

	Credits
General Education Courses	41
Academic Major Core and Capstone Courses	30–39
Related Required Courses (if any)	0–12
Business Core Courses (for business majors only)	0–42
Elective Courses	1–49
Total	**120**

Double Major

You can earn a double 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. The same course cannot 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. You cannot major in two programs with excessive overlap of required coursework. Contact an admissions representative before selecting a double major.

TABLE OF CONTENTS
INDEX

Second Bachelor's Degree

If you have already received a bachelor's degree from UMGC or from another approved institution, you can broaden your education by earning a second bachelor's degree with a different major.

- You must have received the first bachelor's degree to be eligible to begin a second.
- For a second bachelor's degree, you need to complete at least 30 new credits through UMGC after completing the first degree. The combined number of credits in both degrees must add up to at least 150 credits.
- You may not earn a second bachelor's degree with a double major.
- You may not earn a second degree with a major in either applied technology or general studies.
- You may not obtain a second associate degree within the second bachelor's degree.
- To qualify for academic honors in a second bachelor's degree, you must complete at least 30 new credits through UMGC with the requisite grade point average.
- You must complete all requirements for the major. All course prerequisites apply.
- If any major requirements were satisfied in the previous degree, the remainder necessary to complete the minimum 30 credits of new coursework should be satisfied with courses related to the major. For purposes of determining what major requirements apply, the applicable date is the date you started coursework at UMGC after being admitted into the second undergraduate degree program.
- As with other degrees, continuous enrollment at UMGC is required.
- A minimum grade point average of 2.0 in all courses taken through UMGC is required for graduation.

Before beginning work or considering nontraditional options toward a second degree, consult an advisor or a success coach. Advisors or success coaches will be glad to explain the requirements for a second bachelor's degree and clarify its limitations.

CURRICULA

MAJORS

- Accounting
- Applied Technology
- Artificial Intelligence
- Biotechnology
- Business Administration and Management
- Communication Studies
- Computer Science
- Criminal Justice
- Cyber Operations
- Cybersecurity Management and Policy
- Cybersecurity Technology
- Data Science
- East Asian Studies
- English
- Environmental Health and Safety
- Finance
- General Studies
- Gerontology and Aging Services
- Graphic Communication
- Health Services Management
- History
- Homeland Security
- Humanities
- Human Resource Management
- Laboratory Management
- Legal Studies
- Management Information Systems
- Marketing
- Nursing (RN to BSN)
- Political Science
- Psychology
- Public Safety Administration
- Social Science
- Sustainable Value Chain
- Web and Digital Design

TABLE OF CONTENTS
INDEX

Accounting

You may seek an academic major in accounting.

Bachelor of Science in Accounting

The major in accounting combines theory and practice to help prepare you to analyze and report on the economic activities of organizations. You'll develop skills in managerial accounting, budgeting, accounting systems, internal controls, financial analysis, financial reporting, internal and external auditing, taxation, and international accounting.

What You'll Learn

Through your coursework, you will learn how to

- Communicate with financial and nonfinancial audiences in a concise manner to facilitate financial decisions
- Create financial and business reports based on research and data analysis
- Apply accounting and business management principles to inform decision-making and risk management
- Evaluate current business technology designed to help personnel work collaboratively and to facilitate the decision-making process
- Exercise professional skepticism in the application of analytical, critical-thinking, and problem-solving skills
- Employ standards to identify, test, and validate processes, systems, and financial data
- Illustrate ethical decision-making models for addressing current and emerging business issues
- Present a framework and plan for fraud detection and deterrence analysis, implementation, and evaluation
- Perform a range of functions, including budgeting, reporting, and auditing, to manage federal agency finances
- Propose a plan for improved use of business intelligence, data management, and analytics

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified Fraud Examiner (CFE)
- Certified Government Auditing Professional (CGAP)
- Certified Government Financial Manager (CGFM)
- Certified Information Systems Auditor (CISA)
- Certified Internal Auditor (CIA)
- Certified Management Accountant/Certified Financial Manager (CMA/CFM)

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in accounting, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MBA by 3 credits (one course) or the MS in Accounting and Financial Management, CyberAccounting, or Management with a concentration in accounting and/or a certificate in Accounting or Accounting Information Security at UMGC by up to 9 credits (three courses). Details are on p. 21.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN ACCOUNTING

	Credits
Required Major Core Courses	33
Required Major Capstone Course	3
Required Business Core Courses	39
Remaining General Education and Elective Courses	45
Total	120

Major Requirements

To complete a major in accounting, you must take a total of 75 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (33 CREDITS)

ACCT 221	Principles of Accounting II (3)
ACCT 310	Intermediate Accounting I (3)
ACCT 311	Intermediate Accounting II (3)
ACCT 321	Cost Accounting Data Analytics (3)

TABLE OF CONTENTS
INDEX

ACCT 323	Federal Income Tax I (3)
ACCT 326	Accounting Information Systems (3)
ACCT 410	Accounting for Government and Not-for-Profit Organizations (3) *or any upper-level ACCT course*
ACCT 411	Ethics and Professionalism in Accounting (3) *or BMGT 382 Business Ethics*
ACCT 422	Auditing Theory and Practice (3)
ACCT 436	Internal Auditing (3) *or any upper-level ACCT course*
ACCT 438	Fraud and Forensic Accounting (3) *or any upper-level ACCT course*

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

ACCT 496	Advanced Accounting Capstone (3)

REQUIRED BUSINESS CORE COURSES (39 CREDITS)

The following required courses (15 credits) may be applied to general education requirements:

ECON 201	Principles of Macroeconomics (3)
ECON 203	Principles of Microeconomics (3)
IFSM 300	Information Systems in Organizations (3)
STAT 200	Introduction to Statistics (3)
WRTG 112	Academic Writing II (3)

The following required courses (24 credits) may be applied to elective requirements:

ACCT 220	Principles of Accounting I (3)
BMGT 240	Building Sustainable Futures (3)
BMGT 250	Data, Cybersecurity, and AI in Business Strategy (3)
BMGT 364	Management and Organization Theory (3)
BMGT 380	Business Law I (3)
FINC 330	Business Finance (3)
MRKT 210	Marketing Principles (3)
OPMG 300	Operations Management (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education and credit earned. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and business core requirements are listed in **bold**.

BS IN ACCOUNTING	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111B Program and Career Exploration in Business (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
DATA 200 Data Literacy Foundations (3)	Recommended elective
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)	**Business core**
NUTR 100 Elements of Nutrition (3) *and* NUTR 101 Nutrition Laboratory (1)	General education/biological and physical sciences
ACCT 220 Principles of Accounting I (3)	**Business core**
WRTG 112 Academic Writing II (3)	**Business core** and general education/communications
STAT 200 Introduction to Statistics (3)	**Business core** and general education/mathematics
WRTG 293 Introduction to Professional Writing (3)	General education/ communications
ACCT 221 Principles of Accounting II (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
NSCI 100 Introduction to Physical Science (3)	General education/biological and physical sciences
ECON 201 Principles of Macroeconomics (3)	**Business core** and general education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
CSIA 300 Cybersecurity for Leaders and Managers (3)	Recommended elective
ECON 203 Principles of Microeconomics (3)	**Business core** and general education/behavioral and social sciences
BMGT 240 Building Sustainable Futures (3)	**Business core**
ACCT 310 Intermediate Accounting I (3)	**Major**

TABLE OF CONTENTS
INDEX

Accounting, continued

FINC 330 Business Finance (3)	**Business core** and elective
ACCT 311 Intermediate Accounting II (3)	**Major**
DATA 320 Introduction to Data Analytics (3)	Recommended elective
ACCT 326 Accounting Information Systems (3)	**Major**
DATA 330 Business Intelligence and Data Management (3)	Recommended elective
ACCT 321 Cost Accounting Data Analytics (3)	**Major**
WRTG 394 Advanced Business Writing (3)	General education/ communications
DATA 335 Data Visualization (3)	Recommended elective
ACCT 323 Federal Income Tax I (3)	**Major**
ACCT 411 Ethics and Professionalism in Accounting *or* BMGT 382 Business Ethics (3)	**Major**
ACCT 410 Accounting for Government and Not-for-Profit Organizations *or* any upper-level ACCT course (3)	**Major**
BMGT 364 Management and Organization Theory (3)	**Business core**
MRKT 210 Marketing Principles (3)	**Business core**
ACCT 422 Auditing Theory and Practice (3)	**Major**
BMGT 380 Business Law I (3)	**Business core**
IFSM 300 Information Systems in Organizations (3)	**Business core** and general education/research and computing literacy
ACCT 496 Advanced Accounting Capstone (3)	**Major/capstone**
OPMG 300 Operations Management (3)	**Business core**
ACCT 436 Internal Auditing *or* any upper-level ACCT course (3)	**Major**
IFSM 438 Information Systems Project Management (3)	Recommended elective
ACCT 438 Fraud and Forensic Accounting *or* any upper-level ACCT course (3)	**Major**
CAPL 398A Career Planning Management (1)	Elective

Applied Technology

You may seek an academic major in applied technology.

Bachelor of Science in Applied Technology

The major in applied technology is designed to allow you to actively develop skills across different types of computing technologies. It offers great flexibility in credit options and course choices, allowing you to apply knowledge from prior work experience, as well as existing skills and abilities in multiple areas of technology. In this program, you are encouraged to cross-fertilize ideas, leading to a multidimensional and enriched approach to solving problems. You'll learn foundational skills in computer technology and be able to customize your learning plan based on your individual interests and market-aligned career needs.

What You'll Learn

Through your coursework, you will learn how to

- Apply critical thinking and quantitative reasoning skills while using computing technologies and methodologies
- Combine concepts and practices in modern information technology (IT) and information systems (IS) with fundamental concepts in other fields to develop computing-based multidimensional approaches to problem-solving
- Develop oral and written communication skills to present computing-based solutions to complex problems
- Analyze insights about personal and professional goals

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

Overall requirements for a bachelor's degree in applied technology differ slightly from those listed on pp. 32–34. You must meet the 30-credit requirement for coursework taken at UMGC, but those credits may be earned in any combination of major, general education, and elective courses.

TABLE OF CONTENTS
INDEX

BS IN APPLIED TECHNOLOGY

	Credits
Major Core Courses	27
Required Major Capstone Course	3
General Education Courses	41
Elective Courses	49
Total	120

Major Requirements

To complete a major in applied technology, you must take a total of 30 credits in required coursework, as follows:

MAJOR CORE COURSES (27 CREDITS)

- 9 credits of focus area coursework chosen from courses required for a single computer-related major (artificial intelligence, computer science, cyber operations, cybersecurity management and policy, cybersecurity technology, data science, management information systems, or web technology and digital design), including 3 credits of upper-level coursework
- 18 credits of coursework from any discipline other than the computer-related discipline chosen as a focus area (Credits may be earned in two or more disciplines.)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

APTC 495 Applied Technology Capstone (3)

Course Sequencing

Contact an advisor or a success coach if you have any questions about your academic advisement report.

Artificial Intelligence

You may seek an academic major in artificial intelligence.

Bachelor of Science in Artificial Intelligence

The bachelor's degree program in artificial intelligence (AI) is designed to help you join the AI revolution with workplace-ready skills. You'll have the opportunity to choose between two tracks—AI applications and AI developer—each based on employer profiles. In the AI applications track, you'll learn how to interact ethically, productively, and creatively with AI tools and leverage AI strategically and operationally across a wide variety of industry sectors. In the AI developer track, you'll acquire the technical skills required to create and deploy responsible AI solutions to increase productivity, help make business decisions, and create new AI-based products and services.

What You'll Learn

Through your coursework, you will learn how to

- Explain the fundamental concepts and principles of AI, including machine learning, deep learning, and natural language processing
- Evaluate opportunities for AI adoption in the enterprise within a range of sectors, including finance, healthcare, marketing, and cybersecurity
- Design and implement appropriate data analysis and AI processes to achieve business outcomes within a range of sectors, including finance, healthcare, marketing, and cybersecurity
- Apply best practices, using diverse technologies, in data science, business intelligence, machine learning, and artificial intelligence
- Construct effective generative AI techniques in creative fields, content generation, and innovation
- Create a framework to promote responsible AI practices and ethical decision-making regarding AI systems
- Analyze social, global, and ethical issues and their implications as they relate to the use of existing and emerging AI technologies
- Communicate orally and in writing, meeting expectations for content, purpose, organization, audience, and format

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- AWS Certified Machine Learning
- Microsoft Certified: Data Analyst Associate
- Tableau Desktop Certified Associate
- Tableau Desktop Specialist

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in artificial intelligence, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Data Analytics at UMGC and/or a graduate certificate in Business Analytics at UMGC by 6 credits. Details are on p. 21.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN ARTIFICIAL INTELLIGENCE

	Credits
Required Major Core Courses	**15**
Required Major Track Courses	**21**
Required Major Capstone Course	**3**
Required Related Courses	**6**
Remaining General Education and Elective Courses	**75**
Total	**120**

Major Requirements

To complete a major in artificial intelligence, you must take a total of 45 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (15 CREDITS)

ARIN 310 Introduction to Artificial Intelligence (3)
ARIN 320 Artificial Intelligence Applications (3)
ARIN 340 Generative AI (3)
ARIN 410 Artificial Intelligence in the Enterprise (3)
DATA 300 Foundations of Data Science (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

ARIN 495 Artificial Intelligence Capstone (3)

REQUIRED MAJOR TRACK COURSES (21 CREDITS)

You must complete the coursework for one of the following tracks.

AI Applications

DATA 320 Introduction to Data Analytics
DATA 335 Data Visualization
DATA 330 Business Intelligence and Data Management
or any upper-level ACCT, ARIN, BMGT, CCJS, CMIT, CMSC, CMST, CSIA, CYOP, DATA, HMLS, IFSM, LGST, PSAD, or PSYC course
ARIN 350 Responsible AI
ARIN 475 Advanced AI Applications Topics
Any DATA or ARIN course
or any ACCT, BMGT, CCJS, CMIT, CMSC, CMST, CSIA, CYOP, HMLS, IFSM, LGST, PSAD, or PSYC course
Any DATA or ARIN course
or any ACCT, BMGT, CCJS, CMIT, CMSC, CMST, CSIA, CYOP, HMLS, IFSM, LGST, PSAD, or PSYC course

AI Developer

MATH 115 Pre-Calculus
DATA 230 Mathematics for Data Science
DATA 430 Foundations of Machine Learning
ARIN 350 Responsible AI *or ARIN 450 Data Ethics*
ARIN 440 Advanced Machine Learning
ARIN 460 Artificial Intelligence Solutions
ARIN 470 Advanced AI Developer Topics

REQUIRED RELATED COURSES (6 CREDITS)

The following required courses may be applied to general education requirements:

DATA 200 Data Literacy (3)

STAT 200 Introduction to Statistics (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, track, capstone, and related requirements are listed in **bold**.

BS IN ARTIFICIAL INTELLIGENCE	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
DATA 200 Data Literacy (3)	**Related** and general education/ research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
ARIN 310 Introduction to Artificial Intelligence (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
STAT 200 Introduction to Statistics (3)	**Related** and general education/ mathematics
WRTG 112 Academic Writing II (3)	General education/communications
ARIN 320 Artificial Intelligence Applications (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
DATA 300 Foundations of Data Science (3)	**Major**
ARIN 340 Generative AI (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ARIN 410 Artificial Intelligence in the Enterprise (3)	**Major**
Elective (3)	Elective
DATA 320 Introduction to Data Analytics *(AI applications track)*/ **MATH 115** Pre-Calculus (3) *(AI developer track)*	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/ communications
DATA 335 Data Visualization *(AI applications track)*/**DATA 230** Mathematics for Data Science (3) *(AI developer track)*	**Major**
Elective (3)	Elective
DATA 330 Business Intelligence and Data Management *or* any upper-level ACCT, ARIN, BMGT, CCJS, CMIT, CMSC, CMST, CSIA, CYOP, DATA, HMLS, IFSM, LGST, PSAD, or PSYC course *(AI applications track)*/**DATA 430** Foundations of Machine Learning (3) *(AI developer track)*	**Major**
ARIN 350 Responsible AI *(both tracks) or* **ARIN 450** Data Ethics (3) *(AI developer track)*	**Major**
Elective (3)	Elective
DATA 486A/B Workplace Learning in Data Science, **ARIN 486A/B** Workplace Learning in Artificial Intelligence, any DATA or ARIN course, *or* any ACCT, BMGT, CCJS, CMIT, CMSC, CMST, CSIA, CYOP, HMLS, IFSM, LGST, PSAD, or PSYC course *(AI applications track)*/**ARIN 440** Advanced Machine Learning (3) *(AI developer track)*	**Major**
Elective (3)	Elective

TABLE OF CONTENTS
INDEX

Artificial Intelligence, continued

DATA 486A/B Workplace Learning in Data Science, **ARIN 486A/B** Workplace Learning in Artificial Intelligence, any DATA or ARIN course, *or* any ACCT, BMGT, CCJS, CMIT, CMSC, CMST, CSIA, CYOP, HMLS, IFSM, LGST, PSAD, or PSYC course *(AI applications track)*/**ARIN 460** Artificial Intelligence Solutions (3) *(AI developer track)*	**Major**
Elective (3)	Elective
Elective (3)	Elective
ARIN 475 Advanced AI Applications Topics *(AI applications track)*/ **ARIN 470** Advanced AI Developer Topics (3) *(AI developer track)*	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
ARIN 495 Artificial Intelligence Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Biotechnology

The biotechnology program has specific admission requirements (listed on p. 9) that you must meet before enrolling in any required major courses. Consult an advisor or a success coach before choosing this major.

You may seek an academic major in biotechnology.

Bachelor of Science in Biotechnology

The major in biotechnology combines laboratory skills and applied coursework with a biotechnology internship experience and upper-level study.

For this program, you are required to have already gained technical and scientific knowledge of biotechnology through coursework and direct experience in the field. Contact an advisor or a success coach to confirm your eligibility.

What You'll Learn

Through your coursework, you will learn how 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
- Offer technical support, customer assistance, and cost-benefit analyses regarding 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 collect validated and documented data
- Comply with and adhere to national, state, and local standards, policies, protocols, and regulations for laboratory and manufacturing activity
- Apply scientific knowledge and principles, quantitative methods, and technology to think critically and solve complex problems in biotechnology

TABLE OF CONTENTS
INDEX

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN BIOTECHNOLOGY

	Credits
Required Major Core Courses	**27–28**
Required Major Internship/ Workplace Learning Course	**6**
Required Major Capstone Course	**3**
Required Related Courses	**16–17**
Remaining General Education and Elective Courses	**67**
Total	**120**

Practical Experience/Workplace Learning

Completion of 270 hours of a supervised research-based laboratory experience is required as part of BIOL 486A/B for a major in biotechnology.

Your Workplace Learning experience should take place at an organization that provides the types of activities and supervision needed to meet program requirements and your own career goals. More information about Workplace Learning may be found on p. 19. Contact Career Services at *careerservices@umgc.edu* for internship and job search support.

Major Requirements

To complete a major in biotechnology, you must take a total of 53 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (27–28 CREDITS)

The following courses, accepted in transfer (7–8 credits):

Biotechnology applications and techniques with laboratory—Applicable courses must have emphasized good lab practices and introduced technical skills, including aseptic techniques, cell and tissue culture, and molecular biology techniques.

The following required courses (20 credits):

BIOL 222 Principles of Genetics (3)
BIOL 224 Genetics Laboratory (1)
BIOL 230 General Microbiology (4)
BIOL 325 Inquiries in Biological Science (3)
BIOL 350 Molecular and Cellular Biology (3)
BIOL 357 Bioinformatics (3)
NSCI 301 Laboratory Management and Safety (3)

REQUIRED MAJOR INTERNSHIP/ WORKPLACE LEARNING COURSE (6 CREDITS)

BIOL 486A/B Workplace Learning in Biology (3 or 6)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

BIOL 495 Life Sciences Capstone (3)

REQUIRED RELATED COURSES (16–17 CREDITS)

The following required courses (8 credits) may be applied to general education requirements:

BIOL 105 Principles of Biology I (4)
CHEM 103 General Chemistry I (4)

Required science coursework (8–9 credits) may be applied to elective requirements. Courses may be chosen from the following:

CHEM 113 General Chemistry II
PHYS 121 Fundamentals of Physics I
PHYS 122 Fundamentals of Physics II

Any other approved coursework in biotechnology, biochemistry, cell biology, chemistry, genetics, immunology, microbiology, molecular biology, physics, and virology

Note: UMGC has limited course offerings in science beyond those already listed for the major. Approved coursework includes courses that may be accepted in transfer.

Course Sequencing

BIOL 325 Inquiries in Biological Science should be taken as the first course in the major.

You must plan at least a semester in advance before participating in Workplace Learning (BIOL 486A/B). Contact Workplace Learning at *workplacelearning@umgc.edu* or consult your advisor or success coach for additional information.

Contact an advisor or a success coach if you have any questions about your academic advisement report.

TABLE OF CONTENTS
INDEX

Business Administration and Management

You may seek an academic major in business administration and management.

Bachelor of Science in Business Administration and Management

In the business administration and management major, you'll gain a well-rounded education that provides foundational, workplace-relevant management and leadership skills, organizational theory, and operational knowledge.

UMGC's career-focused bachelor's degree program in business administration and management is designed to help you compete for the jobs of today and tomorrow by building a comprehensive base of skills and knowledge. This major emphasizes practical applications that will help you prepare for a variety of positions in for-profit, nonprofit, and public-sector organizations.

What You'll Learn

Through your coursework, you will learn how to

- Evaluate qualitative and quantitative data for decision-making
- Communicate a shared vision that will drive strategy across all levels of an organization
- Apply functions of management comprising planning, organizing, and controlling job performance of employees
- Demonstrate emotional intelligence and ethical decision-making
- Incorporate diversity, equity, inclusion, and belonging in decision-making across an organization
- Apply global business strategies, integrating corporate responsibility and sustainable practices for positive social impact
- Utilize innovative technologies to meet organizational goals

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN BUSINESS ADMINISTRATION AND MANAGEMENT

	Credits
Required Major Core Courses	**21**
Required Major Elective Courses	**9**
Required Major Capstone Course	**3**
Required Business Core Courses	**42**
Remaining General Education and Elective Courses	**45**
Total	**120**

Major Requirements

To complete a major in business administration and management, you must take a total of 75 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (21 CREDITS)

BMGT 317	Strategic Decision-Making and Problem-Solving (3)
BMGT 330	Entrepreneurship and Innovation (3)
BMGT 365	Organizational Leadership (3)
BMGT 392	Global Management (3)
BMGT 411	Sustainable Process Improvement (3)
BMGT 484	Organizational Collaboration and Teamwork (3)
BMGT 382	Business Ethics (3)

MAJOR ELECTIVE COURSES (9 CREDITS)

Three courses chosen from any upper-level ACCT, BMGT, FINC, HRMN, MRKT, and OPMG courses (9)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

BMGT 495	Business Administration and Management Capstone (3)

TABLE OF CONTENTS
INDEX

REQUIRED BUSINESS CORE COURSES (42 CREDITS)

The following required courses (15 credits) may be applied to general education requirements:

ECON 201	Principles of Macroeconomics (3)
ECON 203	Principles of Microeconomics (3)
IFSM 300	Information Systems in Organizations (3)
STAT 200	Introduction to Statistics (3)
WRTG 112	Academic Writing II (3)

The following required courses (27 credits) may be applied to elective requirements:

ACCT 301	Accounting for Managers (3)
BMGT 110	Introduction to Business and Management (3)
BMGT 240	Building Sustainable Futures (3)
BMGT 250	Data, Cybersecurity, and AI in Business Strategy (3)
BMGT 364	Management and Organization Theory (3)
BMGT 380	Business Law I (3)
FINC 331	Finance for General Managers (3)
MRKT 210	Marketing Principles (3)
OPMG 300	Operations Management (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and business core requirements are listed in **bold**.

BS IN BUSINESS ADMINISTRATION AND MANAGEMENT	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111B Program and Career Exploration in Business (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
WRTG 112 Academic Writing II (3)	**Business core** and general education/communications
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
BMGT 110 Introduction to Business and Management (3)	**Business core**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
STAT 200 Introduction to Statistics (3)	**Business core** and general education/mathematics
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)	**Business core**
IFSM 300 Information Systems in Organizations (3)	**Business core** and general education/research and computing literacy
ACCT 301 Accounting for Managers (3)	**Business core**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
ECON 201 Principles of Macroeconomics (3)	**Business core** and general education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
BMGT 240 Building Sustainable Futures (3)	**Business core**
ECON 203 Principles of Microeconomics (3)	**Business core** and general education/behavioral and social sciences
BMGT 317 Strategic Decision-Making and Problem-Solving (3)	**Major**
BMGT 364 Management and Organization Theory (3)	**Business core**
Elective (3)	Elective

TABLE OF CONTENTS
INDEX

Business Administration and Management, continued

BMGT 365 Organizational Leadership (3)	**Major**
Elective (3)	Elective
MRKT 210 Marketing Principles (3)	**Business core**
WRTG 394 Advanced Business Writing (3)	General education/ communications
Elective (3)	Elective
BMGT 380 Business Law I (3)	**Business core**
BMGT 330 Entrepreneurship and Innovation (3)	**Major**
Elective (3)	Elective
BMGT 392 Global Management (3)	**Major**
FINC 331 Finance for General Managers (3)	**Business Core**
Elective (3)	Elective
OPMG 300 Operations Management (3)	**Business Core**
BMGT 484 Organizational Collaboration and Teamwork (3)	**Major**
BMGT 411 Sustainable Process Improvement (3)	**Major**
BMGT 382 Business Ethics (3)	**Major**
HRMN 300 Human Resource Management *or* any upper-level ACCT, BMGT, FINC, HRMN, MRKT, or OPMG course (3)	**Major**
BMGT 486A Workplace Learning in Business Administration *or* any upper-level ACCT, BMGT, FINC, HRMN, MRKT, or OPMG course (3)	**Major**
BMGT 464 Organizational Behavior *or* any upper-level ACCT, BMGT, FINC, HRMN, MRKT, or OPMG course (3)	**Major**
Elective (3)	Elective
BMGT 495 Business Administration and Management Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Communication Studies

You may seek an academic major in communication studies.

Bachelor of Arts in Communication Studies

Whether you're interested in journalism, public relations, business, or digital communications, you can build a firm base of knowledge while you earn a bachelor's degree in communication studies at UMGC. In this major, you'll learn about and apply communication theories and best practices to communicate about events and ideas to various populations. In addition, you'll learn to work with individuals and groups professionally and manage communications within ethical, legal, and financial parameters.

What You'll Learn

Through your coursework, you will learn how to

- Interpret, evaluate, and apply conventions of communication scholarship
- Apply critical-reasoning skills to finding, evaluating, interpreting, using, and delivering information
- Apply ethical communication principles and practices to finding, evaluating, interpreting, creating, and delivering messages
- Create written messages tailored to specific audiences, purposes, and contexts
- Create oral and multimedia presentations tailored to specific audiences, purposes, and contexts
- Access, analyze, evaluate, design, create, and act on messages in a variety of media contexts
- Demonstrate techniques for mindful hearing, attending, understanding, responding, and remembering in a variety of contexts
- Observe, analyze, and adapt cognitive, affective, and behavioral communication in a variety of contexts
- Leverage the principles of small-group communication to complete tasks
- Apply organizational communication frameworks to the management of upward, downward, and horizontal oral, visual, and written communication in workplace contexts

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

TABLE OF CONTENTS
INDEX

BA IN COMMUNICATION STUDIES

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

Major Requirements

To complete a major in communication studies, you must take a total of 33 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

SPCH 100 Foundations of Oral Communication (3)
or any SPCH course

COMM 207 Understanding Visual Communication (3)
or any COMM course

JOUR 201 Introduction to News Writing (3)

COMM 300 Communication Theory (3)

COMM 302 Mass Communication and Media Studies (3)

SPCH 324 Communication and Gender (3)

JOUR 330 Public Relations Theory (3)
or any upper-level JOUR course

COMM 400 Mass Media Law (3)
or any upper-level COMM course

SPCH 470 Effective Listening (3)
or any upper-level SPCH course

COMM 390 Writing for Managers (3)
or any upper-level COMM course

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

COMM 495 Communication Studies Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BA IN COMMUNICATION STUDIES	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111C Program and Career Exploration in Communication/ Humanities (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/ communications
SPCH 100 Foundations of Oral Communication *or* any SPCH course (3)	**Major**
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
COMM 207 Understanding Visual Communication *or* any COMM course (3)	**Major**
WRTG 112 Academic Writing II (3)	General education/ communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
COMM 202 Media and Society (3)	General education/ communications
JOUR 201 Introduction to News Writing (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
IFSM 201 Concepts and Applications of Information Technology (3)	General education/research and computing literacy
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
COMM 300 Communication Theory (3)	**Major**
Elective (3)	Elective
COMM 302 Mass Communication and Media Studies (3)	**Major**
Elective (3)	Elective

TABLE OF CONTENTS
INDEX

Communication Studies, continued

SPCH 324 Communication and Gender (3)	**Major**
Elective (3)	Elective
JOUR 330 Public Relations Theory *or* any upper-level JOUR course (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
COMM 400 Mass Media Law *or* any upper-level COMM course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
SPCH 470 Effective Listening *or* any upper-level SPCH course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
COMM 390 Writing for Managers *or* any upper-level COMM course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
COMM 495 Communication Studies Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Computer Science

You may seek an academic major in computer science.

Bachelor of Science in Computer Science

With a bachelor's degree in computer science, you'll be able to plan, design, and optimize computer software and hardware systems for commercial and government environments. This versatile major provides you with a foundation in programming languages, software development, complex algorithms, and graphics and visualization.

What You'll Learn

Through your coursework, you will learn how to

- Develop the analytical and problem-solving skills necessary to design, implement, test, and debug computer programs
- Apply mathematical principles, computer science theory, and software development fundamentals to design and build effective computing-based solutions
- Design and implement a computing-based solution to meet a given set of requirements, standards, and guidelines
- Evaluate alternative computing architectures, algorithms, and systems to make informed decisions that optimize system performance
- Communicate effectively with a range of audiences in a variety of professional contexts
- Recognize local, national, and international technical standards and legal, ethical, and intellectual property regulations in computing practice

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN COMPUTER SCIENCE

	Credits
Required Major Core Courses	**33**
Required Major Capstone Course	**3**
Required Related Courses	**14**
Remaining General Education and Elective Courses	**70**
Total	**120**

Major Requirements

To complete a major in computer science, you must take a total of 50 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (33 CREDITS)

CMSC 115 Introductory Programming (3)
CMSC 215 Intermediate Programming (3)
CMSC 310 Computer Systems and Architecture (3)
CMIT 265 Fundamentals of Networking (3)
CMSC 315 Data Structures and Analysis (3)
CMSC 320 Relational Database Concepts and Applications (3)
CMSC 330 Advanced Programming Languages (3)
CMSC 335 Object-Oriented and Concurrent Programming (3)
CMSC 345 Software Engineering Principles and Techniques (3)
CMSC 430 Compiler Theory and Design (3)
CMSC 451 Design and Analysis of Computer Algorithms (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

CMSC 495 Computer Science Capstone (3)

REQUIRED RELATED COURSES (14 CREDITS)

The following required courses (7 credits) may be applied to general education requirements:

MATH 140 Calculus I (4)
CMSC 105 Introduction to Problem-Solving and Algorithm Design (3)

The following required courses (7 credits) may be applied to elective requirements:

MATH 141 Calculus II (4)
CMSC 150 Introduction to Discrete Structures (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN COMPUTER SCIENCE	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMSC 105 Introduction to Problem-Solving and Algorithm Design (3)	**Related** and general education/ research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
CMSC 115 Introductory Programming (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 140 Calculus I (4)	**Related** and general education/ mathematics
WRTG 112 Academic Writing II (3)	General education/communications
CMSC 215 Intermediate Programming (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
CMSC 150 Introduction to Discrete Structures (3)	**Related** and elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
CMSC 310 Computer Systems and Architecture (3)	**Major**
MATH 141 Calculus II (4)	**Related** and elective
CMIT 265 Fundamentals of Networking (3)	**Major**
Elective (3)	Elective
CMSC 315 Data Structures and Analysis (3)	**Major**
Elective (3)	Elective

TABLE OF CONTENTS
INDEX

Computer Science, continued

CMSC 320 Relational Database Concepts and Applications (3)	**Major**
CMSC 330 Advanced Programming Languages (3)	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/ communications
Elective (3)	Elective
CMSC 335 Object-Oriented and Concurrent Programming (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CMSC 345 Software Engineering Principles and Techniques (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CMSC 430 Compiler Theory and Design (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CMSC 451 Design and Analysis of Computer Algorithms (3)	**Major**
Elective (3)	Elective
CMSC 495 Computer Science Capstone (3)	**Major/capstone**
Elective (2)	Elective

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

Technology Requirements

Courses in the computer science program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Criminal Justice

You may seek an academic major in criminal justice.

Bachelor of Science in Criminal Justice

The criminal justice curriculum at UMGC is uniquely designed to provide you with an understanding of crime and criminal behavior, the roles of practitioners within the criminal justice system, and the critical-thinking and ethical decision-making strategies necessary to meet the professional demands of the field of criminal justice.

What You'll Learn

Through your coursework, you will learn how to

- Evaluate the roles and responsibilities of police, courts, and corrections within the American criminal justice system
- Utilize ethical reasoning, analytical skills, and professional knowledge to investigate the implications of criminal justice policies or procedures on diverse social groups
- Articulate the importance of research in the social sciences
- Evaluate criminal justice public policies using analytical competencies
- Apply the principles of the various bodies of criminal law (i.e., substantive, procedural, and evidentiary) that currently regulate the American criminal justice system

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in criminal justice, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Management with a concentration in criminal justice management at UMGC by 6 credits (two courses). Details are on p. 21.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

TABLE OF CONTENTS
INDEX

BS IN CRIMINAL JUSTICE

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

Major Requirements

To complete a major in criminal justice, you must take a total of 33 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

CCJS 100 Introduction to Criminal Justice (3)
CCJS 230 Criminal Law in Action (3)
CCJS 340 Law Enforcement Administration (3)
CCJS 345 Introduction to Security Management (3)
CCJS 350 Juvenile Delinquency (3)
or any upper-level CCJS course
CCJS 360 Victimology (3)
or any upper-level CCJS course
CCJS 380 Ethical Behavior in Criminal Justice (3)
CCJS 341 Criminal Investigation (3)
CCJS 352 Drugs and Crime (3)
or any upper-level CCJS course
CCJS 497 Correctional Administration (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

CCJS 495 Criminal Justice Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN CRIMINAL JUSTICE	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111P Program and Career Exploration in Public Safety (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
IFSM 201 Concepts and Applications of Information Technology (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
CCJS 100 Introduction to Criminal Justice (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
CCJS 230 Criminal Law in Action (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
HIST 125 Technological Transformations (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
CCJS 340 Law Enforcement Administration (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CCJS 345 Introduction to Security Management (3)	**Major**
Elective (3)	Elective
CCJS 350 Juvenile Delinquency *or* any upper-level CCJS course (3)	**Major**

TABLE OF CONTENTS
INDEX

Criminal Justice, continued

WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
CCJS 360 Victimology *or* any upper-level CCJS course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CCJS 380 Ethical Behavior in Criminal Justice (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CCJS 341 Criminal Investigation (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CCJS 352 Drugs and Crime *or* any upper-level CCJS course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CCJS 497 Correctional Administration (3)	**Major**
Elective (3)	Elective
CCJS 495 Criminal Justice Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Cyber Operations

You may seek an academic major in cyber operations.

Bachelor of Science in Cyber Operations

The cyber operations major is designed to prepare you to detect breaches and collect and process systems to exploit targets of interest. In this hands-on, lab-intensive degree program, you'll leverage hacking tools, customize computer scripts and applications, and employ techniques to conduct offensive and defensive cyberspace operations. You can also develop and advance your competencies in cyber operations and specialize in secure software development and analysis. The program will help enable you to detect and triage security alerts, assess risks, automate threat detection, and respond to adversary attacks while helping our country gain an advantage in cyberspace across all domains.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency.

What You'll Learn

Through your coursework, you will learn how to

- Work in a team-oriented, collaborative environment to produce security documentation and technical analysis reports and respond to cyberspace events indicating new trends or unusual activity
- Apply programming languages and scripts to manage cybersecurity monitoring, cyberattacks, breaches, and secure software development and analysis
- Use cyberspace tool sets to detect and exploit application, network, and other system vulnerabilities while emulating adversarial approaches
- Identify and respond to emerging threats, vulnerabilities, and exploits to defend and protect an organization's resources and assets in cyberspace
- Leverage resources and analytic techniques to penetrate targeted networks ethically while adhering to cybersecurity and privacy laws and regulations

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in cyber operations, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 9 credits toward the MS in Cloud Computing Systems, Cyber Operations, Cybersecurity Management and Policy, Cybersecurity Technology, Data Analytics, or Digital Forensics and Cyber Investigation and/or a graduate certificate in Cyber Operations at UMGC. Details are on p. 21.

TABLE OF CONTENTS
INDEX

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN CYBER OPERATIONS

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

Major Requirements

To complete a major in cyber operations, you must take a total of 33 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

CMIT 265 Fundamentals of Networking (3)
CMIT 291 Introduction to Linux (3)
CYOP 200 Foundations of Cyberspace Operations (3)
CYOP 300 Building Secure Python Applications (3)
CYOP 310 Reverse Engineering and Malware Analysis (3)
CYOP 360 Secure Software Engineering (3)
CYOP 380 Defensive Cyberspace Operations (3)
CYOP 400 Secure Programming in the Cloud (3)
CYOP 420 Offensive Cyberspace Operations (3)
CYOP 480 Cyberspace Operations Automation (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

CYOP 495 Cyber Operations Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN CYBER OPERATIONS	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMSC 105 Introduction to Problem-Solving and Algorithm Design (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
CYOP 200 Foundations of Cyberspace Operations (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 107 College Algebra (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
CMIT 265 Fundamentals of Networking (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
NSCI 103 Fundamentals of Physical Science (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
CMIT 291 Introduction to Linux (3)	**Major**
Elective (3)	Elective
CYOP 300 Building Secure Python Applications (3)	**Major**
Elective (3)	Elective
CYOP 310 Reverse Engineering and Malware Analysis (3)	**Major**

TABLE OF CONTENTS
INDEX

Cyber Operations, continued

Elective (3)	Elective
CYOP 360 Secure Software Engineering (3)	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/ communications
Elective (3)	Elective
CYOP 380 Defensive Cyberspace Operations (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CYOP 400 Secure Programming in the Cloud (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CYOP 420 Offensive Cyberspace Operations (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CYOP 480 Cyberspace Operations Automation (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CYOP 495 Cyber Operations Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international honor society for the computing and information disciplines, is available on p. 341.

Technology Requirements

Courses in the cyber operations program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Cybersecurity Management and Policy

You may seek an academic major in cybersecurity management and policy.

Bachelor of Science in Cybersecurity Management and Policy

In UMGC's bachelor's degree program in cybersecurity management and policy, you can prepare to become a leader in the protection of data. This innovative, world-class program uses a multidisciplinary approach—drawing from fields such as management, law, science, business, technology, and psychology—to provide you with the most current knowledge and skills for protecting critical cyber infrastructure and assets.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency.

What You'll Learn

Through your coursework, you will learn how to

- Integrate cybersecurity best practices and guidance to formulate protection strategies for an organization's critical information and assets
- Apply ethical principles to the development of cybersecurity plans, policies, and programs in industry and government organizations
- Evaluate the applicability of laws, regulations, standards, and frameworks to improve organizational resilience and governance of cybersecurity capabilities
- Apply business analysis principles to identify, assess, and mitigate organizational risk, including acquisition and supply chain risk, arising from diverse sources
- Apply risk management frameworks to identify cybersecurity needs and integrate best practices to improve cybersecurity positions for municipal, state, federal, and international government agencies and organizations
- Integrate continuous monitoring and real-time security solutions to improve situational awareness and deployment of countermeasures within an organization
- Evaluate technology applications to support the cybersecurity goals and objectives of an organization
- Investigate the effects (good or bad) of emerging technology applications on cybersecurity

TABLE OF CONTENTS
INDEX

- Participate in the incident response and recovery process for an organization
- Apply the principles of professional communications and technical writing to effectively communicate about cybersecurity in organizational settings

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- CompTIA Network+
- CompTIA Security+
- EC-Council Certified Incident Handler (ECIH)
- EC-Council Certified Threat Intelligence Analyst (CTIA)
- EC-Council Information Security Manager (EISM)
- IAPP Certified Information Privacy Professional/US (CIPP/US)
- ISC2 Certified Authorization Professional (CAP)
- Professional Business Analyst (PMI-PBA®)*

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 9 credits toward the MS in Cloud Computing Systems, Cyber Operations, Cybersecurity Management and Policy, Cybersecurity Technology, Data Analytics, or Digital Forensics and Cyber Investigation and/or a graduate certificate in Cybersecurity Management and Policy at UMGC. Details are on p. 22.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN CYBERSECURITY MANAGEMENT AND POLICY

	Credits
Required Major Core Courses	21
Major Elective Courses	9
Required Major Capstone Course	3
General Education Courses	41
Elective Courses	46
Total	120

Major Requirements

To complete a major in cybersecurity management and policy, you must take a total of 33 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (21 CREDITS)

CSIA 300	Cybersecurity for Leaders and Managers (3)
CMIT 265	Fundamentals of Networking (3)
CMIT 320	Network Security (3)
CSIA 350	Cybersecurity in Business and Industry (3)
CSIA 360	Cybersecurity in Government Organizations (3)
CSIA 413	Cybersecurity Policy, Plans, and Programs (3)
CSIA 459	Evaluating Emerging Technologies (3)

MAJOR ELECTIVE COURSES (9 CREDITS)

Any three courses chosen from upper-level ARIN, CMIS, CMIT, CMSC, CMST, CSIA, CYOP, DATA, or IFSM courses

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

CSIA 485	Cybersecurity Management and Policy Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

* PMI-PBA® is a registered mark of the Project Management Institute.

TABLE OF CONTENTS
INDEX

Major core, capstone, and related requirements are listed in **bold**.

BS IN CYBERSECURITY MANAGEMENT AND POLICY	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMIT 202 Fundamentals of Computer Troubleshooting (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
CSIA 300 Cybersecurity for Leaders and Managers (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 107 College Algebra (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
IFSM 304 Ethics in Information Technology (3) *or* other upper-level ARIN, CMIS, CMIT, CMSC, CMST, CSIA, CYOP, DATA, or IFSM course	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
CMIT 265 Fundamentals of Networking (3)	**Major**
Elective (3)	Elective
CMIT 320 Network Security (3)	**Major**
Elective (3)	Elective
CSIA 310 Cybersecurity Processes and Technologies (3) *or* other upper-level ARIN, CMIS, CMIT, CMSC, CMST, CSIA, CYOP, DATA, or IFSM course	**Major**
Elective (3)	Elective
CSIA 350 Cybersecurity in Business and Industry (3)	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/ communications
Elective (3)	Elective
CSIA 360 Cybersecurity in Government Organizations (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CSIA 413 Cybersecurity Policy, Plans, and Programs (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CSIA 459 Evaluating Emerging Technologies (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CMIT 425 Advanced Information Systems Security (3) *or* other upper-level ARIN, CMIS, CMIT, CMSC, CMST, CSIA, CYOP, DATA, or IFSM course	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CSIA 485 Cybersecurity Management and Policy Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international honor society for the computing and information disciplines, is available on p. 341.

Technology Requirements

Courses in the cybersecurity management and policy program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

TABLE OF CONTENTS
INDEX

Cybersecurity Technology

You may seek an academic major in cybersecurity technology.

Bachelor of Science in Cybersecurity Technology

In UMGC's award-winning program in cybersecurity technology, you'll learn the operational procedures and technologies to design, implement, administer, secure, and troubleshoot corporate networks while applying cybersecurity principles operationally.

Designed to combine the benefits of a traditional college education with hands-on training in state-of-the-art computer technology, the cybersecurity technology curriculum integrates technical skills with communication skills and superior general education knowledge.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency. UMGC is also a designated National Center of Digital Forensics Academic Excellence (CDFAE) institution.

What You'll Learn

Through your coursework, you will learn how to

- Design, implement, and administer local-area and wide-area networks to satisfy organizational goals
- Resolve 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
- Communicate IT knowledge effectively using a wide range of presentation styles
- Meet organizational goals using effective workforce skills, best practices, and ethical principles

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- AWS Certified Cloud Practitioner—Foundational
- AWS Certified Solutions Architect—Associate
- CERT Computer Security Incident Handler (CSIH)
- Cisco Certified Network Associate (CCNAv7)
- Cisco Certified Network Professional (CCNP-ENARSI)
- Cisco Certified Network Professional (CCNP-ENCOR)
- CompTIA A+
- CompTIA Cloud+
- CompTIA Cybersecurity Analyst (CySA+)
- CompTIA Linux+ and LPIC-1
- CompTIA Network+
- CompTIA PenTest+
- CompTIA Security+
- EC-Council Certified Ethical Hacker (CEH)
- ISC2 Certified Cloud Security Professional (CCSP)
- ISFCE Certified Computer Examiner (CCE)
- Microsoft 365 Certified: Enterprise Administrator Expert
- Microsoft 365 Certified: Modern Desktop Administrator Associate
- Microsoft Certified: Azure Fundamentals (AZ-900)

The cybersecurity technology curriculum is closely aligned to industry standards and certifications. Changes related to leading industry certifications may lead to adjustments in course offerings. Visit the program web page for updates.

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 9 credits toward the MS in Cloud Computing Systems, Cyber Operations, Cybersecurity Management and Policy, Cybersecurity Technology, Data Analytics, or Digital Forensics and Cyber Investigation and/or a graduate certificate in Cybersecurity Technology at UMGC. Details are on p. 22.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

TABLE OF CONTENTS
INDEX

BS IN CYBERSECURITY TECHNOLOGY

	Credits
Required Major Core Courses	**21**
Major Elective Courses	**9**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

Major Requirements

To complete a major in cybersecurity technology, you must take a total of 33 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (21 CREDITS)

CMIT 202 Fundamentals of Computer Troubleshooting (3)
CMIT 265 Fundamentals of Networking (3)
CMIT 291 Introduction to Linux (3)
CMIT 320 Network Security (3)
CMIT 321 Ethical Hacking (3)
CMIT 326 Cloud Technologies (3)
CMIT 351 Switching, Routing, and Wireless Essentials (3)

MAJOR ELECTIVE COURSES (9 CREDITS)

Three 3-credit courses chosen from any upper-level CMIT courses and CCJS 321 (9)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

CMIT 495 Cybersecurity Technology Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN CYBERSECURITY TECHNOLOGY	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
IFSM 201 Concepts and Applications of Information Technology (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
CMIT 202 Fundamentals of Computer Troubleshooting (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 107 College Algebra (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
CMIT 265 Fundamentals of Networking (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
CMIT 291 Introduction to Linux (3)	**Major**
CMIT 320 Network Security (3)	**Major**
Elective (3)	Elective
CMIT 321 Ethical Hacking (3)	**Major**
Elective (3)	Elective
CMIT 351 Switching, Routing, and Wireless Essentials (3)	**Major**
Elective (3)	Elective
CMIT 326 Cloud Technologies (3)	**Major**

TABLE OF CONTENTS
INDEX

Cybersecurity Technology, continued

WRTG 393 Advanced Technical Writing (3)	General education/ communications
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CMIT 421 Threat Management and Vulnerability Assessment *or* **CCJS 321** Digital Forensics in the Criminal Justice System *or* any upper-level CMIT course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CMIT 386 Penetration Testing and Cyber Red Teaming *or* **CCJS 321** Digital Forensics in the Criminal Justice System (if not already taken) *or* any upper-level CMIT course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CCJS 321 Digital Forensics in the Criminal Justice System *or* any upper-level CMIT course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CMIT 495 Cybersecurity Technology Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international honor society for the computing and information disciplines, is available on p. 341.

Technology Requirements

Courses in the cybersecurity technology program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Data Science

You may seek an academic major in data science.

Bachelor of Science in Data Science

The major in data science is designed to meet the growing need for highly skilled professionals who can transform increasing amounts of data into actionable insights. The program provides hands-on experience with a number of the most frequently used analytical tools and methods, offering opportunities to manage and manipulate data; create data visualizations; build predictive models using different machine learning techniques; apply artificial intelligence (AI) and natural language processing techniques to gain insights from free text, images, and videos; and make strategic data-driven recommendations that directly affect business outcomes. You'll acquire fundamental knowledge and skills in data science that will help you adapt to future changes in tools, technology, and the marketplace.

What You'll Learn

Through your coursework, you will learn how to

- Communicate effectively, orally and in writing, meeting expectations for content, purpose, organization, audience, and format
- Implement all stages of data science methodology, including data extraction, data cleaning, data load, and transformation
- Execute best practices, using diverse technologies, in data science, business intelligence, machine learning, and artificial intelligence
- Analyze social, global, and ethical issues and their implications as they relate to the use of existing and emerging data science, machine learning, and AI technologies
- Evaluate a business problem or opportunity to determine the extent to which data science can provide a viable solution and translate the business problem into a viable project to meet organizational strategic and operational needs
- Incorporate data security, data privacy, and risk management best practices in the planning, development, and implementation of data science solutions
- Build and deploy the machine learning process throughout its life cycle in full compliance with best practices for tool evaluation, model selection, and model validation
- Leverage big data analytics and AI technology to create solutions for stream analytics, text processing, natural language understanding, AI, and cognitive applications

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- AWS Certified Machine Learning
- Microsoft Certified: Data Analyst Associate
- Tableau Desktop Certified Associate
- Tableau Desktop Specialist

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in data science, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Data Analytics and/or a graduate certificate in Business Analytics at UMGC by 6 credits (two courses). Details are on p. 22.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN DATA SCIENCE

	Credits
Required Major Core Courses	**36**
Required Major Capstone Course	**3**
Required Related Courses	**6**
Remaining General Education and Elective Courses	**75**
Total	**120**

Major Requirements

To complete a major in data science, you must take a total of 45 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (36 CREDITS)

STAT 200	Introduction to Statistics (3)
DATA 230	Mathematics for Data Science (3)
DATA 300	Foundations of Data Science (3)
CSIA 300	Cybersecurity for Leaders and Managers (3)
DATA 320	Introduction to Data Analytics (3)
DATA 330	Business Intelligence and Data Management (3)
DATA 335	Data Visualization (3)
DATA 430	Foundations of Machine Learning (3)
ARIN 440	Advanced Machine Learning (3)
DATA 445	Advanced Data Science (3)
ARIN 450	Data Ethics (3)
ARIN 460	Artificial Intelligence Solutions (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

DATA 495	Data Science Capstone (3)

REQUIRED RELATED COURSES (6 CREDITS)

The following required courses may be applied to general education requirements:

DATA 200	Data Literacy Foundations (3)
MATH 115	Pre-Calculus (3) *or a more advanced MATH course*

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN DATA SCIENCE	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/ communications
MATH 115 Pre-Calculus (3)	**Related** and general education/ mathematics
DATA 200 Data Literacy Foundations (3)	**Related** and general education/ research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
NUTR 101 Nutrition Laboratory (1)	Recommended elective
STAT 200 Introduction to Statistics (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
DATA 230 Mathematics for Data Science (3)	**Major**
WRTG 112 Academic Writing II (3)	General education/ communications
DATA 300 Foundations of Data Science (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
NSCI 103 Fundamentals of Physical Science (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
CSIA 300 Cybersecurity for Leaders and Managers (3)	**Major**
Elective (3)	Elective
DATA 320 Introduction to Data Analytics (3)	**Major**
Elective (3)	Elective
DATA 330 Business Intelligence and Data Management (3)	**Major**
Elective (3)	Elective
DATA 335 Data Visualization (3)	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/ communications
Elective (3)	Elective
DATA 430 Foundations of Machine Learning (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ARIN 440 Advanced Machine Learning (3)	**Major**
Elective (3)	Elective
DATA 445 Advanced Data Science (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ARIN 450 Data Ethics (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ARIN 460 Artificial Intelligence Solutions (3)	**Major**
Elective (3)	Elective
DATA 495 Data Science Capstone (3)	**Major/capstone**

Technology Requirements

Courses in the data science program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

TABLE OF CONTENTS
INDEX

East Asian Studies

You may seek an academic major in East Asian studies.

Bachelor of Arts in East Asian Studies

UMGC's East Asian studies major provides an overview of the history, economics, politics, culture, and languages of the East Asian region, including China, Korea, and Japan. In this program, you'll examine East Asia's rich past and continuing contributions to the global community.

This program is ideal for those who live or work in East Asia, know East Asian languages, or regularly interact with people from East Asian countries.

What You'll Learn

Through your coursework, you will learn how to

- Interpret, communicate, educate, and advise others based on your understanding, research, and analysis of the social, historical, and cultural contexts of East Asia
- Use your knowledge of East Asia to identify, create, facilitate, and promote opportunities for interaction and cooperation between East Asia and the global community
- Apply your knowledge of East Asian diversity, values, and expectations to perform in a culturally appropriate way in personal and professional settings
- Write and speak an East Asian language, integrating interpersonal skills and cultural knowledge

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BA IN EAST ASIAN STUDIES

	Credits
Required Major Core Courses	18
Major Elective Courses	9
Required Major Capstone Course	3
General Education Requirements	41
Elective Courses	49
Total	120

Major Requirements

To complete a major in East Asian studies, you must take a total of 30 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (18 CREDITS)

ASTD 284	Foundations of East Asian Civilization (3)
ASTD 285	Introduction to Modern East Asia (3)
PHIL 348	Religions of the East (3)

East Asian language courses (9)—
Chosen from CHIN or JAPN courses numbered 111, 112, 114, or higher

MAJOR ELECTIVE COURSES (9 CREDITS)

Three 3-credit East Asian content courses (9)—
Chosen from upper-level ASTD, CHIN, JAPN, KORN, Asian HIST, and Asian GVPT courses and ANTH 417; focused study on China or Japan is recommended, as follows:

China

HIST 480	History of China to 1912
ASTD 370	Interpreting Contemporary China
ANTH 417	Peoples and Cultures of East Asia

Japan

HIST 482	History of Japan to 1800
JAPN 333	Japanese Society and Culture
ANTH 417	Peoples and Cultures of East Asia

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

ASTD 485	East Asian Studies Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Alternate options are available for this major based on academic and professional interests. Contact an advisor or a success coach if you have any questions about your academic advisement report.

TABLE OF CONTENTS
INDEX

Major core, capstone, and related requirements are listed in **bold**.

BA IN EAST ASIAN STUDIES	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111C Program and Career Exploration in Communication/ Humanities (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
IFSM 201 Concepts and Applications of Information Technology (3)	General education/research and computing literacy
CHIN 111 Elementary Chinese I *or* **JAPN 111** Elementary Japanese I (3)	**Major**
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
ASTD 284 Foundations of East Asian Civilization (3)	**Major**
CHIN 112 Elementary Chinese II *or* **JAPN 112** Elementary Japanese II (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
CHIN 114 Elementary Chinese III *or* **JAPN 114** Elementary Japanese III (3)	**Major**
WRTG 112 Academic Writing II (3)	General education/communications
ASTD 285 Introduction to Modern East Asia (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
PHIL 348 Religions of the East (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
HIST 480 History of China to 1912 *or* **HIST 482** History of Japan to 1800 *or* other upper-level East Asian content course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ASTD 370 Interpreting Contemporary China *or* **JAPN 333** Japanese Society and Culture *or* other upper-level East Asian content course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ANTH 417 Peoples and Cultures of East Asia *or* other upper-level East Asian content course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
ASTD 485 East Asian Studies Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

English

You may seek an academic major in English.

Bachelor of Arts in English

Like other liberal arts majors, a major in English at UMGC offers a solid base of critical thinking on which to build a career or further graduate study. In-demand skills in research and writing that have a wide application in the job market are also honed. If you are intrigued by literature, the English major may be right for you.

What You'll Learn

Through your coursework, you will learn how to

- Demonstrate knowledge of a range of English-language literary texts, genres, and terms
- Analyze literary texts to explain stylistic, historical, sociocultural, and ethical significance
- Apply critical theory to literary texts to enhance interpretation and analysis
- Conduct effective research across a range of media
- Create writing that effectively argues, persuades, illuminates, and/or informs
- Create presentations in various media to demonstrate the results of academic inquiry

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BA IN ENGLISH

	Credits
Required Major Core Courses	**18**
Major Elective Courses	**12**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

Major Requirements

To complete a major in English, you must take a total of 33 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (18 CREDITS)

ENGL 240 Introduction to Fiction, Poetry, and Drama (3)
ENGL 250 Introduction to Women's Literature (3)
ENGL 303 Critical Approaches to Literature (3)
ENGL 310 Renaissance Literature (3)
ENGL 430 Early American Literature (3)
ENGL 459 Contemporary Global Literatures (3)

MAJOR ELECTIVE COURSES (12 CREDITS)

Four 3-credit upper-level ENGL courses (12)—
Focused study in American literature or British literature is recommended, as follows:

American Literature

ENGL 363 African American Authors from the Colonial Era to 1900
ENGL 364 African American Authors from 1900 to the Present
ENGL 433 Modern American Literature
ENGL 441 Postmodern American Literature: 1945 to 1999

British Literature

ENGL 311 The Long 18th-Century British Literature
ENGL 312 19th-Century British Literature
ENGL 386 History of the English Language
ENGL 406 Shakespeare Studies

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

ENGL 495 English Literature Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

TABLE OF CONTENTS
INDEX

Major core, capstone, and related requirements are listed in **bold**.

BA IN ENGLISH	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111C Program and Career Exploration in Communication/ Humanities (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 112 Academic Writing II (3)	General education/communications
CMST 301 Digital Media and Society (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
ENGL 102 Composition and Literature (3)	General education/ communications
ENGL 281 Standard English Grammar (3)	General education/ communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
ENGL 240 Introduction to Fiction, Poetry, and Drama (3)	**Major**
ENGL 250 Introduction to Women's Literature (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
ENGL 303 Critical Approaches to Literature (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENGL 310 Renaissance Literature (3)	**Major**
Elective (3)	Elective
ENGL 363 African American Authors from the Colonial Era to 1900 *or* **ENGL 311** The Long 18th-Century British Literature *or* any upper-level ENGL course (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
ENGL 364 African American Authors from 1900 to the Present *or* **ENGL 312** 19th-Century British Literature *or* any upper-level ENGL course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENGL 430 Early American Literature (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENGL 433 Modern American Literature *or* **ENGL 386** History of the English Language *or* any upper-level ENGL course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENGL 441 Postmodern American Literature: 1945 to 1999 *or* **ENGL 406** Shakespeare Studies *or* any upper-level ENGL course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
ENGL 459 Contemporary Global Literatures (3)	**Major**
ENGL 495 English Literature Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Environmental Health and Safety

You may seek an academic major in environmental health and safety.

Bachelor of Science in Environmental Health and Safety

In UMGC's environmental health and safety program, you'll learn to implement evidence-based professional practices to support a safe and healthy work environment.

What You'll Learn

Through your coursework, you will learn how to

- Use information-gathering skills and professional judgment to recommend solutions for broadly defined technical or scientific problems in environmental health and safety
- Apply cognitive and technical skills to anticipate, recognize, and critically evaluate hazards and risk factors
- Select effective control methods to generate practical evidence-based solutions while following legislative and industry standards
- Develop strategies for ongoing professional development and learning to inform evidence-based practice in a continually changing global environment
- Model a range of written and oral communication formats to explain technical information and concepts to various audiences
- Choose collaborative and ethical practices to build the relationships necessary to address contemporary environmental health and safety issues

INDUSTRY CREDENTIALS

This program is designed to help prepare you for the following credentials, listed in alphabetical order:

- Associate Hazardous Materials Manager (AHMM)
- Associate Safety and Health Manager (ASHM)
- Graduate Safety Practitioner (GSP)
- Student Certified Hazardous Materials Manager (ST/CHMM)

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in environmental health and safety, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Environmental Management at UMGC by 6 credits (two courses). Details are on p. 22.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN ENVIRONMENTAL HEALTH AND SAFETY

	Credits
Required Major Core Courses	33
Required Major Capstone Course	3
Required Related Courses	6
Remaining General Education and Elective Courses	78
Total	120

Major Requirements

To complete a major in environmental health and safety, you must take a total of 42 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (33 CREDITS)

ENHS 300	Environmental Systems (3)
ENHS 305	Environmental Health and Safety Regulations (3)
ENHS 310	Hazardous Substances and Toxicology (3)
ENHS 315	Risk Assessment in Environmental Health and Safety (3)
ENHS 320	Incident Response and Investigation (3)
ENHS 325	Fire Prevention and Protection (3)
ENHS 330	Safety and Security Management (3)
ENHS 335	Occupational Health and Industrial Hygiene (3)
ENHS 340	Environmental Technology and Control (3)
ENHS 400	Ergonomics and Human Factors (3)
ENHS 405	Pollution Prevention Strategies (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

ENHS 495 Environmental Health and Safety Capstone (3)

REQUIRED RELATED COURSES (6 CREDITS)

The following required courses may be applied to general education requirements.

CHEM 297 Environmental Chemistry (3)

MATH 115 Pre-Calculus (3)
or a more advanced MATH course

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN ENVIRONMENTAL HEALTH AND SAFETY	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111S Program and Career Exploration in Health and Sciences (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
SPCH 125 Introduction to Interpersonal Communication (3)	General education/communications
MATH 115 Pre-Calculus (3)	**Related** and general education/ mathematics
CHEM 297 Environmental Chemistry (3)	**Related** and general education/ biological and physical sciences
ENHS 300 Environmental Systems (3)	**Major**
WRTG 112 Academic Writing II (3)	General education/communications
DATA 200 Data Literacy Foundations (3)	General education/research and computing literacy
ENHS 305 Environmental Health and Safety Regulations (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
PSYC 100 Introduction to Psychology (3)	General education/behavioral and social sciences
ARTT 152 Basics of Photography (3)	General education/arts and humanities
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
ENHS 310 Hazardous Substances and Toxicology (3)	**Major**
Elective (3)	Elective
ENHS 315 Risk Assessment in Environmental Health and Safety (3)	**Major**
Elective (3)	Elective
ENHS 320 Incident Response and Investigation (3)	**Major**
Elective (3)	Elective
ENHS 325 Fire Prevention and Protection (3)	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/ communications
Elective (3)	Elective
ENHS 330 Safety and Security Management (3)	**Major**
Elective (3)	Elective
ENHS 335 Occupational Health and Industrial Hygiene (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENHS 340 Environmental Technology and Control (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENHS 400 Ergonomics and Human Factors (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENHS 405 Pollution Prevention Strategies (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
ENHS 495 Environment Health and Safety Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Finance

You may seek an academic major in finance.

Bachelor of Science in Finance

In UMGC's bachelor's degree program in finance, you'll develop the expertise to apply finance theory to real-world situations. Our program combines a foundation in the principles of business, economics, and accounting with an in-depth focus on financial tools and financial management through intensive case studies. It can also serve as a significant first step toward earning important certifications in the field.

What You'll Learn

Through your coursework, you will learn how to

- Examine and describe the impact of the legal, regulatory, and environmental influences on the monetary system on planning, forecasting, and making financial decisions
- Evaluate financial information such as financial statements, financial ratios, and cash flows and apply that information to the analysis of business problems
- Analyze and interpret financial concepts to make basic institutional and functional business decisions
- Apply the basic principles of security markets to create, evaluate, and manage security portfolios
- Demonstrate the ability to communicate business concepts professionally
- Recognize the inherent conflict of interest in many business decisions
- Synthesize financial data by applying appropriate technology tools to solve business problems

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified Financial Planner (CFP)
- Certified Management Accountant (CMA)

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in finance, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MBA, the MS in Accounting and Financial Management, or the MS in Management with a concentration in financial management by six credits (two courses) or the MS in Management with a concentration in interdisciplinary studies in management at UMGC by 3 credits (one course). Details are on p. 22.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN FINANCE

	Credits
Required Major Core Courses	**33**
Required Major Capstone Course	**3**
Required Business Core Courses	**42**
Remaining General Education and Elective Courses	**42**
Total	**120**

Major Requirements

To complete a major in finance, you must take a total of 78 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (33 CREDITS)

ACCT 221	Principles of Accounting II (3)
FINC 251	Risk Management (3)
FINC 335	Fintech, Financial Institutions, and Markets (3)
FINC 340	Investments (3)
DATA 320	Introduction to Data Analytics (3)
DATA 335	Data Visualization (3)
FINC 421	Financial Analysis (3)
FINC 430	Financial Management (3)
FINC 440	Security Analysis and Valuation (3)
FINC 460	International Finance (3)
ECON 430	Money and Banking (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

FINC 495	Finance Capstone (3)

REQUIRED BUSINESS CORE COURSES (42 CREDITS)

The following required courses (15 credits) may be applied to general education requirements:

ECON 201	Principles of Macroeconomics (3)
ECON 203	Principles of Microeconomics (3)
IFSM 300	Information Systems in Organizations (3)
STAT 200	Introduction to Statistics (3)
WRTG 112	Academic Writing II (3)

The following required courses (27 credits) may be applied to elective requirements:

ACCT 220	Principles of Accounting I (3)
BMGT 110	Introduction to Business and Management (3)
BMGT 240	Building Sustainable Futures (3)
BMGT 250	Data, Cybersecurity, and AI in Business Strategy (3)
BMGT 364	Management and Organization Theory (3)
BMGT 380	Business Law I (3)
FINC 330	Business Finance (3)
MRKT 210	Marketing Principles (3)
OPMG 300	Operations Management (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and business core requirements are listed in **bold**.

BS IN FINANCE	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111B Program and Career Exploration in Business (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)	**Business core**
NUTR 100 Elements of Nutrition (3) *and* NUTR 101 Nutrition Laboratory (1)	General education/biological and physical sciences
BMGT 110 Introduction to Business and Management (3)	**Business core**
BMGT 364 Management and Organization Theory (3)	**Business core**
WRTG 112 Academic Writing II (3)	**Business core** and general education/communications
STAT 200 Introduction to Statistics (3)	**Business core** and general education/mathematics
WRTG 293 Introduction to Professional Writing (3)	General education/ communications
ACCT 220 Principles of Accounting I (3)	**Business core**
HIST 125 Technological Transformations (3)	General education/arts and humanities
NSCI 100 Introduction to Physical Science (3)	General education/biological and physical sciences
ECON 201 Principles of Macroeconomics (3)	**Business core** and general education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
DATA 200 Data Literacy (3)	Recommended elective
IFSM 300 Information Systems in Organizations (3)	**Business core** and general education/research and computing literacy
ECON 203 Principles of Microeconomics (3)	**Business core** and general education/behavioral and social sciences

TABLE OF CONTENTS
INDEX

Finance, continued

BMGT 240 Building Sustainable Futures (3)	**Business core**
ACCT 221 Principles of Accounting II (3)	**Major**
DATA 330 Business Intelligence and Data Management (3)	Recommended elective
FINC 251 Risk Management (3)	**Major**
FINC 330 Business Finance (3)	**Business core**
FINC 335 Fintech, Financial Institutions, and Markets (3)	**Major**
FINC 340 Investments (3)	**Major**
MRKT 210 Marketing Principles (3)	**Business core**
DATA 320 Introduction to Data Analytics (3)	**Major**
WRTG 394 Advanced Business Writing (3)	General education/ communications
DATA 335 Data Visualization (3)	**Major**
FINC 421 Financial Analysis (3)	**Major**
DATA 300 Foundations of Data Science (3)	Recommended elective
OPMG 300 Operations Management (3)	**Business core**
FINC 430 Financial Management (3)	**Major**
FINC 440 Security Analysis and Valuation (3)	**Major**
BMGT 380 Business Law I (3)	**Business core**
FINC 460 International Finance (3)	**Major**
ECON 430 Money and Banking (3)	**Major**
Elective (3)	Elective
FINC 495 Finance Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

General Studies

You may seek an academic major in general studies.

Bachelor of Science in General Studies

The bachelor's degree program in general studies allows you to take an active role in designing your educational experience through a flexible curriculum while maximizing your ability to transfer previously earned credit. This personalized learning path, coupled with a focus on your specific interests and areas of study, provides a solid, well-rounded foundation in preparation for a variety of careers.

What You'll Learn

Through your coursework, you will learn how to

- Improve oral and written communication skills
- Apply critical-thinking and problem-solving skills
- Analyze insights about personal and professional goals
- Apply skills and knowledge from different academic disciplines
- Synthesize concepts and theories in core content courses and focus areas

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

Overall requirements for a bachelor's degree in general studies differ slightly from those listed on pp. 32–34. You must meet the 30-credit requirement for coursework taken at UMGC, but those credits may be earned in any combination across major, general education, and elective courses.

BS IN GENERAL STUDIES

	Credits
Major Elective Courses	**27**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**49**
Total	**120**

TABLE OF CONTENTS
INDEX

Major Requirements

To complete a major in general studies, you must take a total of 30 credits in required and elective coursework, as follows

MAJOR ELECTIVE COURSES (27 CREDITS)

- 6 credits of coursework in one discipline area (e.g., HRMN)
- 6 credits from a second discipline area (e.g., PSYC)
- 15 credits from any discipline area(s)

Note: No more than 21 credits of coursework in a single discipline area may be applied to the major.

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

CAPL 495 General Studies Capstone (3)

Gerontology and Aging Services

You may seek an academic major in gerontology and aging services.

Bachelor of Science in Gerontology and Aging Services

In the gerontology and aging services program at UMGC, you'll gain a foundation in the physiological, psychological, social, and health aspects of aging, coupled with an understanding of programs, services, and policies that affect how we age and live as older adults. You'll gain hands-on experiences in the aging services sector in preparation for a career that improves quality of life for this important and growing segment of the population.

What You'll Learn

Through your coursework, you will learn how to

- Access, interpret, and apply research findings related to biological, psychological, and social processes in the context of aging
- Analyze the impact of 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 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

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN GERONTOLOGY AND AGING SERVICES

	Credits
Required Major Core Courses	30
Required Major Internship/ Workplace Learning Course	3
Required Related Course	3
Remaining General Education and Elective Courses	84
Total	120

Practical Experience/Workplace Learning

Completion of 135 hours of a supervised working/learning experience is required as part of GERO 486A for a major in gerontology and aging services.

Your Workplace Learning experience should take place at an organization that can provide the types of activities and supervision needed to meet program requirements and your own career goals. More information about Workplace Learning may be found on p. 19. Contact Career Services at *careerservices@umgc.edu* for internship and job search support.

Major Requirements

To complete a major in gerontology and aging services, you must take a total of 36 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

GERO 100 Contemporary Issues in Aging (3)
GERO 301 Service/Program Management (3)
GERO 302 Health and Aging (3)
GERO 306 Programs, Services, and Policies (3)
GERO 311 Gender and Aging (3)
GERO 320 Psychosocial Aspects of Aging (3)
GERO 338 Health Promotion in Older Adults (3)
GERO 342 Long-Term Care Administration (3)
GERO 390 The Business of Aging (3)
GERO 427 Culture and Aging (3)

TABLE OF CONTENTS
INDEX

REQUIRED MAJOR INTERNSHIP/WORKPLACE LEARNING COURSE (3 CREDITS)

GERO 486A Workplace Learning in Gerontology and Aging Services (3)

REQUIRED RELATED COURSE (3 CREDITS)

The following required course may be applied to general education requirements.

STAT 200 Introduction to Statistics (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

You must plan at least a semester in advance before participating in Workplace Learning (GERO 486A). Contact Workplace Learning at *workplacelearning@umgc.edu* or consult your advisor or success coach for additional information.

Major core, capstone, and related requirements are listed in **bold.**

BS IN GERONTOLOGY AND AGING SERVICES	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111S Program and Career Exploration in Health and Sciences (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
IFSM 201 Concepts and Applications of Information Technology (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
GERO 100 Contemporary Issues in Aging (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
STAT 200 Introduction to Statistics (3)	**Related** and general education/ mathematics
WRTG 112 Academic Writing II (3)	General education/communications
GERO 301 Service/Program Management (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
GERO 302 Health and Aging (3)	**Major**
Elective (3)	Elective
GERO 306 Programs, Services, and Policies (3)	**Major**
Elective (3)	Elective
GERO 311 Gender and Aging (3)	**Major**
Elective (3)	Elective
GERO 320 Psychosocial Aspects of Aging (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
GERO 338 Health Promotion in Older Adults (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GERO 342 Long-Term Care Administration (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GERO 390 The Business of Aging (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GERO 427 Culture and Aging (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
GERO 486A Workplace Learning in Gerontology and Aging Services (3)	**Major/internship**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Graphic Communication

You may seek an academic major in graphic communication.

Bachelor of Arts in Graphic Communication

UMGC's graphic communication major is a portfolio-intensive program that can help you master the skills and technology needed to compete in today's rapidly changing visual arts and communication environment. With a graphic communication degree, along with an updated portfolio aimed toward your ideal clients, you can apply your creative streak toward a career in business, government, or industry as a graphic designer, manager, or communications specialist.

What You'll Learn

Through your coursework, you will learn how to

- Produce effective visual communications by applying principles of composition, layout, color theory, and context
- Plan, design, and create interactive solutions, such as user interfaces, motion graphics, mobile applications, and web designs
- Use professional, analytical, collaborative, and technical design skills to support team goals, roles, and responsibilities
- Define and direct creative strategy in a business environment by combining scope, messaging, and evaluation of success in an overarching design campaign

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BA IN GRAPHIC COMMUNICATION

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

Major Requirements

To complete a major in graphic communication, you must take a total of 33 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

GRCO 100	Introduction to Graphic Communication (3)
ARTT 110	Introduction to Drawing (3)
ARTT 120	Design I: Arrangement and Color (3)
ARTT 210	Intermediate Drawing (3) *or ARTT 152 Photography I*
GRCO 230	Typography and Layout (3)
GRCO 350	Intermediate Graphic Communication: Portfolio Development (3)
GRCO 354	Digital Media (3)
GRCO 355	Digital Media II (3)
GRCO 450	Advanced Graphic Communication: Professional Branding (3)
GRCO 479	Motion Graphics (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

GRCO 495	Graphic Communication Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

TABLE OF CONTENTS
INDEX

Major core, capstone, and related requirements are listed in **bold**.

BA IN GRAPHIC COMMUNICATION	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111C Program and Career Exploration in Communication/ Humanities (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMST 301 Digital Media and Society (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
GRCO 100 Introduction to Graphic Communication (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
ARTT 110 Introduction to Drawing (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 375 History of Graphic Art (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
ARTT 120 Design I: Arrangement and Color (3)	**Major**
Elective (3)	Elective
ARTT 210 Intermediate Drawing *or* **ARTT 152** Photography I (3)	**Major**
Elective (3)	Elective
GRCO 230 Typography and Layout (3)	**Major**
Elective (3)	Elective
GRCO 350 Intermediate Graphic Communication: Portfolio Development (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
GRCO 354 Digital Media (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GRCO 355 Digital Media II (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GRCO 450 Advanced Graphic Communication: Professional Branding (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GRCO 479 Motion Graphics (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
GRCO 495 Graphic Communication Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Health Services Management

You may seek an academic major in health services management.

Bachelor of Science in Health Services Management

A major in health services management can provide you with grounding in the core knowledge and competencies for effective management in the dynamic healthcare environment, teaching you to think comprehensively and strategically about healthcare trends so you can lead innovation. It is ideal for entry-level and midcareer professionals.

What You'll Learn

Through your coursework, you will learn how to

- Exercise sound business and financial management principles in healthcare settings through process mapping and strategic planning
- Apply technological advances and emerging trends in the U.S. healthcare system to achieve organizational goals and practices
- Identify, analyze, and evaluate quantitative and qualitative healthcare data and information for effective decision-making in various healthcare settings
- Evaluate legal and ethical issues associated with the planning and delivery of healthcare services
- Analyze policies related to healthcare management

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the Certified Health Data Analyst (CHDA) exam.

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in health services management, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Healthcare Administration or Health Information Management and Technology and/or a certificate in Digital Health Leader or Long-Term Care Administration at UMGC by 6 credits (two courses). Details are on p. 23.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN HEALTH SERVICES MANAGEMENT

	Credits
Required Major Core Courses	30
Required Major Capstone Course	3
Required Business Core Courses	42
Remaining General Education and Elective Courses	45
Total	120

Major Requirements

To complete a major in health services management, you must take a total of 75 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

HMGT 300	Introduction to the U.S. Healthcare Sector (3)
HMGT 307	Managerial Epidemiology and Decision-Making in Healthcare (3)
HMGT 310	Healthcare Policies (3)
HMGT 320	Management in Healthcare Organizations (3)
HMGT 322	Healthcare Financial Management (3)
HMGT 335	Healthcare Marketing (3)
HMGT 372	Legal and Ethical Issues in Healthcare (3)
HMGT 400	Research and Data Analysis in Healthcare (3)
HMGT 420	Healthcare Facilities Management (3)
HMGT 435	Healthcare Economics (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

HMGT 495	Health Services Management Capstone (3)

TABLE OF CONTENTS
INDEX

REQUIRED BUSINESS CORE COURSES (42 CREDITS)

The following required courses (15 credits) may be applied to general education requirements:

ECON 201	Principles of Macroeconomics (3)
ECON 203	Principles of Microeconomics (3)
IFSM 305	Information Systems in Healthcare Organizations (3)
STAT 200	Introduction to Statistics (3)
WRTG 112	Academic Writing II (3)

The following required courses (27 credits) may be applied to elective requirements:

ACCT 220	Principles of Accounting I (3)
BMGT 110	Introduction to Business and Management (3)
BMGT 240	Building Sustainable Futures (3)
BMGT 250	Data, Cybersecurity, and AI in Business Strategy (3)
BMGT 364	Management and Organization Theory (3)
BMGT 380	Business Law I (3)
FINC 330	Business Finance (3)
MRKT 210	Marketing Principles (3)
OPMG 300	Operations Management (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and business core requirements are listed in **bold**.

BS IN HEALTH SERVICES MANAGEMENT	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111S Program and Career Exploration in Health and Sciences (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)	**Business core**
WRTG 112 Academic Writing II (3)	General education/communications
HMGT 300 Introduction to the U.S. Healthcare Sector (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
BMGT 110 Introduction to Business and Management (3)	**Business core**
STAT 200 Introduction to Statistics (3)	**Business core** and general education/mathematics
IFSM 305 Information Systems in Healthcare Organizations (3)	**Business core** and general education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
HMGT 307 Managerial Epidemiology and Decision-Making in Healthcare (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
ECON 201 Principles of Macroeconomics (3)	**Business core** and general education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
ECON 203 Principles of Microeconomics (3)	**Business core** and general education/behavioral and social sciences
BMGT 240 Building Sustainable Futures (3)	**Business core**
BMGT 364 Management and Organization Theory (3)	**Business core**

TABLE OF CONTENTS
INDEX

Health Services Management, continued

HMGT 310 Healthcare Policies (3)	**Major**
HRMN 300 Human Resource Management (3)	Recommended elective
ACCT 301 Accounting for Managers (3)	**Business core**
FINC 331 Finance for General Managers (3)	**Business core**
HMGT 320 Management in Healthcare Organizations (3)	**Major**
MRKT 210 Marketing Principles (3)	**Business core**
OPMG 300 Operations Management (3)	**Business core**
HMGT 322 Healthcare Financial Management (3)	**Major**
GERO 427 Culture and Aging (3)	Recommended elective
HMGT 335 Healthcare Marketing (3)	**Major**
WRTG 394 Advanced Business Writing (3)	General education/ communications
BMGT 380 Business Law I (3)	**Business core**
HMGT 372 Legal and Ethical Issues in Healthcare (3)	**Major**
EMGT 302 Concepts in Emergency Management (3)	Recommended elective
HMGT 400 Research and Data Analysis in Healthcare (3)	**Major**
COMM 300 Communication Theory (3)	Recommended elective
HMGT 420 Healthcare Facilities Management (3)	**Major**
HMGT 435 Healthcare Economics (3)	**Major**
BMGT 317 Strategic Decision-Making and Problem-Solving (3)	Recommended elective
BEHS 380 End of Life: Issues and Perspectives (3)	Recommended elective
HMGT 495 Health Services Management Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Phi Delta, the national academic honor society of the Association of University Programs in Health Administration, is available on p. 341.

History

You may seek an academic major in history.

Bachelor of Arts in History

Like other liberal arts majors, a major in history offers a solid base of critical thinking on which to build a career or further graduate study.

One of the very first schools to offer a degree program in history online, UMGC brings you nearly two decades of experience in teaching history in an online environment. Plus, if you're based in the Washington, D.C., area, you'll have myriad opportunities to find internships and part-time and full-time jobs in the field via public institutions and federal positions. Our alumni have gone on to work at such agencies as the National Archives and the National Park Service.

What You'll Learn

Through your coursework, you will learn how to

- Research, interpret, and present historical knowledge
- Write and speak clearly and appropriately about historical information for diverse audiences
- Engage in history as a moral and ethical practice, recognizing a wide range of backgrounds and perspectives
- Apply historical precedents to contemporary life and develop self-reflection
- Achieve a deep understanding of the different peoples, events, and cultures that have shaped human civilization

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

TABLE OF CONTENTS
INDEX

BA IN HISTORY

	Credits
Required Major Core Courses	**18**
Major Elective Courses	**12**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

Major Requirements

To complete a major in history you must take a total of 33 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (18 CREDITS)

HIST 115 World History I (3)
or HIST 141 Western Civilization I

HIST 116 World History II (3)
or HIST 142 Western Civilization II

HIST 156 History of the United States to 1865 (3)

HIST 157 History of the United States Since 1865 (3)

HIST 289 Historical Methods (3)

HIST 309 Historical Writing (3)

MAJOR ELECTIVE COURSES (12 CREDITS)

Four upper-level HIST courses (12)—
Focused study in U.S. or world history recommended, as follows:

U.S. History

HIST 316L The American West

HIST 365 Modern America

HIST 377 U.S. Women's History: 1870 to 2000

HIST 461 African American History: 1865 to the Present

World History

HIST 326 The Roman Republic

HIST 337 Europe and the World

HIST 392 History of the Contemporary Middle East

HIST 480 History of China to 1912

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

HIST 495 History Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BA IN HISTORY	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111C Program and Career Exploration in Communication/ Humanities (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMST 301 Digital Media and Society (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3) *and* NUTR 101 Nutrition Laboratory (1)	General education/biological and physical sciences
HIST 115 World History I *or* **HIST 141** Western Civilization I (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
HIST 116 World History II *or* **HIST 142** Western Civilization II (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
GEOL 100 Physical Geology (3)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
HIST 125 Technological Transformations (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences

TABLE OF CONTENTS
INDEX

History, continued

HIST 156 History of the United States to 1865 (3)	**Major**
Elective (3)	Elective
HIST 157 History of the United States Since 1865 (3)	**Major**
Elective (3)	Elective
HIST 289 Historical Methods (3)	**Major**
Elective (3)	Elective
HIST 309 Historical Writing (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
HIST 316L The American West *or* **HIST 326** The Roman Republic *or* any upper-level HIST course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
HIST 365 Modern America *or* **HIST 337** Europe and the World *or* any upper-level HIST course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
HIST 377 U.S. Women's History: 1870 to 2000 *or* **HIST 392** History of the Contemporary Middle East *or* any upper-level HIST course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
HIST 461 African American History: 1865 to the Present *or* **HIST 480** History of China to 1912 *or* any upper-level HIST course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
HIST 495 History Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Homeland Security

You may seek an academic major in homeland security.

Bachelor of Science in Homeland Security

The UMGC homeland security program is uniquely designed to provide you with an understanding of the homeland security sector. The curriculum covers international and domestic terrorism, emerging technologies, cyber threats, infrastructure protection, emergency preparedness and response, private-sector partnerships, global pandemics, natural disasters, strategic planning, policies, intelligence operations, and international engagement. In this program, you'll develop the necessary critical-thinking, ethical decision-making, risk analysis, and communication skills to meet the professional demands of leadership and management in the homeland security profession.

What You'll Learn

Through your coursework, you will learn how to

- Distinguish policies and procedures in the homeland security sector that demonstrate leadership and management
- Apply professional and ethical decision-making skills to increase knowledge of strategic and operational homeland security goals and interface with internal and external stakeholders
- Assess the critical technologies essential for the protection and recovery of critical infrastructure and for ensuring the nation's cybersecurity against all hostile threats
- Assess terrorist threats, cyber and insider threats, critical infrastructure vulnerabilities, and emerging asymmetric threats to U.S. national security
- Evaluate the roles and relationships of homeland security partners and stakeholders supporting homeland security operations

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in homeland security, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Management or Information Technology with a concentration in homeland security at UMGC by 6 credits (two courses). Details are on p. 23.

TABLE OF CONTENTS
INDEX

BACHELOR'S DEGREE PROGRAMS
CURRICULA

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN HOMELAND SECURITY

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
Required Related Course	**3**
Remaining General Education and Elective Courses	**84**
Total	**120**

Major Requirements

To complete a major in homeland security you must take a total of 36 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

HMLS 302 Introduction to Homeland Security (3)
HMLS 310 Homeland Security Response to Critical Incidents (3)
HMLS 406 Legal and Political Issues in Homeland Security (3)
HMLS 408 Infrastructure in Homeland Security (3)
HMLS 414 Homeland Security and Intelligence (3)
HMLS 416 Homeland Security and International Relations (3)
EMGT 310 Continuity of Operations Planning and Implementation (3)
EMGT 314 Terrorism Issues in Emergency Management (3)
PSAD 416 Public Safety Leadership (3)
HMLS 304 Strategic Planning in Homeland Security (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

HMLS 495 Homeland Security Capstone (3)

REQUIRED RELATED COURSE (3 CREDITS)

The following required course may be applied to general education requirements:

IFSM 300 Information Systems in Organizations (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN HOMELAND SECURITY	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111P Program and Career Exploration in Public Safety (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
WRTG 112 Academic Writing II (3)	General education/communications
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
HMLS 302 Introduction to Homeland Security (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
IFSM 300 Information Systems in Organizations (3)	**Related** and general education/ research and computing literacy
HMLS 406 Legal and Political Issues in Homeland Security (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
HMLS 310 Homeland Security Response to Critical Incidents (3)	**Major**
Elective (3)	Elective
HMLS 408 Infrastructure in Homeland Security (3)	**Major**

TABLE OF CONTENTS
INDEX

Homeland Security, continued

Elective (3)	Elective
HMLS 414 Homeland Security and Intelligence (3)	**Major**
Elective (3)	Elective
HMLS 416 Homeland Security and International Relations (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
EMGT 310 Continuity of Operations Planning and Implementation (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
EMGT 314 Terrorism Issues in Emergency Management (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
PSAD 416 Public Safety Leadership (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
HMLS 304 Strategic Planning in Homeland Security (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
HMLS 495 Homeland Security Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Humanities

You may seek an academic major in humanities.

Bachelor of Arts in Humanities

Like other liberal arts majors, a major in humanities offers a solid base of critical thinking on which to build a career or further study. This major will broaden your understanding of yourself and your interaction with the world and provide a perspective on cultural and intellectual heritage while offering tools to use that knowledge in the real world.

You'll explore how individuals and groups understand their existence, their place within their cultures, and their responsibility to others and the physical world.

What You'll Learn

Through your coursework, you will learn how to

- Integrate theories, methods, and concepts from multiple humanities disciplines, such as philosophy, history, art, literature, music, and religious studies
- Evaluate the adequacy and justifiability of propositions, theories, assumptions, and arguments
- Communicate the results of critical reflection into personal positions on social, cultural, and ethical issues
- Apply sound ethical reasoning in contemporary contexts
- Develop cultural understanding by exploring the cultural heritage of sites, events, people, and communities

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BA IN HUMANITIES

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

TABLE OF CONTENTS
INDEX

Major Requirements

To complete a major in humanities, you must take a total of 33 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

HUMN 100	Introduction to Humanities (3)
PHIL 100	Introduction to Philosophy (3)
PHIL 140	Introduction to Moral Philosophy and Ethical Reasoning (3)
HIST 115	World History I (3) *or HIST 116 World History II* *or HIST 141 Western Civilization I* *or HIST 142 Western Civilization II*
MUSC 210	Music as Cultural Expression (3) *or any MUSC course*
ARTH 372	History of Western Art 1 (3) *or any upper-level ARTH course*
PHIL 304	Contemporary Social Justice Issues (3) *or any upper-level PHIL course*
HUMN 351	Myth in the World (3) *or any upper-level HUMN course*
PHIL 349	Religions of the West (3) *or any upper-level PHIL course*
ENGL 406	Shakespeare Studies (3) *or any upper-level ENGL course*

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

HUMN 495	Humanities Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BA IN HUMANITIES	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111C Program and Career Exploration in Communication/ Humanities (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMST 301 Digital Media and Society (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
HUMN 100 Introduction to Humanities (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
PHIL 100 Introduction to Philosophy (3)	**Major**
ENGL 240 Introduction to Fiction, Poetry, and Drama (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
PHIL 140 Introduction to Moral Philosophy and Ethical Reasoning (3)	**Major**
Elective (3)	Elective
HIST 115 World History I *or* **HIST 116** World History II *or* **HIST 141** World Civilization I *or* **HIST 142** World Civilization II (3)	**Major**
Elective (3)	Elective

TABLE OF CONTENTS
INDEX

Humanities, continued

MUSC 210 Music as Cultural Expression *or* any MUSC course (3)	**Major**
Elective (3)	Elective
ARTH 372 History of Western Art I *or* any upper-level ARTH course (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
PHIL 304 Contemporary Social Justice Issues *or* any upper-level PHIL course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
HUMN 351 Myth in the World *or* any upper-level HUMN course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
PHIL 349 Religions of the West *or* any upper-level PHIL course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ENGL 406 Shakespeare Studies *or* any upper-level ENGL course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
HUMN 495 Humanities Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Human Resource Management

You may seek an academic major in human resource management.

Bachelor of Science in Human Resource Management

With a degree in human resource management from UMGC, you'll find employment opportunities in nearly every industry. Our bachelor's degree program is ideal for those who have some experience in HR, as well as those who want to transition into the HR profession.

You'll gain a comprehensive understanding of human resource functions—such as resource planning; recruitment, selection, placement, and orientation of employees; training and career development; labor relations; performance appraisal and rewards programs; and development of personnel policies and procedures—in private- and public-sector settings. Additionally, you'll explore the ways that human behavior, laws, labor relations, and diversity issues can intersect and affect a company's culture and ultimately its progress.

What You'll Learn

Through your coursework, you will learn how to

- Apply business knowledge, best practices, and ethical leadership skills to make effective business decisions
- Apply knowledge of human behavior, labor relations, and current laws and regulations to evaluate whether a working environment is safe, fair, and compliant with regulations
- Develop a plan to create and implement a total rewards program that aligns employee and organizational goals and objectives
- Create, implement, and assess training, development, and rewards programs that foster employee and organizational learning and development
- Recognize the diversity of cultures and worldviews that inform human behavior and respond constructively to differences in workplaces, communities, and organizations
- Use technology to research, collect, analyze, and interpret data and effectively communicate information in a professional manner
- Evaluate current issues in talent acquisition, selection, strategic planning, and performance-appraisal systems

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Associate Professional in Human Resources (aPHR)
- Global Professional in Human Resources (GPHR)
- Professional in Human Resources (PHR)
- SHRM-Certified Professional (SHRM-CP)

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in human resource management, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MBA with a specialization in human resource management or the MS in Management with a concentration in human resource management and/or a certificate in Strategic Human Resource Management at UMGC by 6 credits (two courses) or the MS in Management with a concentration in interdisciplinary studies in management at UMGC by 3 credits (one course). Details are on p. 23.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN HUMAN RESOURCE MANAGEMENT

	Credits
Required Major Core Courses	**27**
Required Major Capstone Course	**3**
Required Business Core Courses	**42**
Remaining General Education and Elective Courses	**48**
Total	**120**

Major Requirements

To complete a major in human resource management, you must take a total of 72 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (27 CREDITS)

HRMN 300	Human Resource Management (3)
HRMN 202	Organizational Communication (3)
HRMN 362	Labor Relations (3)
HRMN 367	Organizational Culture and Change (3)
HRMN 395	The Total Rewards Approach to Compensation Management (3)
HRMN 400	Talent Acquisition and Management (3)
HRMN 406	Employee Training and Development (3) *or HRMN 410 HR Information Systems and Metrics Analysis*
HRMN 408	Employment Law for Business (3)
HRMN 467	Global Human Resource Management (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

HRMN 495	Human Resource Management Capstone (3)

REQUIRED BUSINESS CORE COURSES (42 CREDITS)

The following required courses (15 credits) may be applied to general education requirements:

ECON 201	Principles of Macroeconomics (3)
ECON 203	Principles of Microeconomics (3)
IFSM 300	Information Systems in Organizations (3)
STAT 200	Introduction to Statistics (3)
WRTG 112	Academic Writing II (3)

The following required courses (27 credits) may be applied to elective requirements:

ACCT 301	Accounting for Managers (3)
BMGT 110	Introduction to Business and Management (3)
BMGT 240	Building Sustainable Futures (3)
BMGT 250	Data, Cybersecurity, and AI in Business Strategy (3)
BMGT 364	Management and Organizational Theory (3)
BMGT 380	Business Law I (3)
FINC 331	Finance for General Managers (3)
MRKT 210	Marketing Principles (3)
OPMG 300	Operations Management (3)

ALTERNATE CREDIT

If you are a Society for Human Resource Management (SHRM)-certified professional (SHRM-CP or SHRM-SCP) or an HRCI-certified professional (PHR or SPHR) and your certification is

current and valid, you may receive up to 9 credits for HRMN 300 Human Resource Management (3), HRMN 202 Organizational Communication (3), and HRMN 367 Organizational Culture and Change (3). Advisors or success coaches can provide more information.

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and business core requirements are listed in **bold**.

BS IN HUMAN RESOURCE MANAGEMENT	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111B Program and Career Exploration in Business (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
WRTG 112 Academic Writing II (3)	**Business core** and general education/communications
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
BMGT 110 Introduction to Business and Management (3)	**Business core**
HRMN 300 Human Resource Management (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
STAT 200 Introduction to Statistics (3)	**Business core** and general education/mathematics
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)	**Business core**
HRMN 202 Organizational Communication (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
ECON 201 Principles of Macroeconomics (3)	**Business core** and general education/behavioral and social sciences
IFSM 300 Information Systems in Organizations (3)	**Business core** and general education/research and computing literacy
ARTH 334 Understanding Movies (3)	General education/arts and humanities
BMGT 240 Building Sustainable Futures (3)	**Business core**
ECON 203 Principles of Microeconomics (3)	**Business core** and general education/behavioral and social sciences
HRMN 362 Labor Relations (3)	**Major**
BMGT 380 Business Law I (3)	**Business core**
HRMN 367 Organizational Culture and Change (3)	**Major**
Elective (3)	Elective
HRMN 395 The Total Rewards Approach to Compensation Management (3)	**Major**
ACCT 301 Accounting for Managers (3)	**Business core**
HRMN 400 Talent Acquisition and Management (3)	**Major**
WRTG 394 Advanced Business Writing (3)	General education/ communications
Elective (3)	Elective
HRMN 406 Employee Training and Development *or* **HRMN 410** HR Information Systems and Metrics Analysis (3)	**Major**
Elective (3)	Elective
BMGT 364 Management and Organization Theory (3)	**Business core**
Elective (3)	Elective
FINC 331 Finance for General Managers (3)	**Business core**
MRKT 210 Marketing Principles (3)	**Business core**
Elective (3)	Elective
HRMN 408 Employment Law for Business (3)	**Major**
Elective (3)	Elective
OPMG 300 Operations Management (3)	**Business core**
HRMN 467 Global Human Resource Management (3)	**Major**
Elective (3)	Elective
HRMN 495 Human Resource Management Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Laboratory Management

The laboratory management program has specific admission requirements (listed on p. 9) that you must meet before enrolling in any required major courses. Consult an advisor or a success coach before choosing this major.

You may seek an academic major in laboratory management.

Bachelor of Science in Laboratory Management

UMGC's program in laboratory management is unique in Maryland: no other university in the state offers a bachelor's degree program in laboratory management. Yet the need within the biotechnology industry for employees with both scientific and management skills is great.

The laboratory management major will help you prepare to coordinate the activities that contribute to a well-ordered laboratory by combining an in-depth study of scientific concepts and procedures with hands-on laboratory management practice.

What You'll Learn

Through your coursework, you will learn how to

- Create a healthy, safe, and productive workplace by appropriately hiring, training, supporting, and evaluating laboratory personnel
- Plan, organize, and direct the daily work activities of a laboratory setting by working independently and as a member of a team
- Communicate in a clear, well-organized manner that effectively persuades, informs, and clarifies ideas, information, and laboratory techniques/procedures to staff, the scientific community, and the public
- Practice ethical standards of integrity, honesty, and fairness as a laboratory manager
- 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

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN LABORATORY MANAGEMENT

	Credits
Major Core Courses	24
Required Major Internship/ Workplace Learning Course	6
Required Major Capstone Course	3
Required Related Courses	17
Remaining General Education and Elective Courses	70
Total	120

Practical Experience/Workplace Learning

Completion of 270 hours of a supervised research-based laboratory experience as part of BIOL 486A/B is required for a major in laboratory management.

Your Workplace Learning experience should take place at an organization that can provide the types of activities and supervision needed to meet program requirements and your own career goals. More information about Workplace Learning may be found on p. 19. Contact Career Services at *umgc.edu/careerservices* for internship and job search support.

Major Requirements

To complete a major in laboratory management, you must take a total of 50 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (24 CREDITS)

Applied laboratory science coursework in biology, biochemistry, biotechnology, chemistry, microbiology, or molecular biology, accepted in transfer (12)—Applicable courses must have addressed skills in areas such as aseptic techniques, media preparation, staining techniques, immunoassays, extraction and isolation techniques, electrophoresis, purification techniques, chromatography, and spectrophotometry.

BIOL 325	Inquiries in Biological Science (3)
BMGT 364	Management and Organization Theory (3)
FINC 331	Finance for General Managers (3)
NSCI 301	Laboratory Management and Safety (3)

TABLE OF CONTENTS
INDEX

REQUIRED MAJOR INTERNSHIP/WORKPLACE LEARNING COURSE (6 CREDITS)

BIOL 486A/B Workplace Learning in Biology (3 or 6)
or any related internship through Workplace Learning

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

BIOL 495 Life Sciences Capstone (3)

REQUIRED RELATED COURSES (17 CREDITS)

The following required courses (8 credits) may be applied to general education requirements:

BIOL 105 Principles of Biology I (4)

CHEM 103 General Chemistry I (4)

Remaining required science coursework (9 credits) may be applied to elective requirements. Courses may be chosen from the following:

BIOL 201 Anatomy and Physiology I

BIOL 202 Anatomy and Physiology II

BIOL 222 Principles of Genetics

BIOL 224 Genetics Lab

BIOL 230 General Microbiology

CHEM 113 General Chemistry II

PHYS 121 Fundamentals of Physics I

PHYS 122 Fundamentals of Physics II

Any other approved coursework in biotechnology, biochemistry, cell biology, chemistry, genetics, immunology, microbiology, molecular biology, physics, and virology

Note: UMGC has limited course offerings in science beyond those already listed for the major. Approved coursework includes courses that may be accepted in transfer.

Course Sequencing

You must plan at least a semester in advance before participating in Workplace Learning (BIOL 486A/B). Contact Workplace Learning at *workplacelearning@umgc.edu* or consult your advisor or success coach for additional information. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Legal Studies

You may seek an academic major in legal studies.

Bachelor of Science in Legal Studies

The legal studies curriculum at UMGC is designed to provide you with a background in contemporary American civil and criminal law, legal systems and institutions, and legal theory and practice. In this major, you'll be able to develop the knowledge and skills needed in the legal workplace, including fact identification and analysis, legal research and writing, and field-related digital competence.

What You'll Learn

Through your coursework, you will learn how to

- Analyze the relevant legal concepts, authorities, regulations, and ethical codes required to support the resolution of legal disputes
- Develop legal documents that incorporate critical thinking and legal reasoning to inform, evaluate, and advocate with respect to specific legal issues
- Determine how the application of the American civil and criminal justice systems can further social justice
- Research appropriate standard and internet-based legal resources to identify relevant, current, presiding legal authority

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN LEGAL STUDIES

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
General Education Courses	**41**
Elective Courses	**46**
Total	**120**

TABLE OF CONTENTS
INDEX

Major Requirements

To complete a major in legal studies, you must take a total of 33 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

LGST 101 Introduction to Law (3)
LGST 200 Techniques of Legal Research (3)
LGST 201 Legal Writing (3)
LGST 204 Legal Ethics (3)
LGST 301 Advanced Legal Writing (3)
LGST 312 Torts (3)
LGST 315 Domestic Relations (3)
LGST 320 Criminal Law and Procedures (3)
LGST 325 Litigation (3)
LGST 340 Contract Law (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

LGST 495 Legal Studies Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN LEGAL STUDIES	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111P Program and Career Exploration in Public Safety (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMSC 100 Social Networking and Cybersecurity Best Practices (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
LGST 101 Introduction to Law (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
LGST 200 Techniques of Legal Research (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
LGST 201 Legal Writing (3)	**Major**
Elective (3)	Elective
LGST 204 Legal Ethics (3)	**Major**
Elective (3)	Elective
LGST 301 Advanced Legal Writing (3)	**Major**
Elective (3)	Elective
LGST 312 Torts (3)	**Major**
WRTG 394 Advanced Business Writing (3)	General education/ communications

TABLE OF CONTENTS
INDEX

Legal Studies, continued

Elective (3)	Elective
LGST 315 Domestic Relations (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
LGST 320 Criminal Law and Procedures (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
LGST 325 Litigation (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
LGST 340 Contract Law (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
LGST 495 Legal Studies Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Management Information Systems

You may seek an academic major in management information systems.

Bachelor of Science in Management Information Systems

Management information systems are a critical part of the strategic decision-making process in virtually all of today's public and private organizations. Managers who can lead the teams that integrate information systems with general business processes are in high demand.

Developed by chief information officers and other high-level IT professionals, the bachelor's degree program in management information systems at UMGC is well suited for those looking to move into a management position in information systems and bridge the gap between an organization's functional users and technical developers.

What You'll Learn

Through your coursework, you will learn how to

- Develop and present clear, concise, and ethical technical documentation, reports, and business solutions using structured communication and visualization techniques
- Apply advanced computing, cybersecurity, cloud technologies, and AI-driven solutions for secure, efficient, and scalable enterprise systems
- Implement IT governance, risk management, and digital transformation strategies to align information systems with strategic organizational goals
- Utilize current, relevant technologies (e.g., AI-powered analytics, predictive modeling, and data visualization tools) to enhance decision-making and business performance
- Execute emerging AI and IT solutions while ensuring ethical governance, regulatory compliance, and responsible innovation
- Execute secure information systems using cybersecurity frameworks, risk mitigation strategies, and compliance protocols
- Utilize structured methodologies and industry standards to optimize business processes and system workflows
- Execute IT strategies, digital transformation initiatives, and technology roadmaps that drive business growth and operational efficiency

TABLE OF CONTENTS
INDEX

- Establish IT governance frameworks, ethical policies, and compliance standards to guide responsible technology adoption and user accountability
- Collaborate with team members to plan, evaluate, and document technology solutions

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Agile Certified Practitioner (PMI-ACP)®*
- Certified Associate in Project Management (CAPM)®*
- Project Management Professional (PMP)®*

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in management information systems, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Information Technology at UMGC by 6 credits (two courses) or the MS in Management with a concentration in interdisciplinary studies in management by 3 credits (one course). Details are on p. 23.

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN MANAGEMENT INFORMATION SYSTEMS

	Credits
Required Major Core Courses	33
Required Major Capstone Course	3
General Education Courses	41
Elective Courses	43
Total	120

Major Requirements

To complete a major in management information systems, you must take a total of 36 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (33 CREDITS)

IFSM 201	Concepts and Applications of Information Technology (3)
IFSM 300	Information Systems in Organizations (3)
FINC 331	Finance for General Managers (3)
IFSM 304	Ethics in Information Technology (3)
CSIA 300	Cybersecurity for Leaders and Managers (3)
IFSM 310	Software and Hardware Infrastructure Concepts (3)
IFSM 311	Enterprise Architecture (3)
DATA 330	Business Intelligence and Data Management (3)
IFSM 370	Telecommunications in Information Systems (3)
IFSM 438	Information Systems Project Management (3)
IFSM 461	Systems Analysis and Design (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

IFSM 495	Management Information Systems Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

* PMI-ACP®, CAPM®, and PMP® are registered marks of the Project Management Institute.

TABLE OF CONTENTS
INDEX

Major core, capstone, and related requirements are listed in **bold**.

BS IN MANAGEMENT INFORMATION SYSTEMS	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
WRTG 112 Academic Writing II (3)	General education/communications
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
IFSM 300 Information Systems in Organizations (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
STAT 200 Introduction to Statistics (3)	General education/mathematics
CMSC 105 Introduction to Problem-Solving and Algorithm Design (3)	General education/research and computing literacy
IFSM 201 Concepts and Applications of Information Technology (3)	**Major**
FINC 331 Finance for General Managers (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
IFSM 304 Ethics in Information Technology (3)	**Major**
Elective (3)	Elective
CSIA 300 Cybersecurity for Leaders and Managers (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
IFSM 310 Software and Hardware Infrastructure Concepts (3)	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/communications
Elective (3)	Elective
DATA 330 Business Intelligence and Data Management (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
IFSM 311 Enterprise Architecture (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
IFSM 370 Telecommunications in Information Systems (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
IFSM 438 Information Systems Project Management (3)	**Major**
Elective (3)	Elective
IFSM 461 Systems Analysis and Design (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
IFSM 495 Management Information Systems Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

TABLE OF CONTENTS
INDEX

Marketing

You may seek an academic major in marketing.

Bachelor of Science in Marketing

The major in marketing offers an introduction to the fundamental concepts and strategies that constitute successful marketing management. It is designed to provide a thorough understanding of how to identify, retain, and grow profitable customer segments; create effective promotional programs; and develop integrated marketing communication tools, both in domestic and global markets. The program incorporates digital marketing strategies to meet the requirements of the modern marketplace.

What You'll Learn

Through your coursework, you will learn how to

- Apply strategic marketing skills, such as scenario planning, market intelligence, customer profiles, and digital planning, to successfully market products or services
- Develop marketing insights with data derived from internal and external sources
- Design effective integrated marketing communication plans using traditional, digital, and social media channels
- Develop multichannel campaigns for nonprofit organizations through fundraising, recruiting volunteers, and promoting alliances using traditional and digital marketing channels
- Create consumer-driven marketing strategies for a consistent consumer experience across multiple marketing channels
- Develop successful customer relationships and enhance customer loyalty using appropriate marketing technologies
- Create marketing strategies to meet the challenges of a competitive global market

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Accelerated Pathway

If you complete your undergraduate degree at UMGC with a major in marketing, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Management with a concentration in interdisciplinary studies in management at UMGC by 3 credits (one course). Details are on p. 23.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN MARKETING

	Credits
Required Major Core Courses	**27**
Required Major Capstone Course	**3**
Required Business Core Courses	**42**
Remaining General Education and Elective Courses	**48**
Total	**120**

Major Requirements

To complete a major in marketing, you must take a total of 72 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (27 CREDITS)

BMGT 330	Entrepreneurship and Innovation (3)
MRKT 354	Integrated Marketing Communications (3)
MRKT 394	Managing Customer Relationships in Digital Marketing (3)
MRKT 411	Consumer Behavior in Digital Media (3)
MRKT 412	Marketing Research (3)
MRKT 458	Social Media Marketing (3)
MRKT 311	Digital Marketing Principles (3)
MRKT 314	Nonprofit Marketing (3) *or any upper-level MRKT course*
MRKT 454	Global Marketing (3) *or any upper-level MRKT course*

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

MRKT 495	Marketing Management Capstone (3)

REQUIRED BUSINESS CORE COURSES (42 CREDITS)

The following required courses (15 credits) may be applied to general education requirements:

ECON 201	Principles of Macroeconomics (3)
ECON 203	Principles of Microeconomics (3)

TABLE OF CONTENTS
INDEX

IFSM 300 Information Systems in Organizations (3)
STAT 200 Introduction to Statistics (3)
WRTG 112 Academic Writing II (3)

The following required courses (27 credits) may be applied to elective requirements:

ACCT 301 Accounting for Managers (3)
BMGT 110 Introduction to Business and Management (3)
BMGT 240 Building Sustainable Futures (3)
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)
BMGT 364 Management and Organizational Theory (3)
BMGT 380 Business Law I (3)
FINC 331 Finance for General Managers (3)
MRKT 210 Marketing Principles (3)
OPMG 300 Operations Management (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and business core requirements are listed in **bold**.

BS IN MARKETING	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111B Program and Career Exploration in Business (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
WRTG 112 Academic Writing II (3)	**Business core** and general education/communications
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
MRKT 210 Marketing Principles (3)	**Business core**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
STAT 200 Introduction to Statistics (3)	**Business core** and general education/mathematics
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)	**Business core**
BMGT 110 Introduction to Business and Management (3)	**Business core**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
ECON 201 Principles of Macroeconomics (3)	**Business core** and general education/behavioral and social sciences
BMGT 240 Building Sustainable Futures (3)	**Business core**
ARTH 334 Understanding Movies (3)	General education/arts and humanities
IFSM 300 Information Systems in Organizations (3)	**Business core** and general education/research and computing literacy
ECON 203 Principles of Microeconomics (3)	**Business core** and general education/behavioral and social sciences
MRKT 354 Integrated Marketing Communications (3)	**Major**
BMGT 364 Management and Organizational Theory (3)	**Business core**
BMGT 330 Entrepreneurship and Innovation (3)	**Major**

TABLE OF CONTENTS
INDEX

Marketing, continued

BMGT 380 Business Law I (3)	**Business core**
MRKT 394 Managing Customer Relationships in Digital Marketing (3)	**Major**
Elective (3)	Elective
MRKT 411 Consumer Behavior in Digital Media (3)	**Major**
WRTG 394 Advanced Business Writing (3)	General education/ communications
ACCT 301 Accounting for Managers (3)	**Business core**
MRKT 458 Social Media Marketing (3)	**Major**
FINC 331 Finance for General Managers (3)	**Business core**
Elective (3)	Elective
MRKT 412 Marketing Research (3)	**Major**
Elective (3)	Elective
MRKT 311 Digital Marketing Principles (3)	**Major**
OPMG 300 Operations Management (3)	**Business core**
Elective (3)	Elective
MRKT 314 Nonprofit Marketing *or* any upper-level MRKT course (3)	**Major**
Elective (3)	Elective
MRKT 454 Global Marketing *or* any upper-level MRKT course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
MRKT 495 Marketing Management Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Nursing (RN to BSN)

The nursing (RN to BSN) program has specific admission requirements (listed on p. 9) that you must meet before enrolling in any required major courses.

If you have an associate degree in nursing or have completed an approved registered nursing education program and you reside in and have an active, unencumbered registered nursing license in an approved state,* you may seek an academic major in nursing. This program is not intended to prepare you for initial professional licensure as a registered nurse.**

Bachelor of Science in Nursing

If you are a registered nurse, the RN to BSN program at UMGC offers you a pathway for professional and career advancement. Building on your previous nursing education and clinical experience, the curriculum expands your competencies in leadership, community/public/population health, quality improvement, patient safety, informatics, and research. It also supports your continued preparation for diverse roles in nursing within various healthcare delivery settings and future graduate study. Accredited by the Commission on Collegiate Nursing Education (CCNE), the program is designed to help you engage in interprofessional collaboration; lead with a spirit of innovation; promote health and wellness; advocate for health equity; and deliver safe, quality, evidence-based nursing care to patients, families, and communities.

What You'll Learn

Through your coursework, you will learn how to

- Apply knowledge gained from the arts, sciences, and humanities to the role of the professional nurse by incorporating ethics, core values, accountability, and theories to professional nursing practice
- Develop a nursing plan of care using person-centered assessment skills and strategies that demonstrate cultural sensitivity, respect diversity, and support equity and inclusivity to recognize alterations in patients' genetic, psychobiological, and environmental processes
- Describe health wellness and chronic disease management in patient populations that span the continuum of healthcare delivery, including community/public/global health, acute care, ambulatory care, long-term care, and rehabilitative and palliative care settings

* See *umgc.edu/nursing* for the most up-to-date list of approved states.
** See *umgc.edu/professional-licensure* for more information about professional licensure.

TABLE OF CONTENTS
INDEX

- Integrate evidence-based practice and nursing research to analyze patient outcomes data; apply clinical judgment to make informed decisions; and deliver high-quality care to individuals, families, and communities along the health continuum of care
- Participate as a vital member of an interprofessional healthcare team by engaging in open communication, teamwork, and collaboration to enhance, advocate for, and measure safe, equitable, high-quality, cost-effective, inclusive, and compassionate patient-care outcomes
- Engage actively in complex healthcare systems, emphasizing patient safety, quality improvement principles, collaborative partnerships, and current policy initiatives to enhance measurably outcomes of diverse patient populations, including individuals, families, and communities
- Evaluate information and communication technologies effectively to collect data, generate knowledge, promote accurate documentation to support safe patient care, and consistently adhere to ethical and legal standards during the provision of care to patients, communities, and populations
- Demonstrate both personal and professional leadership development skills within complex healthcare systems by implementing innovative strategies and solutions that improve overall patient outcomes with a heightened awareness of social justice and social determinants of health

Accreditation

The baccalaureate degree in "nursing" at UMGC is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001-2399 (202-887-6791).

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BSN

	Credits
Required Major Core Courses	**27**
Required Major Capstone Course	**3**
Required Related Courses	**21**
Remaining General Education and Elective Courses	**69**
Total	**120**

Major Requirements

To complete a major in nursing, you must take a total of 51 credits of required coursework, as follows:

REQUIRED MAJOR CORE COURSES (27 CREDITS)

NURS 302	Transition to Professional Nursing Practice (3)
NURS 322	Health Assessment and Wellness Promotion (4)
NURS 352	Introduction to Nursing Scholarship (3)
NURS 372	Introduction to Healthcare Informatics Technology in Nursing (3)
NURS 392	Policy, Politics, and Economics in Healthcare (3)
NURS 412	Population, Global, and Community Health Issues (3)
NURS 432	Leadership in Personal and Professional Nursing Practice (3)
NURS 452	Complex Healthcare Systems: Quality Improvement and Patient Safety (3)
NURS 472	Nursing Practice Experience (2)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

NURS 496	Nursing Capstone (3)

REQUIRED RELATED COURSES (21 CREDITS)

The following required courses (17 credits) may be applied to general education requirements and may be taken at UMGC (if available) or accepted in transfer.

STAT 200	Introduction to Statistics (3)
PSYC 100	Introduction to Psychology (3)
SOCY 100	Introduction to Sociology (3)
BIOL 230	General Microbiology (4)
BIOL 201	Human Anatomy and Physiology I (4)

The following required course (4 credits) may be applied to elective requirements and may be taken at UMGC (if available) or accepted in transfer.

BIOL 202	Human Anatomy and Physiology II (4)

Course Sequencing

Contact an advisor or a success coach if you have any questions about your academic advisement report.

TABLE OF CONTENTS
INDEX

Political Science

You may seek an academic major in political science.

Bachelor of Science in Political Science

With a major in political science, you'll be given the opportunity to develop a comprehensive understanding of U.S. government and global politics. By analyzing political structures, theory, and problems, you'll learn to interpret complex political problems in both the public and private sectors and propose potential solutions. You'll also have an opportunity to enhance your professionalism and fine-tune your communication and organizational skills.

What You'll Learn

Through your coursework, you will learn how to

- Distinguish between major concepts, theories, and research methods of political science
- Examine key domestic and international political systems, institutions, and organizations, including their purposes, functions, and impact on domestic and global politics, policies, and people
- Explain how diversity, equity, and inclusion affects and is affected by policies and politics within various sociopolitical, economic, and cultural contexts, both domestically and internationally
- Evaluate reports and articles for validity, applicability, and authoritative conclusions
- Produce arguments supporting or opposing a position on domestic or global practices or policies, applying supportive research within the major theories/conceptual framework of political science

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN POLITICAL SCIENCE

	Credits
Required Major Core Courses	27
Required Major Capstone Course	3
General Education Courses	41
Elective Courses	49
Total	120

Major Requirements

To complete a major in political science, you must take a total of 30 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (27 CREDITS)

GVPT 100 Introduction to Political Science (3)

GVPT 101 Introduction to Political Theory (3)

GVPT 170 American Government (3)
or GVPT 200 International Political Relations

GVPT 210 Introduction to Public Policy and Public Administration (3)

GVPT 280 Comparative Politics and Governments (3)

GVPT 306 Global Political Economy (3)

GVPT 403 Law, Morality, and War (3)
or any upper-level GVPT course

GVPT 406 Global Terrorism (3)

GVPT 457 American Foreign Relations (3)
or any upper-level GVPT course

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

GVPT 495 Political Science Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

TABLE OF CONTENTS
INDEX

Major core, capstone, and related requirements are listed in **bold**.

BS IN POLITICAL SCIENCE	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111C Program and Career Exploration in Communication/ Humanities (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMSC 100 Social Networking and Cybersecurity Best Practices (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
GVPT 100 Introduction to Political Science (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
GVPT 101 Introduction to Political Theory (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
HIST 125 Technological Transformations (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
GVPT 170 American Government *or* **GVPT 200** International Political Relations (3)	**Major**
Elective (3)	Elective
GVPT 210 Introduction to Public Policy and Public Administration (3)	**Major**
GVPT 280 Comparative Politics and Governments (3)	**Major**
Elective (3)	Elective
GVPT 306 Global Political Economy (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
GVPT 403 Law, Morality, and War *or* any upper-level GVPT course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GVPT 406 Global Terrorism (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
GVPT 457 American Foreign Relations *or* any upper-level GVPT course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
GVPT 495 Political Science Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Psychology

You may seek an academic major in psychology.

Bachelor of Science in Psychology

UMGC's bachelor's degree program in psychology will help prepare you for graduate study or a multitude of careers in the field. While acquiring a knowledge base of theory, research, and practice in psychological sciences, you'll hone your quantitative skills, written and oral communication proficiencies, analytical and scientific reasoning, and ability to analyze human behavior.

What You'll Learn

Through your coursework, you will learn how to

- Apply relevant concepts, theories, empirical findings, and historical trends to personal, organizational, and social issues
- Model scientific reasoning by designing, participating in, and evaluating psychological research
- Implement critical and creative thinking, skeptical inquiry, technology-based information literacy, and the scientific approach to solve problems related to current and emerging trends in psychology
- Use ethical principles of psychology to evaluate psychological science and practice within professional and personal settings
- Communicate ideas, concepts, arguments, and perspectives during effective interactions with diverse groups in a variety of contexts
- Analyze the complexity of human diversity and how it influences our understanding of behavior
- Apply psychology content and skills to career readiness, lifetime learning goals, and workforce contributions

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN PSYCHOLOGY

	Credits
Required Major Core Courses	**30**
Required Major Capstone Course	**3**
Required Related Course	**3**
Remaining General Education and Elective Courses	**84**
Total	**120**

Major Requirements

To complete a major in psychology, you must take a total of 36 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (30 CREDITS)

PSYC 100	Introduction to Psychology (3)
PSYC 220	Social Psychology (3)
PSYC 251	Lifespan Development (3) *or any upper-level PSYC course*
PSYC 300	Research Methods in Psychology (3)
PSYC 301	Biological Basis of Behavior (3)
PSYC 310	Sensation and Perception (3) *or any upper-level PSYC course*
PSYC 335	Theories of Personality (3)
PSYC 341	Memory and Cognition (3) *or any upper-level PSYC course*
PSYC 353	Psychopathology and Mental Health (3)
PSYC 436	Introduction to Clinical Psychology (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

PSYC 495	Psychology Capstone (3)

REQUIRED RELATED COURSE (3 CREDITS)

The following required course may be applied to general education requirements:

STAT 200	Introduction to Statistics (3)

TABLE OF CONTENTS
INDEX

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN PSYCHOLOGY	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111S Program and Career Exploration in Health and Sciences (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMST 301 Digital Media and Society (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
PSYC 100 Introduction to Psychology (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
STAT 200 Introduction to Statistics (3)	**Related** and general education/ mathematics
WRTG 112 Academic Writing II (3)	General education/communications
PSYC 220 Social Psychology (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
PSYC 251 Lifespan Development *or* any upper-level PSYC course (3)	**Major**
Elective (3)	Elective
PSYC 300 Research Methods in Psychology (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
PSYC 301 Biological Basis of Behavior (3)	**Major**
Elective (3)	Elective
PSYC 310 Sensation and Perception *or* any upper-level PSYC course (3)	**Major**
Elective (3)	Elective
PSYC 335 Theories of Personality (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
PSYC 341 Memory and Cognition *or* any upper-level PSYC course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
PSYC 353 Psychopathology and Mental Health (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
PSYC 436 Introduction to Clinical Psychology (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
PSYC 495 Psychology Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Public Safety Administration

You may seek an academic major in public safety administration.

Bachelor of Science in Public Safety Administration

The public safety administration curriculum at UMGC is designed to provide you with a foundation of knowledge and expand your understanding of the unique aspects of administration in the field of public safety. In this program, you'll study public safety's professional and legal frameworks as well as administrators' responsibilities related to risk management, mitigation, and liability. You'll also examine ethical decision-making processes and distinguish the attributes of exceptional public safety leaders.

What You'll Learn

Through your coursework, you will learn how to

- Analyze the unique aspects and best professional practices associated with the field of public safety administration within the United States
- Analyze the legal framework within the United States that outlines the obligations and limitations of public safety entities with respect to their employees, constituents, and the public at large
- Evaluate the challenges associated with the professional obligation to address concurrent public safety emergencies and the challenges associated with the development of effective corresponding mitigation plans
- Evaluate the unique ethical framework associated with the field of public safety administration and the corresponding decision-making process required of public safety professionals
- Assess the leadership attributes most commonly associated with exceptional professionals within the field of public safety administration

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN PUBLIC SAFETY ADMINISTRATION

	Credits
Required Major Core Courses	27
Required Major Capstone Course	3
Required Related Course	3
Remaining General Education and Elective Courses	87
Total	120

Major Requirements

To complete a major in public safety administration, you must take a total of 33 credits in required coursework, as follows:

REQUIRED MAJOR CORE COURSES (27 CREDITS)

PSAD 302	Introduction to Public Safety Administration (3)
PSAD 304	Contemporary Public Safety Practices (3)
PSAD 306	Public Safety Planning (3)
PSAD 408	Public Safety Legal Issues and Public Policy (3)
PSAD 410	Public Safety Research and Technology (3)
PSAD 414	Public Safety Administration Ethics (3)
PSAD 416	Public Safety Leadership (3)
FINC 331	Finance for General Managers (3)
BMGT 317	Strategic Decision-Making and Problem-Solving (3)

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

PSAD 495	Public Safety Leadership Capstone (3)

REQUIRED RELATED COURSE (3 CREDITS)

The following required course may be applied to general education requirements.

IFSM 300	Information Systems in Organizations (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

TABLE OF CONTENTS
INDEX

Major core, capstone, and related requirements are listed in **bold**.

BS IN PUBLIC SAFETY ADMINISTRATION	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111P Program and Career Exploration in Public Safety (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
WRTG 112 Academic Writing II (3)	General education/communications
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
PSAD 302 Introduction to Public Safety Administration (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
MATH 105 Topics for Mathematical Literacy (3)	General education/mathematics
IFSM 300 Information Systems in Organizations (3)	**Related** and general education/ research and computing literacy
PSAD 304 Contemporary Public Safety Practices (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
PSAD 306 Public Safety Planning (3)	**Major**
Elective (3)	Elective
PSAD 408 Public Safety Legal Issues and Public Policy (3)	**Major**
Elective (3)	Elective
PSAD 410 Public Safety Research and Technology (3)	**Major**
Elective (3)	Elective
PSAD 414 Public Safety Administration Ethics (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
PSAD 416 Public Safety Leadership (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
FINC 331 Finance for General Managers (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
BMGT 317 Strategic Decision-Making and Problem-Solving (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
PSAD 495 Public Safety Leadership Capstone (3)	**Major/capstone**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Social Science

You may seek an academic major in social science.

Bachelor of Science in Social Science

In UMGC's bachelor's degree program in social science, you'll gain a breadth of knowledge through interdisciplinary study that encompasses perspectives from the fields of anthropology, behavioral sciences, gerontology, psychology, and sociology. You'll also have the opportunity to drill down and focus closely on one of these fields.

What You'll Learn

Through your coursework, you will learn how to

- Analyze how quantitative and qualitative methods are used in social science research
- Communicate social science concepts and research findings effectively to a variety of audiences
- Examine how micro- and macro-level factors are linked in the social lives of individuals, communities, and societies
- Analyze complex social issues using theoretical approaches, critical-thinking skills, information literacy, technology, or interdisciplinary perspectives
- Evaluate social science research using ethical principles and standards for professional conduct
- Apply concepts of diversity, social factors, and global multicultural perspectives to examine practical problems in the workplace and society

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN SOCIAL SCIENCE

	Credits
Required Major Core Courses	15
Major Elective Courses	12
Required Major Capstone Course	3
Required Related Course	3
Remaining General Education and Elective Courses	87
Total	**120**

Major Requirements

To complete a major in social science, you must take a total of 33 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (15 CREDITS)

Two of the following introductory (100-level) social science courses (6):

ANTH 102	Introduction to Cultural Anthropology
GERO 100	Contemporary Issues in Aging
PSYC 100	Introduction to Psychology
SOCY 100	Introduction to Sociology

The following courses:

BEHS 210	Introduction to Social Sciences (3)
BEHS 300	Research Methods in Social Sciences (3)

One of the following courses (3):

BEHS 220	Diversity Awareness
BEHS 250	Social Justice Movements

MAJOR ELECTIVE COURSES (12 CREDITS)

Four upper-level ANTH, BEHS, GERO, PSYC, and SOCY courses (12)—
Focused study in anthropology, gerontology, psychology, or sociology is recommended, as follows:

Anthropology

ANTH 345	World Prehistory and Archaeology
ANTH 346	Anthropology of Language and Communication
ANTH 350	Health, Illness, and Healing
ANTH 351	Anthropology in Forensic Investigations

TABLE OF CONTENTS
INDEX

Gerontology

GERO 302	Health and Aging
GERO 311	Gender and Aging
GERO 427	Culture and Aging
GERO 320	Psychosocial Aspects of Aging

Psychology

PSYC 338	Psychology of Gender
PSYC 354	Cross-Cultural Psychology
PSYC 386	Psychology of Stress
PSYC 437	Positive Psychology

Sociology

SOCY 313	The Individual and Society
SOCY 325	The Sociology of Gender
SOCY 423	Race and Ethnicity: A Global Perspective
SOCY 350	Contemporary Social Problems

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

BEHS 495	Social Sciences Capstone (3)

REQUIRED RELATED COURSE (3 CREDITS)

The following required course may be applied to general education requirements:

STAT 200	Introduction to Statistics (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN SOCIAL SCIENCE	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111S Program and Career Exploration in Health and Sciences (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMST 301 Digital Media and Society (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
ANTH 102 Introduction to Cultural Anthropology *or* **GERO 100** Contemporary Issues in Aging *or* **PSYC 100** Introduction to Psychology *or* **SOCY 100** Introduction to Sociology (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/ communications
STAT 200 Introduction to Statistics (3)	**Related** and general education/ mathematics
WRTG 112 Academic Writing II (3)	General education/communications
ANTH 102 Introduction to Cultural Anthropology *or* **GERO 100** Contemporary Issues in Aging *or* **PSYC 100** Introduction to Psychology *or* **SOCY 100** Introduction to Sociology (3)	**Major**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
BEHS 210 Introduction to Social Sciences (3)	**Major**
Elective (3)	Elective
BEHS 220 Diversity Awareness *or* **BEHS 250** Social Justice Movements (3)	**Major**
Elective (3)	Elective

TABLE OF CONTENTS
INDEX

Social Science, continued

BEHS 300 Research Methods in Social Sciences (3)	**Major**
Elective (3)	Elective
ANTH 345 World Prehistory and Archaeology *or* **GERO 302** Health and Aging *or* **PSYC 338** Psychology of Gender *or* **SOCY 313** The Individual and Society *or* any upper-level ANTH, BEHS, GERO, PSYC, or SOCY course (3)	**Major**
WRTG 391 Advanced Research Writing (3)	General education/ communications
Elective (3)	Elective
ANTH 346 Anthropology of Language and Communication *or* **GERO 311** Gender and Aging *or* **PSYC 354** Cross-Cultural Psychology *or* **SOCY 325** The Sociology of Gender *or* any upper-level ANTH, BEHS, GERO, PSYC, or SOCY course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ANTH 350 Health, Illness, and Healing *or* **GERO 427** Culture and Aging *or* **PSYC 386** Psychology of Stress *or* **SOCY 423** Race and Ethnicity: A Global Perspective *or* any upper-level ANTH, BEHS, GERO, PSYC, or SOCY course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
ANTH 351 Anthropology in Forensic Investigations *or* **GERO 320** Psychosocial Aspects of Aging *or* **PSYC 437** Positive Psychology *or* **SOCY 350** Contemporary Social Problems *or* any upper-level ANTH, BEHS, GERO, PSYC, or SOCY course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
BEHS 495 Social Sciences Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

Sustainable Value Chain

You may seek an academic major in sustainable value chain.

Bachelor of Science in Sustainable Value Chain

The sustainable value chain major provides an examination of ways to improve the interrelated elements of the various processes that are associated with the creation and delivery of a product or service, that is, the value chain. With an emphasis on sustainability, the interdisciplinary program integrates several functional areas of business, including management, marketing, and operations. In your studies, you will have an opportunity to develop and apply quantitative skills involving data and statistical analysis, management science, and quality management. You will also be able to focus your studies in business analytics, environmental systems, project management, marketing, or supply chains through your elective choices.

What You'll Learn

Through your coursework, you will learn how to

- Assess the value chain of a business entity for operational effectiveness and sustainability using data
- Communicate with various stakeholders to improve organizational efficiency
- Recommend improvements to the supply chain of a business to increase quality and organizational sustainability
- Employ appropriate statistical techniques to enhance production processes and systems
- Recommend improvements in functional aspects of the value chain, including marketing, operations, and quality management
- Apply project management techniques to managerial decision-making
- Recommend enhancements to systems and technology involving procurement, inventory management, and logistics
- Analyze processes, technology, and communications to improve customer relationship management
- Conduct and present a strategic analysis of a corporation's value chain

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified Associate in Project Management (CAPM)
- Certified Professional in Supply Management (CPSM)

TABLE OF CONTENTS
INDEX

- Certified Six Sigma Black Belt
- Certified Supply Chain Professional (CSCP)
- Project Management Professional (PMP)

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS IN SUSTAINABLE VALUE CHAIN

	Credits
Required Major Core Courses	**21**
Major Elective Courses	**9**
Required Major Capstone Course	**3**
Required Business Core Courses	**42**
Remaining General Education and Elective Courses	**45**
Total	**120**

Major Requirements

To complete a major in sustainable value chain, you must take a total of 75 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (21 CREDITS)

MRKT 394	Managing Customer Relationships in Digital Marketing (3)
BMGT 487	Project Management I (3)
DATA 320	Introduction to Data Analytics (3)
DATA 335	Data Visualization (3)
BMGT 411	Sustainable Process Improvement (3)
OPMG 310	Sustainability Management (3)
OPMG 320	Quality in the Value Chain (3)

MAJOR ELECTIVE COURSES (9 CREDITS)

Three upper-level courses chosen from the following areas (9)—Focused study in business analytics, environmental systems, marketing, project management, or supply chain is recommended.

Business Analytics

DATA 300	Foundations of Data Science
DATA 430	Foundations of Machine Learning
ARIN 460	Artificial Intelligence Solutions

Environmental Systems

ENHS 300	Environmental Systems
ENHS 315	Risk Assessment in Environmental Health and Safety *or ENHS 305 Environmental Health and Safety Regulations*
ENHS 340	Environmental Technology and Control

Marketing

MRKT 412	Marketing Research
MRKT 354	Integrated Marketing Communications
MRKT 454	Global Marketing

Project Management

BMGT 365	Organizational Leadership *or BMGT 465 Organizational Change Management*
BMGT 488	Project Management II
OPMG 350	Project and Procurement Management

Supply Chain

BMGT 488	Project Management II
OPMG 330	Logistics
OPMG 340	Supply Chain

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

OPMG 495	Sustainable Value Chain Capstone (3)

REQUIRED BUSINESS CORE COURSES (42 CREDITS)

The following required courses (15 credits) may be applied to general education requirements:

ECON 201	Principles of Macroeconomics (3)
ECON 203	Principles of Microeconomics (3)
IFSM 300	Information Systems in Organizations (3)
STAT 200	Introduction to Statistics (3)
WRTG 112	Academic Writing II (3)

The following required courses (27 credits) may be applied to elective requirements:

ACCT 301	Accounting for Managers (3)
BMGT 110	Introduction to Business and Management (3)
BMGT 240	Building Sustainable Futures (3)
BMGT 250	Data, Cybersecurity, and AI in Business Strategy (3)
BMGT 364	Management and Organizational Theory (3)
BMGT 380	Business Law I (3)
FINC 331	Finance for General Managers (3)
MRKT 210	Marketing Principles (3)
OPMG 300	Operations Management (3)

TABLE OF CONTENTS
INDEX

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and business core requirements are listed in **bold**.

BS IN SUSTAINABLE VALUE CHAIN	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111B Program and Career Exploration in Business (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
WRTG 112 Academic Writing II (3)	**Business core** and general education/communications
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
MRKT 210 Marketing Principles (3)	**Business core**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
STAT 200 Introduction to Statistics (3)	**Business core** and general education/mathematics
IFSM 300 Information Systems in Organizations (3)	**Business core** and general education/research and computing literacy
BMGT 110 Introduction to Business and Management (3)	**Business core**
HUMN 100 Introduction to Humanities (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
ECON 201 Principles of Macroeconomics (3)	**Business core** and general education/behavioral and social sciences
BMGT 240 Building Sustainable Futures (3)	**Business core**
ARTH 334 Understanding Movies (3)	General education/arts and humanities
BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)	**Business core**
ECON 203 Principles of Microeconomics (3)	**Business core** and general education/behavioral and social sciences
MRKT 394 Managing Customer Relationships in Digital Marketing (3)	**Major**
BMGT 364 Management and Organizational Theory (3)	**Business core**
DATA 320 Introduction to Data Analytics (3)	**Major**
BMGT 380 Business Law I (3)	**Business core**
DATA 335 Data Visualization (3)	**Major**
Elective (3)	Elective
BMGT 411 Sustainable Process Improvement (3)	**Major**
WRTG 394 Advanced Business Writing (3)	General education/ communications
ACCT 301 Accounting for Managers (3)	**Business core**
FINC 331 Finance for General Managers (3)	**Business core**
OPMG 300 Operations Management (3)	**Business core**
Elective (3)	Elective
OPMG 310 Sustainability Management (3)	**Major**
OPMG 320 Quality in the Value Chain (3)	**Major**
Elective (3)	Elective
BMGT 487 Project Management I (3)	**Major**
Elective (3)	Elective
BMGT 488 Project Management II *or* any upper-level focus area course (3)	**Major**
Elective (3)	Elective
OPMG 330 Logistics *or* any upper-level focus area course (3)	**Major**
OPMG 340 Supply Chain *or* any upper-level focus area course (3)	**Major**
Elective (3)	Elective
OPMG 495 Sustainable Value Chain Capstone (3)	**Major/capstone**
CAPL 398A Career Planning Management (1)	Elective

TABLE OF CONTENTS
INDEX

Web and Digital Design

You may seek an academic major in web and digital design.

Bachelor of Science in Web and Digital Design

You can follow your interests and prepare for a career in digital design with UMGC's bachelor's degree program in web and digital design, which allows you to explore design using various digital media and web technologies. In this major, you'll learn how to create digital works using industry-standard software and incorporating design theory and efficient workflows. Through your coursework, you can gain hands-on experience in web design, virtual reality, augmented reality, electronic publishing, motion graphics, multimedia, animation, and graphic design.

What You'll Learn

Through your coursework, you will learn how to

- Create digital products, such as graphics, interactive digital media, and web applications, that utilize current or emerging technologies to meet customer requirements and usability standards
- Apply sound business principles and project management techniques to manage a digital media or web design project from conceptualization to deployment
- Utilize scripting and programming languages to develop interactive digital media or web applications that meet technical specifications and quality standards
- Assess the cultural, ethical, and legal implications of producing and distributing interactive digital media, products, or platforms
- Communicate clearly and effectively with diverse stakeholders about technology and digital media

Related Certificate Program

Depending on your choice of electives, you may be able to earn a related certificate within your program. Contact your success coach or academic advisor for more information.

Degree Requirements

See pp. 32–34 for information on major, general education, and elective requirements, as well as overall requirements for completing a bachelor's degree.

BS WEB AND DIGITAL DESIGN

	Credits
Required Major Core Courses	6
Major Elective Courses	21
Required Major Capstone Course	3
General Education Courses	41
Elective Courses	49
Total	120

Major Requirements

To complete a major in web and digital design, you must take a total of 30 credits in required and elective coursework, as follows:

REQUIRED MAJOR CORE COURSES (6 CREDITS)

CMST 290 Introduction to Interactive Design (3)
CMST 295 Fundamentals of Digital Design (3)

MAJOR ELECTIVE COURSES (21 CREDITS)

Seven upper-level CMST courses (21)—
Focused study in web design, digital design, or a ugmented/virtual reality is recommended, as follows:

Web Design

CMST 385 Principles of Web Design and Technology I
CMST 386 Principles of Web Design and Technology II
CMST 325 Image Editing
CMST 355 Content Management Systems
CMST 387 Principles of Web Design and Technology III
CMST 388 Fundamentals of JavaScript
CMST 488 Advanced JavaScript

TABLE OF CONTENTS
INDEX

Digital Design

CMST 310 Fundamentals of Electronic Publishing
CMST 311 Advanced Electronic Publishing
CMST 325 Image Editing
CMST 320 Illustration Graphics
CMST 425 Advanced Image Editing
CMST 341 Principles of Multimedia I
CMST 351 Motion Graphics I

Augmented/Virtual Reality

CMST 308 User Experience and Interface Design
CMST 315 Game Design I
CMST 330 Virtual Reality Design I
CMST 331 Augmented Reality Design I
CMST 390 3D Modeling
CMST 490 Virtual World Building
Any upper-level CMST course

REQUIRED MAJOR CAPSTONE COURSE (3 CREDITS)

CMST 495 Web and Digital Design Capstone (3)

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. Contact an advisor or a success coach if you have any questions about your academic advisement report.

Major core, capstone, and related requirements are listed in **bold**.

BS IN WEB AND DIGITAL DESIGN	
Recommended and Required Courses	**Requirement(s) Fulfilled**
PACE 111T Program and Career Exploration in Technology (3)	General education/research and computing literacy
LIBS 150 Introduction to Research (1)	General education/research and computing literacy
WRTG 111 Foundations of Writing and Communication (3)	General education/communications
CMST 301 Digital Media and Society (3)	General education/research and computing literacy
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
CMST 290 Introduction to Interactive Design (3)	**Major**
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 107 College Algebra (3)	General education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
CMST 295 Fundamentals of Digital Design (3)	**Major**
HIST 125 Technological Transformations (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
CMST 385 Principles of Web Design and Technology I *or* **CMST 310** Fundamentals of Electronic Publishing *or* **CMST 308** User Experience and Interface Design *or* any upper-level CMST course (3)	**Major**
Elective (3)	Elective
CMST 386 Principles of Web Design and Technology II *or* **CMST 311** Advanced Electronic Publishing *or* **CMST 315** Game Design I *or* any upper-level CMST course (3)	**Major**

TABLE OF CONTENTS
INDEX

Web and Digital Design, continued

Elective (3)	Elective
CMST 325 Image Editing *or* **CMST 330** Virtual Reality Design I *or* any upper-level CMST course (3)	**Major**
Elective (3)	Elective
CMST 387 Principles of Web Design and Technology III *or* **CMST 320** Illustration Graphics *or* **CMST 331** Augmented Reality Design I *or* any upper-level CMST course (3)	**Major**
WRTG 393 Advanced Technical Writing (3)	General education/ communications
Elective (3)	Elective
CMST 355 Content Management Systems *or* **CMST 425** Advanced Image Editing *or* **CMST 390** 3D Modeling *or* any upper-level CMST course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CMST 388 Fundamentals of JavaScript *or* **CMST 341** Principles of Multimedia I *or* **CMST 490** Virtual World Building *or* any upper-level CMST course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CMST 488 Advanced JavaScript *or* **CMST 351** Motion Graphics I *or* any upper-level CMST course (3)	**Major**
Elective (3)	Elective
Elective (3)	Elective
CMST 495 Web and Digital Design Capstone (3)	**Major/capstone**
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
Elective (3)	Elective
CAPL 398A Career Planning Management (1)	Elective

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international honor society for the computing and information disciplines, is available on p. 341.

Technology Requirements

Courses in the web and digital design program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

TABLE OF CONTENTS
INDEX

At the master's degree level, UMGC offers the Master of Business Administration (MBA), Master of Distance Education and E-Learning (MDE), Master of Education (MEd), and Master of Science (MS).

Expectations

Each UMGC master's degree incorporates program-specific and core competencies. The following essential core competencies are emphasized across all programs:

- Effective writing and oral communication
- Teamwork, collaboration, and leadership
- Quantitative reasoning
- Critical analysis, critical thinking, and problem-solving

UMGC conducts learning outcomes assessments to measure and improve your learning in these areas and in specific disciplinary knowledge and skills.

Requirements

Continuous Enrollment

In general, the UMGC degree requirements that apply to you are those that were in effect when you completed the first credit-bearing course in a given program at UMGC. If you cease to be continuously enrolled, the program requirements that apply to you are those in effect at UMGC when you return to UMGC and enroll in a credit-bearing course for the program you wish to pursue at that time.

To be considered continuously enrolled, you must have had no more than two sequential years of nonenrollment. After two years of nonenrollment, you must reapply for admission to resume enrollment. The existing rules and standards for continuous enrollment are subject to change.

If you change your degree program while continuously enrolled, then the program requirements that apply to you are those in effect at the time you enroll in the first required course for the new program. Previously completed coursework may not apply to the new requirements.

Information about the catalog year that applies to you is provided in the MyUMGC student portal.

The following requirements for the master's degree are applicable to students who begin continuous enrollment on or after August 1, 2025.

Overall Requirements

More is expected at the graduate level than what is normally required at the undergraduate level. In addition, you usually must complete special requirements at the end of your graduate program. Most UMGC master's degree programs require you to complete an integrative end-of-program capstone course and/or a supervised field experience in which you must demonstrate mastery of content covered throughout the program.

All master's degrees require completion of at least 30 credits, at least 50 percent of which must be earned in UMGC courses. Specific requirements are listed on the following pages. Information on the requirements for maintaining good academic standing may be found on p. 338.

Initial Requirement

Most master's degrees require UCSP 615 Orientation to Graduate Studies at UMGC, which must be taken within the first 6 credits of study. The MS in Acquisition and Contract Management and the MS in Transformational Leadership require that the foundation course DCL 600M be taken first.

Time Limits

All requirements established for the completion of a master's degree listed in this publication must be fulfilled within five consecutive years. The time limit is calculated from the term in which you successfully complete the first credit course that applies to the program. It does not include the introductory course DCL 600M but does include undergraduate courses taken at UMGC as part of an accelerated pathway.

Second Master's Degree

If you have earned a master's degree from UMGC and want to pursue an additional master's degree at UMGC, you must complete at least 30 credits of new coursework to be eligible, unless an approved dual master's degree program (described on p. 24) exists. No substitutions to the program are available. If the coursework required for one degree program significantly overlaps with coursework for another degree program, it may not be possible for you to earn both degrees. In such cases, you will need to choose an alternate program if you wish to complete another credential at UMGC.

Before beginning work toward or registering for a second master's degree, consult an advisor or a success coach. Advisors or success coaches can explain the requirements and restrictions on combinations.

TABLE OF CONTENTS
INDEX

CURRICULA

- Accounting and Financial Management
- Acquisition and Contract Management
- Biotechnology
  - Bioinformatics
  - Biosecurity and Biodefense
  - Biotechnology Management
  - Biotechnology Regulatory Affairs
- Business Administration
- Clinical Professional Counseling
- Cloud Computing Systems
- CyberAccounting
- Cyber Operations
- Cybersecurity Management and Policy
- Cybersecurity Technology
- Data Analytics
- Digital Forensics and Cyber Investigation
- Distance Education and E-Learning
- Environmental Management
- Healthcare Administration
- Health Information Management and Technology
- Information Technology
  - Database Systems Technology
  - Homeland Security Management
  - Informatics
  - Project Management
  - Software Engineering
  - Systems Engineering
- Instructional Technology
- Learning Design and Technology
- Management
  - Accounting
  - Criminal Justice Management
  - Emergency Management
  - Financial Management
  - Homeland Security Management
  - Human Resource Management
  - Intelligence Management
  - Interdisciplinary Studies in Management
  - Marketing
  - Project Management
- Strategic Communications
- Transformational Leadership

TABLE OF CONTENTS
INDEX

Accounting and Financial Management

You may earn a Master of Science in Accounting and Financial Management.

Master of Science in Accounting and Financial Management

The graduate program in accounting and financial management can help you move toward organizational leadership positions. Ideal for midcareer professionals, this program can give you the skills to make high-level decisions that can affect your organization's current operations and financial future.

What You'll Learn

Through your coursework, you will learn how to

- Demonstrate accounting and financial management competencies to support executive-level decision-making by examining current situations and future possibilities
- Demonstrate critical-thinking skills to make more informed decisions using accounting and financial data
- Provide actionable insights for key decision-makers based on data analytics and visualizations
- Analyze financial reporting and its effect on financial markets
- Work collaboratively in supporting diversity, equity, and inclusion initiatives to enhance creative solutions, improve productivity, add value, and negotiate acceptable agreements
- Design a comprehensive financial analysis of a large organization
- Model professional and ethical accounting behavior
- Communicate using accounting terminology and plain language as appropriate orally and in writing

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order by subject area:

Accounting Certification

- Certified Fraud Examiner (CFE)
- Certified Government Auditing Professional (CGAP)
- Certified Internal Auditor (CIA)
- Chartered Global Management Accountant (CGMA)
- Enrolled Agent (EA)

Financial Management Certification

- Certified Economic Policy Analyst (CEPA)
- Certified Financial Examiner (CFE)
- Certified Financial Services Auditor (CFSA)
- Certified Government Financial Manager (CGFM)
- Certified Healthcare Financial Professional (CHFP)
- Certified in Financial Forensics (CFF)
- Certified Risk Professional (CRP)
- Certified Treasury Professional (CTP)
- Certified Valuation Analyst (CVA)
- Chartered Asset Manager (CAM)
- Chartered Economist (ChE)
- Chartered Financial Analyst (CFA)
- Chartered Market Analyst (CMA)
- Chartered Portfolio Manager (CPM)
- Chartered Trust and Estate Planner (CTEP)
- Chartered Wealth Manager (CWM)
- Financial Risk Manager (FRM)
- Master Analyst in Financial Forensics (MAFF)
- Master Financial Manager (MFM)
- Master Financial Professional (MFP)
- Registered Business Analyst (RBA)

Other Certification

- Accredited Automated Clearing House Professional (AAP)

Academic Preparation

Before enrolling in any graduate accounting course, you must have either

- Completed 15 credits of undergraduate accounting coursework, with a grade of C or better in each course. Upon submission of an official transcript, you may be accepted into the degree program with fewer than the required 15 credits of undergraduate accounting coursework, but you must complete that coursework before enrolling in your first graduate accounting course.

OR

- Earned a Certified Public Accountant (CPA) license as determined by a State Board of Accountancy. Upon your submission of evidence and our verification of your having earned a CPA license, you may enroll in a graduate accounting course.

Preparation Recommended for Success

You are expected to have some familiarity with Microsoft Excel.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in accounting or finance, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Accounting and Financial Management by up to 6 credits (two courses). See p. 21 for details.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN ACCOUNTING AND FINANCIAL MANAGEMENT

	Credits
Accounting Courses	**18**
Financial Management Courses	**15**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

ACCOUNTING COURSES

Complete the following four courses:

ACCT 610 Financial Reporting and Analysis for Accountants (3)

ACCT 611 Managerial Accounting Data Analytics (3)

ACCT 613 Tax Compliance and Planning (3)

ACCT 628 Auditing and Attestation (3)

Take two of the following 3-credit courses:

ACCT 625 Government and Not-for-Profit Accounting

ACCT 630 Fraud Examination

TABLE OF CONTENTS
INDEX

ACCT 635	Ethics and Professional Responsibilities for Accounting
ACCT 640	Accounting in a Global Context
ACCT 686	Workplace Learning in Accounting

FINANCIAL MANAGEMENT COURSES

Complete the following four courses:

FIN 605	Fintech and Decision-Making (3)
FIN 610	Financial Management in Organizations (3)
FIN 620	Long-Term Financial Management (3)
FIN 660	Strategic Financial Management (3)

Take one of the following 3-credit courses:

FIN 630	Investment Valuation
FIN 645	Behavioral Finance
FIN 686	Workplace Learning in Financial Management

REQUIRED CAPSTONE COURSE

MSAF 690	Accounting and Financial Management Capstone (3)

COURSE SEQUENCING

- MSAF 690 must be taken in your last semester.
- You must complete 30 credits of program coursework including all required courses (ACCT 610, ACCT 611, ACCT 613, ACCT 628, FIN 605, FIN 610, FIN 620, and FIN 660) before enrolling in MSAF 690.
- You may take either ACCT 686 or FIN 686, but not both.

Acquisition and Contract Management

You may earn a Master of Science in Acquisition and Contract Management.

Master of Science in Acquisition and Contract Management

The graduate program in acquisition and contract management is designed to help prepare you for careers in government and commercial organizations across multiple industries. The program addresses many challenges within government contracting for specialized acquisitions. These acquisitions include contracts for services, research and development, and information technology. You'll learn to navigate ongoing demands for the implementation of performance-based contracts and competitive sourcing as competition for resources grows within the government and throughout industry.

What You'll Learn

Through your coursework, you will learn how to

- Create an acquisition strategy based on life-cycle phases and integrate supply chain management principles, technologies, and processes throughout the acquisitions
- Conduct public, private, and international acquisitions in a legal and ethical manner
- Leverage post-award principles and practices to streamline the acquisition process
- Conduct source selection of products and services strategically
- Devise a comprehensive plan to handle purchasing and logistics for a commodity
- Design an effective acquisition sustainability strategy that incorporates risk management techniques to support product and service delivery

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Federal Acquisition Certification for Contracting Officer's Representatives (FAC-COR)
- Federal Acquisition Certification in Contracting (FAC-C)

TABLE OF CONTENTS
INDEX

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN ACQUISITION AND CONTRACT MANAGEMENT

	Credits
Required Foundation Course	**6**
Required Core Courses	**24**
Required Capstone Course	**6**
Total	**36**

REQUIRED FOUNDATION COURSE

DCL 600M Decisive Thinking, Communicating, and Leading in Multidisciplinary Fields (6)

REQUIRED CORE COURSES

ACM 610 Fundamentals of Acquisition Planning and Costs Price Analysis (6)

ACM 620 Sourcing Decisions and Legal Considerations in Contracting (6)

ACM 630 Strategic Supplier Relations in Sustainable Supply Environments (6)

ACM 640 Performance-Based Logistics and Asset Management (6)

REQUIRED CAPSTONE COURSE

ACM 670 Acquisition and Contract Management Capstone (6)

COURSE SEQUENCING

Courses must be taken in the order listed.

Criteria for Program Progression

You must complete each course with a grade of B or better to advance to the next course. The grade of C is not available for these courses. Your course syllabus will explain options for and consequences of requesting an Incomplete.

Biotechnology

You may earn a Master of Science in Biotechnology, with a concentration in any one of the following areas:

- Bioinformatics
- Biosecurity and Biodefense
- Biotechnology Management
- Biotechnology Regulatory Affairs

Program Recognition

UMGC's MS in Biotechnology has been designated a Professional Science Master's degree program through the Council of Graduate Schools.

Master of Science in Biotechnology: Bioinformatics Concentration

Bioinformatics blends biology, computer science, and mathematics to analyze the massive quantities of big data generated by modern biology. A master's degree in biotechnology with a concentration in bioinformatics helps prepare you to become a qualified bioinformatics professional for public- or private-sector organizations. You'll gain cutting-edge knowledge and develop practical experience in the field.

What You'll Learn

Through your coursework, you will learn how to

- Code in Python and Java
- Analyze big data, next-generation sequencing data, and scientific data
- Perform sequence alignments and phylogenetic analyses
- Use biostatistics, databases and data structures, algorithms, and mathematical modeling

Academic Preparation

Completion of a molecular biology course, with a minimum grade of C for an undergraduate course or B for a graduate course, is required for this program. If your official transcript does not indicate such coursework, you may still be accepted into the degree program, but you must either complete BIOT 601 Introduction to Molecular Biology or document successful completion of a college-level molecular biology course at another institution before taking the required program core courses. If you have no prior coursework in statistics, you must take STAT 200 (or equivalent) before taking BIFS 613.

TABLE OF CONTENTS
INDEX

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN BIOTECHNOLOGY: BIOINFORMATICS CONCENTRATION

	Credits
Required Core Courses	12
Required Concentration Courses	21
Required Capstone Course	3
Total	36

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

BIOT 640 Societal Issues in Biotechnology (3)
BIOT 630 Introduction to Bioinformatics (3)
BIOT 645 The Business of Biotechnology (3)
BIOT 643 Techniques of Biotechnology (3)

REQUIRED CONCENTRATION COURSES

BIFS 613 Statistical Processes for Biotechnology (3)
BIFS 614 Data Structures and Algorithms (3)
BIFS 617 Advanced Bioinformatics (3)
DBST 651 Relational Database Systems (3)
BIFS 618 Java for Biotechnology Applications (3)
DBST 652 Advanced Relational/Object-Relational Database Systems (3)
BIFS 619 Systems-Level Approaches in Bioinformatics (3)

REQUIRED CAPSTONE COURSE

BIOT 670I Biotechnology Capstone: Bioinformatics (3)

COURSE SEQUENCING

- BIOT 601, if required, may be taken concurrently with BIOT 640.
- BIOT 640 must be taken as the first program course.
- You must complete all core courses with the BIOT designator in the order listed before starting any concentration coursework.
- BIOT 670I can be taken only after you complete 30 credits of coursework in the biotechnology program. The course is not offered in summer. Availability of the capstone course is provided online at *umgc.edu/schedule*.

Master of Science in Biotechnology: Biosecurity and Biodefense Concentration

The potential dangers of biowarfare have created a new demand for professionals who can use technology to detect, analyze, and respond to biosecurity threats. A master's degree in biotechnology with a concentration in biosecurity and biodefense can help prepare you to meet that demand head-on.

In this concentration, you'll study the microbiology and epidemiology of biological agents that are potential threats, identify and propose countermeasures, and develop expertise in response and recovery strategies as well as policies related to biodefense and biosecurity.

What You'll Learn

Through your coursework, you will learn how to

- Develop preparedness and response strategies for bioterrorism simulations
- Analyze cases of real epidemics, biowarfare, and bioethical research problems
- Communicate current trends in biodefense policies, laws, and best practices for global interagency responses
- Develop advanced project management skills to lead teams
- Perform risk assessments and potential impact analyses and select treatments to handle adverse events

Academic Preparation

Completion of a molecular biology course, with a minimum grade of C for an undergraduate course or B for a graduate course, is required for this program. If your official transcript does not indicate such coursework, you may still be accepted into the degree program, but you must either complete BIOT 601 Introduction to Molecular Biology or document successful completion of a college-level molecular biology course at another institution before taking the required program core courses.

TABLE OF CONTENTS
INDEX

Degree Requirements

MS IN BIOTECHNOLOGY: BIOSECURITY AND BIODEFENSE CONCENTRATION

	Credits
Required Core Courses	**15**
Required Concentration Courses	**18**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

BIOT 640 Societal Issues in Biotechnology (3)
BIOT 630 Introduction to Bioinformatics (3)
BIOT 645 The Business of Biotechnology (3)
BIOT 643 Techniques of Biotechnology (3)
PMAN 634 Foundations of Project Management (3)

REQUIRED CONCENTRATION COURSES

BSBD 640 Agents of Bioterrorism (3)
BSBD 641 Biosecurity and Bioterrorism (3)
HSMN 630 Resilience Planning and Preparedness for Disaster Response and Recovery (3)
BSBD 642 Advanced Biosecurity and Bioterrorism (3)
BSBD 643 Strategies for Interagency Cooperation, Verification, and Global Countermeasures in Biodefense (6)

REQUIRED CAPSTONE COURSE

BIOT 670S Biotechnology Capstone: Biosecurity and Biodefense (3)

ALTERNATE CREDIT

If you are certified as a Project Management Professional by the Project Management Institute and your certification is current and valid, you may receive credit for PMAN 634 Foundations of Project Management (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

- BIOT 601, if required, may be taken concurrently with BIOT 640.
- BIOT 640 must be taken as the first program course.
- You must complete all core courses with the BIOT designator in the order listed before starting any concentration coursework.
- BIOT 670S can be taken only after you complete 30 credits of coursework in the biotechnology program. The course is not offered in summer. Availability of the capstone course is provided online at *umgc.edu/schedule*.

Master of Science in Biotechnology: Biotechnology Management Concentration

In the biotechnology management concentration, you'll learn how to evaluate, launch, and manage biotechnology ventures, from life-saving biopharmaceuticals to environment-friendly biofuels. The program will help you build a powerful skill set for both business and biology to become a highly qualified professional or entrepreneur.

What You'll Learn

Through your coursework, you will learn how to

- Assess your organization's needs for capital, personnel, technology, and marketing
- Evaluate forecasts, cost-effectiveness, and performance of biotech projects
- Weigh the advantages and disadvantages of forming international ventures
- Interpret bioinformatic data and understand the latest technical advances in biotechnology
- Comprehend the economics of bioprocessing, regulatory affairs, and different global business models used in biotechnology
- Implement advanced project management skills to lead a successful team

Academic Preparation

Completion of a molecular biology course, with a minimum grade of C for an undergraduate course or B for a graduate course, is required for this program. If your official transcript does not indicate such coursework, you may still be accepted into the degree program, but you must either complete BIOT 601 Introduction to Molecular Biology or document successful completion of a college-level molecular biology course at another institution before taking the required program core courses.

TABLE OF CONTENTS
INDEX

Degree Requirements

MS IN BIOTECHNOLOGY: BIOTECHNOLOGY MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**15**
Required Concentration Courses	**18**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

BIOT 640 Societal Issues in Biotechnology (3)
BIOT 630 Introduction to Bioinformatics (3)
BIOT 645 The Business of Biotechnology (3)
BIOT 643 Techniques of Biotechnology (3)
PMAN 634 Foundations of Project Management (3)

REQUIRED CONCENTRATION COURSES

BTMN 632 Commercializing Biotechnology in Early-Stage Ventures (3)
BTMN 634 Selection and Evaluation of Biotechnology Projects (3)
BTMN 636 Biotechnology and the Regulatory Environment (3)
ISAS 610 Information Systems and Integration (3)
MRKT 600 Marketing Management (3)
MGMT 640 Financial Decision-Making (3)

REQUIRED CAPSTONE COURSE

BIOT 670M Biotechnology Capstone: Biotechnology Management (3)

ALTERNATE CREDIT

If you are certified as a Project Management Professional by the Project Management Institute and your certification is current and valid, you may receive credit for PMAN 634 Foundations of Project Management (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

- BIOT 601, if required, may be taken concurrently with BIOT 640.
- BIOT 640 must be taken as the first program course.
- You must complete all core courses with the BIOT designator in the order listed before starting any concentration coursework.
- BIOT 670M can be taken only after you complete 30 credits of coursework in the biotechnology program. The course is not offered in summer. Availability of the capstone course is provided online at *umgc.edu/schedule*.

Master of Science in Biotechnology: Biotechnology Regulatory Affairs Concentration

In the concentration in biotechnology regulatory affairs, you'll develop expertise in the life cycle of biotechnology products and learn how to help businesses and regulators work together for safety and quality. This rare program, one of only a few in the nation, will give you a unique educational credential to help you stand out from the crowd.

The biotechnology regulatory affairs concentration could prepare you to help bring a new medical technology to market, bring a life-saving drug to a new country, manage a top-quality research laboratory, or work for a regulating agency to improve drug and device safety for millions of people. You'll build strong skill sets in molecular biology, business, and policy to make yourself an asset to the public and private sectors of the biotech industry.

What You'll Learn

Through your coursework, you will learn how to

- Develop a management plan for a clinical trial
- Assemble packages for an investigational new drug, a new drug application, a new device exemption, or a biologics license application
- Demonstrate your knowledge of Federal Drug Administration rules, including Title 21 of the *Code of Federal Regulations*
- Navigate the policies and procedures for gaining marketing approval for a medical product within the United States, European Union, Japan, Canada, Brazil, India, and China
- Comprehend the economics of bioprocessing, regulatory affairs, and global business models used in biotechnology
- Implement advanced project management skills to lead a successful team

TABLE OF CONTENTS
INDEX

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the Regulatory Affairs Certification exam.

Academic Preparation

Completion of a molecular biology course, with a minimum grade of C for an undergraduate course or B for a graduate course, is required for this program. If your official transcript does not indicate such coursework, you may still be accepted into the degree program without a molecular biology course, but you must either complete BIOT 601 Introduction to Molecular Biology or document successful completion of a college-level molecular biology course at another institution before taking the required program core courses.

Degree Requirements

MS IN BIOTECHNOLOGY: BIOTECHNOLOGY REGULATORY AFFAIRS CONCENTRATION

	Credits
Required Core Courses	**15**
Required Concentration Courses	**18**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

BIOT 640 Societal Issues in Biotechnology (3)
BIOT 630 Introduction to Bioinformatics (3)
BIOT 645 The Business of Biotechnology (3)
BIOT 643 Techniques of Biotechnology (3)
PMAN 634 Foundations of Project Management (3)

REQUIRED CONCENTRATION COURSES

BTMN 636 Biotechnology and the Regulatory Environment (3)
BTRA 640 Preclinical and Clinical Research Design (3)
BTRA 641 Product Life-Cycle Approval, Production, and Marketing for Devices and Drugs (3)
BTRA 642 Global Biotechnology Business Issues (3)
BTRA 643 Practical Applications of Biotech Regulatory Affairs (6)

REQUIRED CAPSTONE COURSE

BIOT 670R Biotechnology Capstone: Regulatory Affairs (3)

ALTERNATE CREDIT

If you are certified as a Project Management Professional by the Project Management Institute and your certification is current and valid, you may receive credit for PMAN 634 Foundations of Project Management (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

- BIOT 601, if required, may be taken concurrently with BIOT 640.
- BIOT 640 must be taken as the first program course.
- You must complete all core courses with the BIOT designator in the order listed before starting any concentration coursework.
- BIOT 670R can be taken only after you complete 30 credits of coursework in the biotechnology program. The course is not offered in summer. Availability of the capstone course is provided online at *umgc.edu/schedule*.

TABLE OF CONTENTS
INDEX

Business Administration

You may earn a Master of Business Administration.

Master of Business Administration

The MBA program can help you gain the skills and abilities desired by today's employers and learn how to strategically manage an organization for growth and success. In this program, you can develop and advance your competencies in finance, marketing, human resources, strategy, and leadership. You'll be able to apply your learning from multiple disciplines to real-life business problems.

Note: You may not pursue a certificate while you are pursuing the MBA.

What You'll Learn

Through your coursework, you'll learn how to

- Apply knowledge of business administration and management by integrating and applying principles from key functional disciplines of business
- Exemplify ethical leadership by making ethical business decisions while demonstrating leadership skills, teamwork, and a commitment to diversity, equity, and inclusion
- Create business strategy by conducting research, analyzing and interpreting findings, and implementing a business plan
- Engage in innovative and critical thinking by generating and evaluating entrepreneurial ideas and formulating, evaluating, and implementing business solutions
- Make decisions and solve problems in a global context by framing business decisions in the context of a global environment
- Transform data into insights by using data analytics and technological approaches to analyze information and make evidence-based decisions
- Formulate and deliver communications by communicating effectively in a variety of settings to diverse stakeholders

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in accounting, finance, or human resource management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for a related graduate degree by 3 or 6 credits (one or two courses), depending on your major. See p. 21 for details.

Degree Requirements

MBA

	Credits
Required Core Courses	**18**
Required Capstone Course	**3**
Specialization Courses	**9**
Total	**30**

REQUIRED CORE COURSES

HRMD 650	Organizational Development and Change (3)
MRKT 600	Marketing Management (3)
ACCT 605	Accounting for Managers (3)
BMGT 620	Innovation and Entrepreneurship (3)
FIN 610	Financial Management in Organizations (3)
BMGT 610	Business Analytics (3)

REQUIRED CAPSTONE COURSE

BMGT 690	Business Strategy Capstone (3)

SPECIALIZATION COURSES

Take three 3-credit courses in one of the following specializations for a total of 9 credits.

Cybersecurity Management and Policy

CMAP 605	Foundations of Cybersecurity Management (3)
CMAP 615	Cybersecurity Defense Strategies (3)
CMAP 625	Cybersecurity Risk Management (3)

Cybersecurity Technology

CTCH 605	Introduction to Cybersecurity (3)
CTCH 615	Cybersecurity Threats and Analysis (3)
CTCH 625	Cybersecurity for Systems and Networks (3)

Data Analytics

DATA 605	Decision Analytics
DATA 615	AI Ethics

Take one of the following 3-credit courses:

DATA 625	Data Visualization
DATA 635	Data Management

TABLE OF CONTENTS
INDEX

Finance

Take three of the following 3-credit courses:

FIN 615 Financial Analysis and Modeling
FIN 620 Long-Term Financial Management
FIN 630 Investment Valuation
FIN 640 International Financial Management
FIN 645 Behavioral Finance
FIN 660 Strategic Financial Management

General Management

Take three 3-credit courses from those listed under any elective specialization.

Global Business

MRKT 605 International Marketing Management
FIN 640 International Financial Management
HRMD 665 Managing Virtual and Global Teams

Human Resource Management

HRMD 610 Issues and Practices in Human Resource Management

Take two of the following 3-credit courses:

HRMD 620 Employee and Labor Relations
HRMD 630 Recruitment and Selection
HRMD 640 Job Analysis, Assessment, and Compensation
HRMD 651 Current Perspectives in Training and Development
HRMD 665 Managing Virtual and Global Teams

Marketing

Take three of the following 3-credit courses:

MRKT 602 Consumer Behavior and Customer Relationship Management
MRKT 603 Brand Management and Integrated Marketing Communication
MRKT 604 Marketing Research and Analytics
MRKT 605 International Marketing Management
MRKT 606 Digital and Social Media Marketing
MRKT 608 Product and Sales Management

Nonprofit Management

NPMN 601 Fundamentals of Nonprofit Management
NPMN 604 Strategic Leadership and Management in Nonprofit Organizations

Take one of the following 3-credit courses:

NPMN 602 Fundraising and Integrated Marketing Communication in Nonprofits
NPMN 603 Grants and Financial Management in Nonprofits

Project Management

PMAN 634 Foundations of Project Management

Take two of the following 3-credit courses:

PMAN 635 Project Schedule, Cost, and Resource Management
PMAN 637 Project Uncertainty: Risks, Ambiguity, and Complexity
PMAN 639 Project Management Quality
PMAN 641 Project Procurement Management

Program Accreditation

UMGC has received specialized accreditation for its MBA program through the International Accreditation Council for Business Education (IACBE), located at 11960 Quivira Road in Overland Park, Kansas, USA. IACBE is a specialized accrediting agency recognized by the Council for Higher Education Accreditation.

TABLE OF CONTENTS
INDEX

Clinical Professional Counseling

The clinical professional counseling program has specific admission requirements (listed on p. 10) that you must meet before enrolling in any required courses.

You may earn a Master of Science in Clinical Professional Counseling.

Master of Science in Clinical Professional Counseling

The Master of Science in Clinical Professional Counseling is designed for those seeking to become licensed practitioners in counseling-related employment. The program prepares you to meet the growing need for clinical professional counselors in community, business, and private practice settings, equipped with therapeutic, progressive diagnostic, and consultative skills. The program fosters personal and professional growth through coursework and supervised field experiences, enhancing your ability to deliver client-centered, culturally responsive, and ethically competent counseling services.

Generally this program is only available to residents of Maryland and certain other states and territories (listed online at *umgc.edu/counseling*). You must conduct your field experiences within the approved locations designated by your state licensure requirements and meet specific residence requirements. Certain exceptions may apply. Contact *admissions@umgc.edu* for more information.

UMGC has confirmed that this program should meet the educational requirements for licensure in certain states, but you should also verify these requirements with your state's licensing board. For more information, visit *umgc.edu/counseling*.

What You'll Learn

Through your coursework, you will learn how to

- Apply knowledge of clinical professional counseling, including the psychological and medical aspects of mental health, comorbid conditions, diagnosis, and treatment planning, to address the needs of diverse individuals and maximize their wellness outcomes
- Apply best practices in individual and group counseling, including assessments and the counseling process
- Apply evidence-based intervention and prevention strategies designed to alleviate suffering and promote the health and well-being of individuals, families, groups, and organizations
- Exhibit both cultural competency and an understanding of the needs of individuals at all developmental levels
- Work collaboratively with interdisciplinary teams, family members, community members, and decision-makers
- Apply basic research skills and methodologies to evaluate programs, critique counseling research findings, and appraise empirically supported treatments
- Develop professional counseling dispositions
- Apply advanced counseling skills and case management and integrate services to enhance the wellness and adjustment outcomes of clients
- Demonstrate ethical principles and professional standards of care and practice
- Synthesize theoretical, evidence-based practice and clinical orientations into an overall philosophy of counseling, reflecting current research, trends, and practices

Degree Requirements

MS IN CLINICAL PROFESSIONAL COUNSELING

	Credits
Required Foundation Courses	**12**
Required Core Courses	**30**
Required Field Experience Courses	**9**
Elective Courses	**9**
Total	**60**

Supervised Clinical Field Experience

The clinical professional counseling program requires 100 hours of supervised clinical field experiences embodied in a practicum and 300 hours in each of two internships. These experiences are devoted to practicing specific clinical skills, including interviewing, assessment, intervention, documentation, and consultation in clinics, agencies, and other organizations that provide clinical professional counseling services.

In this program, you'll pursue site experiences that can provide the types of activities, numbers of clients, and supervision needed to meet the program fieldwork requirements, as well as any specific fieldwork requirements of your state licensure board. We recommend that you familiarize yourself with the supervised fieldwork requirements for your state.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

REQUIRED FOUNDATION COURSES

CNSL 604 Professional Orientation in Counseling (3)
CNSL 606 Legal, Ethical, and Professional Practices in Counseling (3)
CNSL 611 Social and Cultural Foundations in Counseling (3)
CNSL 612 Lifespan and Development: Perspectives and Counseling (3)

REQUIRED CORE COURSES

CNSL 614 Research Design and Program Evaluation in Counseling (3)
CNSL 621 Applied Theories of Counseling (3)
CNSL 622 Counseling Techniques: The Helping Relationship (3)
CNSL 624 Psychopathology and Diagnosis (3)
CNSL 626 Group Counseling (3)
CNSL 627 Advanced Techniques of Counseling (3)
CNSL 628 Assessment and Appraisal in Counseling (3)
CNSL 631 Foundations of Substance Use and Addictions Counseling (3)
CNSL 632 Marriage, Couples, and Family Counseling (3)
CNSL 633 Career Development and Counseling (3)

REQUIRED FIELD EXPERIENCE COURSES

CNSL 690 Practicum (3)
CNSL 691 Internship 1: Professional Counseling (3)
CNSL 692 Internship 2: Professional Counseling (3)

ELECTIVE COURSES

*Take three of the following 3-credit courses:**

CNSL 634 Introduction to School Counseling
CNSL 641 Introduction to Psychopharmacology
CNSL 643 Substance Use and Dependency Treatment Delivery
CNSL 644 Co-Occurring Disorders
CNSL 648 Special Topics in Addiction Counseling
CNSL 651 Relationships Counseling
CNSL 653 Sexual Issues in Marriage and Family Therapy
CNSL 661 Counseling Children and Adolescents
CNSL 663 Child and Adolescent Psychopathology
CNSL 668 Expressive and Creative Arts in Counseling
CNSL 671 Military Culture
CNSL 673 Counseling Military Families
CNSL 678 Trauma, Crisis, and Disaster Counseling
CNSL 681 Biopsychosocial Aspects of Health, Behavioral Health, Aging, and Disability
CNSL 683 Counseling the Older Adult
CNSL 685 Biopsychosocial Approach to Sexuality Across the Lifespan
CNSL 687 Diversity and Sexuality: Sociocultural, Medical, Technological, and Ethical Influences
CNSL 688 Sex Therapy in Action: Assessment, Diagnosis, and Treatment of Psychosexual Issues and Dysfunction
CNSL 689 Seminar: Special Topics in Counseling
CNSL 693 Internship 1: Substance Use and Addictions
CNSL 694 Internship 2: Substance Use and Addictions

Technology Requirements

You may need access to a webcam/microphone for certain assignments.

Professional Certification

The content, course sequence, and supervised fieldwork hours of the MS in Clinical Professional Counseling program are structured to prepare you for the National Counselor Examination (NCE), administered by the National Board for Certified Counselors. This exam is used by the state of Maryland and other states as a requirement for licensure as a professional counselor. Each state (including Maryland, the U.S. territories, and the District of Columbia) also sets additional requirements related to postdegree supervised counseling experience as part of the licensing process.

The program is designed to prepare Maryland residents to meet the state's requirements to become a Licensed Graduate Professional Counselor (LGPC). If you are a Maryland resident, you may apply to become a Licensed Clinical Professional Counselor (LCPC) once you have completed 3,000 clinic hours, 2,000 of which must be achieved after graduation. Postgraduation supervised counseling experience requirements vary by state. Refer to your state licensure board's standards for specific requirements.

* A 1-credit internship bridge course is also available to help you meet the required number of supervised clinical work hours, if necessary.

Cloud Computing Systems

You may earn a Master of Science in Cloud Computing Systems.

Master of Science in Cloud Computing Systems

The graduate program in cloud computing systems is designed to equip you with the technical and management skills to effectively design, operate, and maintain cloud computing systems and help organizations transition to cloud-based solutions. You'll learn the skills needed to strategically transform an organization's current infrastructure to one that efficiently delivers valuable services via the cloud. Through a broad understanding of cloud technology and its relationship to business processes, including financial management, procurement, and communications, you'll be able to design effective cloud environments—and ultimately become a strong asset to any organization.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency.

What You'll Learn

Through your coursework, you will learn how to

- Communicate clearly, orally and in writing, meeting expectations for content, purpose, organization, audience, and format
- Apply logical processes to analyze complex issues and make sound decisions
- Conduct quantitative analyses to inform decision-making
- Collaborate with teams and individuals, applying leadership skills to achieve organizational objectives
- Analyze the organization's infrastructure needs to enhance processes, effectiveness, and strategy
- Assess cloud and networking technologies, including network protocols, cloud and network services, cloud deployment models, virtualization, and other underlying technologies
- Examine legal, regulatory, statutory, and compliance considerations regarding cloud adoption
- Mitigate the risks and security issues surrounding cloud adoption
- Manage the processes involved in the planning and design of a cloud infrastructure
- Implement cloud infrastructure design
- Oversee aspects of cloud infrastructure operation, maintenance, and disposition

Preparation Recommended for Success

The cloud computing systems program is designed for students with academic or professional experience in information technology.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cyber operations, cybersecurity management and technology or cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 6 credits in the MS in Cloud Computing Systems and/or a related certificate. Details are on p. 21.

Related Certificate Program

Completing coursework for most of the focus areas fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN CLOUD COMPUTING SYSTEMS

	Credits
Required Core Courses	**15**
Required Capstone Course	**3**
Elective Courses	**12**
Total	**30**

REQUIRED CORE COURSES

CLCS 605	Introduction to Cloud Computing (3)
CLCS 615	Cloud Services and Technologies (3)
CLCS 625	Applications of Cloud Computing (3)
CLCS 635	Networking Engineering for Cloud Computing (3)
CLCS 645	Cloud Infrastructure Planning and Design (3)

REQUIRED CAPSTONE COURSE

CLCS 690	Cloud Computing Systems Capstone (3)

TABLE OF CONTENTS
INDEX

ELECTIVE COURSES

Take four 3-credit courses from any of the following focus areas. (Taking all elective courses within a single focus area is recommended.)

Cloud Computing Systems

CLCS 655	Cloud Computing Implementation
CLCS 660	AI-Based Cloud Automation and Scripting
CLCS 665	Cloud Computing Security, Risk, Mitigation, and Compliance
CLCS 685	Cloud Operations and Maintenance
CLCS 686	Workplace Learning in Cloud Computing Systems

Cyber Operations

CYOP 605	Introduction to Cyber Operations
CYOP 615	Networking and Communication Technologies
CYOP 625	Legal, Ethical, and Forensic Foundations
CYOP 635	Computing and Mathematics for Cyber Operations

Cybersecurity Management and Policy

CMAP 605	Foundations of Cybersecurity Management
CMAP 615	Cybersecurity Defense Strategies
CMAP 625	Cybersecurity Risk Management
CMAP 635	Cybersecurity Governance

Cybersecurity Technology

CTCH 605	Introduction to Cybersecurity
CTCH 615	Cybersecurity Threats and Analysis
CTCH 625	Cybersecurity for Systems and Networks
CTCH 635	Cybersecurity Attack Prevention Strategies

Data Analytics

DATA 605	Decision Analytics
DATA 615	AI Ethics
DATA 625	Data Visualization
DATA 635	Data Management

Digital Forensics and Cyber Investigation

DFCS 605	Digital Forensics and Cyber Investigation Foundations
DFCS 615	Collection and Examination of Digital Evidence
DFCS 625	Windows Forensics and Security
DFCS 635	Linux Forensics and Security

COURSE SEQUENCING

Core courses must be taken in the order listed but need not be taken in direct succession. Elective courses may be taken between core courses. The capstone must be taken in the last semester.

Technology Requirements

Courses in the cloud computing systems program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

TABLE OF CONTENTS
INDEX

CyberAccounting

You may earn a Master of Science in CyberAccounting.

Master of Science in CyberAccounting

Using a collaborative cross-disciplinary approach to address the digital disruption facing today's business organizations, the graduate program in cyberaccounting can help you develop synergistic knowledge and cutting-edge technology skill sets in cyberaccounting, data analytics, and information systems. Vast growth opportunities exist in accounting information systems security, cyberaccounting risk management, fraud and forensic accounting, and information technology auditing, offering you a career that is both stable and flexible. No matter what stage you're at in your career, this program—with its heavy emphasis on accounting information systems, cyberaccounting risks, data analytics, and cyber forensics in accounting—can help you transition into accounting positions.

What You'll Learn

Through your coursework, you will learn how to

- Employ synergistic accounting and cybersecurity competencies with cutting-edge technology to mitigate cybersecurity threats
- Make informed decisions using critical thinking related to accounting information systems and security
- Provide actionable insights for key decision-makers from data analytics and visualizations related to risk management and information technology governance
- Work collaboratively in supporting diversity, equity, and inclusion initiatives to enhance creative solutions, improve productivity, and negotiate acceptable agreements
- Model professional and ethical accounting behavior
- Communicate clearly using accounting terminology and plain language as appropriate in writing and orally

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order by subject area:

Accounting Certification

- Certified Fraud Examiner (CFE)
- Certified in Financial Forensics (CFF)
- Certified Information Technology Professional (CITP)

Information Systems Certification

- Certification in Control Self-Assessment (CCSA)
- Certified Information Security Manager (CISM)
- Certified Information Systems Auditor (CISA)
- Certified in Risk and Information Systems Control (CRISC)

Academic Preparation

Before enrolling in any graduate accounting course, you must have either

- Completed 15 credits of undergraduate accounting coursework, with a grade of C or better in each course. Upon submission of an official transcript, you may be accepted into the degree program with fewer than the required 15 credits of undergraduate accounting coursework, but you must complete that coursework before enrolling in your first graduate accounting course.

OR

- Earned a Certified Public Accountant (CPA) license as determined by a State Board of Accountancy. Upon your submission of evidence and our verification of your having earned a CPA license, you may enroll in a graduate accounting course.

Preparation Recommended for Success

You are expected to be familiar with Microsoft Excel.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with coursework in accounting, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in CyberAccounting and/or a related certificate by up to 6 credits (two courses). See p. 21 for details.

Related Certificate Programs

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

TABLE OF CONTENTS
INDEX

Degree Requirements

MS IN CYBERACCOUNTING

	Credits
Required Accounting Courses	12
Required Information Systems Security Course	3
Required Integrated Accounting and Information Systems Security Courses	12
Required Capstone Course	3
Total	30

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED ACCOUNTING COURSES

ACCT 610 Financial Reporting and Analysis for Accountants (3)

ACCT 628 Auditing and Attestation (3)

ACCT 630 Fraud Examination (3)

ACCT 635 Ethics and Professional Responsibilities for Accounting (3)

REQUIRED INFORMATION SYSTEMS SECURITY COURSE

INFA 610 Foundations of Information Security and Assurance (3)

REQUIRED INTEGRATED ACCOUNTING AND INFORMATION SYSTEMS SECURITY COURSES

ACCT 618 Accounting Information Systems (3)

ACCT 620 CyberAccounting: Management and Compliance (3)

ACCT 645 CyberAccounting: Forensics (3)

ACCT 660 Information Technology Auditing (3)

REQUIRED CAPSTONE COURSE

ACCT 690 CyberAccounting: Risk Management Capstone (3)

ALTERNATE COURSE

If you have already earned 3 undergraduate credits in accounting ethics, you may replace ACCT 635 with INFA 660 The Law, Regulation, and Ethics of Information Assurance (3).

COURSE SEQUENCING

Before enrolling in ACCT 690, you must complete all program coursework except ACCT 635 or INFA 660, which may be taken concurrently with ACCT 690.

Cyber Operations

You may earn a Master of Science in Cyber Operations.

Master of Science in Cyber Operations

The graduate program in cyber operations is an interdisciplinary technical program designed to provide the knowledge, skills, and abilities required to successfully perform critical cyber operations tasks. Based on the content and curriculum recommendations by the National Centers of Academic Excellence in Cyber Operations (CAE-CO), the program responds to a growing national need, driven by increasing threats of global cyberwarfare, for cyber professionals with advanced training in both defensive cybersecurity and offensive cyber actions.

The program features the technologies and techniques—in hands-on labs, projects, and exercises—that help government, military, and law enforcement organizations conduct collection, exploitation, and analysis and respond to cyber events to enhance the security of our nation.

The ability to choose an area of focus allows for a deeper understanding in a complementary area of study.

What You'll Learn

Through your coursework, you will learn how to

- Deliver clear and organized written and spoken content tailored to specific purposes and audiences
- Formulate defensible ideas based on analysis of facts, patterns, and ethical considerations
- Analyze quantitative data to determine the most effective solutions to problems
- Lead diverse teams to create strategies and achieve organizational goals and objectives
- Apply appropriate security measures to protect systems from risks and vulnerabilities
- Collect and preserve evidence associated with cyber incidents
- Design secure software systems
- Execute cyber operations legally and ethically

TABLE OF CONTENTS
INDEX

Academic Preparation

Ideally, you should have recently completed an undergraduate degree in computer science or a related discipline before pursuing this program.

Preparation Recommended for Success

You are expected to have some background in computing, programming, and networking. This background may be acquired through undergraduate or graduate coursework.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cyber operations (formerly software development and security), cybersecurity management and policy, or cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 9 credits toward the MS in Cyber Operations and/or a related certificate. Details are on p. 21.

Related Certificate Program

Completing coursework for most of the focus areas fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN CYBER OPERATIONS

	Credits
Required Core Courses	**15**
Required Capstone Course	**3**
Elective Courses	**12**
Total	**30**

REQUIRED CORE COURSES

CYOP 605 Introduction to Cyber Operations (3)
CYOP 615 Networking and Communication Technologies (3)
CYOP 625 Legal, Ethical, and Forensic Foundations (3)
CYOP 635 Computing and Mathematics for Cyber Operations (3)
CYOP 645 Software Exploitation and Resiliency (3)

REQUIRED CAPSTONE COURSE

CYOP 690 Cyber Operations Capstone (3)

ELECTIVE COURSES

Take four 3-credit courses from any of the following focus areas. (Taking all elective courses within a single focus area is recommended.)

Cloud Computing Systems

CLCS 605 Introduction to Cloud Computing
CLCS 615 Cloud Services and Technologies
CLCS 625 Applications of Cloud Computing
CLCS 635 Networking Engineering for Cloud Computing

Cyber Operations

CYOP 655 AI-Enabled Cyber Operations
CYOP 660 Cyber Threat Hunting
CYOP 665 Advanced Penetration Testing
CYOP 685 Industrial Control Systems and Devices
CYOP 686 Workplace Learning in Cyber Operations

Cybersecurity Management and Policy

CMAP 605 Foundations of Cybersecurity Management
CMAP 615 Cybersecurity Defense Strategies
CMAP 625 Cybersecurity Risk Management
CMAP 635 Cybersecurity Governance

Cybersecurity Technology

CTCH 605 Introduction to Cybersecurity
CTCH 615 Cybersecurity Threats and Analysis
CTCH 625 Cybersecurity for Systems and Networks
CTCH 635 Cyber Attack Prevention Strategies

Data Analytics

DATA 605 Decision Analytics
DATA 615 AI Ethics
DATA 625 Data Visualization
DATA 635 Data Management

Digital Forensics and Cyber Investigation

DFCS 605 Digital Forensics and Cyber Investigation Foundations
DFCS 615 Collection and Examination of Digital Evidence
DFCS 625 Windows Forensics and Security
DFCS 635 Linux Forensics and Security

TABLE OF CONTENTS
INDEX

COURSE SEQUENCING

Core courses must be taken in the order listed but need not be taken in direct succession. Elective courses may be taken between core courses. The capstone must be taken as the last course.

Criteria for Program Progression

You must complete each course with a grade of B or better to advance to the next course. The grade of C is not available for these courses. Your course syllabus will explain options for and consequences of requesting an Incomplete.

Technology Requirements

Courses in the cyber operations program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

TABLE OF CONTENTS
INDEX

Cybersecurity Management and Policy

You may earn a Master of Science in Cybersecurity Management and Policy.

Master of Science in Cybersecurity Management and Policy

UMGC's graduate program in cybersecurity management and policy is designed to provide a full understanding of governance, risk, and compliance issues for busy professionals who are looking to advance their management careers in this fast-growing industry. Coursework offers a wide perspective of the field, providing the understanding of cybersecurity management and policy needed to balance the use of people, policy, and technology while shaping the future of cybersecurity.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency.

What You'll Learn

Through your coursework, you will learn how to

- Understand multinational compliance requirements for cybersecurity
- Apply risk analysis concepts and models to a variety of organizations
- Incorporate cybersecurity into numerous organizations, including healthcare and financial services organizations
- Create and establish cybersecurity frameworks in both the public and private sectors
- Develop complete cybersecurity incident response plans

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified Information Security Manager (CISM)
- Certified in Risk and Information Systems Control (CRISC)
- ISC2 Certified Information Systems Security Professional (CISSP)

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cyber operations, cybersecurity management and policy, or cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to

earn 9 credits toward the MS in Cybersecurity Management and Policy and/or a related certificate. Details are on p. 22.

Related Certificate Program

Completing coursework for most of the focus areas fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN CYBERSECURITY MANAGEMENT AND POLICY

	Credits
Required Core Courses	**15**
Required Capstone Course	**3**
Elective Courses	**12**
Total	**30**

REQUIRED CORE COURSES

CMAP 605 Foundations of Cybersecurity Management (3)
CMAP 615 Cybersecurity Defense Strategies (3)
CMAP 625 Cybersecurity Risk Management (3)
CMAP 635 Cybersecurity Governance (3)
CMAP 645 Law Regulation and Compliance (3)

REQUIRED CAPSTONE COURSE

CMAP 690 Cybersecurity Management and Policy Capstone (3)

ELECTIVE COURSES

Take four 3-credit courses from any of the following focus areas. (Taking all elective courses within a single focus area is recommended.)

Cloud Computing Systems

CLCS 605 Introduction to Cloud Computing
CLCS 615 Cloud Services and Technologies
CLCS 625 Applications of Cloud Computing
CLCS 635 Networking Engineering for Cloud Computing

Cyber Operations

CYOP 605 Introduction to Cyber Operations
CYOP 615 Networking and Communication Technologies
CYOP 625 Legal, Ethical, and Forensic Foundations
CYOP 635 Computing and Mathematics for Cyber Operations

Cybersecurity Management and Policy

CMAP 655 Human Factors in Cybersecurity
CMAP 660 Organizational Resilience
CMAP 665 Cybersecurity Policy Management
CMAP 685 Enterprise Cybersecurity
CMAP 686 Workplace Learning in Cybersecurity Management and Policy

Cybersecurity Technology

CTCH 605 Introduction to Cybersecurity
CTCH 615 Cybersecurity Threats and Analysis
CTCH 625 Cybersecurity for Systems and Networks
CTCH 635 Cyber Attack Prevention Strategies

Data Analytics

DATA 605 Decision Analytics
DATA 615 AI Ethics
DATA 625 Data Visualization
DATA 635 Data Management

Digital Forensics and Cyber Investigation

DFCS 605 Digital Forensics and Cyber Investigation Foundations
DFCS 615 Collection and Examination of Digital Evidence
DFCS 625 Windows Forensics and Security
DFCS 635 Linux Forensics and Security

COURSE SEQUENCING

Core courses must be taken in the order listed but need not be taken in direct succession. Elective courses may be taken between core courses. The capstone must be taken in the last semester.

Technology Requirements

Courses in the cybersecurity management and policy program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

TABLE OF CONTENTS
INDEX

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

Dual Degree Option

If you complete the MS in Cybersecurity Management and Policy program, you may then participate in a dual degree option that allows you to complete the MBA for 21 credits. More information on dual degree programs is available on p. 24.

Cybersecurity Technology

You may earn a Master of Science in Cybersecurity Technology.

Master of Science in Cybersecurity Technology

In the graduate cybersecurity technology program, you'll develop cybersecurity strategies using interpersonal and leadership skills as part of a diverse and multidisciplinary cybersecurity team to build, configure, monitor, maintain, and secure cybersecurity technology environments and operations. You'll also learn how cybersecurity technology underpins the success of organizations. Coursework offers a wide perspective of the field, providing the understanding of cybersecurity technology needed to balance the use of people, policy, and technology while shaping the future of cybersecurity.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency.

What You'll Learn

Through your coursework, you will learn how to

- Communicate clearly in writing and speaking, meeting expectations for content, purpose, organization, audience, and format
- Apply logical processes to formulate clear, defensible ideas, based on the analysis of facts and ethical considerations
- Use mathematical information, operations, and quantitative analyses to solve problems and inform decision-making
- Lead, facilitate, and collaborate with individuals and teams to achieve organizational objectives
- Obtain the knowledge, skills, and abilities needed to master various functions of cybersecurity technology, including tools and systems
- Protect the confidentiality, integrity, and availability of information and information systems
- Minimize risks to an organization's cyberspace and prevent cybersecurity incidents
- Detect, identify, respond to, and remediate host or network security incidents and restore functionality to the system or infrastructure
- Control access to sensitive electronic information so that only those with a legitimate need to access it are allowed to do so

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- EC-Council Certified Ethical Hacker (CEH)
- ISC2 Certified Information Systems Security Professional (CISSP)

Preparation Recommended for Success

You are expected to have a strong understanding of information technology, computer networks, databases, and the internet.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cyber operations, cybersecurity management and policy, or cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 9 credits toward the MS in Cybersecurity Technology and/or a related certificate. Details are on p. 22.

Related Certificate Program

Completing coursework for most of the focus areas fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN CYBERSECURITY TECHNOLOGY

	Credits
Required Core Courses	**15**
Required Capstone Course	**3**
Elective Courses	**12**
Total	**30**

TABLE OF CONTENTS
INDEX

REQUIRED CORE COURSES

CTCH 605 Introduction to Cybersecurity (3)
CTCH 615 Cybersecurity Threats and Analysis (3)
CTCH 625 Cybersecurity for Systems and Networks (3)
CTCH 635 Cybersecurity Attack Prevention Strategies (3)
CTCH 645 Cybersecurity Exploitation Methodologies (3)

REQUIRED CAPSTONE COURSE

CTCH 690 Cybersecurity Technology Capstone (3)

ELECTIVE COURSES

Take four 3-credit courses from any of the following focus areas. (Taking all elective courses within a single focus area is recommended.)

Cloud Computing Systems

CLCS 605 Introduction to Cloud Computing
CLCS 615 Cloud Services and Technologies
CLCS 625 Applications of Cloud Computing
CLCS 635 Networking Engineering for Cloud Computing

Cyber Operations

CYOP 605 Introduction to Cyber Operations
CYOP 615 Networking and Communication Technologies
CYOP 625 Legal, Ethical, and Forensic Foundations
CYOP 635 Computing and Mathematics for Cyber Operations

Cybersecurity Management and Policy

CMAP 605 Foundations of Cybersecurity Management
CMAP 615 Cybersecurity Defense Strategies
CMAP 625 Cybersecurity Risk Management
CMAP 635 Cybersecurity Governance

Cybersecurity Technology

CTCH 655 Cybersecurity Auditing and Monitoring Systems
CTCH 660 Cybersecurity Attack Incident and Artifact Gathering
CTCH 665 Digital Forensics and Incident Response
CTCH 675 Cybersecurity Pedagogy
CTCH 685 Software Security
CTCH 686 Workplace Learning in Cybersecurity Technology

Data Analytics

DATA 605 Decision Analytics
DATA 615 AI Ethics
DATA 625 Data Visualization
DATA 635 Data Management

Digital Forensics and Cyber Investigation

DFCS 605 Digital Forensics and Cyber Investigation Foundations
DFCS 615 Collection and Examination of Digital Evidence
DFCS 625 Windows Forensics and Security
DFCS 635 Linux Forensics and Security

COURSE SEQUENCING

Core courses must be taken in the order listed but need not be taken in direct succession. Elective courses may be taken between core courses. The capstone must be taken in the last semester.

Technology Requirements

Courses in the cybersecurity technology program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

Dual Degree Option

If you complete the MS in Cybersecurity Technology program, you may then participate in a dual degree option that allows you to complete the MBA for 21 credits. More information on dual degree programs is available on p. 24.

TABLE OF CONTENTS
INDEX

Data Analytics

You may earn a Master of Science in Data Analytics.

Master of Science in Data Analytics

The graduate program in data analytics is designed to equip you with the advanced skills and knowledge you need to navigate the rapidly evolving landscape of data analysis. The program goes beyond traditional data analytics by placing a heavy focus on cutting-edge AI techniques, enabling you to harness the power of machine learning, deep learning, and natural language processing in extracting meaningful insights from large and complex datasets. In this program, you'll engage in hands-on projects, applying AI algorithms to real-world scenarios in various industries and developing proficiency in programming languages such as Python.

The curriculum offers a wide perspective of the field, providing a solid theoretical foundation. It also cultivates practical skills that can help you succeed in the dynamic field of data science and AI innovation. A choice of electives allows for a deeper understanding in a focus area of your future data scientist career.

What You'll Learn

Through your coursework, you will learn how to

- Evaluate a business problem or opportunity to determine the extent to which data analytics can provide a viable solution and translate the business problem to a data analytics project
- Identify and implement appropriate techniques and approaches to a given situation for descriptive, predictive, and prescriptive analytics using a wide range of supervised and unsupervised machine learning algorithms
- Evaluate accuracy and performance of classifiers and predictors
- Apply data analytics and AI technology to specific areas, such as healthcare; marketing; insurance; cybersecurity; and biological, medical, and scientific applications
- Apply modern technology for data analytics, stream analytics, text processing, natural language processing, AI, and cognitive applications
- Evaluate the appropriate methods and tools for data analysis in specific organizational contexts, including selecting a modeling approach, building a model using appropriate tools, validating the model, and deploying the model for prediction and analysis

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified Analytics Professional
- IBM Cognos Analytics Developer
- Tableau Desktop Specialist

Preparation Recommended for Success

You are expected to have a background in software programming and statistics.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in either artificial intelligence, cyber operations, cybersecurity management and policy, cybersecurity technology, or data science, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 6 or 9 credits toward the MS in Data Analytics and/or a related certificate, depending on your major. Details are on pp. 21 and 22.

Related Certificate Program

Completing coursework for most of the focus areas fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN DATA ANALYTICS

	Credits
Required Core Courses	**15**
Required Capstone Course	**3**
Elective Courses	**12**
Total	**30**

REQUIRED CORE COURSES

DATA 605	Decision Analytics (3)
DATA 615	AI Ethics (3)
DATA 625	Data Visualization (3)
DATA 635	Data Management (3)
DATA 645	Machine Learning (3)

TABLE OF CONTENTS
INDEX

REQUIRED CAPSTONE COURSE

DATA 690 Data Analytics Capstone (3)

ELECTIVE COURSES

Take four 3-credit courses from any of the following focus areas. (Taking all elective courses within a single focus area is recommended.)

AI/Machine Learning

DATA 655 Deep Learning and Neural Networks
DATA 660 Advanced Topics in Data Science
DATA 665 AI Applications
DATA 675 Specialization Project
DATA 686 Workplace Learning in Data Analytics

Cloud Computing Systems

CLCS 605 Introduction to Cloud Computing
CLCS 615 Cloud Services and Technologies
CLCS 625 Applications of Cloud Computing
CLCS 635 Networking Engineering for Cloud Computing

Cyber Operations

CYOP 605 Introduction to Cyber Operations
CYOP 615 Networking and Communication Technologies
CYOP 625 Legal, Ethical, and Forensic Foundations
CYOP 635 Computing and Mathematics for Cyber Operations

Cybersecurity Management and Policy

CMAP 605 Foundations of Cybersecurity Management
CMAP 615 Cybersecurity Defense Strategies
CMAP 625 Cybersecurity Risk Management
CMAP 635 Cybersecurity Governance

Cybersecurity Technology

CTCH 605 Introduction to Cybersecurity
CTCH 615 Cybersecurity Threats and Analysis
CTCH 625 Cybersecurity for Systems and Networks
CTCH 635 Cybersecurity Attack Prevention Strategies

Digital Forensics and Cyber Investigation

DFCS 605 Digital Forensics and Cyber Investigation Foundations
DFCS 615 Collection and Examination of Digital Evidence
DFCS 625 Windows Forensics and Security
DFCS 635 Linux Forensics and Security

Marketing

MRKT 600 Marketing Management
MRKT 602 Consumer Behavior and Customer Relationship Management
MRKT 603 Brand Management and Integrated Marketing Communication
MRKT 605 International Marketing Management

COURSE SEQUENCING

Core courses must be taken in the order listed but need not be taken in direct succession. Elective courses may be taken between core courses. The capstone course must be taken in the last semester.

Technology Requirements

Courses in the data analytics program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

Dual Degree Option

If you complete the MS in Data Analytics program, you may then participate in a dual degree option that allows you to complete the MBA for 21 credits. More information on dual degree programs is available on p. 24.

TABLE OF CONTENTS
INDEX

Digital Forensics and Cyber Investigation

You may earn a Master of Science in Digital Forensics and Cyber Investigation.

Master of Science in Digital Forensics and Cyber Investigation

The digital forensics and cyber investigation program is designed to prepare you to meet the growing demand for investigative, leadership, and executive skills in analyzing and mitigating cybercrime. You'll learn how to determine whether a digital system has been attacked or compromised and master reliable methods to identify, preserve, analyze, and present evidence for legal prosecution and administrative proceedings. Coursework offers a wide perspective of the field, providing the understanding of digital forensics and cyber investigation needed to balance the use of people, policy, and technology while shaping the future of cybersecurity. The ability to choose an area of focus allows for a deeper understanding in a complementary area of study.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency. UMGC is also a designated National Center of Digital Forensics Academic Excellence (CDFAE) institution.

What You'll Learn

Through your coursework, you will learn how to

- Apply skills in research, networking, communication, goal setting, and planning to develop and manage one's career
- Communicate clearly in writing and speaking, meeting expectations for content, purpose, organization, audience, and format
- Apply logical processes to formulate clear, defensible ideas based on the analysis of facts and ethical considerations
- Use mathematical information, operations, and quantitative analyses to solve problems and inform decision-making
- Lead, facilitate, and collaborate with individuals and teams to achieve organizational objectives
- Interpret and follow laws, policies, procedures, and governance in digital forensic and incident response situations
- Demonstrate the appropriate use of multiple digital forensic tools and technologies in a variety of criminal and security breach situations and in preparing reports and presenting findings
- Design and implement strategies for proper seizure, evidence handling, investigation, analysis of digital artifacts, preparation of reports, and presentation of findings
- Apply proper professional, legal, and ethical frameworks to govern forensic activities in local, national, and global environments
- Assess information architecture for potential security threats and evidentiary value
- Obtain the knowledge, skills, and abilities needed to master various functions of cybersecurity technology, including tools and systems

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- EC-Council Certified Incident Handler (ECIH)
- EnCase Certified Examiner (EnCE)
- GIAC Certified Forensic Analyst (GCFA)
- GIAC Certified Forensic Examiner (GCFE)
- GIAC Network Forensic Analyst (GNFA)

Preparation Recommended for Success

You are expected to have some background in computing and programming.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cyber operations, cybersecurity management and policy, or cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to earn 9 credits toward the MS in Digital Forensics and Cyber Investigation and/or a related certificate. Details are on p. 22.

Related Certificate Program

Completing coursework for most of the focus areas fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

TABLE OF CONTENTS
INDEX

Degree Requirements

MS IN DIGITAL FORENSICS AND CYBER INVESTIGATION

	Credits
Required Core Courses	**15**
Required Capstone Course	**3**
Elective Courses	**12**
Total	**30**

REQUIRED CORE COURSES

DFCS 605 Digital Forensics and Cyber Investigation Foundations (3)
DFCS 615 Collection and Examination of Digital Evidence (3)
DFCS 625 Windows Forensics and Security (3)
DFCS 635 Linux Forensics and Security (3)
DFCS 645 Cloud and Network Forensics (3)

REQUIRED CAPSTONE COURSE

DFCS 690 Digital Forensics and Cyber Investigation Capstone (3)

ELECTIVE COURSES

Take four 3-credit courses from any of the following focus areas. (Taking all elective courses within a single focus area is recommended.)

Cybersecurity Management and Policy

CMAP 605 Foundations of Cybersecurity Management
CMAP 615 Cybersecurity Defense Strategies
CMAP 625 Cybersecurity Risk Management
CMAP 635 Cybersecurity Governance

Cybersecurity Technology

CTCH 605 Introduction to Cybersecurity
CTCH 615 Cybersecurity Threats and Analysis
CTCH 625 Cybersecurity for Systems and Networks
CTCH 635 Cybersecurity Attack Prevention Strategies

Data Analytics

DATA 605 Decision Analytics
DATA 615 AI Ethics
DATA 625 Data Visualization
DATA 635 Data Management

Digital Forensics and Cyber Investigation

DFCS 655 Advanced Log Analysis
DFCS 660 Network Intrusions
DFCS 665 Digital Forensics Case Management and Reporting
DFCS 685 Legal, Ethical, and Regulatory Requirements for Digital Forensics
DFCS 686 Workplace Learning in Digital Forensics and Cyber Investigation

COURSE SEQUENCING

Core courses must be taken in the order listed but need not be taken in direct succession. Elective courses may be taken between core courses. The capstone must be taken in the last semester.

Technology Requirements

Courses in the digital forensics and cyber investigation program may have computing needs beyond the minimum technology requirements for online study. Review the course descriptions to determine the technology requirements for the classes in which you are enrolling.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international honor society for the computing and information disciplines, is available on p. 341.

TABLE OF CONTENTS
INDEX

Distance Education and E-Learning

You may earn a Master of Distance Education and E-Learning.

Master of Distance Education and E-Learning

In UMGC's Master of Distance Education and E-Learning (MDE) program, you'll learn management strategies and gain the practical experience needed to design and lead distance education programs with confidence. You'll develop essential skills in implementing distance learning technology, managing online faculty, and directing the business aspects of distance education programs. This program will help you acquire the unique skills and knowledge needed to maintain a successful enterprise in an online learning environment. Although the MDE is not intended as a teacher preparation program, it provides the theory, best practices, and background that are relevant for teaching and administration. You can make a difference by expanding learning opportunities for others.

Whether you're new to the field, changing careers, or looking to move up, you'll enhance your credentials with a respected degree and prepare for a wide range of mid- and senior-level management roles in the rapidly growing field of distance education and e-learning.

Note: The MDE program does not lead to teacher certification in Maryland.

What You'll Learn

Through your coursework, you will learn how to

- Apply education theory, learning models, and various teaching and learning frameworks in distance education
- Develop and manage distance education curricula
- Manage intellectual property and digital rights
- Select learning technologies
- Perform cost/benefit analyses for distance learning programs
- Work with various organizational and staffing models in distance education, as well as different leadership styles
- Apply distance learning programs in the workplace to drive professional development
- Manage change in organizations
- Perform quality assurance analyses on and undertake project management of e-learning initiatives

Degree Requirements

MDE

	Credits
Required Core Courses	**33**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

OMDE 601 Foundations of Distance Education and E-Learning (3)

OMDE 610 Teaching and Learning in Online Distance Education (3)

OMDE 603 Technology in Distance Education and E-Learning (3)

OMDE 608 Learner Support in Distance Education and Training (3)

OMDE 606 Costs and Economics of Distance Education and E-Learning (3)

DETT 611 Library and Intellectual Property Issues in Distance Education and E-Learning (3)

DETT 607 Instructional Design and Course Development in Distance Education and E-Learning (3)

DETC 620 Training and Learning with Multimedia (3)

DEPM 604 Management and Leadership in Distance Education and E-Learning (3)

DETT 621 Online Learning and Development in the Workplace (3)

DEPM 622 The Business of Distance Education and E-Learning (3)

REQUIRED CAPSTONE COURSE

OMDE 670 Portfolio and Research Project in Distance Education and E-Learning (3)

COURSE SEQUENCING

Courses must be taken in the order listed. Courses listed as prerequisite or corequisite may be taken concurrently.

TABLE OF CONTENTS
INDEX

Environmental Management

You may earn a Master of Science in Environmental Management.

Master of Science in Environmental Management

The Master of Science (MS) in Environmental Management program is designed to prepare you to implement effective ecosystem-based environmental management in today's integrated, global environment. By exploring and assessing water, land, air, and climate systems and applying knowledge and skills from a range of disciplines, you can formulate holistic, viable solutions to environmental problems. In this program, you can gain the skills to assess risk; evaluate environmental justice concerns; communicate scientific, economic, ethical, and legal considerations for audits and consultations; work effectively in teams; and engage ethically with a wide variety of stakeholders and communities. Your capstone course offers you the opportunity to work with an environmental organization, such as the Maryland Energy Administration or the Chesapeake Bay Foundation, on a consulting project. Final projects can be used as part of your virtual portfolio for future opportunities.

Great for early to midcareer professionals, the environmental management program will give you practical experience and improve your professional portfolio.

What You'll Learn

Through your coursework, you will learn how to

- Formulate holistic, ethical, and viable solutions to environmental issues by applying knowledge and skills from a range of disciplines, such as science (physical and behavioral), history, and economics
- Apply critical-thinking skills to anticipate, identify, and evaluate resource and pollution issues
- Devise a professional development plan to maintain or develop the knowledge and skills necessary to address rapidly evolving environmental challenges
- Communicate with audiences clearly and in culturally competent ways in a variety of contexts
- Utilize teamwork, leadership, and ethical reasoning skills with a wide range of stakeholders to address contemporary environmental issues and the impact of solutions through an environmental justice lens
- Evaluate possible change-management strategies needed for a more sustainable future

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in environmental health and safety, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Environmental Management by up to 6 credits (two courses). Details are on p. 22.

Preparation Recommended for Success

You should have completed at least one undergraduate course each in chemistry and biology. Prior experience in an environmental field is also helpful.

Degree Requirements

MS IN ENVIRONMENTAL MANAGEMENT

	Credits
Required Core Courses	**33**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

ENVM 600 Fundamentals of Environmental Systems (3)
ENVM 610 Environmental/Energy Law and Policy (3)
ENVM 615 Community-Based Environmental Management (3)
ENVM 641 Environmental Auditing (3)
ENVM 643 Environmental Communications and Reporting (3)
ENVM 647 Environmental Risk Assessment (3)
ENVM 649 Principles and Practices of Waste Management (3)
ENVM 650 Environmental and Natural Resources Economics (3)
ENVM 651 Water Resources Management (3)
ENVM 652 Principles of Air Quality Management (3)
ENVM 653 Land Use Management (3)

REQUIRED CAPSTONE COURSE

ENVM 670 Capstone Study in Environmental Management (3)

TABLE OF CONTENTS
INDEX

COURSE SEQUENCING

- ENVM 600 and ENVM 610 must be taken within the first 6 credits of study.
- ENVM 615 is a prerequisite or corequisite for all subsequent ENVM courses.
- You must complete 27 credits of program coursework before enrolling in ENVM 670.

Program Recognition

UMGC's MS in Environmental Management has been designated a Professional Science Master's degree program through the Council of Graduate Schools.

Healthcare Administration

You may earn a Master of Science in Healthcare Administration.

Master of Science in Healthcare Administration

Healthcare administrators manage complex organizations that serve diverse individual and community needs. The master's degree program in healthcare administration is designed to develop leaders in this dynamic field that touches all of us. In this program, you can gain the expert knowledge, management skills, and strong professional development you need to seize career opportunities and maximize your potential in this era of rapid healthcare transformation.

What You'll Learn

Through your coursework, you will learn how to

- Assess different models of healthcare administration while applying best practices, contemporary theories, and critical analysis to assure organizational performance
- Apply financial management skills and techniques for responding to uncompensated care, cost increases, increased competition, and increased regulation to administrative and managerial processes
- Use statistical tools to analyze health data for effective managerial and administrative decisions
- Apply decision-making skills to solve problems of institutional management, organizational development, and intercultural work environments
- Evaluate information systems for strategic use in healthcare management and administration
- Evaluate regulatory constraints, provider liability, patient rights, employment law and labor relations, and administrative law for healthcare organizations
- Analyze the impact of U.S. and global public health issues on healthcare system functionality and community health
- Assess human resource administrative best practices to meet organizational goals and optimize quality-of-service delivery
- Apply strategic leadership tools to organize stakeholder commitment and support in meeting healthcare organizational and change management goals

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified in Public Health (CPH)
- Fellow of the American College of Healthcare Executives (FACHE)

Accelerated Pathway

If you completed your undergraduate degree at UMGC with coursework in health services management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Healthcare Administration by up to 6 credits (two courses). Details are on p. 23.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN HEALTHCARE ADMINISTRATION

	Credits
Required Management Foundation Courses	6
Required Healthcare Administration Courses	33
Required Capstone Course	3
Total	42

TABLE OF CONTENTS
INDEX

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED MANAGEMENT FOUNDATION COURSES

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED HEALTHCARE ADMINISTRATION COURSES

HCAD 600 Introduction to Healthcare Administration (3)

HCAD 610 Information Technology for Healthcare Administration (3)

HCAD 620 The U.S. Healthcare System (3)

HCAD 625 The Business of Healthcare (3)

HCAD 630 Public Health Administration (3)

HCAD 635 Long-Term Care Administration (3)

HCAD 640 Financial Management for Healthcare Organizations (3)

HCAD 645 Strategic Financial Management in Healthcare (3)

HCAD 650 Legal Aspects of Healthcare Administration (3)

HCAD 660 Healthcare Institutional Organization and Management (3)

HCAD 665 Strategic Issues in Healthcare Leadership (3)

REQUIRED CAPSTONE COURSE

HCAD 690 Healthcare Administration Capstone (3)

ALTERNATE COURSES

If you completed the certificate in Global Health Management before enrolling in the MS in Healthcare Administration program, the following course substitutions may be made:

- GMHT 620 National and International Approaches to Healthcare Delivery (3) may be taken instead of HCAD 635 Long-Term Care Administration (3).
- GMHT 640 Strategic Management of Global Health Services (6) may be taken instead of HCAD 620 The U.S. Healthcare System (3) and HCAD 660 Healthcare Institutional Organization and Management (3).

Contact an advisor or a success coach for more information.

COURSE SEQUENCING

- HCAD 600 and MGMT 615 should be taken as the first courses in the program.
- MGMT 650 should be taken in the second or third semester.
- MGMT 650 should not be taken at the same time as HCAD 640 or HCAD 645.
- You must complete 36 credits before enrolling in HCAD 690.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Phi Delta, the national academic honor society of the Association of University Programs in Health Administration, is available on p. 341.

Dual Degree Option

If you complete the MS in Healthcare Administration program, you may then participate in a dual degree option that allows you to complete the MS in Health Information Management and Technology for 21 credits. More information on dual degree programs is available on p. 24.

TABLE OF CONTENTS
INDEX

Health Information Management and Technology

You may earn a Master of Science in Health Information Management and Technology.

Master of Science in Health Information Management and Technology

The cutting-edge health information management and technology program is taught by healthcare technology professionals who can help you develop the expertise to oversee the complex coordination of your organization's health information management needs.

If you are an experienced healthcare professional or an information technology specialist working in a healthcare setting or are looking to transition to this exciting field, the health information management and technology program can help you obtain the skills and knowledge you need to apply best practices of health or information management in a dynamic healthcare environment.

What You'll Learn

Through your coursework, you will learn how to

- Apply advanced knowledge of electronic health record systems, medical coding, and IT systems security and interoperability
- Design, manage, and interpret health classification systems, healthcare databases, data warehouses, healthcare data sets, registries, and other mediums of health information management
- Design and implement various health informatics and information management policies and procedures (e.g., those related to fraud and surveillance, data management, personnel management, data privacy, security and confidentiality, and clinical documentation improvement)
- Interpret and comply with various aspects of state and federal legal and regulatory standards (e.g., coding and revenue, privacy, security, federal employee labor laws, confidentiality, release of information, maintenance of health records, licensure, and accreditation)

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified Associate in Healthcare Information and Management Systems (CAHIMS)
- Certified Associate in Project Management (CAPM)
- Certified Professional in Healthcare Information and Management Systems (CPHIMS)
- Project Management Professional (PMP)
- Registered Health Information Administrator (RHIA)

Preparation Recommended for Success

You will find it beneficial to have three years of professional work experience in a healthcare setting, especially in health information management or information technology, although it is not required.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with coursework in health services management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Health Information Management and Technology and/or a related certificate by up to 6 credits (two courses). Details are on p. 23.

Related Certificate Programs

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN HEALTH INFORMATION MANAGEMENT AND TECHNOLOGY

	Credits
Required Core Courses	**33**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

HCAD 600 Introduction to Healthcare Administration (3)
MGMT 650 Statistical Analysis for Managers (3)
ITEC 610 Information Technology Foundations (3)

TABLE OF CONTENTS
INDEX

HCAD 610	Information Technology for Healthcare Administration (3)
HIMS 645	Healthcare Databases and Medical Technology Integration (3)
HIMS 650	Health Informatics and Data Analytics (3)
HIMS 655	Health Data Management (3)
HCAD 640	Financial Management for Healthcare Organizations (3)
HCAD 650	Legal Aspects of Healthcare Administration (3)
HIMS 661	The Application of Information Technology in Healthcare Administration (3)
ITEC 640	Information Technology Project Management (3)

REQUIRED CAPSTONE COURSE

HIMS 690	Health Information Management and Technology Capstone (3)

COURSE SEQUENCING

- You are advised to take HCAD 600 and MGMT 650 first.
- You will benefit most by taking the courses in the order listed.
- You must have successfully completed 30 credits of program coursework, including HIMS 650, HIMS 655, and HIMS 661, before enrolling in HIMS 690.

Dual Degree Option

If you complete the MS in Health Information Management and Technology program, you may then participate in a dual degree option that allows you to complete the MS in Data Analytics for 18 credits. More information on dual degree programs is available on p. 24.

Program Accreditation

UMGC's MS in Health Information Management and Technology is accredited as a Health Information Management Master of Science degree by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 200 East Randolph Street, Suite 5100, Chicago, IL, 60601. CAHIIM is a specialized accrediting agency recognized by the Council for Higher Education Accreditation.

Information Technology

You may earn a Master of Science in Information Technology, with a concentration in any one of the following areas:

- Database Systems Technology
- Homeland Security Management
- Informatics
- Project Management
- Software Engineering
- Systems Engineering

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in management information systems, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Information Technology in any concentration by 6 credits (two courses). See p. 23 for details.

Master of Science in Information Technology: Database Systems Technology Concentration

A concentration in database systems technology can prepare you to meet the demand for data professionals who can manage complex databases for large organizations. You can develop expertise in relational and distributed databases and acquire the newest knowledge in data warehousing, mining, modeling, security, and other sought-after areas of database administration. The program can help prepare you for a number of certifications as you work on real-world projects in a respected graduate program and build your professional value in this fast-growing field.

What You'll Learn

Through your coursework, you will learn how to

- Apply current and emerging techniques, skills, and modern tools needed to create complex database systems
- Design and develop data warehouses for both structured and unstructured data
- Evaluate different database architectures, optimization strategies, and security techniques to determine whether the design meets performance requirements
- Apply statistics, similarity measures, decision trees, and machine learning algorithms to data mining tasks
- Apply the principles of access control to produce secure database design for data confidentiality, integrity, and availability

TABLE OF CONTENTS
INDEX

- Apply project management techniques to manage the schedule of a complex project on time and within budget
- Communicate effectively with a range of audiences in a variety of professional contexts

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- ICCP Certified Data Management Professional (ICCP CDMP)
- Oracle Certified Associate (OCA)
- Oracle Certified Professional (OCP)
- Oracle Database Administration (DBA)

Degree Requirements

MS IN INFORMATION TECHNOLOGY: DATABASE SYSTEMS TECHNOLOGY CONCENTRATION

	Credits
Required Core Courses	**12**
Required Concentration Courses	**21**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

ITEC 625 Computer Systems Architecture (3)
ITEC 626 Information Systems Infrastructure (3)
ITEC 630 Information Systems Analysis, Modeling, and Design (3)
ITEC 640 Information Technology Project Management (3)

REQUIRED CONCENTRATION COURSES

DBST 651 Relational Database Systems (3)
DBST 660 Advanced Data Modeling (3)
DBST 652 Advanced Relational/Object-Relational Database Systems (3)
DBST 663 Distributed Database Management Systems (3)
DBST 665 Data Warehouse Technologies (3)
DBST 667 Data Mining (3)
DBST 668 Database Security (3)

REQUIRED CAPSTONE COURSE

DBST 670 Database Systems Technology Capstone (3)

COURSE SEQUENCING

- ITEC 625 and ITEC 626 must be taken as the first two courses.
- You must complete 6 credits of core coursework before beginning concentration coursework.
- You must complete all other concentration coursework before taking DBST 670.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international academic honor society for the computing and information disciplines, is available on p. 341.

Master of Science in Information Technology: Homeland Security Management Concentration

The graduate concentration in homeland security management can help prepare you to take a leadership role in protecting against natural and human-made threats to national security. Gain practical managerial skills in performing security risk assessments; planning for and managing operational recovery; and developing strategies to protect people, facilities, and information-dependent critical infrastructure.

What You'll Learn

Through your coursework, you will learn how to

- Tackle the five mission areas in homeland security as defined by the U.S. Department of Homeland Security
- Perform risk assessments
- Spot ethical and legal issues and navigate the complex legal and regulatory environment related to computer systems, applications, and networks
- Protect telecommunications and information technology networks
- Analyze infrastructure protection, jurisdiction, and issues in technical areas such as interconnectivity and interoperability
- Plan and prepare for disaster response and recovery

- Apply knowledge about energy pipeline security, electrical grid security, cyber dependence, and SCADA systems, as well as risk methodologies applied to the energy industry
- Use high-tech management styles, including project planning, organizational structure, team building, and control mechanisms
- Manage each phase of the IT project life cycle, working within organizational and cost constraints, setting goals linked directly to stakeholder needs, and using proven management tools

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in homeland security, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Information Technology with a concentration in homeland security by up to 6 credits (two courses). Details are on p. 23.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN INFORMATION TECHNOLOGY: HOMELAND SECURITY MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**15**
Required Concentration Courses	**18**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

ITEC 610 Information Technology Foundations (3)

ITEC 625 Computer Systems Architecture (3)

ITEC 626 Information Systems Infrastructure (3)

ITEC 630 Information Systems Analysis, Modeling, and Design (3)

ITEC 640 Information Technology Project Management (3)

REQUIRED CONCENTRATION COURSES

HSMN 610 Concepts in Homeland Security (3)

HSMN 625 Critical Infrastructures (3)

HSMN 630 Resilience Planning and Preparedness for Disaster Response and Recovery (3)

INFA 660 The Law, Regulation, and Ethics of Information Assurance (3)

BSBD 641 Biosecurity and Bioterrorism (3)

EMAN 620 Information Technology in Emergency Management (3)

REQUIRED CAPSTONE COURSE

HSMN 670 Seminar in Homeland Security (3)

COURSE SEQUENCING

- ITEC 610 must be taken in the first term of coursework.
- HSMN 610 must be taken as one of the first two concentration courses.
- HSMN 670 must be taken in your last semester.

Master of Science in Information Technology: Informatics Concentration

The informatics concentration gives you a strong foundation in IT management, so you can take your career in any direction you choose. In this concentration, you'll have an opportunity to develop advanced skills in decision-support and artificial intelligence systems, management strategies that leverage information technology for business, and IT acquisitions to become a valuable asset to any industry.

What You'll Learn

Through your coursework, you will learn how to

- Apply modern and emerging technologies that will help improve operational effectiveness using artificial intelligence tools
- Integrate information systems, including artificial intelligence methods, with the management system of an organization
- Evaluate the impact of outsourcing information technology activities

TABLE OF CONTENTS
INDEX

- Formulate information security measures by performing risk assessments and other approaches
- Evaluate an acquisition strategy for IT systems, components, and/or services, to determine if it meets an organization's strategic, fiscal, and technical objectives
- Utilize various technologies of decision-support and artificial intelligence systems to address management needs
- Develop management strategies that leverage information technology to meet business objectives

Related Certificate Program

Completing this degree and concentration fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN INFORMATION TECHNOLOGY: INFORMATICS CONCENTRATION

	Credits
Required Core Courses	**15**
Required Concentration Courses	**18**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

ITEC 610 Information Technology Foundations (3)
ITEC 625 Computer Systems Architecture (3)
ITEC 626 Information Systems Infrastructure (3)
ITEC 630 Information Systems Analysis, Modeling, and Design (3)
ITEC 640 Information Technology Project Management (3)

REQUIRED CONCENTRATION COURSES

ISAS 610 Modern Software Methodologies (3)
ISAS 620 Relational Database Systems (3)
ISAS 640 Decision Support Systems and Artificial Intelligence Systems (3)
INFA 610 Foundations of Information Security and Assurance (3)
IMAT 637 IT Acquisitions Management (3)
ISAS 650 Information Technology, the CIO, and Organizational Transformations (3)

REQUIRED CAPSTONE COURSE

IMAT 670 Informatics Capstone (3)

COURSE SEQUENCING

- ITEC 610 must be taken in the first term of coursework.
- You must complete 6 credits of core coursework before taking the first concentration course.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

Master of Science in Information Technology: Project Management Concentration

The project management concentration allows you to build expertise for project management certification within the context of advanced IT management skills. Your concentration courses include project risk management, project procurement management, and advanced project methods, while your core IT courses give you the tools you need to take on leadership roles in today's technology-based work environments.

What You'll Learn

Through your coursework, you will learn how to

- Appraise the potential and relevance of technology and analytical/quantitative methods to support project management efforts
- Apply quantitative analytical methods when appropriate to support project management efforts
- Apply project leadership knowledge and skills essential for creating high-performing teams and effecting organizational transformation that respects and harnesses human capital
- Formulate ways to apply project management practices, skills, tools, and techniques judiciously and effectively

TABLE OF CONTENTS
INDEX

- Tailor the project/program approach, methodology, and governance to align with project and organizational characteristics, strategies, and priorities
- Apply business management skills that amplify a project manager's effectiveness, efficiency, and influence
- Evaluate how a given project or program interfaces with operations and product and portfolio management
- Create project/program alignment with the broader project context and environment

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Agile Certified Practitioner (PMI-ACP)
- Certified Associate in Project Management (CAPM)
- Certified Scrum Master (CSM)
- Project Management Professional (PMP)

Each course in this concentration earns you the project management education hours necessary to fulfill the education requirement for qualifying to take the PMP and CAPM certification exams.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN INFORMATION TECHNOLOGY: PROJECT MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**15**
Required Concentration Courses	**21**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

ITEC 610 Information Technology Foundations (3)

ITEC 625 Computer Systems Architecture (3)

ITEC 626 Information Systems Infrastructure (3)

ITEC 630 Information Systems Analysis, Modeling, and Design (3)

ITEC 640 Information Technology Project Management (3)

REQUIRED CONCENTRATION COURSES

PMAN 634 Foundations of Project Management (3)

PMAN 635 Project Schedule, Cost, and Resource Management (3)

PMAN 637 Project Uncertainty: Risk, Ambiguity, and Complexity (3)

PMAN 638 Project Stakeholder and Communications Management (3)

PMAN 639 Project Management Quality (3)

PMAN 641 Project Procurement Management (3)

PMAN 650 Strategic Project Management (3)

ALTERNATE CREDIT

If you are certified as a Project Management Professional by the Project Management Institute and your certification is current and valid, you may receive credit for PMAN 634 Foundations of Project Management (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

ITEC 610 must be taken in the first term of coursework.

Program Accreditation

UMGC's master's degree programs with project management concentrations are accredited by the Project Management Institute (PMI) Global Accreditation Center (GAC) for Project Management Education Programs.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the national academic honor society for the computing and information disciplines, is available on p. 341.

TABLE OF CONTENTS
INDEX

Master of Science in Information Technology: Software Engineering Concentration

The software engineering concentration provides software developers with advanced software methodology, design, and coding techniques. You'll learn aspect-oriented programming, object-oriented programming, and the principles and techniques to lead a software development team.

In this concentration, you'll gain hands-on experience performing all functions of building software and develop job-relevant expertise in implementing large software engineering projects within cost and on schedule. The software engineering courses cover usability engineering, software design and implementation, software verification and validation, and more.

What You'll Learn

Through your coursework, you will learn how to

- Apply current and emerging software standards, practices, and methods of software development to create software development plans and requirement specifications
- Use current techniques, skills, and modern software engineering processes and tools to design and implement large complex software systems
- Design and implement software solutions that meet customer requirements and usability standards
- Apply the principles of usability engineering to design and build different types of user interfaces that meet usability and accessibility standards
- Apply current validation and verification practices to remove software defects and prove software correctness
- Apply project management techniques to manage the schedule of a complex project on time and within budget
- Communicate effectively with a range of audiences in a variety of professional contexts

Preparation Recommended for Success

Ideally, you should have a degree and/or professional experience in software development and programming languages.

Degree Requirements

MS IN INFORMATION TECHNOLOGY: SOFTWARE ENGINEERING CONCENTRATION

	Credits
Required Core Courses	**9**
Required Concentration Courses	**24**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

ITEC 625 Computer Systems Architecture (3)

ITEC 630 Information Systems Analysis, Modeling, and Design (3)

ITEC 640 Information Technology Project Management (3)

REQUIRED CONCENTRATION COURSES

SWEN 603 Modern Software Methodologies (3)

DBST 651 Relational Database Systems (3)

SWEN 646 Software Design and Implementation (3)

SWEN 656 Advanced Software Design and Implementation (3)

SWEN 645 Software Requirements (3)

SWEN 647 Software Verification and Validation (3)

SWEN 651 Usability Engineering (3)

SWEN 661 User Interface Implementation (3)

REQUIRED CAPSTONE COURSE

SWEN 670 Software Engineering Project (3)

COURSE SEQUENCING

SWEN 670 must be taken in the last term of enrollment.

TABLE OF CONTENTS
INDEX

Program Recognition

UMGC's MS in Information Technology with a concentration in software engineering has been designated a Professional Science Master's degree program through the Council of Graduate Schools.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international honor society for the computing and information disciplines, is available on p. 341.

Master of Science in Information Technology: Systems Engineering Concentration

The systems engineering concentration can help you apply traditional and modern life-cycle models, techniques, and tools in the specification, design, development, and deployment of complex systems. The concentration is designed for midcareer professionals with a technical background who are seeking to enhance their skills in systems engineering theory and practice.

In this concentration, you'll study a variety of cases across different application domains to learn the wide scope of systems concepts. The curriculum covers requirements engineering, system design and development, model-based systems engineering, system integration and testing, system engineering management, and more.

What You'll Learn

Through your coursework, you will learn how to

- Analyze a complex technological challenge from a systems perspective
- Build appropriate development life-cycle models for different types of projects
- Design a system and develop approaches for verification, validation, deployment, and support
- Develop a framework for managing key system engineering activities in a project
- Construct project requirements for organizational and physical infrastructure
- Specify appropriate engineering standards for system requirements and design parameters

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Certified Professional Requirements Engineer Foundation Level (CPRE FL)
- Certified Tester Foundation Level (CTFL)
- Systems Engineering Professional (SEP)

Preparation Recommended for Success

Ideally, you should have a degree and/or professional experience in a technical discipline such as engineering or computer science.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN INFORMATION TECHNOLOGY: SYSTEMS ENGINEERING CONCENTRATION

	Credits
Required Core Courses	**12**
Required Concentration Courses	**21**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

ITEC 625 Computer Systems Architecture (3)

ITEC 626 Information Systems Infrastructure (3)

ITEC 630 Information Systems Analysis, Modeling, and Design (3)

ITEC 640 Information Technology Project Management (3)

TABLE OF CONTENTS
INDEX

REQUIRED CONCENTRATION COURSES

SYSE 610	Systems Engineering Overview (3)
SYSE 620	Requirements Engineering (3)
SYSE 625	Model-Based Systems Engineering (3)
SYSE 630	System Design and Development (3)
SYSE 640	System Integration and Test (3)
SYSE 650	Design Considerations (3)
SYSE 660	Systems Engineering Management (3)

REQUIRED CAPSTONE COURSE

SYSE 670	Systems Engineering Capstone (3)

COURSE SEQUENCING

- ITEC 625 must be taken in the first term of coursework.
- You must complete 6 credits of core coursework before beginning concentration coursework.
- Concentration courses must be taken in the order listed.
- You must take SYSE 670 in your final term.

Honor Society

Information on eligibility for membership in the UMGC chapter of Upsilon Pi Epsilon, the international honor society for the computing and information disciplines, is available on p. 341.

Instructional Technology

You may earn a Master of Education (MEd) in Instructional Technology.

Master of Education in Instructional Technology

In the instructional technology program, you'll learn advanced skills in curriculum and instruction, technology integration, and leadership in P–12 education. Aligned with the International Society for Technology in Education (ISTE) standards, this program is designed to help you develop expertise in current and emerging instructional technologies; gain a deep understanding of the role of technology in the contemporary school; and lead change efforts at the classroom, school, and district levels to improve student achievement.

Note: The MEd program does not lead to teacher certification in Maryland.

What You'll Learn

Through your coursework, you will learn how to

- Advocate for the use of technology to create equitable and ongoing access to high-quality education
- Establish personal and shared learning goals and pursue those goals through participation in learning activities and professional learning networks
- Develop productive relationships with other educators to improve teaching and learning
- Design learning experiences and environments that meet the diverse needs and interests of all learners
- Develop the capabilities of educators by planning, providing, and evaluating the impact of professional learning initiatives using technology to advance teaching and learning
- Model and support the use of qualitative and quantitative data to inform instruction
- Support educators and students in recognizing the responsibilities and opportunities inherent in living in a digital world

Preparation Recommended for Success

Professional experience in teaching in P–12 schools is expected. If you lack teaching experience, you may want to choose another of UMGC's education-related graduate programs.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

TABLE OF CONTENTS
INDEX

Degree Requirements

MEd IN INSTRUCTIONAL TECHNOLOGY

	Credits
Required Core Courses	**27**
Required Capstone Courses	**6**
Total	**33**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

INST 600 Technology Integration in the Contemporary Classroom (3)

INST 605 Designing Learner-Centered Environments (3)

INST 610 Digital Identity and Critical Media Analysis (3)

INST 615 Learning Analytics and Adaptation (3)

INST 620 Transforming Education Online (3)

INST 625 Leading Change and Innovation in Educational Environments (3)

INST 630 Coaching for Instructional Innovation (3)

INST 640 Designing for Professional Development and Growth (3)

INST 645 Strategic Technology Planning (3)

REQUIRED CAPSTONE COURSES

INST 650 Integrative Capstone I (3)

INST 670 Integrative Capstone II (3)

COURSE SEQUENCING

- The first nine courses in the program must be taken in the order listed; courses numbered sequentially (e.g., INST 615 and INST 620) may be taken concurrently.
- The first nine courses in the program must be completed before you take INST 650.
- INST 650 and INST 670 may not be taken concurrently.
- Currently, INST 650 and INST 670 are not available during the summer term; availability of the capstone courses is provided online at *umgc.edu/schedule*.

Criteria for Program Progression

To maintain national professional accreditation, the MEd program requires that you earn grades of 80 percent (B) on major assignments. Therefore, you must complete each course with a grade of B or better to advance to the next course. The grade of C is not acceptable for MEd courses. Your course syllabus will explain options for and consequences of requesting an Incomplete.

Technology Requirements

As a student in the MEd degree or Instructional Technology Integration certificate program, you are required to purchase a one-time $139 subscription (good for seven years) to Tk20 HigherEd before your first class. Tk20 is a comprehensive assessment and management system that supports all education students at UMGC. You may also need access to a webcam/microphone for certain assignments.

Program Accreditation

University of Maryland Global Campus is a member in good standing of the Association for Advancing Quality in Educator Preparation (AAQEP), a national accrediting organization recognized by the Council for Higher Education Accreditation (CHEA). The Master of Education in Instructional Technology has been awarded full accreditation by AAQEP through June 30, 2029. Full accreditation acknowledges that a program prepares effective educators who continue to grow as professionals and has demonstrated the commitment and capacity to maintain quality. The Master of Education program has also signed the EPPs (Education Preparation Programs) for Digital Equity and Transformation Pledge, committing to prepare educators with the skills to successfully use technology for learning in on-site, hybrid, and online classrooms.

TABLE OF CONTENTS
INDEX

Learning Design and Technology

You may earn a Master of Science in Learning Design and Technology.

Master of Science in Learning Design and Technology

The graduate program in learning design and technology can help you gain the skills and competencies you need to use emerging technologies, learning analytics, and learning theory to design adaptive and personalized online learning experiences. You can explore, develop, and integrate digital media, new pedagogical approaches, and online interactive resources to give students greater access to education and prepare them for success.

Note: The MS in Learning Design and Technology program does not lead to teacher certification in Maryland.

What You'll Learn

Through your coursework, you will learn how to

- Apply learning theory, instructional design models, curriculum design techniques, and the assessment of learning to create innovative learning experiences
- Integrate multimedia and technology tools effectively to enhance learning experiences
- Apply principles of user experience (UX) and user interface (UI) design to the creation of learner-friendly interfaces and interactions
- Utilize analytic tools to address problems and inform decision-making, optimize the teaching and learning process, and assess the effectiveness of design choices
- Apply information literacy skills and ethical practice to the design of learning experiences
- Lead learning design projects tailored to specific organizational needs, priorities, and strategies
- Communicate clearly in various forms, meeting expectations for content, purpose, organization, audience, and format
- Evaluate trends, issues, practices, and methodologies that influence the field of learning design

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Preparation Recommended for Success

Both a background in teaching, education, or professional development and basic experience in word processing are expected.

Degree Requirements

MS IN LEARNING DESIGN AND TECHNOLOGY

	Credits
Required Core Courses	**27**
Required Capstone Course	**3**
Total	**30**

REQUIRED CORE COURSES

LDTC 600	Learning Theories and Learner Analysis in Learning Design (3)
LDTC 605	Instructional Design Models to Inform Learning Design (3)
LDTC 610	Instructional Media in Learning Design (3)
LDTC 615	UX and UI Design in Course Development (3)
LDTC 620	Next Generation Design: Emerging Technology, Gamification, and AI in Learning Design (3)
LDTC 625	Analytics and Evaluation in Learning Design (3)
LDTC 630	Collaboration and Design Thinking in Learning Design (3)
LDTC 640	Project Management for Learning Design (3)
LDTC 650	Instructional Strategy and Practice in Online Learning Environments (3)

REQUIRED CAPSTONE COURSE

LDTC 690	Learning Design Capstone (3)

COURSE SEQUENCING

Courses must be taken in the order listed. Courses listed as prerequisite or corequisite may be taken concurrently.

TABLE OF CONTENTS
INDEX

Management

You may earn a Master of Science in Management, with a concentration in any one of the following areas:

- Accounting
- Criminal Justice Management
- Emergency Management
- Financial Management
- Homeland Security Management
- Human Resource Management
- Intelligence Management
- Interdisciplinary Studies in Management
- Marketing
- Project Management

Master of Science in Management: Accounting Concentration

The graduate accounting concentration can help you move toward a position as a comptroller, managing partner, or senior accountant. Ideal for midcareer professionals, the accounting concentration teaches you the skills to communicate financial information to high-level decision-makers, as well as the advanced accounting knowledge that every business needs.

What You'll Learn

Through your coursework, you will learn how to

- Develop financial and managerial reporting competencies to support management potential
- Make informed accounting and financial management decisions using critical thought
- Provide actionable insights for key decision-makers based on data analytics and visualizations
- Work collaboratively in supporting diversity, equity, and inclusion initiatives to enhance creative solutions, improve productivity, and negotiate acceptable agreements
- Model professional and ethical accounting behavior
- Communicate clearly using accounting terminology and plain language as appropriate in writing and orally

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Accredited Tax Preparer (ATP)
- Certified Internal Auditor (CIA)
- Certified Management Accountant (CMA)
- Chartered Global Management Accountant (CGMA)
- Enrolled Agent (EA)

Academic Preparation

Before enrolling in any graduate accounting course, you must have either

- Completed 15 credits of undergraduate accounting coursework, with a grade of C or better in each course. Upon submission of an official transcript, you may be accepted into the degree program with fewer than the required 15 credits of undergraduate accounting coursework, but you must complete that coursework before enrolling in your first graduate accounting course.

OR

- Earned a Certified Public Accountant (CPA) license as determined by a State Board of Accountancy. Upon your submission of evidence and our verification of your having earned a CPA license, you may enroll in a graduate accounting course.

Preparation Recommended for Success

You are expected to be familiar with Microsoft Excel.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in accounting, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Management with a concentration in accounting and/or a related certificate by 6 credits (two courses). Details are on p. 21.

TABLE OF CONTENTS
INDEX

Degree Requirements

MS IN MANAGEMENT: ACCOUNTING CONCENTRATION

	Credits
Required Core Courses	**12**
Concentration Courses	**21**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

CONCENTRATION COURSES

Complete the following five courses:

ACCT 610 Financial Reporting and Analysis for Accountants (3)

ACCT 611 Managerial Accounting Data Analytics (3)

ACCT 613 Tax Compliance and Planning (3)

ACCT 618 Accounting Information Systems (3)

ACCT 628 Auditing and Attestation (3)

Take two of the following 3-credit courses:

ACCT 625 Government and Not-for-Profit Accounting

ACCT 630 Fraud Examination

ACCT 635 Ethics and Professional Responsibilities for Accounting

ACCT 640 Accounting in a Global Setting

ACCT 686 Workplace Learning in Accounting

REQUIRED CAPSTONE COURSE

MGMT 670 Strategic Management Capstone (3)

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

Master of Science in Management: Criminal Justice Management Concentration

In the criminal justice management concentration, you'll obtain advanced knowledge of crime prevention, law enforcement, investigative forensics, and crisis management—as well as strong skills in business management. This concentration can help you learn to effectively manage large teams, departments, and bureaus across the criminal justice profession.

What You'll Learn

Through your coursework, you will learn how to

- Design criminal justice programs
- Analyze threats and assess risks
- Conduct vulnerability studies
- Apply legal knowledge to criminal justice management
- Lead and manage organizations
- Communicate, report, and write professionally and effectively

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in criminal justice, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Management with a concentration in criminal justice management by 6 credits (two courses). Details are on p. 21.

TABLE OF CONTENTS
INDEX

Degree Requirements

MS IN MANAGEMENT: CRIMINAL JUSTICE MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	12
Required Concentration Courses	21
Required Capstone Course	3
Total	36

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

CJMS 600 Critical Analysis of the Criminal Justice System (3)

CJMS 610 Perspectives in Law Enforcement Management (3)

CJMS 620 Issues in Correctional Administration (3)

CJMS 630 Seminar in Security Management (3)

CJMS 640 Criminal Justice Intelligence Systems and Approaches (3)

CJMS 650 Legal Aspects Within the Criminal Justice System (3)

CJMS 660 Issues in Criminal Justice Leadership (3)

REQUIRED CAPSTONE COURSE

MGMT 670 Strategic Management Capstone (3)

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- Concentration courses should be taken in the order listed.
- CJMS 600 must be taken as the first concentration course.
- CJMS 660 must be taken after all concentration and core courses (except MGMT 670).
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

Master of Science in Management: Emergency Management Concentration

The emergency management concentration is designed to help prepare you to plan for and respond to natural and human-made disasters and emergencies in the United States. In this concentration, you'll study the use of advanced technologies, emerging cyber and asymmetric threats, digital communication systems, global pandemic response and recovery, climate adaptation, continuity of operations, public and private partnerships, laws and policies, and ethical considerations in emergency management decision-making and planning. You'll develop the practical skills needed for security risk assessments, strategic planning and prevention, staff coordination, deterrence, mitigation, protection, response, and operational recovery and design strategies and processes to secure individuals and critical infrastructure from natural and human-made threats.

What You'll Learn

Through your coursework, you will learn how to

- Apply strategies and tactics for managing crisis communications, including the use of current technologies, through a deliberate approach to developing community-specific public responses to emergency management and national security crisis situations
- Use the principles of leadership and management, including building public and private partnerships, to achieve strategic and operational goals for emergency management and national security responses
- Evaluate ethical considerations when applying laws, authorities, regulations, policies, quantitative analyses, and data interpretation to ensure that standards of privacy and civil liberties are met while developing emergency management preparedness initiatives and responses
- Explain cybersecurity threats and assess how cyber plans, strategies, policies, and initiatives are intended to defend against cyberattacks and protect essential preparedness and disaster response operations

TABLE OF CONTENTS
INDEX

- Utilize specific applications of advanced and emerging technologies, systems, and services for protection, response, recovery, and disaster preparedness initiatives involving U.S. national security
- Assess the impact analysis of current and emerging threats and risks, including human-made and natural disasters; the social, cultural, psychological, political, and operational dynamics of threats; and the evolution and basic principles of critical infrastructure protection, processes, and techniques

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the Certified Emergency Manager (CEM) exam.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN MANAGEMENT: EMERGENCY MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**12**
Required Concentration Courses	**21**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

EMAN 600 Comprehensive Crisis and Emergency Management (3)

EMAN 610 Hazard Risk and Vulnerability Assessment (3)

EMAN 620 Information Technology in Emergency Management (3)

HSMN 610 Concepts in Homeland Security (3)

HSMN 630 Resilience Planning and Preparedness for Disaster Response and Recovery (3)

EMAN 630 Crisis Communication for Emergency Managers (3)

EMAN 670 Seminar in Emergency Management Leadership (3)

REQUIRED CAPSTONE COURSE

MGMT 670 Strategic Management Capstone (3)

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- EMAN 600 must be taken as one of the first two concentration courses.
- EMAN 670 must be taken in your last semester.
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

Master of Science in Management: Financial Management Concentration

The financial management concentration provides you with solid management skills that are essential to the core functions of every organization. This program offers you the tools to make high-level decisions that can affect an organization's current operations and financial future.

What You'll Learn

Through your coursework, you will learn how to

- Analyze the relationship between economic and financial environments and decision-making
- Evaluate financial models and strategies for effectiveness
- Apply advanced financial tools and techniques
- Synthesize financial and nonfinancial data for decision-making
- Assess risk management and mitigation strategies critically
- Develop innovative financial models and solutions
- Analyze behavioral factors that affect financial decision-making
- Apply ethical decision-making in financial management

TABLE OF CONTENTS
INDEX

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Accredited Valuation Analyst (AVA)
- Certified Economic Policy Analyst (CEPA)
- Certified Financial Examiner (CFEx)
- Certified Government Financial Manager (CGFM)
- Certified Healthcare Financial Professional (CHFP)
- Certified Risk Professional (CRP)
- Certified Treasury Professional (CTP)
- Certified Valuation Analyst (CVA)
- Chartered Asset Manager (CAM)
- Chartered Economist (ChE)
- Chartered Financial Analyst (CFA)
- Chartered Market Analyst (CMA)
- Chartered Portfolio Manager (CPM)
- Chartered Trust and Estate Planner (CTEP)
- Chartered Wealth Manager (CWM)
- Financial Risk Manager (FRM)
- Master Financial Manager (MFM)
- Master Financial Professional (MFP)
- Registered Business Analyst (RBA)

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in finance, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Management with a concentration in financial management by 6 credits (two course). See p. 22 for details.

Degree Requirements

MS IN MANAGEMENT: FINANCIAL MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**9**
Required Concentration Courses	**24**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

FIN 605 Fintech and Decision-Making (3)

FIN 610 Financial Management in Organizations (3)

FIN 615 Financial Analysis and Modeling (3)

FIN 620 Long-Term Financial Management (3)

FIN 630 Investment Valuation (3)

FIN 640 International Financial Management (3)

FIN 645 Behavioral Finance (3)

FIN 660 Strategic Financial Management (3)

REQUIRED CAPSTONE COURSE

MGMT 670 Strategic Management Capstone (3)

COURSE SEQUENCING

- MGMT 610 must be taken within the first 6 credits.
- FIN 605 should be taken in the first term.
- FIN 605 and FIN 610 should not be attempted simultaneously with MGMT 650.
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

TABLE OF CONTENTS
INDEX

Master of Science in Management: Homeland Security Management Concentration

The graduate concentration in homeland security management is designed to help prepare you for professional positions concerned with protecting the country against natural and human-made domestic and international threats such as terrorism, transnational crime, and cybercrime and with maintaining cybersecurity, transportation security, intelligence, civil liberties, emerging technology integration, international engagement, and private-sector partnerships and collaboration. In this concentration, you'll attain the requisite knowledge and skills necessary for professional homeland security positions involving cybersecurity; risk and threat assessments; the design and management of operational disaster relief and recovery; and the development of strategies essential to the protection of individuals, facilities, and critical infrastructure.

What You'll Learn

Through your coursework, you will learn how to

- Apply strategies and tactics for managing crisis communications, including the use of current technologies, through a strategic approach to developing community-specific public responses to homeland and national security crisis situations
- Construct strategies for leading, managing, organizing, and coordinating homeland security operations in concert with federal, state, local, and international governments as well as the private sector
- Determine potential solutions for homeland security issues by evaluating the laws, authorities, regulations, policies, and ethical considerations as well as emerging political, legal, and policy issues
- Assess cybersecurity strategies, policies, initiatives, and regulatory compliance, as well as the role of the Cybersecurity and Infrastructure Security Agency (CISA), to defend against cyberattacks and support essential preparedness and disaster support operations
- Determine specific applications of advanced information and technology systems for protection, response, recovery, and resilience in support of homeland and national security priorities
- Apply risk methodologies and assessments, resilience planning, organizational theory, and disaster response and recovery principles to manage new and emerging threats against the United States by utilizing critical-thinking and decision-making skills

Accelerated Pathway

If you completed your undergraduate degree at UMGC with coursework in homeland security, an accelerated pathway between UMGC's undergraduate and graduate programs allows you to reduce your total coursework for the MS in Management with a concentration in homeland security by 6 credits (two courses). Details are on p. 23.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN MANAGEMENT: HOMELAND SECURITY MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**12**
Required Concentration Courses	**21**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

HSMN 610 Concepts in Homeland Security (3)

HSMN 625 Critical Infrastructures (3)

HSMN 630 Resilience Planning and Preparedness for Disaster Response and Recovery (3)

INFA 660	The Law, Regulation, and Ethics of Information Assurance (3)
BSBD 641	Biosecurity and Bioterrorism (3)
EMAN 620	Information Technology in Emergency Management (3)
HSMN 670	Seminar in Homeland Security (3)

REQUIRED CAPSTONE COURSE

MGMT 670	Strategic Management Capstone (3)

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- HSMN 610 must be taken as one of the first two concentration courses.
- HSMN 670 must be taken in your last semester.
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

Master of Science in Management: Human Resource Management Concentration

The concentration in human resource management is designed to give you the knowledge and skills you need to advance in the HR field and is aligned with the Society for Human Resource Management guidelines for graduate education. In this program, you can gain practical, management-level experience in the theory, research, knowledge, and procedures used by HR executives, generalists, and specialists—and develop a skill set you can take anywhere.

What You'll Learn

Through your coursework, you will learn how to

- Design human resources policies and processes to support changing environmental factors and organizational goals
- Evaluate employee relations in union and nonunion organizations
- Design efficient and effective recruitment and selection methods
- Evaluate strategies, procedures, and techniques of job analysis, design, and evaluation; performance appraisal; and compensation management
- Prescribe appropriate organizational development strategies and techniques
- Design an effective training plan that aligns with overall company strategy
- Formulate solutions for managing virtual and global teams

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Professional in Human Resources (PHR)
- Senior Professional in Human Resources (SPHR)
- SHRM-Certified Professional (SHRM-CP)
- SHRM-Senior Certified Professional (SHRM-SCP)

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in human resource management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Management with a concentration in human resource management and/or a related certificate by 6 credits (two courses). Details are on p. 23.

Related Certificate Program

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN MANAGEMENT: HUMAN RESOURCE MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**12**
Required Concentration Courses	**21**
Required Capstone Course	**3**
Total	**36**

TABLE OF CONTENTS
INDEX

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

HRMD 610 Issues and Practices in Human Resource Management (3)

HRMD 620 Employee and Labor Relations (3)

HRMD 630 Recruitment and Selection (3)

HRMD 640 Job Analysis, Assessment, and Compensation (3)

HRMD 650 Organizational Development and Change (3)

HRMD 651 Current Perspectives in Training and Development (3)

HRMD 665 Managing Virtual and Global Teams (3)

REQUIRED CAPSTONE COURSE

HRMD 670 Human Resource Management Capstone (3)

ALTERNATE CREDIT

If you are a Society for Human Resource Management (SHRM)–certified professional (SHRM-CP or SHRM-SCP) or an HRCI-certified professional (PHR or SPHR) and your certification is current and valid, you may receive up to 6 credits for HRMD 610 Issues and Practices in Human Resource Management (3) and HRMD 620 Employee and Labor Relations (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- You must complete 24 credits of program coursework, including all core courses, before enrolling in HRMD 670.
- Courses should be taken in the order listed.

Master of Science in Management: Intelligence Management Concentration

The intelligence management concentration is designed to help prepare you for professional positions in the fields of intelligence, surveillance, and reconnaissance; target analysis; intelligence collection; operations and analysis; counterintelligence, counterterrorism, and counterproliferation; cyber intelligence and espionage; resource management; intelligence sharing and partnerships; emerging technologies such as artificial intelligence; and intelligence policy and oversight for national security and law enforcement management. In this concentration, you'll apply critical-thinking, research, and analysis skills to the study of advanced technology integration, cyber threats, intelligence budgets, communications, leadership, workforce development, interagency collaboration with public and private national security organizations, and intelligence reform, as well as to the priorities, laws, and policies regulating the U.S. intelligence community.

What You'll Learn

Through your coursework, you will learn how to

- Apply critical-thinking concepts in assessing how the intelligence community conducts intelligence operations, integrates emerging technologies, and resolves national security threats and crisis situations
- Evaluate the leadership principles, risk assessments, and threat-mitigation strategies demonstrated by how intelligence community leaders manage, organize, and coordinate intelligence, counterintelligence, and national security operations
- Evaluate the constitutional obligations and legal responsibilities of the intelligence community in complying with the USA Patriot Act, FISA (Foreign Intelligence Surveillance Act) Amendments Act, congressional oversight, and the president's Intelligence Advisory Board, while mitigating national and homeland security threats and ensuring the effective management and operation of U.S. intelligence agencies
- Assess cyber threats and distinguish the roles of cyber intelligence, cyber operations, cybersecurity plans, strategy, policy initiatives, and regulatory compliance
- Analyze the impact of emerging technologies on threat indicators and analysis, collection, intelligence management, intelligence-led enforcement, targeting, and counterintelligence for intelligence and national security professionals, initiatives, and operations
- Assess counterintelligence, foreign espionage, cyber intelligence, violent extremism, and emerging insider and asymmetric threats, by applying holistic solutions and strategies to leverage human, open source, signals, geospatial, technical, and cyber intelligence collection involving a wide spectrum of target sets

TABLE OF CONTENTS
INDEX

Degree Requirements

MS IN MANAGEMENT: INTELLIGENCE MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	12
Required Concentration Courses	21
Required Capstone Course	3
Total	36

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

INMS 600 Managing Intelligence Activities (3)

INMS 610 Intelligence Collection: Sources and Challenges (3)

INMS 620 Intelligence Analysis: Consumers, Uses, and Issues (3)

INMS 630 Counterintelligence (3)

INMS 640 Intelligence-Led Enforcement (3)

INMS 650 Intelligence Management and Oversight (3)

INMS 660 Leadership Seminar (3)

REQUIRED CAPSTONE COURSE

MGMT 670 Strategic Management Capstone (3)

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- Concentration courses should be taken in the order listed.
- INMS 600 and INMS 610 must be taken as the first two concentration courses.
- INMS 660 must be taken after all concentration and core courses (except MGMT 670).
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

Master of Science in Management: Interdisciplinary Studies in Management Concentration

The interdisciplinary studies in management concentration is designed for those who seek a broad knowledge of management that integrates content from several business-related disciplines. The concentration provides you with the managerial skills you need to advance in your career and that are essential for managers in every organization. The curriculum covers fundamentals in finance, organizational theory, human resources, project management, marketing, and information systems. You can further customize your program by choosing elective courses from other disciplines based on your career interests. Whether you are new to the field, changing careers, or looking to advance in your current organization, you need look no further for a respected credential that can boost your professional value and provide you with strong managerial skills.

What You'll Learn

Through your coursework, you will learn how to

- Design human resources policies and processes to support changing environmental factors and organizational goals
- Evaluate employee relations in union and nonunion organizations
- Assess employee performance at the individual, group, and organization levels
- Create a full-scale marketing plan for a product or service, identifying and selecting appropriate target market segments, pricing, distribution, and marketing communications
- Select marketing communications, such as advertising and digital marketing, to promote an offering based on the nature of the product/service and the target market for that product/service
- Justify the importance of culturally diverse work environments and work groups

TABLE OF CONTENTS
INDEX

- Apply project management practices, skills, tools, and techniques judiciously and effectively
- Apply modern and emerging technologies to improve operational effectiveness

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in finance, human resource management, management information systems, or marketing, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the MS in Management with a concentration in interdisciplinary studies in management by 3 or 6 credits (one or two courses), depending on your major. Details are on p. 22–23.

Related Certificate Programs

Completing this degree and concentration fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN MANAGEMENT: INTERDISCIPLINARY STUDIES IN MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**12**
Required Concentration Courses	**12**
Required Capstone Course	**3**
Elective Courses	**9**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

HRMD 610 Issues and Practices in Human Resource Management (3)

HRMD 620 Employee and Labor Relations (3)

MRKT 600 Marketing Management (3)

PMAN 634 Foundations of Project Management (3)

REQUIRED CAPSTONE COURSE

MGMT 670 Strategic Management Capstone (3)

ELECTIVE COURSES

Take three graduate 3-credit courses chosen from MGMT 686 Workplace Learning in Management and courses in biotechnology, criminal justice management, emergency management, finance management, homeland security management, information technology, instructional technology, intelligence management, or nonprofit management

ALTERNATE CREDIT

If you are certified as a Project Management Professional by the Project Management Institute and your certification is current and valid, you may receive credit for PMAN 634 Foundations of Project Management (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

Master of Science in Management: Marketing Concentration

The concentration in marketing can help you move toward a senior position with leadership skills essential to the core function of every organization, public or private. Whether you're new to marketing, looking to move up, or changing careers, you'll learn the latest marketing strategies, as well as the foundations of solid management practice, to gain an edge in the job market.

What You'll Learn

Through your coursework, you will learn how to

- Develop expertise in fundamental marketing concepts, theories, and strategies
- Demonstrate a usable managerial understanding of consumer behavior
- Analyze the role of brand equity to achieve sustainable competitive advantage
- Formulate a customer relationship management (CRM) strategy to create, maintain, and promote valuable relationships with customers and stakeholders
- Create an optimal marketing communications strategy to maximize engagement with a product or brand
- Produce marketing strategies based on analysis of research data
- Devise appropriate marketing strategies in the context of competitive global environments and the cultural differences of global customers
- Develop digital marketing proficiency, including skills in social media marketing, content marketing, and search engine optimization
- Use metrics to measure the effectiveness of a marketing program and make recommendations for improvement

Related Certificate Programs

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN MANAGEMENT: MARKETING CONCENTRATION

	Credits
Required Core Courses	12
Required Concentration Courses	21
Required Capstone Course	3
Total	36

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

MRKT 600 Marketing Management (3)

MRKT 602 Consumer Behavior and Customer Relationship Management (3)

MRKT 603 Brand Management and Integrated Marketing Communication (3)

MRKT 604 Marketing Research and Analytics (3)

MRKT 605 International Marketing Management (3)

MRKT 606 Digital and Social Media Marketing (3)

MRKT 608 Product and Sales Management (3)

REQUIRED CAPSTONE COURSE

MRKT 670 Marketing Strategy and Planning Capstone (3)

COURSE SEQUENCING

- MGMT 640 should not be attempted simultaneously with MGMT 650.
- You must complete 27 credits of program coursework, including all core courses, before enrolling in MRKT 670.

TABLE OF CONTENTS
INDEX

Master of Science in Management: Project Management Concentration

The concentration in project management provides a solid knowledge base to help you prepare for various professional certification exams and allows you to develop and advance business management skills while building expertise in traditional, agile, and hybrid project management. Through your concentration courses, you'll learn how to use hard and soft skills to manage projects with varying sizes and levels of complexity, while your core management courses give you the tools you need to take on leadership roles in any work environment.

What You'll Learn

Through your coursework, you will learn how to

- Appraise the potential and relevance of technology and quantitative analytical methods to support project management efforts
- Apply quantitative analytical methods when appropriate to support project management efforts
- Apply project leadership knowledge and skills essential for creating high-performing teams and effecting organizational transformation that respects and harnesses human capital
- Formulate how to apply project management practices, skills, tools, and techniques judiciously and effectively
- Tailor the project/program approach, methodology, and governance to align with project and organizational characteristics, strategies, and priorities
- Apply business management skills that amplify a project manager's effectiveness, efficiency, and influence
- Evaluate how a given project/program interfaces with operations and product and portfolio management
- Create project/program alignment with the broader project context and environment

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Agile Certified Practitioner (PMI-ACP)
- Certified Associate in Project Management (CAPM)
- Certified Scrum Master (CSM)
- Project Management Professional (PMP)

Each course in this program earns you the project management education hours necessary to fulfill the education requirement for qualifying to take the PMP and CAPM certification exams.

Related Certificate Programs

Completing this degree and concentration fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN MANAGEMENT: PROJECT MANAGEMENT CONCENTRATION

	Credits
Required Core Courses	**12**
Required Concentration Courses	**21**
Required Capstone Course	**3**
Total	**36**

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED CORE COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

MGMT 640 Financial Decision-Making for Managers (3)

MGMT 650 Statistical Analysis for Managers (3)

REQUIRED CONCENTRATION COURSES

PMAN 634 Foundations of Project Management (3)

PMAN 635 Project Schedule, Cost, and Resource Management (3)

PMAN 637 Project Uncertainty: Risk, Ambiguity, and Complexity (3)

PMAN 638 Project Stakeholder and Communications Management (3)

PMAN 639 Project Management Quality (3)

PMAN 641 Project Procurement Management (3)

PMAN 650 Strategic Project Management (3)

TABLE OF CONTENTS
INDEX

REQUIRED CAPSTONE COURSE

MGMT 670 Strategic Management Capstone (3)

ALTERNATE CREDIT

If you are certified as a Project Management Professional by the Project Management Institute and your certification is current and valid, you may receive credit for PMAN 634 Foundations of Project Management (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

- MGMT 610 and MGMT 615 must be taken within the first 6 credits.
- MGMT 640 should not be attempted simultaneously with MGMT 650.
- You must complete 24 credits of program coursework, including all core courses, before enrolling in MGMT 670.

Program Accreditation

UMGC's master's degree programs with project management concentrations are accredited by the Project Management Institute (PMI) Global Accreditation Center (GAC) for Project Management Education Programs.

TABLE OF CONTENTS
INDEX

Strategic Communications

You may earn a Master of Science in Strategic Communications.

Master of Science in Strategic Communications

The graduate program in strategic communications is designed to help prepare you for leadership positions in public relations and related communications fields. Ideal for midcareer professionals, this project-based program provides realistic experiences that will develop your communications team management and leadership skills while deepening your understanding of—and ability to apply—the theories, principles, and best practices that guide the profession of strategic communications today.

What You'll Learn

Through your coursework, you will learn how to

- Lead and collaborate with a variety of individuals and diverse teams to achieve organizational objectives
- Communicate clearly in writing and speaking, meeting expectations for content, purpose, organization, audience, and format
- Critically assess situations to identify communications problems and initiate problem-solving processes
- Create innovative solutions for addressing communications and other business needs, wants, and problems
- Create effective communications strategies that address a public relations problem or achieve a communications campaign goal
- Develop effective communications tactics (products) that address a public relations problem or achieve a campaign goal
- Apply critical-thinking processes to formulate clear, defensible ideas based on the analysis of facts and ethical considerations
- Conduct professional activities in an ethical and legal manner
- Use mathematical information, operations, and quantitative analyses to solve problems and inform decision-making
- Articulate the history, theories, and models of the strategic communications field to demonstrate the value of the field to colleagues, clients, and supervisors

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the following certification exams, listed in alphabetical order:

- Accreditation in Public Relations
- Strategic Communication Management Professional

Preparation Recommended for Success

While academic papers are written in American Psychological Association (APA) style, strategic communications products are typically written in Associated Press (AP) style. You are expected to be familiar with both AP and APA style. If you have not recently written professionally, we recommend that you familiarize yourself with AP style. You will have access to the *AP Stylebook Online* once you have been accepted into the program and classes begin.

Related Certificate Programs

Completing this degree fulfills most or all of the requirements for a related certificate. Contact your success coach or academic advisor for more information.

Degree Requirements

MS IN STRATEGIC COMMUNICATIONS

	Credits
Required Core Courses	**27**
Required Capstone Course	**3**
Total	**30**

REQUIRED CORE COURSES

MSCP 600	Introduction to Strategic Communications (3)
MSCP 605	Strategic Communications Theory (3)
MSCP 610	Planning for Strategic Communications (3)
MSCP 620	Communications Techniques and Tactics I (3)
MSCP 625	Communications Techniques and Tactics II (3)
MSCP 630	ROI, Measurement, and Analysis (3)
MSCP 635	Strategic Leadership and Management of Communications Organizations (3)
MSCP 640	International/Intercultural Communications (3)
MSCP 650	Crisis Communications (3)

REQUIRED CAPSTONE COURSE

MSCP 690	Communications Campaigns Capstone (3)

ALTERNATE CREDIT

- If you are certified as a Strategic Communication Management Professional (SCMP) by the Global Communication Certification Council (GCCC) and your certification is current and valid, you may receive credit for MSCP 600 Introduction to Strategic Communications (3) and MSCP 605 Strategic Communications Theory (3). Advisors or success coaches can provide more information.
- If you hold a current and valid Accreditation in Public Relations (APR) credential by the Public Relations Society of America (PRSA), Universal Accreditation Board (UAB), you may receive credit for MSCP 600 Introduction to Strategic Communications (3) and MSCP 605 Strategic Communications Theory (3). Advisors or success coaches can provide more information.

COURSE SEQUENCING

Except for MSCP 635 and MSCP 640, either of which may be taken before the other, courses should be taken in the order listed.

TABLE OF CONTENTS
INDEX

Transformational Leadership

The transformational leadership program has specific admission requirements (listed on p. 10) that you must meet before enrolling in any required courses.

You may earn a Master of Science in Transformational Leadership.

Master of Science in Transformational Leadership

The Master of Science in Transformational Leadership program is designed for students with military experience who want to build on and maximize their leadership training and skills to prepare them to transition to corporate, nonprofit, or government organizations. Each course offers you practical experience by using workplace scenarios to apply your strategic-thinking and decision-making skills in both group and individual activities with civilian organizations. You "learn by doing" and graduate better prepared for workplace opportunities. The program provides hands-on experience with transformational leadership strategies and techniques that will enable you to effect change at the individual, group, and organizational levels and prepare you for positions in civilian organizations. You'll utilize theories and concepts in leadership in a civilian context, focusing on the dynamics of leadership and building skills in communication, strategic planning and management, team building, conflict resolution and mediation, fiscal and performance-based decision-making, change management, project management, and organizational learning.

What You'll Learn

Through your coursework, you will learn how to

- Analyze your strengths and weaknesses as a leader and leverage them to accomplish strategic goals
- Manage civilian employees and help them perform at higher levels
- Analyze the performance of an organization through metrics and formulate strategies to improve that performance
- Manage change in the organization's environment
- Collaborate with an organization to address an internal business challenge

Preparation Recommended for Success

You are expected to have leadership experience from serving as an officer (noncommissioned or commissioned) in the U.S. Armed Forces.

Degree Requirements

MS IN TRANSFORMATIONAL LEADERSHIP

	Credits
Required Foundation Course	6
Required Core Courses	24
Required Capstone Course	6
Total	**36**

REQUIRED FOUNDATION COURSE

DCL 600M Decisive Thinking, Communicating, and Leading in Multidisciplinary Fields (6)

REQUIRED CORE COURSES

TLP 610 Repositioning Your Leadership Skills (6)

TLP 620 Leading in the Organization (6)

TLP 630 Leading with Strategy and Performance Measures (6)

TLP 640 Leading Through Change and Uncertainty (6)

REQUIRED CAPSTONE COURSE

TLP 670 Leadership Capstone (6)

COURSE SEQUENCING

Courses must be taken in the order listed.

Criteria for Program Progression

You must complete each course with a grade of B or better to advance to the next course. The grade of C is not available for these courses. Your course syllabus will explain options for and consequences of requesting an Incomplete.

TABLE OF CONTENTS
INDEX

DOCTORAL DEGREE PROGRAM
DEGREE REQUIREMENTS AND CURRICULUM

At the doctoral level, UMGC offers the Doctor of Management (DM) in Community College Policy and Administration.

Expectations

Within the doctoral program, the following essential core competencies are emphasized:

- Development of best practices in the discipline to improve competitiveness and resilience in a dynamic environment
- Development of the ability to conduct and evaluate research of publishable quality
- Development of leadership skills to bring communities and organizations together through a shared vision

Requirements

Continuous Enrollment

In general, the UMGC degree requirements that apply to you are those that were in effect when you completed the first credit-bearing course in a given program at UMGC. If you cease to be continuously enrolled, the program requirements that apply to you are those in effect at UMGC when you return to UMGC and enroll in a credit-bearing course for the program you wish to pursue at that time.

To be considered continuously enrolled, you must have had no more than two sequential years of nonenrollment. After two sequential years of nonenrollment, you must reapply for admission to resume enrollment.

If you change your degree program while continuously enrolled, then the program requirements that apply to you are those in effect at the time you enroll in the first required course for the new program. Previously completed coursework may not apply to the new requirements.

Information about the catalog year that applies to you is provided in the MyUMGC student portal.

The following requirements for the doctoral degree are applicable to students who begin continuous enrollment on or after August 1, 2025.

Overall Requirements

The UMGC's doctoral program requires the completion of 54 credits of coursework, including a dissertation. Specific course requirements are listed on the following pages.

Attendance at a two-day residency on-site at a UMGC location each term is mandatory for the doctoral program. Information on the requirements for maintaining good academic standing for the doctoral program may be found on p. 339.

Time Limits

All requirements established for the completion of the doctoral degree program listed in this publication must be fulfilled within seven consecutive years. The time limit is calculated from the term in which you successfully complete the first credit course that applies to the program.

Management: Community College Policy and Administration

You may earn a Doctor of Management in Community College Policy and Administration.

Doctor of Management in Community College Policy and Administration

Designed for college faculty and administrators who aspire to lead effectively and advance in administrative careers, the unique concentration in community college policy and administration offers exceptional scholarship, intimate cohorts, online courses, short residencies, distinguished faculty, and dissertation support in a program that can be completed within three years.

You'll work together in the same group of 15–20 students throughout the entire program and build a virtual community, developed and led by current and former community college presidents and senior executives.

With a highly respected credential, sophisticated knowledge, and an accomplished dissertation, you'll emerge from the program with the tools to transform student achievement and successfully guide community colleges into the essential role they will play in the future of higher education.

Note: Maryland residents are excluded from admission to the program.

What You'll Learn

Through your coursework, you will learn how to

- Advocate for the role of community colleges as engines of social and economic mobility in a dynamic landscape, keeping in mind principles of diversity, equity, inclusion, and student success
- Propose evidence-based strategies to address major issues facing community colleges through the acquisition of robust research skills
- Assess the ecosystem in which the community college functions by identifying and developing networks and processes of policy formulation, governance, and advocacy in complex social and political environments
- Apply concepts of institutional governance, transformational leadership, change management, strategic planning, and resource allocation as an ethical and effective community college leader and manager
- Synthesize theory and practice to propose continuous improvement in community college student outcomes through the development of effective teaching and learning supports, institutional effectiveness plans, and analytics to monitor and assess student learning

Preparation Recommended for Success

The DM program is writing intensive. Familiarity with scholarly writing and graduate-level writing skills are expected. We also recommend work and prior management experience in a community college or other higher education institution or in government or business.

Degree Requirements

DM IN COMMUNITY COLLEGE POLICY AND ADMINISTRATION

	Credits
Required Core Courses	**42**
Required Dissertation Courses	**12**
Total	**54**

REQUIRED CORE COURSES

CCPA 810A	Leadership and Change (3)
CCPA 810B	Leadership and Change (3)
CCPA 800A	Foundations of Management Theory (3)
CCPA 800B	Foundations of Management Theory (3)
CCPA 830A	Research Methods (3)
CCPA 830B	Research Methods (3)
CCPA 821A	Higher Education Policy (3)
CCPA 821B	Higher Education Policy (3)
CCPA 841A	Institutional Assessment in the Community College Environment (3)
CCPA 841B	Institutional Assessment in the Community College Environment (3)
CCPA 851A	Community College Advocacy, Resource Development, and Strategic Allocation (3)

TABLE OF CONTENTS
INDEX

CCPA 851B	Community College Advocacy, Resource Development, and Strategic Allocation (3)
CCPA 861A	Special Topics in Policy and Administration (3)
CCPA 861B	Special Topics in Policy and Administration (3)

REQUIRED DISSERTATION COURSES

CCPA 890	Dissertation Part I (3)
CCPA 891	Dissertation Part II (3)
CCPA 892	Dissertation Part III (3)
CCPA 893	Dissertation Part IV (3)

COURSE SEQUENCING

You are expected to take 6 credits per term to progress with your cohort. Program advisors will provide guidance on course sequencing.

Residency Requirement

Contact the department for details regarding the required two-day residency each term.

TABLE OF CONTENTS
INDEX

CERTIFICATE PROGRAMS
REQUIREMENTS

To help you meet your educational goals, UMGC offers 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 potential career advancement. All certificate programs are available online.

The undergraduate certificate programs generally require 16 to 18 credits, and graduate certificate programs generally require 12 to 18 credits. All courses for the certificate programs carry college credit and may be applied toward a related degree.

More details about certificate programs are available online at *umgc.edu/certificates*.

Expectations

Within each academic certificate program, UMGC seeks to help you gain specific skills needed to advance in your career. Most certificates are fully integrated in related degree programs and lead directly to the next credential, such as a bachelor's or master's degree. However, each certificate may also be used as a stand-alone credential.

Requirements

Continuous Enrollment

In general, the UMGC certificate requirements that apply to you are those that were in effect when you completed the first credit-bearing course in a given program at UMGC. If you cease to be continuously enrolled, the program requirements that apply to you are those in effect at UMGC when you return to UMGC and enroll in a credit-bearing course for the program you wish to pursue at that time.

To be considered continuously enrolled, you must have had no more than two sequential years of nonenrollment. After two years of nonenrollment, you must reapply for admission to resume enrollment.

If you change your certificate program while continuously enrolled, then the program requirements that apply to you are those in effect at the time you enroll in the first required course for the new program. Previously completed coursework may not apply to the new requirements.

Information about the catalog year that applies to you is provided in the MyUMGC student portal.

The individual certificate coursework requirements specified in the following section are applicable to students enrolling on or after August 1, 2025.

Overall Requirements

1. You must be admitted as a UMGC student.
2. Except for the MBA, you may pursue a degree and certificate simultaneously or pursue a degree after completing the certificate.
3. For undergraduate certificates, no more than half of the total credits for any certificate may be earned through credit by examination, prior-learning portfolio credit, internship/Workplace Learning credit, or transfer credit, under current policies for such credit. Additional limitations may apply to specific programs; see descriptions of individual certificate programs for details.
4. For graduate certificates, no more than 6 credits may be earned through transfer from other schools.
5. For undergraduate certificate programs, you must complete all required coursework with a cumulative GPA of at least a C (2.0). For graduate certificate programs, you must complete all required coursework with a cumulative GPA of at least a B (3.0).
6. Certificate courses may not be taken pass/fail.
7. You may pursue up to four certificates at a time.
8. Undergraduate students may only complete certificates at the undergraduate level. Graduate students may only complete certificates at the graduate level.

Time Limits for Graduate Certificates

All requirements established for the completion of a graduate certificate listed in this publication must be fulfilled within five consecutive years. The time limit is calculated from the term in which you successfully complete the first credit course that applies to the program. It does not include the introductory course DCL 600M but does include courses transferred from other institutions.

Second Certificate

If you have earned a certificate from UMGC and want to pursue an additional certificate at UMGC, you must complete at least 12 credits of new coursework to be eligible. No substitutions to the program are available. If the coursework required for one certificate program significantly overlaps with coursework for another certificate program, it may not be possible for you to earn both certificates. In such cases, you will need to choose an alternate program if you wish to complete another credential at UMGC.

Before beginning work toward or registering for a second certificate program, consult an advisor or a success coach. Advisors or success coaches will be glad to explain the requirements and restricted combinations.

CURRICULA

The following undergraduate certificate programs are available:

- Accounting Foundations
- Advanced Management
- American Government and Political Processes
- Applied Social Sciences
- Artificial Intelligence Foundations
- Augmented and Virtual Reality Design
- Clinical Mental Health Care
- Cloud Computing and Networking
- Computer Networking
- Crime Scene Investigation
- Cyber Threat Hunting
- Data Analytics
- Decision Support for Business
- Digital Design
- Digital Marketing
- Drones and Autonomous Systems
- Fundamentals of Workplace Health and Safety
- Health Information Management and Data Analytics
- HR People Analytics
- Human Resource Management
- Leadership and Ethics
- Machine Learning
- Management
- Management Information Systems
- Project Management
- Public Safety Executive Leadership
- Spanish for Business and the Professions
- Vulnerability Assessment
- Watershed Management
- Web Design
- Women, Gender, and Sexuality Studies

The following graduate certificate programs are available:

- Accounting
- Accounting Information Security
- Acquisition and Contract Management
- Bioinformatics
- Business Analytics
- Cloud Computing and Networking
- Cyber Operations
- Cybersecurity Management and Policy
- Cybersecurity Technology
- Digital Forensics and Cyber Investigation
- Digital Health Leader
- Global Health Management
- Homeland Security Management
- Informatics
- Instructional Technology Integration
- Leadership and Management
- Learning Design and Technology
- Long-Term Care Administration
- Multicultural Marketing
- Project Management
- Strategic Communications
- Strategic Human Resource Management
- Systems Engineering
- Teaching Cybersecurity

TABLE OF CONTENTS
INDEX

Accounting Foundations

The undergraduate certificate program in accounting foundations can help you develop the skills and knowledge needed for business transactions, including critical-thinking skills for analysis and reporting of the economic activities of an organization. It can also supplement an associate or bachelor's degree program.

Overall certificate requirements are listed on p. 169.

TWO REQUIRED COURSES

ACCT 220	Principles of Accounting I (3)
ACCT 221	Principles of Accounting II (3)

FOUR COURSES CHOSEN FROM THE FOLLOWING

Any ACCT course

Any FINC course

BMGT 110	Introduction to Business and Management
CMSC 105	Introduction to Problem-Solving and Algorithm Design
DATA 200	Data Literacy Foundation
ECON 201	Principles of Macroeconomics
ECON 203	Principles of Microeconomics
IFSM 201	Concepts and Application of Information Technology
STAT 200	Introduction to Statistics
WRTG 112	Academic Writing

Total credits for the undergraduate certificate in Accounting Foundations: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Accounting. For details, contact your advisor or success coach.

Advanced Management

Successful managers today require a strong balance of managerial skills and the relationship-building soft skills to manage those who are completing the work. The certificate program in advanced management is designed to help you build expertise by applying best practices to decision-making, problem-solving, and relationship building in real workplace scenarios. The curriculum covers management principles and organizational dynamics for today's global, multicultural, and virtual organizations.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

BMGT 110	Introduction to Business and Management (3)
BMGT 364	Management and Organization Theory (3)
BMGT 484	Organizational Collaboration and Teamwork (3)
BMGT 317	Strategic Decision-Making and Problem-Solving (3)

TWO SUPPORTING ELECTIVES CHOSEN FROM THE FOLLOWING

ACCT 301	Accounting for Managers
BMGT 305	Knowledge Management
BMGT 365	Organizational Leadership
BMGT 380	Business Law I
BMGT 382	Business Ethics
BMGT 464	Organizational Behavior
DATA 200	Data Literacy Foundations
FINC 330	Business Finance
FINC 331	Finance for General Managers
HRMN 202	Organizational Communication
HRMN 300	Human Resource Management
HRMN 367	Organizational Culture and Change
IFSM 300	Information Systems in Organizations
MRKT 210	Marketing Principles

Total credits for the undergraduate certificate in Advanced Management: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Business Administration and Management. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

American Government and Political Processes

The certificate program in American government and political processes provides an in-depth study and analysis of the U.S. government, including its history, structure, and political culture. In this program, you'll analyze the vertical and horizontal structures of the American government and its federal and republican foundations. You'll examine the three federal branches, bureaucracies, and state governments in the context of the development of the American political system and their impact on the political landscape. In addition, the program introduces relevant political theory and compares American government and political economy to those of other nations for a comprehensive overview of political forces.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

GVPT 170	American Government (3)
GVPT 280	Comparative Politics and Governments (3)
GVPT 306	Global Political Economy (3)
GVPT 444	American Political Theory (3)
GVPT 457	American Foreign Policy (3)
GVPT 475	The U.S. Presidency and Executive Branch (3)

Total credits for the undergraduate certificate in American Government and Political Processes: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Political Science. For details, contact your advisor or success coach.

Applied Social Sciences

The certificate program in applied social sciences helps prepare you to apply social science tools and concepts to practical problems. The program helps equip you with updated knowledge and skills for identifying and solving social problems in communities, families, and the workplace. You'll develop a deep understanding of social science concepts and learn to identify stakeholders, apply expert knowledge, communicate evidence, and present and defend solutions to relevant parties.

Overall certificate requirements are listed on p. 169.

TWO REQUIRED COURSES

PSYC 100	Introduction to Psychology (3)
SOCY 100	Introduction to Sociology (3)

FOUR COURSES CHOSEN FROM THE FOLLOWING

ANTH 350	Health, Illness, and Healing
ANTH 351	Anthropology in Forensic Investigations
GERO 427	Culture and Aging
PSYC 354	Cross-Cultural Psychology
PSYC 386	Psychology of Stress
SOCY 350	Contemporary Social Problems

Total credits for the undergraduate certificate in Applied Social Sciences: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Social Science. For details, contact your advisor or success coach.

Artificial Intelligence Foundations

The certificate program in artificial intelligence foundations is designed to equip you with the knowledge and skills needed to lead AI initiatives within your organizations, regardless of your particular field. Specifically tailored for nontechnical professionals and managers, the program helps prepare you to navigate the evolving landscape of artificial intelligence in your respective industry. You'll be able to attain a comprehensive understanding of AI, from introductory concepts to practical AI tools and applications, ethical considerations, and broader implications for both the workplace and society.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

DATA 200	Data Literacy Foundations (3)
ARIN 310	Introduction to Artificial Intelligence (3)
ARIN 320	Artificial Intelligence Applications (3)
ARIN 340	Generative AI (3)
ARIN 350	Responsible AI (3)
ARIN 410	Artificial Intelligence in the Enterprise (3)

Total credits for the undergraduate certificate in Artificial Intelligence Foundations: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Artificial Intelligence. For details, contact your advisor or success coach.

Augmented and Virtual Reality Design

The augmented and virtual reality design certificate program helps provide you with entry-level skills for a career in these immersive technologies. In this project-centric program, you'll be exposed to virtual reality design and augmented reality design, 3D game engines, user experience and interface design, and immersive design techniques.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

CMST 290	Introduction to Interactive Design (3)
CMST 315	Game Design I (3)
CMST 330	Virtual Reality Design I (3)
CMST 331	Augmented Reality Design I (3)
CMST 390	3D Modeling (3)
CMST 490	Virtual World Building (3)

Total credits for the undergraduate certificate in Augmented and Virtual Reality Design: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Web and Digital Design. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Clinical Mental Health Care

The certificate in clinical mental health care is designed to help prepare you for mental health service jobs that do not require licensure or credentialing. It supports work in direct and indirect client care activities performed under the supervision of a licensed professional (e.g., psychologist, medical doctor, social worker, or rehabilitation therapist) across multiple clinical settings (e.g., hospitals, behavioral health agencies, government agencies, and nonprofit organizations). The curriculum provides foundational theoretical and practical coverage of human behavior, mental health, ethics, and current research in the field.*

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

PSYC 100	Introduction to Psychology (3)
PSYC 251	Lifespan Development (3)
PSYC 301	Biological Basis of Behavior (3)
PSYC 335	Theories of Personality (3)
PSYC 353	Psychopathology and Mental Health (3)
PSYC 436	Introduction to Clinical Psychology (3)

Total credits for the undergraduate certificate in Clinical Mental Health Care: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Psychology. For details, contact your advisor or success coach.

Cloud Computing and Networking

The undergraduate certificate in cloud computing and networking is designed to equip you with the technical skills and expertise required to analyze an organization's cloud needs and to secure and maintain the cloud computing infrastructure and systems of an organization. Through real projects aligned to industry certifications and hands-on training in the state-of-art cloud platforms, you'll learn cloud architectural principles and core cloud computing concepts that will help you plan, design, implement, deploy, configure, manage, and operate cloud systems and develop cloud-based applications. You'll also manage risk, policy, compliance, and security issues in AWS, Azure, and GCP cloud infrastructure and services.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

CMIT 202	Fundamentals of Computer Troubleshooting (3)
CMIT 265	Fundamentals of Networking (3)
CMIT 326	Cloud Technologies (3)
CMIT 336	Fundamentals of Microsoft Azure (3)
CMIT 426	Mastering the AWS Cloud (3)
CMIT 436	Security in the Cloud (3)

Total credits for the undergraduate certificate in Cloud Computing and Networking: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Cybersecurity Technology. For details, contact your advisor or success coach.

* The Clinical Mental Health Care certificate is not a licensing credential and is not designed to help prepare you for any industry or state-regulated professional licensure.

TABLE OF CONTENTS
INDEX

Computer Networking

A certificate in computer networking can supplement a bachelor's degree or help you build knowledge and experience in this in-demand field. Ideal for those who want to work as network administrators for business, government, or nonprofit organizations, the undergraduate certificate program in computer networking at UMGC can provide you with hands-on training in state-of-the-art computer technology.

Through the computer networking certificate program, you'll learn about the fundamental aspects of computer troubleshooting, networking, network security, interconnected Cisco devices, and cloud technologies. Plus, you'll get a chance to choose from upper-level courses so you can tailor your degree to your career goals.

Overall certificate requirements are listed on p. 169.

FIVE REQUIRED COURSES

CMIT 202	Fundamentals of Computer Troubleshooting (3)
CMIT 265	Fundamentals of Networking (3)
CMIT 320	Network Security (3)
CMIT 326	Cloud Technologies (3)
CMIT 351	Switching, Routing, and Wireless Essentials (3)

A SUPPORTING ELECTIVE CHOSEN FROM ANY UPPER-LEVEL CMIT COURSES

Total credits for the undergraduate certificate in Computer Networking: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Cybersecurity Technology. For details, contact your advisor or success coach.

Crime Scene Investigation

The certificate in crime scene investigations is designed to provide the best practices associated with crime scene investigation, as well as the legal and ethical standards these practices are modeled after. In this program, you'll learn to identify and describe the relationships between crime scene investigations, forensic science, and criminal prosecutions. You'll have the opportunity to develop specialized skills, such as fingerprint analysis and classification, and become familiar with the manner in which death investigations are properly conducted. The curriculum is based on the expectations articulated by law enforcement employers and the critical knowledge, skills, and abilities identified by certifying bodies in the field of crime scene investigations.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

CCJS 101	Introduction to Investigative Forensics (3)
CCJS 234	Criminal Procedure and Evidence (3)
CCJS 320	Introduction to Criminalistics (3)
CCJS 342	Crime Scene Investigation (3)
CCJS 420	Medical and Legal Investigations of Death (3)
CCJS 440	Fingerprint Analysis (3)

Total credits for the undergraduate certificate in Crime Scene Investigation: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Criminal Justice. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Cyber Threat Hunting

Organizations today must continuously hunt for cyber threats, since the threat scenario is constantly shifting and no software environment is secure from all threats. This certificate program provides an introduction to the concept of cyber threat hunting. In this program, you'll learn fundamental techniques and methods for uncovering threats.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

CMIT 265	Fundamentals of Networking (3)
CMIT 291	Introduction to Linux (3)
CMIT 320	Network Security (3)
CMIT 321	Ethical Hacking (3)
CMIT 386	Penetration Testing and Cyber Red Teaming (3)
CMIT 421	Threat Management and Vulnerability Assessment (3)

Total credits for the undergraduate certificate in Cyber Threat Hunting: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Cybersecurity Technology. For details, contact your advisor or success coach.

Data Analytics

Today, employers are looking to hire professionals who possess data analytics skills and can inform and enhance decision-making within corporations, nonprofit organizations, government agencies, or the military. The certificate program in data analytics provides a valuable introduction to data science and can enhance your career opportunities, regardless of your major. In this program, you'll learn how to manage and manipulate data, create data visualizations, and use cutting-edge technology to gain insights from traditional and emerging data sources to make strategic data-driven recommendations that influence managerial decision-making and organizational outcomes.

Overall certificate requirements are listed on p. 169.

FIVE REQUIRED COURSES

STAT 200	Introduction to Statistics (3)
DATA 200	Data Literacy Foundations (3)
DATA 320	Introduction to Data Analytics (3)
DATA 330	Business Intelligence and Data Management (3)
DATA 335	Data Visualization (3)

AN UPPER-LEVEL COURSE CHOSEN FROM THE FOLLOWING

CSIA 300	Cybersecurity for Leaders and Managers
DATA 300	Foundations of Data Science

Total credits for the undergraduate certificate in Data Analytics: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Data Science. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Decision Support for Business

The certificate program in decision support for business focuses on building leadership skills in thinking creatively and strategically about both business administration and information systems in the workplace to achieve organizational success. In this program, you'll explore the foundations of business administration, leadership, management, marketing, finance/accounting, and information systems to gain appropriate insights, improve operations, make on-target predictions, and achieve a competitive advantage in today's global business environment.

Overall certificate requirements are listed on p. 169.

ONE COURSE CHOSEN FROM THE FOLLOWING

IFSM 300	Information Systems in Organizations
DATA 200	Data Literacy Foundations

FIVE REQUIRED COURSES

BMGT 364	Management and Organization Theory (3)
BMGT 365	Organizational Leadership (3)
FINC 330	Business Finance (3)
MRKT 210	Marketing Principles (3)
BMGT 495	Business Administration and Management Capstone (3)

Total credits for the undergraduate certificate in Decision Support for Business: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Business Administration and Management. For details, contact your advisor or success coach.

Digital Design

The digital design certificate program provides you with entry-level skills for a career in digital and computer graphics design. The project-centric program exposes you to elements of design, electronic publishing, image editing, illustration graphics, motion graphics, ethical and legal considerations, digital design applications, theories, industry best practices, and design techniques, as well as various career paths.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

CMST 295	Fundamentals of Digital Design (3)
CMST 310	Fundamentals of Electronic Publishing (3)
CMST 311	Advanced Electronic Publishing (3)
CMST 320	Illustration Graphics (3)
CMST 325	Image Editing (3)
CMST 341	Principles of Multimedia I (3)

Total credits for the undergraduate certificate in Digital Design: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Web and Digital Design. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Digital Marketing

The digital marketing certificate comprehensively covers the key digital marketing skill areas, including search engine optimization, social media marketing, customer relationship marketing, email marketing, and digital analytics. In this program, you'll use cutting-edge digital marketing tools and be able to gain industry insights and knowledge from experienced professionals. The curriculum is designed to help provide you with practical skills and a portfolio of work that can benefit your professional endeavors.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

MRKT 311	Digital Marketing Principles (3)
MRKT 354	Integrated Marketing Communications (3)
MRKT 356	Email Marketing (3)
MRKT 394	Managing Customer Relationships in Digital Marketing (3)
MRKT 411	Consumer Behavior in Digital Media (3)
MRKT 458	Social Media Marketing (3)

Total credits for the undergraduate certificate in Digital Marketing: 18

Program Accreditation

This certificate program has been accredited by the Digital Marketing Institute, a leading professional organization in the area of digital marketing.

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Marketing. For details, contact your advisor or success coach.

Drones and Autonomous Systems

Drones are being used by public safety and emergency management agencies across the U.S. after disasters like floods, tornadoes, earthquakes, hurricanes, and storms. The drones and autonomous systems certificate program is designed to provide you with knowledge and information you can apply to a career in a multitude of industries and organizations using drone technology. The program offers an overview of and introduction to drones and autonomous systems, including general applications, common terms and definitions, and history and background. You'll learn how emerging commercial-off-the-shelf technologies have provided breakthroughs in the public, defense, and commercial sectors.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

DRON 300	Fundamentals of Drones and Autonomous Systems (3)
DRON 305	Applications of Drones and Autonomous Systems (3)
DRON 310	Regulations of Drones and Autonomous Systems (3)
DRON 315	Emerging and Future Technologies of Drones and Autonomous Systems (3)

TWO SUPPORTING ELECTIVES CHOSEN FROM THE FOLLOWING

CCJS 100	Introduction to Criminal Justice
CCJS 340	Law Enforcement Administration
PSAD 302	Concepts of Emergency Management
PSAD 410	Public Safety Research and Technology
EMGT 302	Concepts of Emergency Management
EMGT 304	Emergency Response Preparedness and Planning
HMLS 302	Introduction to Homeland Security
HMLS 406	Legal and Political Issues of Homeland Security

Total credits for the undergraduate certificate in Drones and Autonomous Systems: 18

TABLE OF CONTENTS
INDEX

Fundamentals of Workplace Health and Safety

The certificate program in fundamentals of workplace health and safety introduces you to the field of environmental health and safety and provides continuing professional development opportunities for workers in related fields (e.g., business administration, health services, human resources, and laboratory management).

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

ENHS 310	Hazardous Substances and Toxicology (3)
ENHS 315	Risk Assessment in Environmental Health and Safety (3)
ENHS 320	Incident Response and Investigation (3)
ENHS 325	Fire Prevention and Protection (3)
ENHS 335	Occupational Health and Industrial Hygiene (3)
ENHS 400	Ergonomics and Human Factors (3)

Total credits for the undergraduate certificate in Fundamentals of Workplace Health and Safety: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Environmental Health and Safety. For details, contact your advisor or success coach.

Health Information Management and Data Analytics

The certificate program in health information management and data analytics is designed to help equip you with knowledge of the U.S. healthcare system and the skills needed for healthcare organizational management. In this program, you'll learn methods of health information management and technologies for collecting, storing, retrieving, and processing healthcare data. In addition, you'll learn how to analyze, interpret, and present that data using appropriate statistical tools and techniques for healthcare decision-making. You'll apply managerial epidemiology tools and evidence in decision-making and acquire skills in planning and resolving diverse healthcare issues.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

HMGT 300	Introduction to the U.S. Healthcare Sector (3)
IFSM 305	Information Systems in Healthcare Organizations (3)
STAT 200	Introduction to Statistics (3)
HMGT 307	Managerial Epidemiology and Decision-Making in Healthcare (3)
HMGT 320	Management in Healthcare Organizations (3)
HMGT 400	Research and Data Analysis in Healthcare (3)

Total credits for the undergraduate certificate in Health Information Management and Data Analytics: 18

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the Certified Digital Health Professional (CDH-P) certification exam.

Program Accreditation

UMGC's undergraduate certificate in health information management and data analytics is accredited until 2030 by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 200 East Randolph Street, Suite 5100, Chicago, IL, 60601. CAHIIM is a specialized accrediting agency recognized by the Council for Higher Education Accreditation.

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Health Services Management. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

HR People Analytics

The HR people analytics certificate program is designed to provide a comprehensive understanding of human resource functions—such as resource planning; recruitment, selection, placement, and orientation of employees; training and career development; labor relations; performance appraisal and rewards programs; and development of personnel policies and procedures—in private- and public-sector settings.

The program provides a data-driven approach toward human resource management that involves collecting, analyzing, and reporting HR data. In this program, you'll learn the skills you need to measure the impact of a range of HR metrics on overall business performance and make effective business decisions based on HR-related data.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

BMGT 364	Management and Organization Theory (3)
FINC 331	Finance for General Managers (3)
HRMN 300	Human Resource Management (3)
HRMN 400	Talent Acquisition and Management (3)
HRMN 410	Information Systems and Metrics Analysis (3)
IFSM 300	Information Systems in Organization (3)

Total credits for the undergraduate certificate in HR People Analytics: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Human Resource Management. For details, contact your advisor or success coach.

Human Resource Management

The human resource management certificate program at UMGC can help provide the theoretical and practical knowledge you need to advance and skills you can apply on the job right away.

In your HR management certificate program, you'll learn how to resolve problems in the workplace via conflict management, approach the workplace and employees with a sensitivity to cultural diversity, develop programs for rewarding employees, and help employees reach their full potential.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

BMGT 364	Management and Organization Theory (3)
HRMN 300	Human Resource Management (3)
HRMN 362	Labor Relations (3)
HRMN 400	Talent Acquisition and Management (3)

TWO SUPPORTING ELECTIVES CHOSEN FROM THE FOLLOWING

BMGT 365	Organizational Leadership
BMGT 464	Organizational Behavior
HRMN 202	Organizational Communication
HRMN 367	Organizational Culture and Change
HRMN 395	The Total Awards Approach to Compensation Management
HRMN 406	Employee Training and Development
HRMN 495	Human Resource Management Capstone

Total credits for the undergraduate certificate in Human Resource Management: 18

Related Degree Program

Coursework for his certificate can be applied to a Bachelor of Science in Human Resource Management. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Leadership and Ethics

The certificate program in leadership and ethics is designed for business managers, organizational leaders, entrepreneurs, legal professionals, and individuals seeking to become effective leaders in public and private global organizations, both for-profit and not-for-profit. The program examines the elements of thoughtful and responsible leadership and allows you to explore issues of ethics related to business administration, leadership, and organizations. In this program, you'll learn how to practice ethical leadership, executive decision-making, and corporate social responsibility. You'll also learn about leadership theory and practice, conflicts of interest, and organizational culture.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

BMGT 364	Management and Organization Theory (3)
BMGT 365	Organizational Leadership (3)
BMGT 382	Business Ethics (3)
HRMN 300	Human Resource Management (3)
BMGT 110	Introduction to Business and Management (3)
BMGT 380	Business Law I (3)

Total credits for the undergraduate certificate in Leadership and Ethics: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Business Administration and Management. For details, contact your advisor or success coach.

Machine Learning

Machine learning affects all industry sectors that generate significant amounts of data. The certificate program in machine learning combines study of methods and software tools to develop predictive models and artificial intelligence solutions. It can help prepare you for in-demand positions, such as machine learning engineer, applied machine learning scientist, artificial intelligence engineer, artificial intelligence specialist, and data scientist, among others.

The program can serve as an excellent supplement to a wide range of majors—including cybersecurity, environmental health and safety, computer science, and biotechnology—beyond data science.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

STAT 200	Introduction to Statistics (3)
DATA 300	Foundations of Data Science (3)
DATA 320	Introduction to Data Analytics (3)
DATA 430	Foundations of Machine Learning (3)
ARIN 450	Data Ethics (3) *or* ARIN 350 Responsible AI
ARIN 460	Artificial Intelligence Solutions (3)

Total credits for the undergraduate certificate in Machine Learning: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Artificial Intelligence or the Bachelor of Science in Data Science. For details, contact your advisor or success coach.

Management

Today, many workplaces require knowledge of management principles from multiple disciplines. The certificate in management can help you gain knowledge and skills by focusing on fundamental concepts of business management and leadership, problem-solving, and effective data communication strategies.

Overall certificate requirements are listed on p. 169.

ONE REQUIRED COURSE

BMGT 110	Introduction to Business and Management (3)

FIVE COURSES CHOSEN FROM THE FOLLOWING

ACCT 220	Principles of Accounting I
ACCT 221	Principles of Accounting II
ECON 201	Principles of Macroeconomics
ECON 203	Principles of Microeconomics
IFSM 201	Concepts and Applications of Information Technology
STAT 200	Introduction to Statistics

Total credits for the undergraduate certificate in Management: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Business Administration and Management. For details, contact your advisor or success coach.

Management Information Systems

The management information systems certificate program provides you with entry-level skills for a career in information systems. It is especially helpful if you are looking to move into a management position in information systems and bridge the gap between an organization's functional users and technical developers.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

CSIA 300	Cybersecurity for Leaders and Managers (3)
IFSM 300	Information Systems in Organizations (3)
FINC 331	Finance for General Managers (3)
IFSM 310	Software and Hardware Infrastructure Concepts (3)
IFSM 370	Telecommunications in Information Systems (3)
DATA 330	Business Intelligence and Data Management (3)

Total credits for the undergraduate certificate in Management Information Systems: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Management Information Systems. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Project Management

The undergraduate project management certificate program at UMGC can help prepare you for supervisory and midlevel management positions involving project management and team management. If you're a project manager, project team member, or otherwise assigned to project teams within a private- or public-sector organization, this certificate program can help you upgrade your skills with theoretical and practical knowledge to advance to a higher level.

In your project management courses, you'll learn to bring a project full cycle from development to completion. You'll also work with a variety of tools designed specifically for project management and work hands-on with federal contracts to become familiar with processes and issues.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

BMGT 487	Project Management I (3)
BMGT 488	Project Management II (3)
IFSM 438	Information Systems Project Management (3)
IFSM 441	Agile Project Management (3)

TWO SUPPORTING ELECTIVES CHOSEN FROM THE FOLLOWING

BMGT 317	Strategic Decision-Making and Problem-Solving
BMGT 339	Introduction to Federal Contracting
BMGT 365	Organizational Leadership
BMGT 484	Organizational Collaboration and Teamwork
IFSM 300	Information Systems in Organizations

Total credits for the undergraduate certificate in Project Management: 18

Public Safety Executive Leadership

Develop the executive leadership skills needed to succeed in the public safety professional environment. There is currently strong demand for leadership education for public safety officials at the federal, state, and local government levels, as well as throughout the private sector. This certificate should be of professional benefit to both current and future public safety officials employed in public safety planning, public safety legal issues, public policy, public safety research and technology, and public safety leadership.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

PSAD 304	Contemporary Public Safety Practices (3)
PSAD 306	Public Safety Planning (3)
PSAD 408	Public Safety Legal Issues and Public Policy (3)
PSAD 410	Public Safety Research and Technology (3)
PSAD 416	Public Safety Leadership (3)
PSAD 414	Public Safety Administration Ethics (3)

Total credits for the undergraduate certificate in Public Safety Executive Leadership: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Public Safety Administration. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Spanish for Business and the Professions

Through the certificate program in Spanish for business and the professions at UMGC, you'll benefit from a combination of language and professional study that will build a foundation to enhance your résumé and prepare you to work and communicate in a variety of Spanish-speaking environments.

This program is ideal for those who are in a professional or social setting where Spanish is often spoken.

In your online Spanish classes, you'll not only learn the language but also explore contexts and practices specific to the Spanish-speaking world. You'll use your knowledge of diverse business cultures to communicate and interact effectively in a business environment.

Note: This certificate is not intended for students who already have native or near-native ability in Spanish. If you have prior experience in the Spanish language, you should contact the department at *languages@umgc.edu* about a placement test. If you have little or no experience in the Spanish language, some prerequisites may need to be fulfilled before beginning certificate courses.

Overall certificate requirements are listed on p. 169.

FOUR COURSES CHOSEN FROM THE FOLLOWING

SPAN 211 Intermediate Spanish I

SPAN 212 Intermediate Spanish II

Any 300- or 400-level SPAN course taught in Spanish

ONE OF THE FOLLOWING COURSES

SPAN 418 Business Spanish I

SPAN 419 Business Spanish II

Total credits for the undergraduate certificate in Spanish for Business and the Professions: 16

Vulnerability Assessment

The vulnerability assessment certificate program is designed to provide you with the knowledge and skills needed to examine software for embedded vulnerabilities—whether they are accidental or malicious—that create weaknesses that may be exploited by hackers. In this program, you'll learn techniques to identify such flaws in software.

Overall certificate requirements are listed on p. 169.

SIX OR SEVEN REQUIRED COURSES

CMSC 105 Introduction to Problem-Solving and Algorithm Design (3)
or prior programming experience

CMSC 115 Introductory Programming (3)

CMSC 215 Intermediate Programming (3)

CMSC 320 Relational Database Concepts and Applications (3)

CYOP 300 Building Secure Python Applications (3)

CYOP 325 Detecting Software Vulnerabilities (3)

CYOP 360 Secure Software Engineering (3)

For more information about documenting your prior programming experience, contact your advisor or success coach.

Total credits for the undergraduate certificate in Vulnerability Assessment: 18–21

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Cyber Operations. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Watershed Management

Watershed management plays a crucial role in protecting water quality and aquatic ecosystems, preventing water pollution, decreasing flood risk, and minimizing other human and environmental health impacts related to polluted runoff. The certificate program in watershed management is designed to help prepare you for careers with local, state, and federal government agencies and industry, consulting, and nongovernmental organizations implementing watershed and stormwater management programs with a focus on design principles. You'll learn about geospatial analyses and the biophysical and social impacts of human activities on watersheds. The program offers you an opportunity to practice collaborative and community-based approaches for reducing stormwater impacts to watersheds. Activities emphasize how to effectively manage watersheds for reducing the impact of land development, industrial processes, and everyday human activities.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

ENHS 300	Environmental Systems (3)
ENHS 305	Environmental Health and Safety Regulations (3)
EHNS 340	Environmental Technology and Control (3)
ENHS 350	Introduction to Geographic Information Systems (3)
ENHS 360	Introduction to Watershed Management (3)
ENHS 405	Pollution Prevention Strategies (3)

Total credits for the undergraduate certificate in Watershed Management: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Environmental Health and Safety. For details, contact your advisor or success coach.

Web Design

The web design certificate program provides you with entry-level skills for a career in web design. This project-centric program exposes you to responsive web design, industry best practices, cascading style sheets (CSS), HTML5 coding, content management systems, and JavaScript technologies, as well as ethical and legal considerations. Career paths are also explored.

Overall certificate requirements are listed on p. 169.

SIX REQUIRED COURSES

CMST 290	Introduction to Interactive Design (3)
CMST 295	Fundamentals of Digital Design (3)
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 355	Content Management Systems (3)

Total credits for the undergraduate certificate in Web Design: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Web and Digital Design. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Women, Gender, and Sexuality Studies

The certificate program in women, gender, and sexuality studies provides an interdisciplinary study of gender and sexuality. You'll examine how these concepts differ across cultures and through time, with an eye toward understanding the diversity of expressions of gender and sexuality in contemporary society and applying that understanding to your personal, professional, and educational contexts.

Overall certificate requirements are listed on p. 169.

ONE REQUIRED COURSE

WMST 200	Introduction to Women, Gender, and Sexuality Studies (3)

FIVE COURSES CHOSEN FROM THE FOLLOWING

BEHS 220	Diversity Awareness
BEHS 250	Social Justice Movements
BEHS 343	Parenting Today
BEHS 453	Domestic Violence
ENGL 250	Introduction to Women's Literature
GERO 311	Gender and Aging
HIST 377	U.S. Women's History: 1870 to 2000
PSYC 332	Psychology of Human Sexuality
SOCY 325	The Sociology of Gender
SOCY 443	Sociology of the Family
SOCY 462	Women in the Military
SPCH 324	Communication and Gender

Total credits for the undergraduate certificate in Women, Gender, and Sexuality Studies: 18

Related Degree Program

Coursework for this certificate can be applied to a Bachelor of Science in Social Science. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Accounting

The graduate certificate in accounting builds professional knowledge and cutting-edge technology skill sets in accounting, data analytics, and information systems. Focus is on the budgeting, data analytics, reporting, and systems management skills needed to transform financial data into useful information for management decision-making.

The program is designed to help you learn new skills to prepare for positions such as controller, managing partner, or senior accountant. If you are a midcareer professional or a career changer, you should benefit from the focus on the ability to communicate financial information with high-level decision-makers using the advanced accounting knowledge that every business needs.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

FIVE REQUIRED COURSES

ACCT 610	Financial Reporting and Analysis for Accountants (3)
ACCT 611	Managerial Accounting Data Analytics (3)
ACCT 613	Tax Compliance and Planning (3)
ACCT 618	Accounting Information Systems (3)
ACCT 628	Auditing and Attestation (3)

ONE COURSE CHOSEN FROM THE FOLLOWING

ACCT 625	Government and Not-for-Profit Accounting
ACCT 630	Fraud Examination
ACCT 635	Ethics and Professional Responsibilities for Accounting
ACCT 640	Accounting in a Global Context
ACCT 686	Workplace Learning in Accounting

Total credits for the graduate certificate in Accounting: 18

COURSE SEQUENCING

Required courses should be taken before elective courses.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in accounting, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Accounting by up to 9 credits (three courses). Details are on p. 21.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Management with a concentration in accounting. For details, contact your advisor or success coach.

Accounting Information Security

The graduate certificate program in accounting information security focuses on the development of synergistic knowledge and cutting-edge technology skill sets in cyberaccounting, data analytics, and information systems. In this program, you'll build skills to manage accounting information systems and conduct fraud examinations. You'll explore cyberaccounting, management, and compliance with a focus on audit readiness and audit procedures.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

SIX REQUIRED COURSES

ACCT 610	Financial Reporting and Analysis for Accountants (3)
INFA 610	Foundations of Information Security and Assurance (3)
ACCT 618	Accounting Information Systems (3)
ACCT 628	Auditing and Attestation (3)
ACCT 620	CyberAccounting: Management and Compliance (3)
ACCT 630	Fraud Examination (3)

Total credits for the graduate certificate in Accounting Information Security: 18

COURSE SEQUENCING

All courses must be taken in the order listed.

TABLE OF CONTENTS
INDEX

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in accounting, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Accounting by up to 6 credits (two courses). Details are on p. 21.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in CyberAccounting. For details, contact your advisor or success coach.

Acquisition and Contract Management

The acquisition and contract management certificate program addresses many challenges faced by government contracting for specialized acquisitions, including service, research and development, and information technology contracts.

Overall certificate requirements are listed on p. 169.

THREE REQUIRED COURSES

DCL 600M	Decisive Thinking, Communicating, and Leading in Multidisciplinary Fields (6)
ACM 610	Fundamentals of Acquisition Planning and Cost Price Analysis (6)
ACM 620	Sourcing Decisions and Legal Considerations in Contracting (6)

Total credits for the graduate certificate in Acquisition and Contract Management: 18

COURSE SEQUENCING

All courses must be taken in the order listed.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Acquisition and Contract Management. For details, contact your advisor or success coach.

Bioinformatics

Bioinformatics is a blend of biology, computer science, and mathematics. The certificate program in bioinformatics can help prepare you to become a qualified bioinformatics professional for public- or private-sector organizations. You'll gain cutting-edge knowledge, and you'll also develop experience in the field, which can give you an advantage in the job market.

The bioinformatics curriculum covers a broad range of subjects at the interface of molecular biology and computational science. You'll gain real-world experience through interactions with biotechnology companies and learn from case studies of companies tackling real challenges.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

FIVE REQUIRED COURSES

BIOT 630	Introduction to Bioinformatics (3)
BIFS 613	Statistical Processes for Biotechnology (3)
BIFS 614	Data Structures and Algorithms (3)
BIFS 617	Advanced Bioinformatics (3)
DBST 651	Relational Database Systems (3)

Total credits for the graduate certificate in Bioinformatics: 15

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Biotechnology with a concentration in bioinformatics. For details, contact your advisor or success coach.

Business Analytics

The graduate certificate program in business analytics combines study in technical and business disciplines to help you become a powerful data analyst with strong career potential. You'll learn how to manage and manipulate data and make strategic data-driven recommendations to influence business outcomes.

The curriculum is crafted, reviewed, and updated by a team of advisors and industry experts to ensure that what you learn aligns with the trends and technologies in the workplace today.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

DATA 605	Decision Analytics (3)
DATA 615	AI Ethics (3)
DATA 625	Data Visualization (3)
DATA 635	Data Management (3)

Total credits for the graduate certificate in Business Analytics: 12

COURSE SEQUENCING

Courses must be taken in the order listed.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in data science, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Business Analytics by 6 credits (two courses). Details are on p. 21.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Data Analytics. For details, contact your advisor or success coach.

Cloud Computing and Networking

In the cloud computing and networking certificate program, you'll master the concepts underlying cloud computing, cloud services, and cloud applications and understand the benefits and risks associated with moving to cloud-based services. You'll learn about different cloud development platforms and the fundamental processes associated with implementing and moving to cloud-based services.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

CLCS 605	Introduction to Cloud Computing (3)
CLCS 615	Cloud Services and Technologies (3)
CLCS 625	Applications of Cloud Computing (3)
CLCS 635	Networking Engineering for Cloud Computing (3)

Total credits for the graduate certificate in Cloud Computing and Networking: 12

COURSE SEQUENCING

All courses must be taken in the order listed.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Cloud Computing Systems. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Cyber Operations

In the cyber operations certificate program, you'll learn the essential aspects of cyber operations and related areas such as risk analysis, cyber defense, and cryptography. You'll also learn how to build defense as an integral part of a computing system and how to detect and defend against vulnerabilities and intrusions on a variety of platforms.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

CYOP 605	Introduction to Cyber Operations (3)
CYOP 615	Networking and Communication Technologies (3)
CYOP 625	Legal, Ethical, and Forensic Foundations (3)
CYOP 635	Computing and Mathematics for Cyber Operations (3)

Total credits for the graduate certificate in Cyber Operations: 12

COURSE SEQUENCING

All courses must be taken in the order listed.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cyber operations, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Cyber Operations by 9 credits (three courses). Details are on p. 21.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Cyber Operations. For details, contact your advisor or success coach.

Cybersecurity Management and Policy

In the graduate certificate program in cybersecurity management and policy, you'll examine governmental and organizational responses to cybersecurity threats. You'll assess technical and organizational controls that can prevent and detect cyber intrusions and create and assess policies and procedures to restore operations after a cyberattack. You'll explore the legal foundations of cybersecurity and the roles of government, international, and private organizations. The program also provides you with a broad analytical framework for evaluating and solving cybersecurity problems. The curriculum features emerging topics in the field and was developed with the help of an advisory board of senior security executives, so what you're learning is on the cutting edge of cybersecurity.

UMGC was named a National Center of Academic Excellence in Cyber Defense Education (CAE-CDE) by the National Security Agency.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

CMAP 605	Foundations of Cybersecurity Management (3)
CMAP 615	Cybersecurity Defense Strategies (3)
CMAP 625	Cybersecurity Risk Management (3)
CMAP 635	Cybersecurity Governance (3)

Total credits for the graduate certificate in Cybersecurity Management and Policy: 12

COURSE SEQUENCING

All courses must be taken in the order listed.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cybersecurity management and policy, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Cybersecurity Management and Policy by 9 credits (three courses). Details are on p. 22.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Cybersecurity Management and Policy. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Cybersecurity Technology

The graduate certificate program in cybersecurity technology provides you with the most current knowledge and skills for protecting critical cyber infrastructure and assets. In this program, you'll learn concepts, real-world applications, and practical skills you can apply on the job. The curriculum features emerging topics in the field and was developed with the help of an advisory board of senior security executives, so what you're learning is on the cutting edge of cybersecurity.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

CTCH 605	Introduction to Cybersecurity (3)
CTCH 615	Cybersecurity Threats and Analysis (3)
CTCH 625	Cybersecurity for Systems and Networks (3)
CTCH 635	Cybersecurity Attack Prevention Strategies (3)

Total credits for the graduate certificate in Cybersecurity Technology: 12

COURSE SEQUENCING

All courses must be taken in the order listed.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in cybersecurity technology, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Cybersecurity Technology by 9 credits (three courses). Details are on p. 22.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Cybersecurity Technology. For details, contact your advisor or success coach.

Digital Forensics and Cyber Investigation

In the digital forensics and cyber investigation certificate program, you'll examine the foundations of digital forensics and become familiar with industry-standard tools and procedures that are used in conducting forensics investigations related to cybersecurity. Through this program, you'll learn how to secure and validate digital evidence, recover and analyze digital artifacts, and report and present findings in legal settings.

UMGC was named a National Center of Academic Excellence in Cyber Defense (CAE-CD) by the National Security Agency. UMGC is also a designated National Center of Digital Forensics Academic Excellence (CDFAE) institution.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

DFCS 605	Digital Forensic and Cyber Investigation Foundations (3)
DFCS 615	Collection and Examination of Digital Evidence (3)
DFCS 625	Windows Forensics and Security (3)
DFCS 635	Linux Forensics and Security (3)

Total credits for the graduate certificate in Digital Forensics and Cyber Investigation: 12

COURSE SEQUENCING

All courses must be taken in the order listed.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Digital Forensics and Cyber Investigation. For details, contact your advisor or success coach.

Digital Health Leader

The digital health leader certificate program is designed to help prepare you to serve as a leader in advancing organizational maturity within health institutions through the use of digital tools. In this program, you'll learn how medical equipment and biomedical engineering are integrated into hospital systems. You'll also map relationships between individual components of the healthcare ecosystem to advance digital health component integration into healthcare operations.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

SIX REQUIRED COURSES

HCAD 600	Introduction to Healthcare Administration (3)
HCAD 610	Information Technology for Healthcare Administration (3)
HIMS 645	Healthcare Databases and Medical Technology Integration (3)
HIMS 650	Health Informatics and Data Analytics (3)
HIMS 655	Health Data Management (3)
HIMS 661	The Application of Information Technology in Healthcare Administration (3)

Total credits for the graduate certificate in Digital Health Leader: 18

COURSE SEQUENCING

Courses must be taken in the order listed.

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the Certified Digital Health Leader (CDH-L) certification exam.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in health services management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Digital Health Leader by 6 credits (two courses). Details are on p. 23.

Program Accreditation

UMGC's graduate certificate in Digital Health Leader is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) until 2030. CAHIIM is a specialized accrediting agency recognized by the Council for Higher Education Accreditation.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Health Information Management and Technology. For details, contact your advisor or success coach.

Global Health Management

The graduate certificate in global health management is designed to help you formulate global health services policies, improve quality of care and service delivery within different national health systems, plan health programs within diverse cultures, and manage global health programs. The curriculum covers international health organizations, health systems and policies in low- and middle-income countries, and management and financial skills.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

THREE REQUIRED COURSES

HCAD 630	Public Health Administration (3)
GHMT 620	National and International Approaches to Healthcare Delivery (3)
GHMT 640	Strategic Management of Global Health Services (6)

Total credits for the graduate certificate in Global Health Management: 12

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Healthcare Administration. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Homeland Security Management

In the graduate certificate program in homeland security management, you'll gain practical experience in performing security risk assessments, planning for and managing risk and operational recovery, and developing strategies to protect people, facilities, and critical infrastructure.

Your coursework for the graduate certificate in homeland security management covers issues in emergency management, cybersecurity, bioterrorism, energy security, and business management. You'll use real data from real crises in assignments and projects and practice making executive-level decisions.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

FIVE REQUIRED COURSES

HSMN 610	Concepts in Homeland Security (3)
HSMN 625	Critical Infrastructures (3)
HSMN 630	Resilience Planning and Preparedness for Disaster Response and Recovery (3)
INFA 660	The Law, Regulation, and Ethics of Information Assurance (3)
EMAN 620	Information Technology in Emergency Management (3)

Total credits for the graduate certificate in Homeland Security Management: 15

COURSE SEQUENCING

HSMN 610 must be taken as one of the first two credit-bearing courses in the program.

Related Degree Program

Coursework for this certificate can be applied to either a Master of Science in Management or a Master of Science in Information Technology with a concentration in homeland security management. For details, contact your advisor or success coach.

Informatics

You can strengthen your technical skills as you learn the business of IT by earning a certificate in informatics. The graduate certificate program in informatics gives you a strong foundation in all major categories of IT management and can help you develop advanced skills in networking, security, software development, databases, web design, and IT acquisitions.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

FIVE REQUIRED COURSES

ITEC 610	Information Technology Foundations (3)
ITEC 626	Information Systems Infrastructure (3)
DBST 651	Relational Database Systems (3)
INFA 610	Foundations of Information Security and Assurance (3)
IMAT 637	IT Acquisitions Management (3)

Total credits for the graduate certificate in Informatics: 15

COURSE SEQUENCING

All courses should be taken in the order listed.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Information Technology with a concentration in informatics. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Instructional Technology Integration

In the instructional technology integration certificate program, you'll gain advanced skills in curriculum and instruction, technology integration, and leadership in pre-K through grade 12 education. You'll have an opportunity to develop expertise in current and emerging instructional technologies, gain a deep understanding of the role of technology in the contemporary school, and lead change efforts to improve student achievement.

The instructional technology integration courses, developed in conjunction with leaders in P–12 education, can help you design technology-rich learning environments, including selecting tools, integrating media, performing data analysis, and creating standards-based lessons and activities.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

FOUR REQUIRED COURSES

INST 600 Technology Integration in the Contemporary Classroom (3)

INST 605 Designing Learner-Centered Environments (3)

INST 610 Digital Identity and Critical Media Analysis (3)

INST 615 Learning Analytics and Adaptation (3)

Total credits for the graduate certificate in Instructional Technology Integration: 12

COURSE SEQUENCING

Courses must be taken in the order listed; courses listed as prerequisite or corequisite may be taken concurrently.

Related Degree Program

Coursework for this certificate can be applied to a Master of Education in Instructional Technology. For details, contact your advisor or success coach.

Leadership and Management

Prepare to become a leader in the workforce. The graduate certificate program in leadership and management is designed to provide you with the skills and leadership ability to navigate a variety of workplaces. You'll gain a foundation in organizational and management theory as well as skills in decision-making, communication, strategic planning, and coaching and managing others.

The curriculum has been developed in conjunction with top employers. Topics such as organizational development and the management of change, leadership in diverse environments, employee relations, staffing, and human resource development will help you graduate with leadership skills you can apply immediately in the workplace.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

FOUR REQUIRED COURSES

MGMT 610 Management and Leadership in Sustainable Organizations (3)

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)

HRMD 610 Issues and Practices in Human Resource Management (3)

HRMD 650 Organizational Development and Change (3)

Total credits for the graduate certificate in Leadership and Management: 12

COURSE SEQUENCING

MGMT 610 must be taken within the first 6 credits.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Management with a concentration in interdisciplinary studies or a concentration in human resource management. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Learning Design and Technology

In the learning design and technology certificate program, you'll apply learning theory, emerging technologies, and contemporary design models to design, create, and publish effective online courses. You'll also explore project management for designers, the creation of accessible media and learning resources, and the learning design-thinking approach to managing the design cycle.

This program provides you with a broad instructional design framework and technical skills to create engaging online learning experiences for education and business.

The curriculum features emerging topics in the field and real-world projects to provide you with up-to-date, career-focused experience, so what you're learning is on the cutting edge of instructional design.

Overall certificate requirements are listed on p. 169.

FOUR REQUIRED COURSES

LDTC 600	Learning Theories and Learner Analysis in Learning Design (3)
LDTC 605	Instructional Design Models to Inform Learning Design (3)
LDTC 610	Instructional Media in Learning Design (3)
LDTC 615	UX and UI Design in Course Development (3)

Total credits for the graduate certificate in Learning Design and Technology: 12

COURSE SEQUENCING

All courses must be taken in the order listed.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Learning and Design Technology. For details, contact your advisor or success coach.

Long-Term Care Administration

The long-term care administration certificate program is designed to help prepare you for administrative and managerial positions in various long-term care settings and to give you an immediate competitive advantage in the employment market. The program provides an in-depth examination of the U.S. healthcare delivery system throughout the continuum of care. In this program, you'll gain the tools and skills necessary to be successful in the long-term care industry by addressing real-world scenarios and situations.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

FIVE REQUIRED COURSES

HCAD 600	Introduction to Healthcare Administration (3)
HCAD 610	Information Technology for Healthcare Administration (3)
HCAD 620	The U.S. Healthcare System (3)
HCAD 625	Business of Healthcare (3)
HCAD 635	Long-Term Care Administration (3)

Total credits for the graduate certificate in Long-Term Care Administration: 15

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in health services management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Long-Term Care Administration by 6 credits (two courses). Details are on p. 23.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Healthcare Administration. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

Multicultural Marketing

The graduate certificate program in multicultural marketing can help you adopt innovative strategies to give your business a competitive edge in a culturally diverse marketplace. The curriculum is designed to equip you with a strong foundation in marketing concepts and theories and their real-life application in a multicultural marketing environment.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

FOUR REQUIRED COURSES

MRKT 600 Marketing Management (3)

MRKT 602 Consumer Behavior and Customer Relationship Management (3)

MRKT 603 Brand Management and Integrated Marketing Communication (3)

MRKT 605 International Marketing Management (3)

ONE COURSE CHOSEN FROM THE FOLLOWING

MRKT 604 Marketing Research and Analytics

MRKT 606 Digital and Social Media Marketing

MRKT 608 Product and Sales Management

Total credits for the graduate certificate in Multicultural Marketing: 15

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Management with a concentration in marketing. For details, contact your advisor or success coach.

Project Management

The graduate certificate program in project management allows you to develop advanced business management skills while building expertise for professional certification in project management. The curriculum is aligned with certifications from the Project Management Institute (PMI). Your courses will give you the tools you need to take on leadership roles in today's workplace. You'll also learn relevant skills you can apply on the job immediately.

Each project management course in this program earns you the education hours needed to fulfill the necessary requirements to qualify to take the Project Management Professional (PMP) and Certified in Project Management (CAPM) certification exams.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

FIVE REQUIRED COURSES

PMAN 634 Foundations of Project Management (3)

PMAN 635 Project Schedule, Cost, and Resource Management (3)

PMAN 637 Project Uncertainty, Risk, Ambiguity, and Complexity (3)

PMAN 638 Project Stakeholder Communications Management (3)

PMAN 639 Project Management Quality (3)

Total credits for the graduate certificate in Project Management: 15

ALTERNATE CREDIT

If you are certified as a Project Management Professional by the Project Management Institute and your certification is current and valid, you may receive credit for PMAN 634 Foundations of Project Management (3). Advisors or success coaches can provide more information.

Program Accreditation

UMGC's graduate certificate in Project Management is accredited by the Project Management Institute (PMI) Global Accreditation Center (GAC) for Project Management Education Programs.

TABLE OF CONTENTS
INDEX

Related Degree Program

This certificate can be applied to either a Master of Science in Management or a Master of Science in Information Technology with a concentration in project management. For details, contact your advisor or success coach.

Strategic Communications

In today's communications environment, the public relations, marketing, and advertising fields are converging. In the strategic communications certificate program, you'll gain proficiency in strategic communications planning. You'll learn how to conduct research, identify publics, and develop messages that will stimulate engagement. You'll also practice writing and creating appealing products that deliver those messages. In addition, you'll learn how different organizational functions interact with the strategic communications team to achieve organizational objectives.

Overall certificate requirements are listed on p. 169.

FIVE REQUIRED COURSES

MSCP 600	Introduction to Strategic Communications (3)
MSCP 610	Strategic Communications Theory (3)
MSCP 615	Planning for Strategic Communications (3)
MSCP 620	Communications Techniques and Tactics I (3)
MSCP 625	Communications Techniques and Tactics II (3)

Total credits for the graduate certificate in Strategic Communications: 15

COURSE SEQUENCING

All courses must be taken in the order listed.

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Strategic Communications. For details, contact your advisor or success coach.

Strategic Human Resource Management

The graduate certificate program in strategic human resource management is designed to help you gain practical, management-level experience in the theory, research, knowledge, and procedures used by HR executives, generalists, and specialists—and earn a credential that can help you stand out. The curriculum is designed to give you practical skills so you can become a strong decision-maker and manager in any HR setting.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615	Orientation to Graduate Studies at UMGC (0)

FOUR REQUIRED COURSES

MGMT 615	Cultivating Organizational Behavior and Culture for Sustainability (3)
HRMD 610	Issues and Practices in Human Resource Management (3)
HRMD 620	Employee and Labor Relations (3)
HRMD 630	Recruitment and Selection (3)

ONE COURSE CHOSEN FROM THE FOLLOWING

HRMD 640	Job Analysis, Assessment, and Compensation
HRMD 650	Organizational Development and Change
HRMD 651	Current Perspectives in Training and Development
HRMD 665	Managing Virtual and Global Teams

Total credits for the graduate certificate in Strategic Human Resource Management: 15

COURSE SEQUENCING

Courses should be taken in the order listed.

Accelerated Pathway

If you completed your undergraduate degree at UMGC with a major in human resource management, an accelerated pathway between UMGC's undergraduate and graduate degree programs allows you to reduce your total coursework for the graduate certificate in Strategic Human Resource Management by 6 credits (two courses). Details are on p. 23.

TABLE OF CONTENTS
INDEX

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Management with a concentration in human resource management. For details, contact your advisor or success coach.

Systems Engineering

You can learn about the design, development, and deployment of complex IT systems by earning a certificate in systems engineering. The graduate certificate program in systems engineering helps you gain the skills you need to apply traditional and modern life-cycle models, techniques, and tools in the specification, design, development, and deployment of complex systems.

Overall certificate requirements are listed on p. 169.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

FIVE REQUIRED COURSES

SYSE 610 Systems Engineering Overview (3)
SYSE 620 Requirements Engineering (3)
SYSE 630 System Design and Development (3)
SYSE 640 System Integration and Test (3)
SYSE 660 Systems Engineering Management (3)

Total credits for the graduate certificate in Systems Engineering: 15

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Information Technology with a concentration in systems engineering. For details, contact your advisor or success coach.

Teaching Cybersecurity

The graduate certificate in teaching cybersecurity is intended for preservice and current high school teachers. It provides a standardized and rigorous program for cybersecurity education, specifically designed to prepare you to effectively teach cybersecurity to high school students. Aligned with the National Cybersecurity Teaching Academy (NCTA) coalition, the curriculum offers you the foundational knowledge in cybersecurity and effective pedagogical strategies you need to teach cyber courses.

Overall certificate requirements are listed on p. 169

SIX REQUIRED COURSES

CTCH 605 Introduction to Cybersecurity (3)
CTCH 615 Cybersecurity Threats and Analysis (3)
CTCH 625 Cybersecurity for Systems and Networks (3)
CTCH 645 Cyber Exploitation Methodologies (3)
CTCH 665 Digital Forensics and Incident Response (3)
CTCH 675 Cybersecurity Pedagogy (3)

Total credits for the graduate certificate in Teaching Cybersecurity: 18

Related Degree Program

Coursework for this certificate can be applied to a Master of Science in Cybersecurity Technology. For details, contact your advisor or success coach.

TABLE OF CONTENTS
INDEX

COURSE INFORMATION

Course Numbering System

The following entries describe courses offered through University of Maryland Global Campus. Requirements pertain only to degrees conferred at UMGC. To determine how these courses may transfer and be applied toward degrees offered by other institutions, you should consult those institutions. Transferability is determined by the receiving institution. In transferring to UMGC—particularly from a community college—you should be careful not to enroll in courses that duplicate your previous studies.

Courses 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-level courses
200–299	Primarily sophomore-level courses
300–399	Upper-level, primarily junior-level courses
400–499	Upper-level, primarily senior-level courses
500–599	Senior-level courses acceptable for credit toward some graduate degrees
600–898	Graduate-level credit
899	Continuing doctoral thesis credit

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 one of the following, according to Title 13B of the Code of Maryland Regulations of the Maryland Higher Education Commission:

- At least 15 hours (50 minutes each) of actual class meeting or the equivalent in guided learning activity (exclusive of registration, study days, and holidays)
- At least 30 hours (50 minutes each) of supervised laboratory or studio work (exclusive of registration, study days, and holidays)
- At least 45 hours (50 minutes each) of instructional situations, such as practica, internships, and cooperative education placements, when supervision is ensured and learning is documented
- Instruction delivered by electronic media based on the equivalent outcomes in student learning, including telelessons, classroom instruction, student consultation with instructors, and readings, when supervision is ensured and learning is documented

COURSE INFORMATION

Prerequisites

Prerequisites, normally stated in terms of numbered courses, represent the level of knowledge you are expected to have before enrolling in a given course. You may be barred from enrolling in or removed from courses for which you do not have the necessary prerequisites. Courses listed as being corequisite are required and should be taken at the same time as the course described. Taking courses listed as recommended is advisable but not absolutely required.

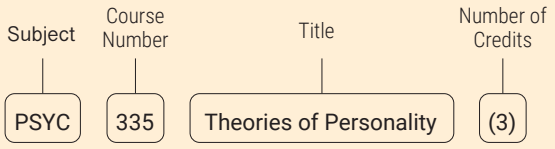
It is your responsibility to check the prerequisites listed in the course description and make certain that you are academically prepared to take a course. If you did not take the prerequisite course recently, you should consult an advisor or a success coach or the academic department about whether you are sufficiently prepared to perform well in a given course. Faculty members are not expected to repeat material listed as being prerequisite.

For undergraduate courses, prerequisites may also be fulfilled by Prior Learning credit for the appropriate course, earned through course challenge or portfolio assessments (described on p. 18). Advisors or success coaches can explain the procedures for seeking this credit. Some courses are not eligible for challenge examination or portfolio assessment, and you may not take course challenge assessments or seek portfolio assessment credit for lower-level courses that are prerequisite to courses for which you have already received credit.

WRTG 112 Academic Writing II 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. Many other prerequisites for advanced courses may be found in the course descriptions.

Placement tests are not required for introductory writing (English composition) or mathematics courses (e.g., MATH 105, MATH 107, MATH 115, or STAT 200), nor do these courses require completion of prerequisite coursework. If you have prior experience in a foreign language, you should take a placement test to assess appropriate level. For information on language placement tests, email the department at *languages@umgc.edu*.

Key to Course Descriptions



(Formerly PSYC 435.)[1] Prerequisite: PSYC 100.[2] Recommended: PSYC 300. A study of major theories and perspectives on personality. The goal is to explain and evaluate major concepts in personality. Topics include trait, psychodynamic, behavioral, and humanistic theories. Methods of personality research and relevant findings are also introduced.[3] Students may receive credit for only one of the following courses: PSYC 335 or PSYC 435.[4]

1. Explanatory information, if needed, may
   - Explain course sequence, purpose, or audience.
   - Identify courses fulfilling general education requirements (listed on pp. 29 and 33).
   - Identify courses requiring a special fee, equipment, or materials.
   - Identify courses that lead to certification, badging, or other professional credential.
2. Prerequisites represent the level of knowledge you 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, number of credits, "or equivalent experience."
3. The course description describes the focus and learning objectives 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 UMGC locations.

COURSE INFORMATION
UNDERGRADUATE COURSE DESCRIPTIONS

Index to Course Descriptions

The courses summarized on the following pages are listed alphabetically by discipline or subject, as follows.

You should check the course descriptions carefully to avoid duplicating previous coursework. UMGC will not award credit for courses that repeat material you have already been credited with learning.

African American Studies* 202
Accounting 202
Anthropology 205
Applied Technology 205
Arabic 206
Art 206
Art History* 207
Artificial Intelligence 207
Asian Studies* 209
Astronomy 210
Behavioral and Social Sciences 210
Biology 211
Business and Management 215
Career Planning* 218
Chemistry* 218
Chinese* 219
Communication Studies 219
Computer Information Technology 221
Computer Science 224
Computer Studies 227
Criminology/Criminal Justice 230
Cyber Operations 233
Cybersecurity and Information Assurance 235
Data Analytics 236
Drones and Autonomous Systems 237
Economics 238
Emergency Management 239
English 239
Environmental Health and Safety 242
Experiential Learning 244
Finance 244
Fire Science 246
French* 247
Geography* 247
Geology* 247
German* 247
Gerontology 248
Government and Politics 250
Graphic Communication 252
Health Services Management 253
History 255
Homeland Security 257
Humanities 258
Human Resource Management 259
Information Systems Management 261
Japanese 262
Journalism 263
Korean 264
Legal Studies 264
Library Skills and Information Literacy 266
Marketing 266
Mathematics 267
Music* 269
Natural Science 269
Nursing 270
Nutrition 272
Operations Management 272
Professional Exploration 273
Philosophy* 274
Physics* 275
Psychology 275
Public Safety Administration 277
Sociology 278
Spanish* 280
Speech 281
Statistics and Probability 282
Theatre* 282
Women, Gender, and Sexuality Studies* 282
Writing* 282

* Only a limited number of courses are available each session in this discipline.

African American Studies

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.

Accounting

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 data analysis for financial and managerial accounting. The goal is to analyze business transactions, define the characteristics of business entities, explain the interdependency of financial statements, employ managerial accounting techniques, and communicate this information to users with unique 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 or BMGT 221.

ACCT 301 Accounting for Managers (3)
(May not be applied toward a major in accounting.) A survey of accounting principles relevant to making business decisions based on financial information. The aim is to apply critical-thinking skills and ethical principles to accounting issues. Topics include internal controls, financial reporting, financial statements analysis, managerial accounting, and budgeting elements. Students may receive credit for only one of the following courses: ACCT 301, 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 related to preparing financial statements for external reporting. The objective is to analyze complex business transactions and their impact on financial statements. Focus is on researching and analyzing emerging issues in accounting, business transactions, and financing issues. 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 analyze complex business transactions and their impact on financial statements. 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 311 or BMGT 311.

ACCT 320 Fraud Detection and Deterrence (3)
Prerequisite: ACCT 220 or ACCT 301. A study of the principles behind 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, whistleblowing, interviewing witnesses, and writing reports. Focus is on creating and communicating meaningful data visualization communications for stakeholders.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

ACCT 321 Cost Accounting Data Analytics (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 ethics, corporate social responsibility, and the evaluation of business and financial data to make profit-maximizing decisions. 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. Focus is on using data analytics and creating and communicating meaningful data visualizations for decision-making.

ACCT 323 Federal Income Tax I (3)

Prerequisite: ACCT 220 or FINC 321. A study of data and processes related to the preparation of federal income tax for individuals and other entities. The objective is to explain 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.

ACCT 326 Accounting Information Systems (3)

Prerequisite: ACCT 221. An introduction to accounting information systems (AIS) concepts. The objective 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, or BMGT 326.

ACCT 350 Federal Financial Management (3)

Prerequisite: ACCT 220 or ACCT 301. Analysis and discussion of issues relating to federal financial management. The objective 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, data visualization presentations, 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, prepare data visualization presentations, 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 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, sustainability, and legal and regulatory obligations are explored within an ethical framework, including philosophical models and ethical theories, as well as within environmental, social, and governance (ESG) criteria.

ACCT 417 Federal Income Tax II (3)

(Strongly recommended for students seeking careers as CPAs.) Prerequisites: ACCT 311 and ACCT 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; and analyze, evaluate, and communicate tax implications and data. Discussion covers tax research, planning, procedure, compliance, ethics, and professional responsibility. Topics also include the tax implications of various entities' financial and business decisions and transactions. 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. 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, data analytics, 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 425 International Accounting (3)

Prerequisite: ACCT 311. A study of accounting in a multinational context covering historical developments and international financial reporting standards. The objective 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 sustainability, foreign exchange and taxation, intercompany transfer pricing, data analytics, and emerging issues in international accounting. Students may receive credit for only one of the following courses: ACCT 425 or ACCT 498A.

ACCT 436 Internal Auditing (3)

(Designed to align with the standards of the Institute of Internal Auditors and help prepare for the Certified Internal Auditor examination.) Prerequisite: ACCT 311. An exploration of the consultative role in the management of risk. The aim is to identify the standards that apply to internal auditors, audit processes, and procedures and to assess internal control deficiencies. Topics include internal auditing standards, scope, responsibilities, ethics, controls, techniques, and reporting practices. Data analytics and practice involve the use of software such as Excel, Power BI, Tableau, ACL, and IDEA. 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 deterrence plans. Discussion covers the principles and standards for proactive and reactive investigation, as well as detection and control of fraud. Focus is on using data analytics and creating and communicating meaningful data visualizations for stakeholders from the perspective of public, internal, and private accountants.

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 the use of data analytics, auditing, and technology, are demonstrated. Topics include criminal and civil litigation support, rules of evidence, and accreditation of expert witnesses.

ACCT 452 Federal Auditing (3)

Prerequisite: ACCT 221. An overview of the federal auditing life cycle. The objective is to plan, manage, and execute a federal audit; identify and evaluate the program and financial risks; and identify and recommend enhancements to operations and technology. Topics include federal audits; data visualization; communicating audit findings to stakeholders; providing advisory support; evaluating program and financial risks; managing technology; increasing economy and efficiency; and minimizing fraud, waste, and abuse. Discussions also cover the auditing of grants and contracts.

ACCT 486A Workplace Learning in Accounting (3)

Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 Workplace Learning in Accounting (6)

Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 496 Advanced Accounting Capstone (3)

(Formerly ACCT 424.) Prerequisite: ACCT 311. 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 data analytics, problem sets, case studies, computer applications, and other materials. Students may receive credit for only one of the following courses: ACCT 424, ACCT 496, or BMGT 424.

TABLE OF CONTENTS
INDEX

Anthropology

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 ANTH 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.

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 345 World Prehistory and Archaeology (3)
An intermediate-level exploration of world prehistory and archaeology. The goal is to analyze the cultural, technological, and subsistence patterns of prehistoric humans and relate these patterns to contemporary human societies and populations. Discussion covers archaeological theories and methods; subsistence strategies; and the applications of archaeological knowledge to modern community, regional, and global issues.

ANTH 346 Anthropology of Language and Communication (3)
An intermediate-level anthropological study of language, communication, and culture. The aim is to understand language in a cultural context; assess how the concepts, approaches, and methods of linguistic anthropology explain communication in changing cultural environments; and recognize how language both shapes and is shaped by culture. Topics include the origin of human language, linguistic diversity, structural elements of verbal and nonverbal language, language as social action, research in anthropological linguistics, language and power hierarchies, gendered communications, and linguistic diversity in the contemporary world.

ANTH 350 Health, Illness, and Healing (3)
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)
An overview of forensic anthropology, an applied field of anthropology that seeks to recover, identify, and evaluate human skeletal remains within a medico-legal context. The aim is to explore the processes and methods used by forensic anthropologists to identify a cause and manner of death and determine an approximate postmortem interval. Topics include the forensic context, the human skeletal system, methods of identification, cause and manner of death, assessment of trauma, and analysis of evidence to draw conclusions about a case.

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 417 Peoples and Cultures of East Asia (3)
An advanced anthropological study of the peoples and cultures of East Asia, focusing on China, Japan, and Korea. Anthropological theories and methods are used to understand the social changes brought about by rapid modernization. Topics include family structure and its importance to individual choice and the larger society, the evolution of belief systems, changing gender roles, problems of aging and demographically declining societies, and the recent global influence of East Asian popular culture.

Applied Technology

APTC 495 Applied Technology Capstone (3)
Prerequisites: 27 credits of major coursework. A project-based application of computing knowledge and skills to solve problems. Focus is on researching, planning, and implementing a computing-based solution to a disciplinary-based problem in an approved business outside the primary area of technology or computing focus. Assignments include working in teams through the planning, analysis, design, implementation, testing, and documentation phases. A presentation of the applied solutions constitutes a final learning demonstration.

TABLE OF CONTENTS
INDEX

Arabic

ARAB 111 Elementary Arabic I (3)
For online sections, microphone, speakers, and occasional synchronous work required. (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. Ample practice in Arabic pronunciation and the structures needed for everyday communication are provided.

ARAB 112 Elementary Arabic II (3)
For online sections, microphone, speakers, and occasional synchronous work required. (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.) Prerequisite: ARAB 111 or appropriate score on a placement test. 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. Ample practice in Arabic pronunciation and the structures needed for everyday communication are provided.

ARAB 114 Elementary Arabic III (3)
For online sections, microphone, speakers, and occasional synchronous work required. (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)
For online sections, microphone, speakers, and occasional synchronous work required. (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.

ARAB 333 Middle Eastern Cultures (3)
(Conducted in English.) A project-driven and discussion-based study of Middle Eastern cultures. The aim is to demonstrate cultural competence by explaining and analyzing Middle Eastern cultures through a variety of perspectives. Topics include religion, cultural practices, history, geography, and societies of the Middle East. Students may receive credit for only one of the following courses: ARAB 333 or ARAB 334.

Art

ARTT 110 Introduction to Drawing (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 Design I: Arrangement and Color (3)
Prerequisite: GRCO 100. A project-driven study of the design elements of a composition as they relate to its overall expression. The aim is to apply elements and principles of design, including color theory, to create a variety of compositions that effectively communicate ideas and emotions.

ARTT 152 Basics of Photography (3)
An introduction to basic photographic procedures with an emphasis on composing, taking, and editing photographs. Discussion covers the historical development of photography. Students may receive credit for only one of the following courses: ARTT 152 or PHOT 198.

ARTT 210 Intermediate 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 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.

TABLE OF CONTENTS
INDEX

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. The goal is to paint in a variety of styles and techniques, work with more complex forms (including drapery, transparency, and reflections), and work in landscape and/or figure in space painting. Emphasis is on the development of personal directions. May be repeated to a maximum of 12 credits.

Art History

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' works are examined. Students may receive credit for only one of the following courses: AMST 204, ARTH 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)
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 the graphic arts, identify various movements with the field, and analyze the impact of graphic arts on society. Topics include major works and artists and cultural, social, and religious movements and their impact on the graphic arts.

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 and on how gender affected their art and their careers.

Artificial Intelligence

ARIN 310 Introduction to Artificial Intelligence (3)
A comprehensive introduction to the basic principles and terminology of the field of artificial intelligence (AI). The aim is to use a solid understanding of AI concepts to facilitate informed decision-making and collaboration with technical teams. Topics include various subfields of AI, such as machine learning, natural language processing, and computer vision, as well as real-world applications of AI in areas such as recommender engines, supply chains, fraud detection, and customer service.

TABLE OF CONTENTS
INDEX

ARIN 320 Artificial Intelligence Applications (3)

(No programming or math background required.) An interactive, hands-on study of current artificial intelligence (AI) applications spanning multiple disciplines and domains, including business, science, communications, and computing. The goal is to use datasets with AI and machine learning applications from leading cloud vendors, including Amazon and Microsoft. Projects and laboratory exercises demonstrate how AI can be used to solve problems across a wide variety of disciplines. Students may receive credit for only one of the following courses: ARIN 320 or CMSC 307.

ARIN 340 Generative AI (3)

A comprehensive introduction to generative artificial intelligence models, a cutting-edge area of AI that focuses on creating content such as images, music, and text. Topics include the underlying principles and techniques behind generative models, e.g., large language models. Emphasis is on practical applications that demonstrate how generative AI is revolutionizing industries such as art, music composition, and content creation. Discussion covers the creative potential of AI generative pretrained transformers. Hands-on experience with generative tools is provided.

ARIN 350 Responsible AI (3)

An in-depth examination of the ethical considerations, societal impact, and responsible use of AI. The goal is to navigate the ethical landscape of AI, make informed decisions, and promote responsible AI practices within one's organization. Topics include bias and fairness in AI algorithms, transparency, privacy concerns, and the ethical implications of generative AI models. Real-world examples of AI-related ethical challenges are explored through case studies and discussions.

ARIN 410 Artificial Intelligence in the Enterprise (3)

A project-based examination of the practical application of AI, transforming sectors such as finance, healthcare, marketing, and supply chain management. The aim is to identify opportunities for AI adoption in one's organization and leverage AI for strategic advantage. Topics include predictive analytics, recommendation systems, automated decision-making, and the integration of AI into business processes.

ARIN 440 Advanced Machine Learning (3)

Prerequisites: DATA 230 and DATA 430. A project-based study of advanced concepts and applications in machine learning (ML), such as neural networks, support vector machines (SVM), ensemble models, deep learning, and reinforcement learning. Emphasis is on building predictive models for practical business and social problems, developing complex and explainable predictive models, assessing classifiers, and comparing their performance. All stages of the ML life cycle are developed, following industry best practices for selecting methods and tools to build ML models, including Auto ML. Students may receive credit for only one of the following courses: ARIN 440 or DATA 440.

ARIN 450 Data Ethics (3)

Prerequisite: DATA 430. A study of ethics within the context of data science, machine learning, and artificial intelligence. Emphasis is on examining data and model bias; building explainable, fair, trustable, and accurate predictive modeling systems; and reporting responsible results. Topics include the technology implications of human-centered machine learning and artificial intelligence on decision-making in organizations and government and the broader impact on society, including multinational and global effects. Students may receive credit for only one of the following courses: ARIN 450 or DATA 450.

ARIN 460 Artificial Intelligence Solutions (3)

(Designed to help prepare for the AWS Certified Machine Learning or Microsoft Designing and Implementing an Azure AI Solution exam.) Prerequisite: DATA 430. A hands-on, project-based study of artificial intelligence and machine learning solutions to complex problems. Topics include natural language processing, computer vision, and speech recognition. Students may receive credit for only one of the following courses: ARIN 460 or DATA 460.

ARIN 470 Advanced AI Developer Topics (3)

Prerequisites: 33 credits in major coursework. A hands-on project-based study of concepts, tools, and techniques relevant to AI developers. Topics are selected to reflect the latest trends in artificial intelligence.

ARIN 475 Advanced AI Applications Topics (3)

Prerequisites: 33 credits in major coursework. A hands-on project-based study of concepts, tools, and techniques relevant to the use of AI applications. Topics are selected to reflect the latest trends in artificial intelligence.

ARIN 486A Workplace Learning in Artificial Intelligence (3)

Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

ARIN 486B Workplace Learning in Artificial Intelligence (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

ARIN 495 Artificial Intelligence Capstone (3)
Prerequisites: 36 credits in major coursework. A project-based, practical application of the knowledge, technical skills, and critical-thinking skills acquired during previous study. The aim is to showcase one's expertise in artificial intelligence. Projects focus on either AI applications or AI development and result in a peer-reviewed final deliverable and presentation. Topics are selected from student-affiliated organizations or employers, special government/private agency requests, or other faculty-approved sources in a wide range of domains, such as healthcare, financial services, marketing, sciences, and government.

Asian Studies

ASTD 135 Introduction to Japanese Language and Culture (3)
(Formerly JAPN 105. Not open to students with substantial prior experience with Japanese language or culture; assumes no prior knowledge of Japanese. Students with prior experience with the Japanese language should take a placement test to assess appropriate level.) A hands-on, project-based introduction to Japanese language and culture. The goal is to develop cultural competency and familiarity with the history, geography, and culture of Japan and to use basic language skills to function effectively and appropriately in everyday life in Japan. Students may receive credit for only one of the following courses: ASTD 135 or JAPN 105.

ASTD 155 Introduction to Korean Language and Culture (3)
(Not open to students with substantial prior experience with Korean language or culture; assumes no prior knowledge of Korean. Students with prior experience with the Korean language should take a placement test to assess appropriate level.) A hands-on, project-based introduction to Korean language and culture. The goal is to develop cultural competence in personal interactions; demonstrate knowledge of the history, geography, and culture of Korea; and use basic language skills to function effectively and appropriately in everyday activities in Korea. Students may receive credit for only one of the following courses: ASTD 155 or KORN 105.

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 370 Interpreting Contemporary China (3)
Prerequisite: Any writing course. A thematic study of contemporary China from political, economic, social, and foreign policy perspectives. The objective is to identify decision-making authorities, interpret major influences on the Chinese economy, appraise the impact of grassroots social movements, and distinguish factors that drive China's foreign policy. Focus is on developing engagement strategies for various professional applications. Assignments require research, analysis, and a written policy or strategy recommendation (e.g., a policy paper or business strategy plan).

ASTD 485 East Asian Studies Capstone (3)
Prerequisite: Completion of 24 credits of major coursework, including ASTD 284 and ASTD 285. A project-based interdisciplinary study of East Asia that integrates knowledge gained through previous coursework and experience and builds on the conceptual foundation through integrative analysis, practical application, and critical thinking. Discussion covers emerging issues and current scholarship in East Asian studies.

TABLE OF CONTENTS
INDEX

Astronomy

ASTR 100 Introduction to Astronomy (3)
Prerequisite: MATH 105, STAT 200, or a more advanced MATH or STAT course. An examination of the major areas of astronomy. Topics include the solar system, stars and stellar evolution, and galaxies. Current topics in astronomy are also discussed. The objective is to use scientific and quantitative reasoning to make informed decisions about topics related to space science. Students may receive credit for only one of the following courses: ASTR 100, ASTR 101, ASTR 120, or GNSC 125.

Behavioral and Social Sciences

BEHS 103 Technology in Contemporary Society (3)
An interdisciplinary introduction to the role of technology in contemporary society. The aim is to apply principles and concepts from a variety of social science disciplines (e.g., anthropology, sociology, psychology, and gerontology) to explore the influence of technology on society and the effect of technological change on our social lives, including our interpersonal relationships, work, culture, and society. Topics include the way technology changes relationships, the cumulative advantages and disadvantages associated with technology, digital natives versus digital immigrants, the pace of technological change, changes to the nature of how people learn and think, and the meaning of technology in society.

BEHS 210 Introduction to Social Sciences (3)
An interdisciplinary introduction to the study of society. The objective is to use the combined perspectives of the different social science disciplines to better understand the nature of society. Topics include research methods, ethical considerations in research, and the relationships among the different social sciences. Discussion surveys a range of social sciences. An analysis of social phenomena that integrates insights from the social sciences is also 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 the social sciences. The aim is to learn how to interact and communicate effectively and appropriately within a diverse society. Emphasis is on using critical thinking to understand stereotypes, prejudice, and discrimination and how these phenomena affect society. Discussion explores how adopting a social science perspective on diversity can help address problems in the workplace, community, culture, and society.

BEHS 250 Social Justice Movements (3)
An introductory study of movements for social justice from an interdisciplinary perspective. The objective is to use the theoretical approaches and concepts of the social sciences to explain the origin, development, evolution, and outcomes of movements both in the United States and around the world. Topics include individual and group motivations for engaging in social movements; the use of social media; and ways that movements affect culture, society, and government. Discussion explores justice in the areas of climate, race, and gender, among others.

BEHS 300 Research Methods in the Social Sciences (3)
Prerequisites: BEHS 210 and STAT 200. 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.

TABLE OF CONTENTS
INDEX

BEHS 343 Parenting Today (3)
An overview of critical issues in modern parenting in the United States and the world. The objective is to use an interdisciplinary perspective to apply research and theory in family development to practical decision-making, taking into account modern and historical trends such as gender roles, socioeconomic status, and single parenting and the impact of divorce on children. Discussion examines the role of race and ethnicity in parenting, LGBT parenting, and multigenerational and military families.

BEHS 364 Alcohol in U.S. Society (3)
An interdisciplinary examination of the use and abuse of the drug alcohol from the perspectives of psychology, physiology, sociology, medicine, counseling, law, and public health. The aim is to examine current research and trends in the treatment of alcohol abuse and dependence (including prevention, assessment, and intervention) and to explore the history, etiology, and effects of alcohol abuse and current treatment practices. The effects of alcohol throughout the lifespan are explored in relation to gender, families, race, age, the workplace, and public safety.

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 receive 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 Workplace Learning in Behavioral and Social Sciences (3)
Prerequisite: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 Workplace Learning in Behavioral and Social Sciences (6)
Prerequisite: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 Social Science Capstone (3)
Prerequisite: Completion of all required major coursework including focus area courses. A capstone 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

BIOL 101 Concepts of Biology (3)
(Not open to students majoring in biotechnology or laboratory management.) 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 the interdependence of living organisms. Discussion also covers the importance of the scientific method to biological inquiry and the impact of biological knowledge and technology on human societies. Students may receive credit for only one of the following courses: BIOL 101 or BIOL 103.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

BIOL 102 Laboratory in Biology (1)

(Not open to students majoring in biotechnology or laboratory management. 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 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 or BIOL 103.

BIOL 103 Introduction to Biology (4)

(Not open to students majoring in biotechnology or laboratory management or to students who have completed BIOL 101 or BIOL 102. Fulfills the laboratory science requirement.) An introduction to 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 the interdependence of living organisms. Discussion also covers the importance of the scientific method to biological inquiry and the impact of biological knowledge and technology on human societies. Laboratory activities emphasize the scientific method. Students may receive credit for only one of the following: BIOL 101–BIOL 102 or BIOL 103.

BIOL 105 Principles of Biology I (4)

(For students majoring in science. Fulfills the laboratory science requirement.) An introduction to the basic principles of biology. The goal is to apply knowledge about biological principles, the scientific method, and quantitative reasoning to effectively communicate an understanding of biological topics and research. Topics include the scientific method and biological process and functions, with a special emphasis on cellular and molecular biology.

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 161 Laboratory in Human Biology (1)

(Fulfills the laboratory science requirement only with previous or concurrent credit for BIOL 160.) Prerequisite or corequisite: BIOL 160. A laboratory study that uses the human organism as an example to illustrate the concepts underlying the organization and interrelationships of all living organisms.

BIOL 164 Introduction to Human Anatomy and Physiology (3)

Prerequisite: BIOL 101, BIOL 103, or BIOL 160. An introduction to the anatomy and physiology of the human organism. Topics include basic concepts of physics and chemistry that are necessary for understanding biological functions and the structure and function of cells, tissues, and the major organ systems in the body. Students may receive credit for only one of the following courses: BIOL 164 or GNSC 161.

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 ZOOL 181.

BIOL 201 Human Anatomy and Physiology I (4)

(For students majoring in science; the first course in the two-course sequence BIOL 201–BIOL 202. Fulfills the laboratory science requirement.) Prerequisite: BIOL 103 or BIOL 105. A thorough introduction to the anatomy and physiology of the integumentary, skeletal, muscular, endocrine, and nervous systems of human beings. The objective is to correctly identify the anatomical structures of these systems and recognize how they interrelate to maintain homeostasis. Topics include the scientific method, the chemistry of life, and cellular form and function in selected organ systems. Discussion also covers the appropriate use of laboratory tools and techniques used to examine human anatomy structures and physiological functions. Students may receive credit for only one of the following courses: BIOL 201 or ZOOL 201.

BIOL 202 Human Anatomy and Physiology II (4)
(For students majoring in science; the second course in the two-course sequence BIOL 201–BIOL 202. Fulfills the laboratory science requirement.) Prerequisite: BIOL 201. Further study of human anatomy and physiology as preparation for subsequent studies in the life and health sciences. Focus is on developing the knowledge and skills needed to describe the complex interrelationship between human anatomy and physiology and applying that knowledge and skill to medical case studies. Topics include the anatomy and physiology of the circulatory, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems, as well as human development and aging. Students may receive credit for only one of the following courses: BIOL 202 or ZOOL 202.

BIOL 220 Human Genetics (3)
An introduction to the role of genes in the inheritance of traits and genetic diseases and disorders. The goal is to understand how genes affect physical appearance and behavior. Topics include Mendelian and non-Mendelian inheritance of human genetic diseases, human genetic variation, and mechanisms underlying human diseases. Students may receive credit for only one of the following courses: BIOL 220, BIOL 222, or BSCI 222.

BIOL 222 Principles of Genetics (3)
Prerequisite: BIOL 105. A study of the principles and mechanisms of heredity and gene expression. The goal is to articulate the importance of DNA as the genetic material of living organisms and the ways that mutations in DNA can result in disease transmission and species evolution. Topics include patterns of inheritance of genetic material at the molecular, cellular, organism, and population levels.

BIOL 224 Genetics Laboratory (1)
Prerequisite: BIOL 101, BIOL 103, or BIOL 105. Prerequisite or corequisite: BIOL 220 or BIOL 222. A laboratory introduction to the tools used in genetics research. The goal is to demonstrate the skills necessary to conduct experiments, collect and analyze data, solve problems, and communicate experimental results.

BIOL 230 General Microbiology (4)
(For students majoring in a science. Fulfills the laboratory science requirement.) Prerequisite(s): BIOL 101–BIOL 102, BIOL 103, or BIOL 105. An investigation of fundamental concepts in morphology, physiology, genetics, immunology, ecology, and pathogenic microbiology. Applications of microbiology to medicine, the food industry, and biotechnology are considered. 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 301 Human Health and Disease (3)
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)
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)
An overview of the biological basis of cancer. The goal is to apply knowledge of cancer biology to adopt appropriate lifestyle strategies and evaluate current treatments. The causes, 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 307 The Biology of Aging (3)
An overview of the biological basis of aging. The goal is to apply knowledge of the aging process to influence personal lifestyle choices, public health policy, and economic decisions. Topics include typical changes that occur in cells, molecules, metabolism, and structure during the aging process. The development and progression of several diseases associated with aging (including cancer, neurodegenerative diseases such as Alzheimer's and Parkinson's diseases, 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.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

BIOL 318 Biology and the Climate Crisis (3)
An examination of the causes and effects of climate change and its impact on people, the environment, and the ecosystems we all depend on. The goal is to connect food and water security, health, equity, and urban living conditions to the changing global climate, changes in temperatures, precipitation patterns, sea levels, and ocean chemistry. Discussion covers how ecological systems support a stable climate and how wild flora, fauna, and ecological communities are threatened by rapid anthropogenic climate change. Topics include biologically based solutions that protect human health and well-being, especially for vulnerable populations, and preserve and restore the ecosystem diversity and stability that assure long-term persistence of life on Earth.

BIOL 320 Forensic Biology (3)
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 105. An overview of biological principles and current trends in biological science. The goal is to apply knowledge of core biological principles, critically analyze current research, and use scientific reasoning to make evaluative 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)
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 healthcare. Emphasis is on scientific and philosophical thinking.

BIOL 350 Molecular and Cellular Biology (3)
(For students majoring in a science.) Prerequisite: BIOL 325. 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 357 Bioinformatics (3)
Prerequisites: BIOL 325, IFSM 201, and MATH 105 (or more advanced MATH or STAT course). An introduction to the use of computers in the analysis of nucleic acid and protein sequences and a study of the significance of these analyses. The goal is to develop an understanding of the software used in bioinformatics and address specific questions in biotechnology and research. Topics include genome analysis, evolutionary relationships, structure-function identification, protein pattern recognition, protein-protein interaction, and algorithms.

BIOL 362 Neurobiology (3)
Prerequisite: BIOL 101, BIOL 103, or BIOL 160. 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 healthcare 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 398 Special Topics in Biology (3)
A study of topics in biology of special interest to students and faculty. May be repeated to a maximum of 6 credits when topics differ.

BIOL 422 Epidemiology and Communicable Diseases (3)
Prerequisite: BIOL 230, BIOL 301, BIOL 302, or BIOL 398G. 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 486A Workplace Learning in Biology (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 Workplace Learning in Biology (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 495 Life Sciences Capstone (3)
Prerequisite or corequisite: Completion of all required major courses and a statistics course; may be taken concurrently with BIOL 486A/B. An examination of current topics, trends, and applications in the life sciences. The aim is to be familiar with life science laboratory and industry environments, communicate scientific principles effectively, practice professional ethics, and demonstrate knowledge of safe laboratory operations. Topics include current research, ways to recognize future trends, strategies to solve current challenges, and creative solutions for developing products and services in the life sciences. Students may receive credit for only one of the following courses: BIOL 400 or BIOL 495.

Business and Management

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 121A Solve Problems, Make Decisions (1)
An introduction to problem-solving and decision-making, focusing on the difference between them and the inherent bias we have in dealing with them. The aim is to differentiate between problem-solving and decision-making, evaluate personal skill levels in solving problems, and develop a tailored approach toward solving complex problems and making complex decisions. Topics include common problem-solving methodologies and decision-making strategies and the individual skills needed to employ them effectively.

BMGT 121B Communication and Collaboration (1)
An in-depth evaluation and application of successful collaboration and communication skills. The aim is to identify successful personal communication practices and skills needed for successful collaboration with others in the workplace. Topics include specific individual verbal and active listening skills, methods for interpreting nonverbal cues, and techniques for troubleshooting daily communication.

BMGT 240 Building Sustainable Futures (3)
An exploration of how businesses achieve long-term sustainability by integrating responsible practices into core operations. The goal is to examine the environmental and societal impacts of business activities and conduct sustainability audits, develop circular economy strategies, and improve operational efficiency. Emphasis is on balancing profitability with ethical decision-making, stakeholder expectations, and climate resilience. Case studies and applied projects are used to create actionable strategies to align business practices with sustainability goals and generate value for organizations and society.

BMGT 250 Data, Cybersecurity, and AI in Business Strategy (3)
An interdisciplinary introduction to data analysis, cybersecurity, and artificial intelligence (AI) in business operations and decision-making. The goal is to collect, process, and analyze business data; identify cybersecurity threats; and explore AI fundamentals for business applications. Topics include data processing techniques, cybersecurity risk analysis, and practical AI tools.

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.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

BMGT 317 Strategic Decision-Making and Problem-Solving (3)

A practical examination of essential skills and frameworks for effective strategic decision-making and problem-solving in dynamic organizational environments. The goal is to use various decision-making models, analytical tools, and techniques to identify and address complex challenges. Emphasis is on critical thinking, creativity, and collaboration as vital components of the problem-solving process. Topics include risk assessment, data analysis, stakeholder engagement, key performance indicators, and the influence of organizational culture on decision-making.

BMGT 330 Entrepreneurship and Innovation (3)

An overview of entrepreneurship and planning new business ventures for aspiring entrepreneurs and managers. The objective is to create and present a high-quality business plan for a new venture using marketing research and financial analytical techniques. Topics include profiles of entrepreneurs; benefits, risks, and challenges; financial management; access to capital; and franchising. Students may receive credit for only one of the following courses: BMGT 330, FINC 310, MGMT 330, or SBUS 200.

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 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 364 Management and Organization Theory (3)

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. A comprehensive examination of organizational leadership. The objective is to use the strategies and practices that foster effective leadership within diverse organizations. Emphasis is on exploring the foundational leadership theories, developing key skills for motivating teams, and learning how to create a positive organizational culture. Topics include decision-making, conflict resolution, change management, culture, and ethical leadership.

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 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 environments 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 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 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 382 Business Ethics (3)

(Formerly BMGT 496.) An examination of the interplay between business ethics and social responsibility in both domestic and global contexts. The aim is to evaluate ethical and moral considerations of corporate conduct, social responsibilities, policies, and strategies. Emphasis is on the definition, application, and analysis of ethical values as they relate to significant public and organizational issues and business decision-making in various environments. Students may receive credit for only one of the following courses: BMGT 382 or BMGT 496.

BMGT 392 Global Management (3)

An examination of the essential concepts and issues relevant to conducting business in a global context. The goal is to apply foundational knowledge to analyze and evaluate key global business variables for informed decision-making. Emphasis is on property rights, obligations, liabilities, and remedies while assessing regulatory frameworks within the business environment. Topics include the nature and scope of global business, as well as the cultural, political, legal, and economic factors that influence operations, marketing strategies, international trade, and foreign investment considerations.

TABLE OF CONTENTS
INDEX

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 411 Sustainable Process Improvement (3)

A project-based introduction to the principles of sustainable process improvement. The goal is to identify the root causes of problems, secure stakeholder buy-in, map existing processes, establish internal controls, and apply various metrics to enhance efficiency. Emphasis is on cost-effective solutions that add value to organizational missions. Topics include meeting customer expectations, flowcharting techniques, change management strategies, resource acquisition, and sustaining improvements over time.

BMGT 464 Organizational Behavior (3)

Prerequisite: BMGT 364. A study of how the manager uses knowledge of people's behavior in the workplace to develop best practices to build relationships that foster a more efficient and effective organization. The aim is to examine organizations and the way people behave in an organizational setting to develop the types of skills that encourage the organization's best workplace behavior. Topics include motivation, emotional intelligence, employee and organizational diversity, engagement in job performance, job commitment, and workplace culture.

BMGT 466 Global Public Management (3)

A comprehensive study of public management. The aim is to analyze, design, and evaluate solutions to public-sector problems, both domestic and global, based on an understanding of public-sector management concepts and the different types of organizations involved. Topics include development and implementation of public-sector projects and the finance, human resource, and marketing activities that support them. Discussion also covers public management in diverse regions of the world, as well as the purpose and management of intergovernmental organizations and nongovernmental organizations. Students may receive credit for only one of the following courses: BMGT 366, BMGT 466, or TMGT 305.

BMGT 484 Organizational Collaboration and Teamwork (3)

Prerequisite: BMGT 364. A theoretical and practical examination of organizational collaboration. The goal is to evaluate the purpose, types, and applications of collaboration within modern organizations, focusing on the skills that managers need to facilitate successful teamwork. Topics include collaborative leadership, the development of team dynamics skills, factors that enhance team cohesion and performance, strategies for individual and group virtual collaboration, and effective decision-making processes.

BMGT 486A Workplace Learning in Business and Management (3)

Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 Workplace Learning in Business and Management (6)

Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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–BMGT 488.) An introduction to the terminology, principles, concepts, and practices of project management. The goal is to demonstrate the skills required to manage a project through all project phases, such as scope, scheduling, and cost. Traditional, agile, and hybrid project management approaches are compared to present key considerations of each method. The importance of soft skills like communication and stakeholder engagement is also underscored. Students may receive credit for only one of the following courses: BMGT 487 or TMGT 430.

BMGT 488 Project Management II (3)
(The second course in the two-course series BMGT 487–BMGT 488.) Prerequisite: BMGT 487. An examination of project management processes and applications beyond introductory principles and concepts. The goal is to manage a project 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 Business Administration and Management Capstone (3)
Prerequisites: BMGT 364, BMGT 365, FINC 331 (or FINC 330), MRKT 210, and OPMG 300. A capstone study of strategic management that emphasizes the integration of key business functions of management, marketing, finance, production/operations, services, research and development, and information systems to drive organizational success. The goal is to apply integrative analysis, practical application, and critical thinking to the conceptual foundation gained in prior coursework and personal experiences. Topics include crafting an organizational vision and mission, developing and implementing strategic plans, and evaluating their outcomes. Students may receive credit for only one of the following courses: BMGT 495, HMGT 430, MGMT 495, or TMGT 380.

Career Planning

CAPL 198A Effective Time Management (1)
A hands-on exploration of effective time management strategies. The objective is to develop a personal time management plan. Topics include procrastination, ways to use time productively, the myth of multitasking, and achieving a balance. Discussion includes personal tendencies for managing time and recognizing them and planning for prioritizing one's tasks. Students may receive credit for only one of the following courses: CAPL 198A or MGST 198B.

CAPL 198B Career Transitions (1)
An exploration of career paths and skills. The goal is to assess one's prior education and experiences to determine possible career paths. Topics include the identification of skills gaps, strategies for preparing a résumé aligned with the career, and best practices for successful integration into the civilian workforce. Students may receive credit for only one of the following courses: CAPL 198B or MGST 198M.

CAPL 198C Interviewing Skills (1)
A comprehensive exploration of skills and strategies needed for successful interviews. The aim is to articulate personal skills, education, and experience as they relate to a target position. Topics include body language, nonverbal cues, and candidacy for various positions. Discussions explore previous interview experiences, strategies for success during interviews, and determining whether the position may be a good fit. Students may receive credit for only one of the following courses: CAPL 198C or MGST 198L.

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.

CAPL 495 General Studies Capstone (3)
(To be taken in a student's last 15 credits.) The analysis and evaluation of knowledge and skills gained from previous study. A capstone project connects an area of study to a real-world scenario and includes the presentation of a portfolio linking one's experience with personal and professional goals.

Chemistry

CHEM 103 General Chemistry I (4)
(For students majoring in a science. The first course in the two-course sequence CHEM 103–CHEM 113. Fulfills the laboratory science requirement.) Prerequisite: MATH 107 or a more advanced mathematics course. A study of the chemical nature and composition of matter and its interactions. Topics include elements, inorganic compounds, chemical reactions, and chemical calculations. Students may receive credit for only one of the following courses: CHEM 102, CHEM 103, CHEM 105, or CHEM 107.

CHEM 113 General Chemistry II (4)
(For students majoring in a science. The second course in the two-course sequence CHEM 103–CHEM 113. Fulfills the laboratory science requirement.) Prerequisite: CHEM 103 or CHEM 105. An exploration and application of chemical reactions. Topics include chemical kinetics; homogeneous, heterogeneous, and ionic equilibria; oxidation/reduction reactions; electrochemistry; and chemistry of the elements. Students may receive credit for only one of the following courses: CHEM 113 or CHEM 115.

TABLE OF CONTENTS
INDEX

CHEM 121 Chemistry in the Modern World (3)
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 process 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 104, CHEM 105, CHEM 107, CHEM 121, or GNSC 140.

CHEM 297 Environmental Chemistry (3)
Prerequisite(s): MATH 115 (or MATH 107 and MATH 108). An examination of the chemistry of environmental systems. The aim is to identify and evaluate fundamental principles of chemistry in relation to environmental systems. Discussion covers the nature of atoms, types of bonding, functional groups, chemical reactivity, and chemical interactions. Topics also include migration of chemicals through the environment, the role of basic chemistry in biogeochemical cycles, and human impact on biogeochemical cycles through the use of technology.

Chinese

CHIN 111 Elementary Chinese I (3)
For online sections, microphone, speakers, and occasional synchronous work required. (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 Chinese pronunciation, tones, and structures needed for everyday communication.

CHIN 112 Elementary Chinese II (3)
For online sections, microphone, speakers, and occasional synchronous work required. (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 frequently used Chinese characters. Practice is provided in improving pronunciation and developing the oral and written skills used in everyday communication.

CHIN 114 Elementary Chinese III (3)
For online sections, microphone, speakers, and occasional synchronous work required. (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)
For online sections, microphone, speakers, and occasional synchronous work required. (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

COMM 200 Military Communication and Writing (3)
(Fulfills the general education requirement in communications.) A study of business communication management in a military context. The objective is to develop appropriate and effective communication products for military audiences and within military environments through the application of accepted business communication practices. Topics include communication theories; research methods; organization of information; formats; writing and editing strategies; and techniques for guiding subordinate communication, conducting interviews, and managing meetings. Assignments may include making speech presentations; instructing a class; conducting interviews; managing meetings; and writing and editing reports, letters, emails, proposals, and personnel evaluations.

COMM 202 Media and Society (3)
(Fulfills the general education requirement in communications but is not a writing course.) Prerequisite: WRTG 112. An overview of the complex components and relationships involved in today's media. The goal is to understand the technical, political, economic, cultural, and organizational influences on mediated messages. Topics include visual rhetoric, legal and ethical issues, social media, the transactional model, advertising, security, and privacy concerns.

TABLE OF CONTENTS
INDEX

COMM 207 Understanding Visual Communication (3)
A study of the creation and interpretation of visual language. The aim is to understand how images are used to effectively communicate ideas in a variety of channels, including news, advertising, and public relations. Topics include aesthetics, principles of composition, color systems, content awareness, and historical and cultural perspectives. Emphasis is on critical thinking and analysis of images from both theoretical and practical perspectives.

COMM 300 Communication Theory (3)
(Fulfills the general education requirement in communications but is not a writing course.) Prerequisite: WRTG 112. 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)
(Fulfills the general education requirement in communications but is not a writing course.) Prerequisites: WRTG 112 and COMM 300. 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 302 or COMM 379A.

COMM 390 Writing for Managers (3)
(Fulfills the general education requirement in communications.) Prerequisite: WRTG 112. A practicum in the kinds of communication skills that managers need for the workplace. The goal is to develop persuasive managerial communication for organizational decision-making and action. Students may receive credit for only one of the following courses: COMM 390, HUMN 390, WRTG 390, or WRTG 490.

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.) Prerequisite: WRTG 112. 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 459 Special Topics in Communication (1–3)
An exploration of special topics in communication. The objective is to attain specialized knowledge and skills in a particular area of communication, journalism, speech, or professional writing. Focus is on demonstrating new knowledge through an extended applied project. May be repeated to a maximum of 6 credits when topics differ.

COMM 480 Research Methods in Communication Studies (3)
Prerequisites: COMM 300 and COMM 302. A review of qualitative and quantitative research methods in communication studies. The objective is to define and explain research methods, concepts, and tools; apply research design, data collection, analysis, and reporting skills; and critically evaluate research in terms of rigor, relevance, and explanatory value. Practice is provided in finding, consuming, and analyzing research studies. Discussion covers the steps of the research process: articulating a question, developing a methodology, conducting a study, and reporting on findings.

COMM 486A Workplace Learning in Communication Studies (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl)*. 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 Workplace Learning in Communication Studies (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

TABLE OF CONTENTS
INDEX

COMM 492 Grant and Proposal Writing (3)
(Fulfills the general education requirement in communications.) Prerequisite: WRTG 112. An advanced study of technical writing, focusing on composing competitive proposals in response to Requests for Proposal (RFPs) and other funding solicitations from the federal government and community and private sources. The aim is to apply skills needed in the proposal development process, assess an RFP to determine evaluation and competitive criteria, and synthesize the required elements into a successful proposal. Discussion covers stages of the proposal-development process, including researching the funding agency for its mission, target populations, and problems of interest; assessing the RFP to determine evaluation criteria; and assembling the required elements of a successful proposal. Assignments include writing a grant request and working in teams to prepare a competitive business proposal. Students may receive credit for only one of the following courses: COMM 492, ENGL 489C, or WRTG 494.

COMM 495 Communications Studies Capstone (3)
Prerequisites: COMM 300, COMM 302, and at least 9 additional credits of upper-level COMM, SPCH, and/or JOUR courses. A project-based capstone study of communication. The aim is to reflect on the knowledge and skills gained through previous coursework and experiences in the discipline.

Computer Information Technology

Courses in computer information technology (designated CMIT) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz or faster, at least 6GB of available disk space, and at least 16GB RAM (32GB recommended). Display devices should have a resolution of 1920 X 1080 or better (PCs) or 1440 X 900 retina display (Mac).

CMIT 202 Fundamentals of Computer Troubleshooting (3)
(Designed to help prepare for the CompTIA A+ exams.) 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.) 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 interconnection) model, security, and networking protocols. Students may receive credit for only one of the following courses: CMIT 265 or CMIT 265M.

CMIT 291 Introduction to Linux (3)
(Designed to help prepare for the Linux Professional Institute Certification 1 [LPIC-1] and the CompTIA Linux+ certification exams.) Prerequisite: CMIT 202 or 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, and users and groups. Students may receive credit for only one of the following courses: CMIS 390, CMIS 398U, CMIT 291, or CMIT 391.

CMIT 320 Network Security (3)
(Designed to help prepare for the CompTIA Security+ exam.) Prerequisite: CMIT 265 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 the EC-Council Certified Ethical Hacker certification exam.) Prerequisite: CMIT 320. Development of the structured knowledge base needed to discover vulnerabilities and recommend solutions for tightening network security and protecting data from potential attackers. Focus is on penetration-testing tools and techniques to protect computer networks. Students may receive credit for only one of the following courses: CMIT 321 or CMIT 398E.

CMIT 326 Cloud Technologies (3)
(Designed to help prepare for the CompTIA Cloud+ and AWS Certified Cloud Practitioner certification exams.) A hands-on study of basic cloud technologies. The aim is to apply the techniques and tools used in cloud environments, especially the AWS (Amazon Web Services) cloud. Topics include the global infrastructure of the cloud, deployment and operation in various cloud environments, high availability, scalability, elasticity, security, and troubleshooting. AWS, Microsoft Azure, and Google Cloud are compared.

TABLE OF CONTENTS
INDEX

CMIT 336 Fundamentals of Microsoft Azure (3)
(Designed to help prepare for Exam AZ-900: Microsoft Azure Fundamentals.) Prerequisite: CMIT 326. A hands-on study of Microsoft Azure services. The aim is to demonstrate mastery of cloud concepts; the core services used in Azure; pricing and support models used for Azure; and fundamentals of cloud security, privacy, compliance, and trust for Microsoft Azure. Topics include high availability, scalability, agility, fault tolerance, and disaster recovery in the Microsoft Azure environment.

CMIT 351 Switching, Routing, and Wireless Essentials (3)
(Designed to help prepare for the Cisco Certified Network Associate [CCNA] certification exam.) Prerequisite: CMIT 265. A hands-on introduction to Cisco internetworking devices. Focus is on switching technologies and router operations that support small-to-medium business networks, including wireless local area networks (WLANs) and security concepts. The goal is to perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. Students may receive credit for only one of the following courses: CAPP 498E, CMIT 350, CMIT 351, or CMIT 499D.

CMIT 352 Enterprise Networking, Security, and Automation (3)
(Designed to help prepare for the Cisco Certified Network Associate [CCNA] certification exam. Course completion earns a Cisco-issued digital badge on the Acclaim credentials platform.) Prerequisite: CMIT 351. A hands-on introduction to Cisco internetworking devices. Focus is on the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. Topics include wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access, as well as the introduction of software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students may receive credit for only one of the following courses: CAPP 498E, CMIT 350, CMIT 352, or CMIT 499D.

CMIT 380 Microsoft 365 Endpoint Administration (3)
(Designed to help prepare for the Microsoft 365 Certified: Endpoint Administrator Associate.) Prerequisite: CMIT 265. A lab-based exploration of Microsoft Endpoint Administration. Focus is on deploying, configuring, securing, and maintaining modern endpoint devices using Microsoft solutions, including Intune, Entra ID, and Windows client management. Topics include endpoint deployment, application management, identity and access management, security policies, and troubleshooting techniques. Hands-on exercises and industry-aligned assessments are used to develop skills in implementing modern endpoints that meet the business needs of an organization.

CMIT 382 Microsoft 365 Enterprise Administration (3)
(Designed to help prepare for the Microsoft 365 Certified: Administrator Expert.) Prerequisite: CMIT 380. An applied study of the administration and management of enterprise-level Microsoft 365 environments. The goal is to configure, administer, and secure core Microsoft 365 services. Focus is on identity and access management, hybrid environment configurations, collaboration tools, and threat protection. Topics include managing infrastructure, identity, security, compliance, endpoints, and applications.

CMIT 386 Penetration Testing and Cyber Red Teaming (3)
(Designed to help prepare for the CompTIA PenTest+ certification exam.) Prerequisites: CMIT 291 or CMIT 391 (or CompTIA Linux+ or Linux Professional Institute LPIC-1 certification) and CMIT 321 (or EC-Council Certified Ethical Hacker certification). An introduction to the concepts and skills necessary to perform penetration testing and red teaming. The goal is to use penetration testing techniques—based on the Penetration Testing Execution Standard (PTES), including pre-engagement interactions, intelligence gathering, threat modeling, vulnerability analysis, exploitation, post-exploitation, and reporting—to perform a penetration test and present findings to management. Topics include tools, such as KALI Linux and the Metasploit Framework, that can be used for penetration testing and strategies for red teaming.

CMIT 388 Red Hat Linux System Administration I (3)
(Designed to help prepare for the Red Hat Certified System Administrator [RHCSA] certification exam.) Prerequisite: CMIT 291 or CMIT 391. Development of the key foundational skills needed by an RHCSA-certified Red Hat Enterprise Linux system administrator. Focus is on the knowledge, skills, and abilities needed to become a Linux system expert or administrator. Discussion covers advanced command line concepts and enterprise-level tools intended for cybersecurity professionals who need to perform essential Linux administration tasks, including installation, configuring networking connectivity, managing physical storage, automation/programmability, and performing security administration tasks.

CMIT 421 Threat Management and Vulnerability Assessment (3)
(Designed to help prepare for the CompTIA Cybersecurity Analyst [CySA+] certification exam.) Prerequisite: CMIT 320. A study of the analysis of data in threat and vulnerability management. The goal is to properly utilize various cybersecurity tools and technologies. Discussion covers the analysis of threats and the impact on incident response, as well as the tools and equipment used in a forensic investigation. Various industry and government frameworks and regulatory compliance are highlighted.

TABLE OF CONTENTS
INDEX

CMIT 424 Digital Forensics Analysis and Application (3)
(Designed to help prepare for the Certified Computer Examiner [CCE] certification exam.) Prerequisites: CMIT 202 (or CompTIA A+ certification), CMIT 320 (or CompTIA Security+ certification), and CCJS 321. 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 Systems Security (3)
(Designed to help prepare for the ISC2 Certified Information System Security Professional [CISSP] certification exam.) Prerequisite: CMIT 320 or CompTIA Network+ and Security+ certifications. 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 425 or CMIT 499S.

CMIT 426 Mastering the AWS Cloud (3)
(Designed to help prepare for the AWS Certified Solutions Architect–Associate exam.) Prerequisite: CMIT 326. A hands-on study of Amazon Web Services (AWS). The goal is to understand the computing, networking, storage, and database services in AWS; apply best practices in building secure and reliable applications in the AWS cloud environment; and identify the appropriate AWS service to meet an organization's technical requirements.

CMIT 436 Security in the Cloud (3)
(Designed to help prepare for the ISC2 Certified Cloud Security Professional exam.) Prerequisite: CMIT 326. A hands-on study of cybersecurity and means for securing critical assets in cloud environments. The goal is to apply the principles of confidentiality, integrity, and availability (CIA) of digital resources in cloud environments.

CMIT 440 Mobile Forensics (3)
(Designed to help prepare for the IACIS Certified Mobile Device Examiner [ICMDE] certification exam.) Prerequisite: CMIT 424. A project-driven study of mobile devices from a forensic perspective. The aim is to implement various techniques to collect and analyze information from mobile devices used in forensic investigations.

CMIT 455 Implementing and Operating Cisco Enterprise Network Core Technologies (3)
(Designed to help prepare for the Cisco Certified Network Professional [CCNP] Implementing and Operating Cisco Enterprise Network Core Technologies [ENCOR] certification exam. Course completion earns a Cisco-issued digital badge on the Acclaim credentials platform.) Prerequisite: CMIT 350 or CMIT 352. A comprehensive study designed to broaden the architectural understanding and deepen the implementation skills required in today's enterprise networks. Discussion covers switching, routing, wireless, and related security topics, as well as the technologies that support software-defined programmable networks. Students may receive credit for only one of the following courses: CMIT 451 or CMIT 455.

CMIT 456 Implementing Cisco Enterprise Advance Routing and Services (3)
(Designed to help prepare for the Cisco Certified Network Professional [CCNP] Implementing Cisco Enterprise Advanced Routing and Services [ENARSI] certification exam. Course completion earns a Cisco-issued digital badge on the Acclaim credentials platform.) Prerequisite: CMIT 455. An in-depth study of the architectural understanding and implementation skills required in today's enterprise networks. The aim is to implement and troubleshoot advanced routing technologies and services, including Layer 3, VPN services, infrastructure security, infrastructure services, and infrastructure automation. Students may receive credit for only one of the following courses: CMIT 452 or CMIT 456.

CMIT 460 Network Forensics (3)
(Designed to help prepare for the Computer Security Incident Handler [CSIH] certification exam.) Prerequisites: CMIT 320 and CMIT 424. A project-driven study of networks from a forensics perspective. The goal is to implement various techniques that are used in forensic investigations in response to network intrusions to collect and analyze information from computer networks.

CMIT 486A Workplace Learning in Computer and Information Technology (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl)*. 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 Workplace Learning in Computer Information Technology (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl)*. 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.

TABLE OF CONTENTS
INDEX

CMIT 495 Cybersecurity Technology Capstone (3)
Prerequisites: Completion of at least 27 credits of 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 Networks and Security (1–5)
An inquiry into special topics in computer networks and security that reflect the changing field. May be repeated when topics differ.

Computer Science

Courses in computer science (except CMSC 150) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz and at least 8GB RAM (16GB recommended).

CMSC 100 Social Networking and Cybersecurity Best Practices (3)
(Formerly CMIS 111.) A hands-on study of current social networking applications and approaches to protect against cyberattacks 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. Projects include creating and maintaining accounts on selected social networking sites. Students may receive credit for only one of the following courses: CMIS 111 or CMSC 100.

CMSC 105 Introduction to Problem-Solving and Algorithm Design (3)
(Formerly CMIS 102.) A study of techniques for finding solutions to problems through structured programming and stepwise refinement. The objective is to design programs using pseudocode and implement them in an appropriate programming language. Hands-on practice in debugging, testing, and documenting is provided. 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, CMSC 101, or CMSC 105.

CMSC 115 Introductory Programming (3)
(Formerly CMIS 141.) Prerequisite: CMSC 105 (or CMIS 102). 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 the 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 115.

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.

CMSC 215 Intermediate Programming (3)
(Formerly CMIS 242.) Prerequisite: CMSC 115 (or 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. Students may receive credit for only one of the following courses: CMSC 215 or CMIS 242.

CMSC 310 Computer Systems and Architecture (3)
(Formerly CMIS 310.) Prerequisite: CMSC 115 (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 310, CMSC 311, or IFSM 310.

CMSC 315 Data Structures and Analysis (3)
(Formerly CMSC 350.) Prerequisite: CMSC 215 (or CMIS 242). A study of user-defined data structures and object-oriented design in computer science. The aim is to develop secure Java programs. Topics include linked lists, stacks, queues, arrays, maps, vectors, and trees. Algorithms that perform sorting, searching, and recursion are discussed and analyzed. Students may receive credit for only one of the following courses: CMSC 315 or CMSC 350.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CMSC 320 Relational Database Concepts and Applications (3)

(Formerly CMIS 320.) Prerequisite: CMSC 115 (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 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, CMSC 320, or IFSM 410.

CMSC 325 Game Design and Development (3)

Prerequisite: CMSC 215 (or CMIS 242). A project-driven study of the theory and practice of game design and development. The aim is to build realistic graphical 3D worlds, animate characters, and add special effects to games. Discussion covers critical mathematical concepts and real-time game physics. Projects include collaborative development of interactive games.

CMSC 330 Advanced Programming Languages (3)

Prerequisite: CMSC 315 (or CMSC 350). A comparative study of programming languages. The aim is to write safe and secure computer programs. Topics include the syntax and semantics of programming languages and run-time support required for various programming languages. Programming projects using selected languages are required.

CMSC 335 Object-Oriented and Concurrent Programming (3)

Prerequisite: CMSC 315 (or CMSC 350). A study of object-oriented and concurrent programming using features of Java. The goal is to design, implement, test, debug, and document complex robust programs in an object-oriented language. Concepts of object-oriented programming (such as composition, classification, and polymorphism) are explored. Topics include the principles of concurrent programming (such as task synchronization, race conditions, deadlock, threads, and event-driven graphic user interface programs). Programming projects are implemented in Java. Students may receive credit for only one of the following courses: CMSC 300 or CMSC 335.

CMSC 340 Web Programming (3)

Prerequisite: CMSC 115 (or CMIS 141). A study of how to develop web applications. The objective is to understand and implement networking protocols, system design, and web security. Topics include basic web architecture, core web standards (such as HTTP, HTML, and CSS), client-side scripting with JavaScript, and server-side programming with PHP.

CMSC 345 Software Engineering Principles and Techniques (3)

(Formerly CMIS 330.) Prerequisite: CMSC 115 (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, CMIS 388A, or CMSC 345.

CMSC 405 Computer Graphics (3)

Prerequisite: CMSC 325 or CMSC 315 (or CMSC 350). A hands-on, project-based introduction to computer graphics. The goal is to develop projects that render graphic images and animate three-dimensional objects. Topics include programming in OpenGL and transforming, viewing, and modeling 2D and 3D objects.

CMSC 412 Operating Systems (3)

Prerequisite: CMIS 310 or CMSC 311. A study of the fundamental principles underlying modern operating systems. The objective is to design and implement a small-scale operating system and design a virtual memory management system. Discussion covers the essential components of a typical operating system and the interactions among them. Topics also include methods of managing processes and resources in computer systems. A programming project that implements part of an operating system is required.

CMSC 415 Distributed Database Systems (3)

Prerequisite: CMSC 320 or CMIS 320. An examination of the fundamental concepts of distributed databases. Discussion covers distributed database architecture and distributed database design, as well as relevant topics of big data management and distributed NoSQL databases.

CMSC 420 Advanced Relational Database Concepts and Applications (3)

Prerequisite: CMSC 320 (or 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, CMSC 420, IFSM 420, or IFSM 498I.

TABLE OF CONTENTS
INDEX

CMSC 425 Mobile App Development (3)
Prerequisite: CMSC 215 or CMIS 242. A study of techniques for designing and developing mobile applications using the Android operating system. Topics include mobile architecture, operating systems, programming languages, user interface design, and security and privacy issues related to mobile apps.

CMSC 427 Artificial Intelligence Foundations (3)
Prerequisite: CMSC 315 (or CMSC 350) or CYOP 300 (or SDEV 300). A study of the theoretical foundations and practical applications of artificial intelligence. The objective is to develop algorithms and systems to demonstrate intelligent behavior. Topics include intelligent agents, searching algorithms, knowledge representation, probability, logic, and learning.

CMSC 430 Compiler Theory and Design (3)
Prerequisite: CMSC 330. An examination of the formal translation of programming languages, syntax, and semantics. The goal is to write programs that are constructed using program generators. Topics include evaluation of finite-state grammars and recognizers; context-free parsing techniques, such as recursive descent, precedence, LL(K), LR(K), and SLR(K); and improvement and generation of machine-independent code and syntax-directed translation schema. Programming projects that implement parts of a compiler are required.

CMSC 440 Advanced Programming in Java (3)
(Formerly CMIS 440.) Prerequisites: CMSC 215 (or CMIS 242) and CMSC 320 (or 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, CMIS 498A, or CMSC 440.

CMSC 451 Design and Analysis of Computer Algorithms (3)
Prerequisites: CMSC 150 and CMSC 315 (or CMIS 350). A presentation of fundamental techniques for designing and analyzing computer algorithms. The aim is to apply big-O estimates of algorithms and proof-of-correctness techniques and to design algorithms. Basic methods include divide-and-conquer techniques, search and traversal techniques, dynamic programming, greedy methods, and induction. Programming projects are included.

CMSC 465 Image and Signal Processing (3)
Prerequisites: MATH 141 and CMSC 315 (or CMSC 350). A project-driven study of image and signal processing. The goal is to apply spectral analysis techniques to analyze time series data for the purpose of recognizing and classifying signals and to apply image segmentation, representation, and description techniques to recognize and classify objects. Topics include discrete Fourier transforms, fast Fourier transforms, sampling and filtering, and image transformations and enhancements.

CMSC 486A Workplace Learning in Computer Science (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CMSC 486B Workplace Learning in Computer Science (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CMSC 495 Computer Science Capstone (3)
Prerequisite(s): Either CMSC 330 and CMSC 335, CMSC 320 (or CMIS 320) and CMSC 345, or SDEV 425. An overview of computer technologies, with an emphasis on integration of concepts, practical application, and critical thinking. The goal is to research, plan, conduct, and complete collaborative computer-related projects in compliance with schedule deadlines. Analysis covers innovative and emerging issues in computer science. Assignments include working in teams throughout the analysis, design, development, implementation, testing, and documentation phases of the projects, including periodic peer reviews.

CMSC 498 Special Topics in Computer Science (1–3)
Prerequisites: Vary according to topic. A seminar on topics in computer science. May be repeated to a maximum of 6 credits when topics differ.

Computer Studies

Certain computer studies courses (CMST 308, CMST 310, CMST 311, CMST 315, CMST 320, CMST 325, CMST 330, CMST 331, CMST 341, and CMST 351) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz or faster, at least 6GB of available disk space, and at least 16GB RAM (32GB recommended). Display devices should have a resolution of 1920 X 1080 or better (PCs) or 1440 X 900 retina display (Mac).

CMST 100B Word Processing (1)

(Not open to students who have completed CMST 303.) An introduction to word processing. The goal is to use word processing applications effectively to produce professional documents for business and personal communication. Topics include creating, formatting, and editing word processing documents. Hands-on practice with industry-standard word-processing software is provided. Students may receive credit for only one of the following courses: CAPP 100B, CAPP 103, CMST 100B, or CMST 103.

CMST 100D Presentation Graphics (1)

(Not open to students who have completed CMST 303.) An introduction to the principles of presentation graphics. The goal is to use presentation graphics applications effectively to produce electronic presentations for professional and personal communication. Topics include planning and creating effective presentations. Hands-on practice with industry-standard presentation graphics software is provided. Students may receive credit for only one of the following courses: CAPP 100D, CAPP 103, CMST 100D, or CMST 103.

CMST 100F Database Applications (1)

(Not open to students who have completed CMST 303.) An introduction to database systems, their terminology, and the principles of database management. The goal is to use database management applications effectively to create professional databases. Topics include how best to organize, manage, and access stored data; how to protect databases; and how to extract useful information. Hands-on practice with industry-standard database software is provided. Students may receive credit for only one of the following courses: CAPP 100F, CAPP 103, CMST 100F, or CMST 103.

CMST 100G Spreadsheet Applications (1)

(Not open to students who have completed CMST 303.) An introduction to the use of electronic spreadsheets to analyze numerical data, including basic terminology, formats, and other applications. The goal is to use spreadsheet applications to produce professional electronic spreadsheets effectively for business and personal use. Hands-on practice with industry standard spreadsheet software is provided. Students may receive credit for only one of the following courses: CAPP 100G, CAPP 103, CMST 100G, or CMST 103.

CMST 290 Introduction to Interactive Design (3)

An introduction to the principles, practices, techniques, and theories that govern the use of scripting and programming languages in the design and development of interactive digital media. The objective is to use proven scripting and programming theory effectively to support digital media design for print, web, and mobile devices. Projects involve modifying existing scripting languages and HTML code and conducting a usability review.

CMST 295 Fundamentals of Digital Design (3)

An overview of the principles, practices, techniques, and theories that govern web and digital design. The goal is to effectively follow proven design theory in creating digital design for print, web, and mobile devices. Topics include usability, accessibility, ethics, extended reality, and emerging technologies. Career paths in the web and digital design industry are analyzed.

CMST 301 Digital Media and Society (3)

A survey of technological advancements in the field of digital media and their impact. The objective is to explain how digital media has transformed the communication of ideas in society and to make responsible choices in the creation and consumption of digital media based on awareness of global, social, ethical, and legal contexts. Topics include social media, the visual display of information, ethics and privacy, participatory media, and the impact of digital media on culture.

CMST 303 Advanced Application Software (3)

Prerequisite(s): CMST 100B, CMST 100D, CMST 100F, and CMST 100G or Microsoft Office Specialist (MOS) certifications in Word, Excel, PowerPoint, and Access or an introductory course in Microsoft Office. A hands-on, project-based survey of advanced features of office application software. The aim is to use advanced application features to produce documents for professional and personal communication. Topics include information systems, application integration, computer hardware and software, storage, and networking. Students may receive credit for only one of the following courses: CAPP 303 or CMST 303.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CMST 308 User Experience and Interface Design (3)
A hands-on, project-based introduction to user experience (UX) and user interface (UI) design. An introduction to design thinking and the basic practices of user experience, interface, and interaction design. Focus is on a user-centric, systematic, data-driven design process that includes research, concept generation, prototyping, and refinement. The goal is to evaluate user interfaces and create a working prototype using industry-standard techniques guided by usability data. Topics include human-computer interaction, user research, and career paths, as well as measuring and evaluating interface quality, wireframing, prototyping, designing virtual experiences, and storyboarding.

CMST 310 Fundamentals of Electronic Publishing (3)
A hands-on, project-based introduction to the tools, concepts, processes, and methods of electronic (desktop) publishing. The aim is to use Adobe InDesign (or another professional electronic publishing software program) to create electronic publications for various media formats following fundamental design principles. Topics include the history and evolution of publishing, working with color, incorporating graphics, principles and elements of design, publication workflow, emerging technologies, careers in the field, ethical and legal considerations, and collaborative design. Students may receive credit for only one of the following courses: CAPP 310, CAPP 398B, or CMST 310.

CMST 311 Advanced Electronic Publishing (3)
Prerequisite: CMST 310. A hands-on, project-based study of the advanced concepts, tools, processes, and methods of electronic (desktop) publishing. The goal is to use Adobe InDesign to create engaging electronic publications following fundamental design principles for print, online, and mobile devices. Topics include motion and interactivity, PDF (portable document format) publishing, emerging technologies, design issues related to mobile devices, ethical and legal considerations, collaborative work, and print and web-ready Adobe Flash files. Students may receive credit for only one of the following courses: CAPP 311 or CMST 311.

CMST 315 Game Design I (3)
A hands-on, project-based introduction to 3D video game design and programming fundamentals. The aim is to use an industry-standard 3D game engine to create a game from concept to final product. Topics include 3D game engines, 3D game design, gameplay mechanics, sound effects, C# programming, project management, 3D physics, and user interface design.

CMST 320 Illustration Graphics (3)
A hands-on, project-based introduction to illustration graphics using Adobe Illustrator. The goal is to apply fundamental concepts of vector image composition to create professional digital media for delivery across multiple platforms, including print, web, and video, following ethical principles and legal guidelines. Topics include terminology, tools, theory, and processes from concept to completion. Discussion covers Bezier curves, shading, depth, paths, drawing tools, vector versus raster images, and color theory.

CMST 325 Image Editing (3)
An introduction to digital image editing using Adobe Photoshop. The aim is to identify established digital image editing tools, techniques, and best practices; create new images; and edit existing images. Topics include terminology, tools, theory, and processes from concept to completion. Discussion covers fundamental concepts and practical techniques, as well as ethical and legal issues. Emphasis is on applying these concepts and techniques to produce high-quality digital works for multiple platforms, including print, web, and other electronic media.

CMST 330 Virtual Reality Design I (3)
Prerequisite: CMST 315. A hands-on, project-based introduction to the theories, best practices, aesthetics, techniques, and workflows used to create immersive virtual reality. The goal is to develop, test, and deploy virtual reality experiences following design theory and industry standard best practices. Topics include human perception, 3D modeling, game design, design considerations, limitations, storytelling, mobile app development, and 360-degree video.

CMST 331 Augmented Reality Design I (3)
Prerequisite: CMST 315. A hands-on, project-based introduction to the theories, best practices, aesthetics, techniques, and workflows used to create immersive augmented reality (AR). The goal is to develop, test, and deploy augmented reality experiences following design theory and industry-standard best practices. Topics include human-computer interaction and user experience, design principles, 3D modeling, game design, storytelling, and AR application development.

CMST 341 Principles of Multimedia I (3)
A hands-on, project-based introduction to multimedia development. The aim is to create interactive products that integrate images, sound, video, and animation following sound media design principles for optimal display in multiple media formats using Adobe Animate. Topics include storyboarding, web design, animation, motion-tweening, project management, and ethical design.

TABLE OF CONTENTS
INDEX

CMST 351 Motion Graphics I (3)
A hands-on introduction to the basic concepts, techniques, and principles of digital video and motion graphics effects using Adobe After Effects. The objective is to describe digital video compositing techniques; create digital composites that combine video, text, digital images, and audio; and apply visual special effects to create professional results for use on multiple platforms, such as film, video, multimedia, and the web. Topics include techniques such as basic storyboarding, key framing, transformations, and rendering, as well as effects (including levels, curves, color correction, blur, glow, fractal noise, keying, masking, and cartoon effects).

CMST 355 Content Management Systems (3)
A hands-on, project-based introduction to website development using content management systems (CMS). The goal is to use CMSs to quickly create engaging, interactive, and dynamic websites following industry-standard best practices. Topics include content publishing workflows, cross-browser compatibility, security and privacy vulnerabilities, plug-ins, themes, and templates.

CMST 385 Principles of Web Design and Technology I (3)
A study of web design, tools, and technology principles. The goal is to plan and produce a professional website. Topics include internet protocols; usability; accessibility; and social, ethical, and legal issues related to website production. Focus is on HyperText Markup Language version 5 (HTML5) and cascading style sheets (CSS). Students may receive credit for only one of the following courses: CAPP 385 or CMST 385.

CMST 386 Principles of Web Design and Technology II (3)
Prerequisite: CMST 385. A continuation of the study of web design, tools, and technology principles. The objective is to create a website promotion strategy, with search engine optimization, and produce a professional website that incorporates multimedia and scripting. Topics include website marketing, web analytics, performance, privacy, and security issues related to website production. Focus is on Extensible HyperText Markup Language (XHTML), cascading style sheets (CSS), and JavaScript. Students may receive credit for only one of the following courses: CAPP 386 or CMST 386.

CMST 387 Principles of Web Design and Technology III (3)
Prerequisite: CMST 386. A comprehensive, project-focused exploration of the techniques, tools, workflows, and industry best practices used in advanced web development. The goal is to create professional websites. Topics include web security, accessibility, inclusive design, and web performance optimization.

CMST 388 Fundamentals of JavaScript (3)
Prerequisite: CMST 385. A hands-on, project-based study of JavaScript using a structured programming approach to build dynamic, interactive web pages. The goal is to use client-side JavaScript to create interactive, cross-browser-compatible web pages that minimize security and privacy vulnerabilities. Topics include form validation, web development tools, documentation, dynamic HTML, event handling, cross-browser compatibility, cookies, and security issues. Programming projects are included. Students may receive credit for only one of the following courses: CMST 388 or CMST 398J.

CMST 390 3D Modeling (3)
(Formerly CMST 429.) A hands-on, project-based introduction to the fundamental concepts, tools, and techniques used in 3D modeling. The aim is to use industry-standard software to design and manipulate models in three-dimensional space and to create 3D assets for virtual and augmented reality, games, animation, architecture, cinematics, and 3D printing. Topics include texturing, lighting, animation, rendering, sculpting, 3D printing, extended reality design, and career paths. Students may receive credit for only one of the following courses: CMST 390 or CMST 429.

CMST 425 Advanced Image Editing (3)
Prerequisite: CMST 325. Continued hands-on, project-based study of digital image editing using Adobe Photoshop. The objective is to identify and apply advanced design concepts, adjustments, and batch-processing techniques to creating new images and editing existing ones. Topics include more advanced terminology, tools, considerations, and processes from concept to completion. Emphasis is on advanced concepts and practical techniques to create professional images for print, web, and other electronic media. Discussion also covers ethical and legal issues.

CMST 486A Workplace Learning in Web and Digital Design (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CMST 486B Workplace Learning in Web and Digital Design (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CMST 488 Advanced JavaScript (3)
Prerequisite: CMST 388. A hands-on, project-based study of web application development using advanced JavaScript technologies. The aim is to create cross-browser-compatible web applications that adhere to industry standards and minimize security risks. Topics include JavaScript libraries, user interfaces, accessibility, usability, and security. Web development projects using advanced JavaScript are included.

CMST 490 Virtual World-Building (3)
Prerequisite: CMST 315. A comprehensive, project-focused exploration of the techniques, tools, workflows, and industry best practices used in virtual reality (VR) metaverse world building. The goal is to create immersive and engaging virtual spaces and environments. Topics include 3D modeling, user interaction design and experience, aesthetics, narrative crafting, spatial audio effects, lighting, accessibility, and performance optimization.

CMST 495 Web and Digital Design Capstone (3)
Prerequisites: 24 credits of major coursework. An overview of current trends, technologies, theories, and practices in the web and digital design fields. The aim is to integrate concepts, practical application, and critical thinking acquired through previous study and apply them to professional and postgraduate objectives. Analysis covers innovative and emerging issues in web and digital design. Assignments include industry analysis, résumé design, and portfolio creation.

Criminology/ Criminal Justice

CCJS 100 Introduction to Criminal Justice (3)
(Fulfills the general education requirement in behavioral and social sciences.) An introduction to the three primary components of the criminal justice system: law enforcement, courts, and corrections. The objective is to identify the components of the system, the practitioners within the system and their role in policy formation and implementation, and the major theoretical tenets of criminal behavior. Topics include community relations, the impact of criminal behavior, and the importance of research in the field of criminal justice.

CCJS 101 Introduction to Investigative Forensics (3)
A survey of the practical applications of forensic science. The aim is to learn to apply the scientific method to forensic evidence and distinguish between reality and popular misperceptions of the roles and importance of forensic science and its practitioners. Discussion covers the "CSI effect," the scientific method as it applies to forensic evidence, ethical practices, and legal aspects of the field. Topics include the definition of forensic science and how it has evolved, disciplines within the field, ethical codes, and case law.

CCJS 105 Introduction to Criminology (3)
(Fulfills the general education requirement in behavioral and social sciences.) An exploration of the nature and causes of crime and criminal behavior. Topics include what we rationally know about crime, theoretical explanations of criminal behavior, and how to conduct research to explore the nature and extent of crime and criminal behavior.

CCJS 230 Criminal Law in Action (3)
Prerequisite: CCJS 100. An exploration of how criminal cases are handled, including factors related to how a case is charged and criminal liability. Focus is on the substantive elements of criminal law and on the historical development of criminal law in the United States. Topics include the basic elements of and defenses to criminal liability, crimes against people, crimes against property, and the defenses and justifications commonly used to negate criminal responsibility.

CCJS 234 Criminal Procedure and Evidence (3)
A study of the general principles of criminal procedure. Emphasis is on the history and evolution of criminal procedure in the United States and the fundamental components of criminal procedure, including privacy, reasonableness, probable cause, search and seizure, search warrants, interrogations, and the trial process. Topics include the criminal justice process and the connections between the law, the criminal justice process, criminal procedure, and evidence.

CCJS 301 Criminalistics I: The Comparative Disciplines (4)
Prerequisite: CCJS 100, CCJS 101, or CCJS 105. An intensive study of the analysis of physical evidence in the crime laboratory, with practical laboratory exercises. The objective is to apply the skills expected of an entry-level professional in the investigative forensics field that are necessary for the practical analysis of evidence in a criminal investigation. Topics include the comparative disciplines, including impression evidence analysis, trace evidence analysis, and firearms analysis.

TABLE OF CONTENTS
INDEX

CCJS 302 Criminalistics II: The Scientific Disciplines (4)
Prerequisite: CCJS 301. Further intensive study of the analysis of physical evidence in the crime laboratory, with practical laboratory exercises. The goal is to apply the skills expected of an entry-level criminalist to the practical analysis of evidence in a criminal investigation. Topics include the applications of the scientific disciplines, including bloodstain pattern analysis, questioned document analysis, controlled dangerous substances analysis, and DNA analysis.

CCJS 311 Intelligence-Led Policing (3)
Prerequisite: CCJS 100. An examination of intelligence-related processes as they apply to domestic law enforcement. The aim is to identify, collect, and assess data and process that information into intelligence that can support strategic and tactical planning. Intelligence reports are reviewed and assessed. Discussion covers the legal and ethical licenses and constraints that provide a framework for intelligence development.

CCJS 320 Introduction to Criminalistics (3)
Prerequisite: CCJS 101. An explanation of modern methods used to collect and analyze physical evidence. The aim is to provide an overview of the proper methods for collecting, packaging, preserving, and analyzing physical evidence. Topics include the organization of a forensic science laboratory, the disciplines within the forensic laboratory, the tests conducted in the forensic laboratory, and the role of the forensic scientist in the laboratory. Students may receive credit for only one of the following courses: CCJS 301, CCJS 302, or CCJS 320.

CCJS 321 Digital Forensics in the Criminal Justice System (3)
An overview of the criminal justice system and the application of digital forensic evidence in criminal justice cases. The objective is to apply constitutional and case law to the search and seizure of digital evidence, determine the most effective and appropriate forensic response strategies to digital evidence, and provide effective courtroom testimony in a case involving digital evidence. Topics include crime scene procedures and the collection of digital evidence, procedures performed in a digital forensics lab, and the preparation of courtroom testimony by the digital forensic investigator.

CCJS 340 Law Enforcement Administration (3)
Prerequisite: CCJS 100. An introduction to organization and management in law enforcement. The objective is to communicate effectively and apply research skills and management and administrative principles to a law enforcement agency. Topics include structure, process, policy and procedure, communication and authority, division of work and organizational controls, the human element in the organization, and informal interaction in the context of bureaucracy. Students may receive credit for only one of the following courses: CCJS 340 or CJUS 340.

CCJS 341 Criminal Investigation (3)
Prerequisite: CCJS 100. An exploration of criminal investigation as it relates to the framework of the law that governs such investigations. Emphasis is on crime scene response, the collection and evaluation of crime scene evidence, the complexity of investigative interviews, and the application of current strategies and technology to further criminal investigations.

CCJS 342 Crime Scene Investigation (3)
Prerequisite: CCJS 100, CCJS 101, or CCJS 105. An examination of the investigation of crime scenes. The objective is to apply skills expected of an entry-level professional in the investigative forensics field. Topics include the crime scene, crime scene documentation, evidence, and post–crime scene activities.

CCJS 345 Introduction to Security Management (3)
(Formerly CCJS 445.) Prerequisite: CCJS 100. A study of the history, concepts, principles, and methods of organizing and administering security management and loss prevention activities in industry, business, and government. The objective is to manage security duties, evaluate and apply risk management principles, and evaluate administrative and operational issues. Discussion covers both private and governmental risk assessment and management and the protection of assets, personnel, and facilities. Students may receive credit for only one of the following courses: CCJS 345, CCJS 445, or CCJS 498G.

CCJS 350 Juvenile Delinquency (3)
(Fulfills the general education requirement in behavioral and social sciences.) Prerequisite: CCJS 100. An examination of juvenile delinquency in relation to the general problem of crime. The aim is to apply theories and identify statutory parameters related to juvenile delinquency, analyze prevention measures, and assess the effectiveness of treatment measures. Topics include factors underlying juvenile delinquency, prevention of criminal acts by youths, and the treatment of delinquents. Students may receive credit for only one of the following courses: CCJS 350 or CRIM 450.

TABLE OF CONTENTS
INDEX

CCJS 352 Drugs and Crime (3)
Prerequisite: CCJS 100. An analysis of the role of criminal justice in controlling the use and abuse of drugs. The objective is to apply effective enforcement strategies, demonstrate case management skills, and analyze the effect of drug policy. Students may receive credit for only one of the following courses: CCJS 352 or CJUS 352.

CCJS 360 Victimology (3)
(Fulfills the general education requirement in behavioral and social sciences.) Prerequisite: CCJS 100. An overview of the history and theory of victimology in which patterns of victimization are analyzed, with emphasis on types of victims and of crimes. The aim is to identify and apply appropriate preventative measures and responses to victimization. Discussion covers the interaction between victims of crime and the system of criminal justice in terms of the role of the victim and the services that the victim is offered. Students may receive credit for only one of the following courses: CCJS 360 or CRIM 360.

CCJS 380 Ethical Behavior in Criminal Justice (3)
Prerequisite: CCJS 100. A survey of the standards for ethical behavior that guide criminal justice professionals in different roles and responsibilities. The aim is to make ethical decisions based on informed personal and accepted professional standards. Rules, laws, and codes of conduct are explored as a foundation for discussing individual ethical responsibilities.

CCJS 390 Cybercrime and Security (3)
An examination of crimes involving the use of computers. Topics include federal and state laws and investigative and preventive methods used to secure computers. Case studies emphasize security. Students may receive credit for only one of the following courses: CCJS 390, CCJS 496, or CCJS 498C.

CCJS 416 Analytical Strategies for Law Enforcement (3)
Prerequisite: CCJS 100 or CCJS 105. An examination of the authenticity, accuracy, viability, and reliability of intelligence reports as they relate to the application of intelligence to public safety problem-solving. The goal is to evaluate intelligence reports to formulate plans, policies, and procedures that ensure effective and efficient agency operations. Focus is on developing critical-thinking and problem-solving skills through role-playing in a simulated environment, working with near-genuine intelligence reports and public safety issues. Practice is provided in analyzing the strategies and activities detailed in intelligence reports, identifying and implementing responsive actions, and determining appropriate redistribution of such reports.

CCJS 420 Medical and Legal Investigations of Death (3)
Prerequisite: CCJS 100, CCJS 101, or CCJS 105. An intensive look at medical and legal investigations into causes of death. The objective is to perform investigative functions at a death scene, determine and apply forensic testing, and analyze and effectively communicate investigative information. Topics include the difference between the medical (or pathological) and legal (or criminal) components of investigations into causes of death, medical and investigative terminology, and the impact of ethics on prosecutions and convictions. Case studies illustrate practical applications of various forms of forensic styles and parameters.

CCJS 421 Principles of Digital Analysis (3)
Prerequisite: CCJS 321. A hands-on exploration of digital analysis based on the overarching principles of data integrity and search and comparison as they relate to digital evidence. Focus is on the data and forensic tools and methodologies used to explore these overarching principles critical to digital evidence and analysis. The comparison and correlation of digital artifacts provide a solid introduction to all facets of digital analysis.

CCJS 440 Fingerprint Analysis (3)
Prerequisite: CCJS 301 or CCJS 320. A comprehensive study of friction ridge analysis in fingerprints. Emphasis is on the practical analysis of evidence in a criminal investigation. The objective is to apply the skills expected of an entry-level fingerprint professional, including assessing surfaces for viable latent fingerprints; evaluating how to process and collect latent fingerprints; analyzing, comparing, evaluating, and verifying fingerprint evidence; and conveying findings. Topics include processing and comparison methodologies, historical and biological foundations of impressions, and legal aspects.

CCJS 441 Firearms and Toolmarks Analysis (3)
Prerequisite: CCJS 301. A comprehensive study of toolmark evidence, including toolmarks imparted by firearms. Discussion covers the practical analysis of evidence in a criminal investigation. The aim is to assess toolmarks; examine, compare, evaluate, and verify firearm and toolmark evidence; and convey findings. Topics include comparison methodologies, historical and mechanical foundations of toolmarks, and legal aspects. Focus is on developing the foundational knowledge and applied skills expected of an entry-level professional in the firearms and toolmarks field.

TABLE OF CONTENTS
INDEX

CCJS 461 Psychology of Criminal Behavior (3)
Prerequisite: CCJS 100. An overview of delinquent and criminal behavior from a developmental, cognitive-behavioral perspective. The aim is to apply theoretical perspectives (behavioral, emotional, and cognitive) to analyze real or hypothetical criminal scenarios; to identify the various factors that encourage or discourage criminal behavior; and to explain the use of risk assessment tools at various stages of the criminal justice process. Factors that influence the development of adults and juveniles on the road to crime are examined to assess culpability for criminal behavior. Students may receive credit for only one of the following courses: CCJS 461 or CRIM 455.

CCJS 486A Workplace Learning in Criminal Justice (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CCJS 486B Workplace Learning in Criminal Justice (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CCJS 495 Criminal Justice Capstone (3)
(Intended as a final, capstone course to be taken in a student's last 15 credits.) Prerequisites: CCJS 230, CCJS 340, CCJS 341, CCJS 345, and CCJS 380. An integrative study of the various components of the American criminal justice system. The goal is to apply principles of interagency cooperation, critical thinking, and systems approaches to solve practical problems in a criminal justice environment. Topics include problem-solving, case-study analysis, strategic planning, teamwork, and professional writing.

CCJS 497 Correctional Administration (3)
Prerequisites: CCJS 230, CCJS 340, CCJS 341, CCJS 345, and CCJS 380. An examination of prison administration, including theories of management and institutional structure and purpose. Objectives include the application of organizational concepts, leadership, and effective administrative approaches to the management of correctional institutions and offender populations. Emphasis is on concepts of organizational structure, communication, self-assessment, short- and long-term strategic operational planning, decision-making, and human resources.

Cyber Operations

Courses in cyber operations (designated CYOP) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz and at least 8GB RAM (16GB recommended).

CYOP 200 Foundations of Cyberspace Operations (3)
A hands-on introduction to the principles of cyberspace operations that support defensive and offensive processes. The objective is to navigate, integrate, and use popular cybersecurity tools and functions in a safe environment to detect and reduce system threats and vulnerabilities. Topics include strategic and tactical planning and guidance, security objectives for information systems, cybersecurity frameworks, security design principles, vulnerabilities and exploits, network and application security techniques, and automated tools for testing and security assessment.

CYOP 300 Building Secure Python Applications (3)
(Formerly SDEV 300.) Prerequisite: CMSC 215 or CYOP 200. A hands-on study of best practices and strategies for building secure Python desktop and web applications. The objective is to design and build Python applications that are resistant to common security threats. Topics include syntax, data structures, style guides, data munging, web application frameworks, and the use of secure coding tools and processes to guard against application vulnerabilities. Students may receive credit for only one of the following courses: CYOP 300 or SDEV 300.

CYOP 310 Reverse Engineering and Malware Analysis (3)
Prerequisite: CYOP 200. A lab-intensive study of reverse engineering and malware analysis techniques. The objective is to recognize, dissect, and remediate infections caused by malicious code and malware using modern tools and methodologies. Topics include malware analysis, reverse engineering, common malware patterns, assembly language, debuggers and obfuscation, and packing techniques.

CYOP 325 Detecting Software Vulnerabilities (3)
(Formerly SDEV 325.) Prerequisite: CYOP 300 or SDEV 300. An in-depth, practical application of techniques and tools for detecting and documenting software vulnerabilities and risks. The goal is to research, select, and use software to analyze code and isolate and prioritize application code and processes that could lead to failure or compromise data integrity or privacy. Topics include the top 25 software vulnerabilities, secure coding guidelines, static code analysis, and software assurance metrics. Students may receive credit for only one of the following courses: CYOP 325 or SDEV 325.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CYOP 350 Database Security (3)
(Formerly SDEV 350.) Prerequisite: CMSC 320 or CYOP 200. A study of processes and techniques for securing databases. The objective is to design, build, and maintain databases to minimize risks and security attacks. Topics include privileges and roles, user accounts, encryption, authentication methods, and auditing. Students may receive credit for only one of the following courses: CYOP 350 or SDEV 350.

CYOP 360 Secure Software Engineering (3)
(Formerly SDEV 360.) Prerequisite: CMSC 215 or CYOP 200. An in-depth study of the processes, standards, and regulations associated with secure software engineering. The objective is to plan, manage, document, and communicate all phases of a secure software development cycle. Topics include security requirements, secure software life-cycle development, threat modeling, and Security Technical Implementation Guides (STIGs). Students may receive credit for only one of the following courses: CYOP 360 or SDEV 360.

CYOP 380 Defensive Cyberspace Operations (3)
Prerequisites: CYOP 300, CMIT 265, and CMIT 291. A hands-on, lab-intensive course in defensive cyberspace operations designed to guide learners on how to protect cyberspace capabilities from malicious activity and imminent threats. The objective is to defend cyberspace assets including data, systems, networks, and the internet. Topics include threat intelligence and analysis, risk assessment and mitigation, intrusion detection and prevention, incident response and recovery, vulnerability management, network defense architecture, security information and event management (SIEM), cyber defense operations planning, and legal and ethical considerations in defensive cyberspace operations.

CYOP 400 Secure Programming in the Cloud (3)
(Formerly SDEV 400.) Prerequisite: CYOP 300 or SDEV 300. A hands-on study of programming secure applications in the cloud. The goal is to design and build applications in the cloud while implementing appropriate security policies. Topics include cloud computing models, risks and security challenges of programming in the cloud, and data security. Students may receive credit for only one of the following courses: CYOP 400 or SDEV 400.

CYOP 420 Offensive Cyberspace Operations (3)
Prerequisites: CYOP 310 and CYOP 380. A hands-on, deep dive into the tools, techniques, and constraints associated with creating and executing an offensive cyberspace operations campaign. The goal is to target adversary cyberspace functions to impact high-valued targets within a controlled secure environment. Topics include reconnaissance and intelligence gathering, vulnerability analysis and exploitation, malware development and deployment, offensive tool development, social engineering, network exploitation, and legal and ethical constraints in offensive cyberspace operations.

CYOP 425 Mitigating Software Vulnerabilities (3)
(Formerly SDEV 425.) Prerequisites: CYOP 325 (or SDEV 325) and CYOP 360 (or SDEV 360). An in-depth analysis and evaluation of the mitigation of software vulnerabilities. The aim is to detect and mitigate software vulnerabilities by evaluating code. Topics include language-specific software vulnerabilities, mitigation, and input validation. Students may receive credit for only one of the following courses: CYOP 425 or SDEV 425.

CYOP 460 Software Security Testing (3)
(Formerly SDEV 460.) Prerequisite: CYOP 425 (or SDEV 425). A hands-on study of exploits, attacks, and techniques used to penetrate application security defenses and strategies for mitigating such attacks. The objective is to apply appropriate methodologies for software penetration testing to identify application weaknesses and logic flaws and to test and create scripts for exploitation and discovery. Topics include web architecture, application infrastructure, reconnaissance, discovery, mapping, and exploitation. Students may receive credit for only one of the following courses: CYOP 460 or SDEV 460.

CYOP 480 Cyberspace Operations Automation (3)
Prerequisite: CYOP 380. A project-based course exploring the efficient use of tools and techniques to automate tasks associated with cyberspace operations. The objective is to embrace and use technology, automation, and innovation to defend critical infrastructure and minimize the time required to deliver new capabilities. Topics include log file analysis, automation in threat intelligence, artificial intelligence (AI) in cyberspace operations, continuous monitoring and automated alerts, penetration testing and exploitation, vulnerability scanning and management, script development, infrastructure-as-code (IAC), and continuous integration/continuous delivery (CI/CD).

CYOP 486A Workplace Learning in Cyber Operations (3)
(Formerly SDEV 486A.) Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CYOP 486B Workplace Learning in Cyber Operations (6)
(Formerly SDEV 486B.) Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CYOP 495 Cyber Operations Capstone (3)
Prerequisites: 27 credits of major coursework. A comprehensive project-driven study of cyber operations, network collection tactics, techniques, and procedures and reverse engineering and malware analysis with an emphasis on the proactive response to triggers or unusual activity. The objective is to use appropriate tools and techniques to monitor cyber operations. Topics include wireless and virtual networks, cryptography, network monitoring and intrusion analysis, threat hunting, and secure software engineering.

Cybersecurity and Information Assurance

CSIA 300 Cybersecurity for Leaders and Managers (3)
A survey of the cybersecurity principles, practices, and strategies required by leaders and managers to become strategic partners in the establishment, management, and governance of an enterprise's cybersecurity program. The aim is to develop both an understanding of how cybersecurity supports key business goals and objectives and the soft skills necessary for success in a leadership or managerial role. Topics include the fundamentals of cybersecurity practices and principles; enterprise IT governance processes and security controls; data security; the information life cycle; intellectual property protections; privacy laws and regulations; security education, training, and awareness; and the need for cooperation and collaboration between business units and the organization's cybersecurity program.

CSIA 310 Cybersecurity Processes and Technologies (3)
(Includes content designed to help in preparing for EC-Council Certified Incident Handler [ECIH] certification exam.) A study of the processes and technologies used to implement and manage enterprise IT security operations. The goal is to apply and integrate cybersecurity concepts and best practices with the principles of IT operations and management and to prepare for a government and industry-recognized intermediate-level cybersecurity certification (Certified Incident Handler). Topics include the essential management and operational activities (acquisition, deployment, and operations) required to secure IT technologies and business operations against a wide variety of threats and attacks.

CSIA 350 Cybersecurity in Business and Industry (3)
(Designed to help prepare for the Program Management Institute Professional Business Analyst [PMI-PBA] certification exam—second edition.) A study of the application and integration of cybersecurity principles, frameworks, standards, and best practices to the management, governance, and policy development processes for businesses. The aim is to apply business analysis principles and methods to cybersecurity problems in business and industry. Discussion covers the organization, management, and governance of cybersecurity for enterprise IT in business settings; risk and risk management practices; and development and implementation of industry-wide cybersecurity initiatives and programs.

CSIA 360 Cybersecurity in Government Organizations (3)
Prerequisite: CSIA 350. A study of cybersecurity management and governance in the context of the missions, functions, and operations of federal, state, and municipal government agencies, departments, and programs. Discussion covers the policy life cycle and the mechanisms used by governments to formulate and implement laws, policies, regulations, and treaties to protect and defend government operations and society as a whole against cyberattacks and crimes, both foreign and domestic.

CSIA 413 Cybersecurity Policy, Plans, and Programs (3)
Prerequisite: CSIA 360. A study of the application of cybersecurity principles, frameworks, standards, and best practices to organization-level strategies, policies, programs, plans, procedures, and processes. Projects include writing security policies and plans, developing metrics and measures for information security programs, planning audits of compliance practices and processes, and developing organization-level security policies for enterprise IT governance. Discussion covers principles and best practices for protecting privacy and ensuring compliance with laws and regulations.

CSIA 459 Evaluating Emerging Technologies (3)
Prerequisites: CMIT 320 and CSIA 350. A survey of emerging and leading technologies in the cybersecurity field. The aim is to research, evaluate, and recommend emerging technologies and determine secure implementation strategies for best-fit business solutions. Topics include evolutionary technology development and adoption in organizations.

TABLE OF CONTENTS
INDEX

CSIA 485 Cybersecurity Management and Policy Capstone (3)
(Intended as a final, capstone course to be taken in a student's last 6 credits; includes content designed to help in preparing for the EC-Council Certified Chief Information Security Officer [CCISO] and Information Security Manager [EISM] certification exams.) Prerequisites: CMIT 320 and CSIA 413. A study of cybersecurity management and policy that integrates knowledge gained from previous coursework and experience. Focus is on developing security strategies, plans, policies, and processes for the protection of an organization's critical information and assets. The goal is to enhance professional skills in cybersecurity management and leadership. Topics also include the ethical integration of cybersecurity best practices and risk management throughout an enterprise.

CSIA 486A Workplace Learning in Cybersecurity (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CSIA 486B Workplace Learning in Cybersecurity (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

Data Analytics

Courses in data analytics (except DATA 200, DATA 300, DATA 320, and DATA 335) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz and at least 8GB RAM (16GB recommended).

DATA 200 Data Literacy Foundations (3)
(For students of all majors.) An introduction to data and data literacy designed to enhance the ability to understand and work in today's data-driven world. The aim is to collect, manage, evaluate, and apply data in a critical manner and examine the role, significance, and implications of data, including ethical issues within a society, in organizations, or for individuals. Focus is on developing skills in data manipulation, analysis, and visualization to generate insights from data, build knowledge, and make decisions. Topics include the effective use of cloud-based data storage, collaboration, and communication techniques.

DATA 230 Mathematics for Data Science (3)
Prerequisites: STAT 200 and MATH 115 (or MATH 107–MATH 108 or more advanced MATH course). A practical introduction to the mathematical principles applied within the context of data science. The aim is to understand the mathematical basis of data science and increase awareness of machine learning algorithm assumptions and limitations. Machine learning topics include linear regression, dimensionality reduction, and classification. Projects involve application of linear algebra, probability, vector calculus, and optimization to build data science solutions.

DATA 300 Foundations of Data Science (3)
Prerequisite: STAT 200. An examination of the role of data science within business and society. The goal is to identify a problem, collect and analyze data, select the most appropriate analytical methodology based on the context of the business problem, build a model, and understand the feedback after model deployment. Emphasis is on the process of acquiring, cleaning, exploring, analyzing, and communicating data obtained from a variety of sources. Assignments require working with data in programming languages such as Python, wrangling data programmatically and preparing data for analysis, and using libraries like NumPy and Pandas.

DATA 320 Introduction to Data Analytics (3)
(Formerly DATA 220.) Prerequisite: STAT 200. A practical introduction to the methodology, practices, and requirements of data science to ensure that data is relevant and properly manipulated to solve problems and address a variety of real-world projects and business scenarios. Focus is on the application of foundational statistical concepts to describing data sets with summary statistics, simple data visualizations, statistical inference, and predictive analytics. The objective is to use data to draw conclusions about the underlying patterns that drive everyday problems through probability, hypothesis testing, and linear model building.

DATA 330 Business Intelligence and Data Management (3)
A hands-on, project-based introduction to databases, business intelligence, and data management. The aim is to design secure industry-standard databases and utilize business intelligence and data management techniques and technologies to support decision-making. Topics include data and relational databases, SQL queries, business intelligence tools, and overall alignment with business strategy. Students may receive credit for only one of the following courses: DATA 330 or IFSM 330.

TABLE OF CONTENTS
INDEX

DATA 335 Data Visualization (3)
Prerequisite: DATA 320. An overview of the fundamentals of data visualization principles in the context of business and data science. Focus is on data visualization of different data types, including time series, multidimensional data, dynamic tables, heatmaps, infographics, and dashboards. Hands-on projects require exploring data visually at multiple levels to find insights to create a compelling story and incorporating visual design best practices to better communicate insights to the intended audience, such as business stakeholders. Projects are selected from a wide range of content areas, such as retail, marketing, healthcare, government, basic sciences, and technology.

DATA 430 Foundations of Machine Learning (3)
Prerequisite: DATA 300. A hands-on introduction to machine learning principles and methods that can be applied to solve practical problems. Topics include supervised and unsupervised learning, especially linear regression, logistic regression, decision tree, naïve Bayes, and clustering analysis. Focus is on using data from a wide range of domains, such as healthcare, finance, marketing, and government, to build predictive models for informed decision-making. Discussion also covers handling missing data, performing cross-validation to avoid overtraining, evaluating classifiers, and measuring precision.

DATA 445 Advanced Data Science (3)
Prerequisites: DATA 335 and DATA 430. A project-based introduction to the concepts, approaches, techniques, and technologies for managing and analyzing large data sets in support of improved decision-making. Activities include using technologies such as Spark, Hive, Pig, Kafka, Hadoop, HBase, Flume, Cassandra, cloud analytics, container architectures, and streaming real-time platforms. Discussion covers how to identify the kinds of analyses to use with big data and how to interpret the results.

DATA 495 Data Science Capstone (3)
Prerequisites: ARIN 440 (or DATA 440), DATA 445, and ARIN 450 (or DATA 450). A project based, practical application of the knowledge, technical skills, and critical-thinking skills acquired during previous study designed to showcase one's data science expertise. Projects include all phases of machine learning life cycles and a peer-reviewed final report and presentation. Topics are selected from student-affiliated organizations or employers, special government/private agency requests, or other faculty-approved sources in a wide range of domains, such as healthcare, financial services, marketing, sciences, and government.

Drones and Autonomous Systems

DRON 300 Fundamentals of Drones and Autonomous Systems (3)
An introduction to the drones and autonomous systems sector. The goal is to define the fundamentals of unmanned aerial systems (UAS) and examine the historical establishment of drone capabilities and operations. Topics include early autonomous operations, general applications of initial drone technology, evolution of capabilities and sensors, and private-sector and public market use of drone technology.

DRON 305 Applications of Drones and Autonomous Systems (3)
A study of specific applications of unmanned autonomous systems (UAS) in the public and private professions. Discussion covers how drones are applied in current UAS operations, payloads, communications, and technological limitations. Topics include commercial, law enforcement, public safety, homeland security, and military utilization, as well as capability-based scenarios.

DRON 310 Regulation of Drones and Autonomous Systems (3)
An exploration of the legal aspects of drone operations, including air traffic control (ATC) and proper airspace/airspace deconfliction, as well as constitutionality and ethical considerations of operating autonomous systems. Flight crews, risk assessment, and logistical flight considerations are examined in depth. Topics include regulatory requirements, professional licensing processes, Federal Aviation Administration (FAA) waivers, organization policy creation, and pre-flight/post-flight inspections.

DRON 315 Emerging and Future Technologies of Drones and Autonomous Systems (3)
An investigation of the future of autonomous systems from forecasted technological advancements currently under development, along with artificial intelligence (AI), machine learning, beyond visual line of sight (BVLOS) operations, and next-generation applications. Commercial growth opportunities and support-level career pathways are reviewed. Exploration covers counter-drone applications and current threats from local and global perspectives. Topics include counter-drone operations, urban utilization of vertiports/vertistops, advancement in AI–integrated technology, and autonomous capabilities outside of flight operations.

TABLE OF CONTENTS
INDEX

Economics

ECON 103 Economics in the Information Age (3)
A survey of basic concepts and principles in micro- and macroeconomics and how the economy has been affected by technology. The aim is to define and explain the key terms and concepts in economics and determine how technology has affected consumers, producers, and markets, as well as economic growth and policy. Topics include how innovation affects labor markets, the value of information, and the role of technological change in the economy.

ECON 201 Principles of Macroeconomics (3)
An introductory study of the macroeconomy. The objective is to apply select macroeconomic theories to real-world situations. Discussion covers economic growth, technological innovation, unemployment, inflation, and the roles of monetary policy and fiscal policy in determining macroeconomic performance. Students may receive credit for only one of the following courses: ECON 201 or ECON 205.

ECON 203 Principles of Microeconomics (3)
An analysis of the economic principles underlying the behavior of individual consumers and business firms. The goal is to apply select microeconomic theories to real-world situations. Emphasis is on market theory. Topics include the implications of government intervention, technological innovation, the advantages and disadvantages of different market structures, and income distribution and poverty.

ECON 305 Intermediate Macroeconomic Theory and Policy (3)
Prerequisite: ECON 201. An analysis of the forces that determine a nation's income, employment, and price levels. The aim is to analyze macroeconomic indicators and trends and evaluate their impact. Topics include consumption, investment, inflation, and governmental fiscal and monetary policy. Students may receive credit for only one of the following courses: ECON 305, ECON 403, or ECON 405.

ECON 306 Intermediate Microeconomic Theory (3)
Prerequisite: ECON 203. An analysis of the principles underlying the behavior of individual consumers and business firms. The objective is to analyze microeconomic indicators and trends and evaluate their impact. Discussion covers theories of welfare, taxation, marketing systems, and income distribution. Students may receive credit for only one of the following courses: ECON 306 or ECON 403.

ECON 330 Business and Economics of Sustainability (3)
An introduction to natural resource and environmental economics. The objective is to apply basic economic literacy to environmental issues important to business and develop appropriate responses to help enterprises, government agencies, or advocacy organizations gain strategic advantage in the business environments in which they operate. Topics include benefit-cost analysis, valuation, market failure, pollution control, sustainable development, market-based environmental policy, and the economics of renewable and nonrenewable resource management. Business issues related to the environment, such as recycling, the circular economy, environmental offsets, corporate social responsibility, and green certification, are explored.

ECON 430 Money and Banking (3)
Prerequisites: ECON 201 and ECON 203. An examination of the structure of financial institutions and their role in providing money and near money. The goal is to evaluate how the banking and business environment has changed, describe the functions and measurement of money, discuss and evaluate the money supply creation process, and analyze the impact of the Federal Reserve's policies on both the U.S. economy and the economies of other nations. Topics include the composition of the Federal Reserve, the money supply creation process, the tools of monetary policy, the term structure of interest rates, the demand for and supply of money, and interest rate theories. Students may receive credit for only one of the following courses: ECON 430 or ECON 431.

ECON 440 International Economics (3)
Prerequisites: ECON 201 and ECON 203. An examination of international trade and finance theory and their application to contemporary economic issues. The aim is to use economic frameworks to explain international trade and financial flows and analyze information and data on economic policy and institutions. Topics include the costs and benefits of trade, exchange rate markets, global financial imbalances, regional trading blocks, and the role of international economic institutions. Students may receive credit for only one of the following courses: BEHS 440, ECON 440, or ECON 441.

TABLE OF CONTENTS
INDEX

Emergency Management

EMGT 302 Concepts of Emergency Management (3)
An introduction to emergency management at the global, national, regional, state, and local levels. The objective is to identify and analyze forces that formulate policy; apply the principles of policy and law to real-world situations; and analyze emerging political, legal, and policy issues to improve organizational preparedness. Topics include preparedness, mitigation, response, and recovery. The history of emergency management is reviewed, and its future in government and industry is discussed.

EMGT 304 Emergency Response Preparedness and Planning (3)
Prerequisite: EMGT 302. A study of the planning process, format, and response procedures for disasters and emergency events. The goal is to evaluate risk vulnerabilities and capabilities, design an emergency plan, and evaluate and critically assess an emergency plan. Topics include risk assessment, modeling, hazard analysis, vulnerability assessment, and response capability assessment. Discussion also covers the evaluation of plans and the use of exercises to improve and implement plans.

EMGT 310 Continuity of Operations Planning and Implementation (3)
An exploration of the process for developing, implementing, exercising, and evaluating continuity of operations for both government and industry. The goal is to introduce continuity planning in the public and private sectors of our society, specifically the role continuity planning plays in building community resiliency and how it interacts with emergency management programs and planning. Topics include the role of continuity planning in the nation's enduring constitutional government, ways that continuity planning makes communities and organizations more disaster resilient, the planning and operational components of continuity plans and programs, and the roles of continuity planning in mitigating the effects of cyberattacks and pandemic events.

EMGT 312 Social Dimensions of Disaster (3)
An examination of the response of the public and individuals to disaster-related issues such as disaster warnings, evacuations, relocations, civil unrest, loss of family and property, and recovery activities. The aim is to evaluate social factors that contribute to increased risk of disaster, design plans and processes that consider social factors, and design strategies and plans to enable communication with diverse social groups. Emphasis is on preparing the community through effective programs and public information. Topics include the impact of disasters on response organizations and personnel.

EMGT 314 Terrorism Issues in Emergency Management (3)
A comprehensive study of the role and responsibilities of the emergency manager in preparing for, responding to, mitigating, and recovering from situations related to terrorism. The aim is to devise and prepare plans, follow appropriate guidelines, and make use of interagency dynamics in planning for and responding to terrorism. Discussion covers the role of first responder groups and other stakeholders and links the protection of critical infrastructure to national, state, and local guidelines.

EMGT 486A Workplace Learning in Emergency Management (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl)*. 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.

EMGT 486B Workplace Learning in Emergency Management (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl)*. 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.

English

ENGL 102 Composition and Literature (3)
(Fulfills the general education requirements in communications or arts and humanities.) Prerequisite: WRTG 112. Further practice in writing using readings in literature. Focus is on academic writing forms, especially critical analysis of literature, through a variety of modes, such as comparison and contrast, classification, and causal analysis. Students may receive credit for only one of the following courses: ENGL 102 or ENGL 292.

ENGL 103 Introduction to Mythology (3)
(Formerly HUMN 103.) A foundation in ancient mythology, focusing on Greek and Roman myths. Discussion may also cover Norse, Irish, Chinese, Arabic, and Hindu myths, among others. Emphasis is on examining various classical myths as expressed through plays, poems, and stories. The objective is to demonstrate an understanding of the differences between myths, legends, and other similar genres and show how classical world mythology still influences contemporary society. Students may receive credit for only one of the following courses: ENGL 103 or HUMN 103.

TABLE OF CONTENTS
INDEX

ENGL 240 Introduction to Fiction, Poetry, and Drama (3)
Prerequisite: WRTG 112 or ENGL 102. An introduction to fiction, poetry, and drama, with an emphasis on developing critical reading and writing skills. The objective is to identify and define elements of literature and literary genres, analyze literary texts using principles of close reading, and demonstrate skill in academic writing. Students may receive credit for only one of the following courses: ENGL 240 or ENGL 340.

ENGL 250 Introduction to Women's Literature (3)
Prerequisite: WRTG 112 or ENGL 102. An overview of multiple forms of writings by and about women from various periods and cultures. The aim is to read critically, understand diverse perspectives, and write effectively about women's literature.

ENGL 281 Standard English Grammar (3)
(Fulfills the general education requirement in communications but is not a writing course.) Prerequisite: WRTG 112 or ENGL 102. An overview of standard edited English, a standard central to academic and professional communications. The aim is to write clear, effective prose consistent with the writer's goals. Topics include applying advanced grammatical and linguistic descriptions and prescriptions and attending to the needs of diverse audiences while making writing and editing decisions. Tasks focus on parts of speech, sentence patterns, and sentence transformations. Students may receive credit for only one of the following courses: ENGL 281, ENGL 281X, or WRTG 288.

ENGL 294 Introduction to Creative Writing (3)
Prerequisite: WRTG 112 or ENGL 102. An introductory survey and practical study of key aspects of literary writing. The objective is to produce original creative writing and to critique, revise, and edit that writing from a writer's perspective. Constructive, collaborative processes are employed to better understand the art and craft of creative writing. Topics may include poetry, fiction, creative nonfiction, or drama.

ENGL 303 Critical Approaches to Literature (3)
(Designed as a foundation for other upper-level literature courses.) Prerequisite: WRTG 112 or ENGL 102. A study of the techniques of literary criticism, emphasizing close reading, critical thinking, and critical writing. The goal is to apply a variety of theoretical approaches to literature, analyze texts, and create professional written communications.

ENGL 310 Renaissance Literature (3)
Prerequisite: WRTG 112 or ENGL 102. A study of major British authors and literary works from the English Renaissance period. The goal is to gain historical perspective and discern contemporary relevance by exploring social and cultural contexts.

ENGL 311 The Long 18th-Century British Literature (3)
Prerequisite: WRTG 112 or ENGL 102. A study of major British authors and literary works from the period known as the long 18th century, roughly from Restoration through the Age of Sensibility (1660–1830s). The goal is to gain historical perspective and discern contemporary relevance by exploring social and cultural contexts.

ENGL 312 19th-Century British Literature (3)
Prerequisite: WRTG 112 or ENGL 102. A study of major British authors and literary works from the historical eras known as Romantic Age and Victorian Age. The goal is to gain historical perspective and discern contemporary relevance by exploring social and cultural contexts.

ENGL 363 African American Authors from the Colonial Era to 1900 (3)
Prerequisite: WRTG 112 or ENGL 102. An examination of African American authors before 1900, including Phillis Wheatley, Frances Harper, Maria W. Stewart, David Walker, Frederick Douglass, William Wells Brown, Charles Chesnutt, and Paul Laurence Dunbar. The goal is to research historical issues; integrate findings into discussion; and articulate, develop, and advance a persuasive argument in written form.

ENGL 364 African American Authors from 1900 to Present (3)
Prerequisite: WRTG 112 or ENGL 102. An examination of early 20th-century to early 21st- century African American authors, including James Weldon Johnson, Zora Neale Hurston, Richard Wright, James Baldwin, Ann Petry, Helene Johnson, Dorothy West, and Langston Hughes. The goal is to research historical issues; integrate findings into discussion; and articulate, develop, and advance a persuasive argument in written form. Students may receive credit for only one of the following courses: ENGL 364 or HUMN 364.

ENGL 381 Special Topics in Creative Writing (3)
Prerequisite: WRTG 112 or ENGL 102. A study of special creative writing topics. The goal is to develop creative writing skills within the scope of the special topic. Focus may be on a specific format (such as the novella, novel, or screenplay) or genre (such as mystery, horror, or teen fiction; travel writing; or epic poetry). May be repeated to a maximum of 6 credits when topics differ.

TABLE OF CONTENTS
INDEX

ENGL 384 Advanced Grammar and Style (3)
(Fulfills the general education requirement in communications but is not a writing course.) Prerequisite: WRTG 112 or ENGL 102. An examination of the basic units of grammatical descriptions, the nature of grammatical categories and structure, the methods and reasons for creating and using those structures, and the application of grammatical concepts to editorial and written style. The focus is on creating dynamic texts that convey complex subject matter to diverse audiences. Students may receive credit for only one of the following courses: ENGL 384 or WRTG 388.

ENGL 386 History of the English Language (3)
Prerequisite: WRTG 112 or ENGL 102. An examination of the development and usage of the English language. The objective is to explore various texts and research tools to examine the linguistic heritage and continuing evolution of English. Discussion traces the history of English from its origins and examines contemporary issues and controversies.

ENGL 389 Special Topics in English Literature (1–3)
An in-depth introduction to literary works written by a specific author or authors, representative of a literary movement, or produced in a specific time or place. Assignments include advanced reading and research. Students may receive credit for a given topic in either ENGL 289 or ENGL 389 only once.

ENGL 406 Shakespeare Studies (3)
Prerequisite: WRTG 112 or ENGL 102. An intensive study of Shakespeare's work and its continuing relevance with reference to historically specific social and cultural contexts. The objective is to evaluate and synthesize source materials, apply critical theory, and demonstrate understanding of dramatic text. Histories, comedies, tragedies, romances, and sonnets may be examined. Students may receive credit for only one of the following courses: ENGL 406 or HUMN 440.

ENGL 418 Major British Writers Before 1800 (3)
Prerequisite: WRTG 112 or ENGL 102. A comprehensive and intensive study of one or two British writers from the period before 1800. The aim is to apply critical reading and thinking skills to analyze and interpret major British works before 1800 from various perspectives (social, historical, political, intellectual, and biographical). Authors studied may include Chaucer, Spenser, Marlowe, Jonson, Milton, Defoe, Richardson, Fielding, Pope, Swift, or Johnson. May be repeated to a maximum of 6 credits when topics differ.

ENGL 430 Early American Literature (3)
Prerequisite: WRTG 112 or ENGL 102. A study of early American literature. The aim is to examine literary periods, movements, and styles; interpret literature as a reflection of national and world events; recognize the differences among types of American literary works; and apply critical methodology. Topics include Indigenous narratives, revolution and government, American romanticism, slavery, women's rights, the Civil War and Reconstruction, and naturalism and realism.

ENGL 433 Modern American Literature (3)
Prerequisite: WRTG 112 or ENGL 102. A study of modernist American fiction, poetry, nonfiction, and drama. The goal is to interpret and analyze literature in its social and historical contexts. Topics include the literary movement of modernism and application of critical theory.

ENGL 439 Major American Writers (1–3)
Prerequisite: WRTG 112 or equivalent. A study of works by selected American authors from the colonial period to the present. The goal is to understand the place these authors and their works hold in the canon of American literature. Emphasis is on the impact of historical and social events, as well as biographical influences, on the literature. May be repeated to a maximum of 6 credits when topics differ.

ENGL 441 Postmodern American Literature: 1945 to 1999 (3)
Prerequisite: WRTG 112 or ENGL 102. A comprehensive study of literature in America from 1945 till the end of the 20th century. The objective is to interpret American literature as a reflection of national and world events, recognize the differences among types of American literary works, and apply critical methodology. Topics include the American Dream; war; fear and paranoia; rebellion and counterculture; civil rights, feminist, and gay movements; postmodernism; and multiculturalism.

ENGL 459 Contemporary Global Literatures (3)
Prerequisite: WRTG 112 or ENGL 102. An advanced examination of contemporary literary texts by diverse writers that addresses the connections between geographical regions, history, and social justice. The goal is to demonstrate critical, interpretative, and analytical skills in reading and writing as well as apply contemporary theory. Literature studied covers varied genres, including poetry, fiction, and memoir, with some in multimedia form. Works by canonical and emerging writers are examined to understand established and current discourse in the field. Writers covered may vary from term to term.

TABLE OF CONTENTS
INDEX

ENGL 495 English Literature Capstone (3)
Prerequisites: ENGL 250, ENGL 303, and at least 9 additional credits of upper-level ENGL courses. A synthesis and application of knowledge and skills developed by previous study in the discipline. The goal is to refine skills and explore ways that they may be applied after graduation. Focus is on reviewing and revising previously written papers and/or projects to create a comprehensive portfolio. Assignments include the creation of the portfolio and writing original papers on one's professional postgraduate objectives and the current status of the discipline.

Environmental Health and Safety

ENHS 300 Environmental Systems (3)
Prerequisite: CHEM 297. An introduction to environmental systems and the impact of human activities on the environment. The goal is to explore the Earth's systems, including the biosphere, lithosphere, hydrosphere, and atmosphere, and recognize the complex interconnections of natural and human systems to gain a deeper understanding of human drivers of environmental change and environmental health and safety concerns. Topics include systems thinking, impacts of resource development and use, and general scientific principles and concepts related to environmental systems (e.g., biogeochemical cycles, flow of energy, biodiversity, soil, water, and air). Students may receive credit for only one of the following courses: ENHS 300 or ENMT 301.

ENHS 305 Environmental Health and Safety Regulations (3)
Prerequisite or corequisite: ENHS 300. An analysis of the development, use, and implementation of constitutional and administrative law in environmental health and safety management. The goal is to practice information literacy skills to locate applicable policies, laws, and regulations and to apply knowledge of process and regulatory communication systems for effective environmental health and safety management. The emphasis is on federal legislation and the use of the *Federal Register* and *Code of Federal Regulations*. Discussion explores the relationship between regulations and public policy at local, state, and federal levels. Students may receive credit for only one of the following courses: ENHS 305, ENMT 303, or ENMT 493.

ENHS 310 Hazardous Substances and Toxicology (3)
An exploration of hazardous substances and their effects on human health and the environment. The aim is to examine hazards and risk factors to determine mechanisms leading to injury and damaging health outcomes. Topics include hazard identification and communication, fundamentals of toxicology, task safety analysis, and occupational and environmental exposure science.

ENHS 315 Risk Assessment in Environmental Health and Safety (3)
An examination of the general concepts of risk assessment as applied to environmental health and safety practice. The aim is to incorporate best practices for risk assessment, analysis, and mitigation recommendations for effective management of change. Topics include ecological and human risk assessment; risk perception; risk transfer options; and identification of methods, databases, and tools to characterize risk.

ENHS 320 Incident Response and Investigation (3)
An introduction to incident planning, response, investigation, analysis, and management. The objective is to synthesize data and evidence to develop recommendations for prevention or mitigation of future incidents. Topics include the incident command system, hazardous substances emergency response, incident analysis and investigation methods, and workplace violence prevention.

ENHS 325 Fire Prevention and Protection (3)
An overview of fire prevention and protection as applied to environmental health and safety. The objective is to implement evidence-based practices and strategies to address physical and chemical hazards that may result in a fire or explosion event. Topics include fire science, chemical and electrical hazards, detection and suppression systems, hot work, life safety, and chemical process safety.

ENHS 330 Safety and Security Management (3)
Prerequisite: ENHS 305. A detailed exploration of safety and security management systems applied to the occupational environment. The aim is to implement evidence-based workplace interventions to clarify issues and contributing factors and to evaluate the effectiveness of interventions. Topics include hazard control methods, performance indicators, construction safety practices, fleet safety, inspections and audits, change management, safety culture, and voluntary consensus standards.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

ENHS 335 Occupational Health and Industrial Hygiene (3)
Prerequisite: ENHS 310. An investigation of work-related impacts on human health and the environment. The goal is to anticipate, recognize, evaluate, control, and confirm effectiveness of controls for occupational health hazards and risk factors through the practice of industrial/occupational hygiene. Topics include exposure assessment and management, indoor environmental quality, ventilation, return-to-work programs, susceptible worker protection, and worker privacy.

ENHS 340 Environmental Technology and Control (3)
Prerequisite: ENHS 300. An introduction to technology for environmental health and safety management, control, and remediation. The objective is to apply appropriate technological solutions to air, land, and water to prevent, detect, treat, and remediate pollution. Discussion covers existing, modified, new, and emerging technologies, as well as factors in making technology application decisions for waste removal, treatment, and disposal. Students may receive credit for only one of the following courses: ENHS 340 or ENMT 340.

ENHS 350 Introduction to Geographic Information Systems (3)
An introduction to the basic concepts of geographic information systems (GIS). The aim is to apply critical-thinking and problem-solving skills to address current environmental and watershed challenges using GIS software and develop skills in framing problems effectively and ethically. Activities include selecting data; creating and building databases; editing, analyzing, and presenting data in a spatial context; and interpreting and communicating results. Students may receive credit for only one of the following courses: ENHS 350 or ENMT 307.

ENHS 360 Introduction to Watershed Management (3)
Prerequisite or corequisite: ENHS 300. A comprehensive examination of watershed management with a focus on design practices. The aim is to apply critical thinking and build the professional skills in science, management practice, regulatory processes, and stakeholder engagement required to implement watershed and stormwater management in the United States. Topics include watershed characterization, hydrologic processes, land use impacts on watersheds, water quality and quantity, and the design of structural and nonstructural best management practices. Students may receive credit for only one of the following courses: ENHS 360 or ENMT 360.

ENHS 400 Ergonomics and Human Factors (3)
A foundation in ergonomics, human factors, and best practices for worker training. The aim is to apply basic principles of anthropometry, human factors engineering, biomechanics, and work practice controls to prevent injuries and illnesses. Topics include descriptive statistics, qualitative and quantitative data analysis, assessment of worker competency and fitness for duty, and adult learning theory. Assignments include performing a needs and gap analysis for worker learning and development.

ENHS 405 Pollution Prevention Strategies (3)
Prerequisite: ENHS 300. An overview of alternative environmental strategies to prevent, reduce, and minimize pollution. The goal is to integrate knowledge about environmental management systems and regulations. Topics include source reduction, conservation, material substitution, process modifications, quality assurance/control, water minimization, and economic analysis for regulatory compliance related to these strategies. Students may receive credit for only one of the following courses: ENHS 405 or ENMT 405.

ENHS 486A Workplace Learning in Environmental Management (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

ENHS 486B Workplace Learning in Environmental Management (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

ENHS 495 Environmental Health and Safety Capstone (3)
Prerequisites: ENHS 300, ENHS 305, ENHS 310, ENHS 315, ENHS 330, ENHS 335, and ENHS 340. A project-driven study of core competencies in environmental health and safety professional practice. The objective is to propose, conduct, and report on an applied project activity to demonstrate depth of technical knowledge in at least one hazard or risk factor area. Topics include legal liability, evidence-based professional and ethical practice, leadership, communication and consultation, collaborative project management, and conflict management.

Experiential Learning

EXCL 301 Prior Learning Portfolio (3)
(Students should visit *umgc.edu/priorlearning* or contact *priorlearning@umgc.edu* for complete requirements.) Prerequisite: Formal admission to the program. Instruction in the preparation of a portfolio documenting college-level learning gained through life experiences. The aim is to translate prior life experiences into college credit by developing a portfolio that documents and presents learning specific to targeted courses. Faculty evaluators assess completed portfolios to recommend credit award.

EXCL X001 Supplement to Prior Learning Portfolio (0)
(Students should visit *umgc.edu/priorlearning* or contact *priorlearning@umgc.edu* for complete requirements.) Prerequisite: EXCL 301. An opportunity to prepare additional portfolios for courses not previously targeted. The aim is to translate prior life experiences into college credit by developing a portfolio that documents and presents learning specific to targeted courses. Faculty evaluators assess completed portfolios to recommend credit award.

Finance

FINC 251 Risk Management (3)
(Formerly FINC 351.) A study focused on recognizing and evaluating pure risk facing organizations. The aim is to identify risks to cost control and develop risk management strategies. Discussion covers guides for risk-management decisions concerning the retention, control, and transfer of risk (including insurance). Students may receive credit for only one of the following courses: BMGT 346, FINC 251, or FINC 351.

FINC 321 Fundamentals of Building Wealth (3)
(Formerly BMGT 342. For students majoring in both business and nonbusiness disciplines.) A practical overview of personal finance management and wealth creation that blends financial theory and application. The goal is to develop personal financial management skills (e.g., budgeting income and expenditures and planning for financial security and retirement) and understand elements of the U.S. financial structure (including savings and investment alternatives, financing and credit sources, and the role of insurance in protecting income and assets). These skills are utilized in the development of a personal financial plan. Students may receive credit for only one of the following courses: BMGT 342, BMGT 388F, BMGT 388N, FINC 321, or FINC 322.

FINC 328 Small Business Finance (3)
A project-driven study of small business and entrepreneurial finance that emphasizes the financial knowledge and tools needed to develop a successful venture from start-up through growth and maturity. The goal is to identify, assess, and explain the key decision-making processes required of a small business entrepreneur or financial manager. Topics include financial statement analysis, capital acquisition, legal and regulatory compliance, budgeting, forecasting, and client and vendor relationships. Projects include creation of a financial plan and completion of a loan application. Discussion also covers contemporary issues related to finance.

FINC 330 Business Finance (3)
Prerequisites: ACCT 221 and STAT 200. An overview of the theory, principles, and practices of financial management in a business environment. Topics include financial analysis and financial risk, characteristics and valuations of securities, capital investment analysis and decision-making, the capital structure of the firm, financial leverage, and international finance. The aim is to examine financial information, identify issues and solve business problems, and make sound business decisions. Emphasis is on the application of financial theory and methods for solving the problems of financial policy that managers face. Students may receive credit for only one of the following courses: BMGT 340, FINC 330, MGMT 398D, or TMGT 320.

FINC 331 Finance for General Managers (3)
An applied study of financial concepts and tools for managerial decision-making. The objective is to interpret finance and accounting documents and apply that information to sound business decision-making. Topics include financial statement analysis, forecasting, cost behavior, time value of money, capital budgeting, financial ratios, and risk/return assessment. Emphasis is on practical applications to evaluate performance and investment opportunities and support effective business communication. Students may receive credit for only one of the following courses: BMGT 341 or FINC 331.

FINC 335 FinTech, Financial Institutions, and Markets (3)
An overview of the interplay of financial markets, financial institutions, and technology. Topics include the characteristics and roles of financial markets and institutions and ways to evaluate what drives the term structure of interest rates. The aim is to be able to discuss how emerging technologies are used in the financial services industry and how they impact delivery of financial products and services such as insurance, investment advising, and wealth management.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

FINC 340 Investments (3)
(Formerly BMGT 343.) Prerequisites: FINC 330 and FINC 335. An introduction to financial investments and portfolio management. The goal is to evaluate and critically analyze asset selection and allocation and perform basic portfolio management activities. Topics include types of securities and securities markets; investment risks, returns, and constraints; portfolio policies and management; and institutional investment policies. Theories, practices, and real-world examples are examined and analyzed. Students may receive credit for only one of the following courses: BMGT 343 or FINC 340.

FINC 352 Life and Health Insurance (3)
A study of the tools and principles of life and health insurance in financial planning for businesses and individuals. The goal is to assess personal needs to determine which types of life and health insurance plans fit best. Topics include pension planning strategies, such as deferred-compensation and profit-sharing plans; use of trusts in business and in planning individual estates; and comprehensive analysis of the effects of income taxes, estate taxes, and gift taxes on life insurance and estate planning. Students may receive credit for only one of the following courses: BMGT 347 or FINC 352.

FINC 355 Retirement and Estate Planning (3)
(Content aligned with the Certified Financial Planner [CFP] curriculum.) A comprehensive study of retirement and estate planning techniques for individuals, families, and businesses. The aim is to evaluate retirement plans, analyze regulatory considerations of retirement planning, and apply estate planning techniques for businesses and families. Topics include retirement planning and estate planning, as well as regulations relevant to the financial services industry. Discussion covers processes of retirement planning (retirement need, investments, taxes, Social Security, Medicare, qualified versus nonqualified plans, and tax-advantage plans) and estate planning (wills, trusts, asset protection, and life insurance).

FINC 421 Financial Analysis (3)
Prerequisite: FINC 340. An analysis and interpretation of financial statements directed at the decision-making needs of managers, stockholders, and creditors. The aim is to analyze and interpret financial information, apply financial information directly to valuation models, and evaluate growth strategies to maximize company value. Topics include assessment of business performance, projection of financial requirements, analysis of capital investment decisions and financing choices, risk assessment, and valuation. Students may receive credit for only one of the following courses: BMGT 498Q or FINC 421.

FINC 430 Financial Management (3)
Prerequisite: FINC 340. A study of financial management. The objective is to apply financial principles and concepts to assess and solve financial problems and make financial and corporate policy at the executive level. Topics include assessments of the financial health of the organization, company valuation, cost of capital, risk analysis, investment decisions, and financial systems and capital markets. Students may receive credit for only one of the following courses: BMGT 440 or FINC 430.

FINC 440 Security Analysis and Valuation (3)
Prerequisites: FINC 340. A comprehensive and quantitative examination of financial investments and portfolio management. The aim is to evaluate and value assets quantitatively, analyze asset selection and allocation critically, and apply financial statistics and other evaluation methods to perform basic portfolio management activities and functions. Topics include the analysis, valuation, and selection of securities; investment risks, returns, and constraints; portfolio policies and management; institutional investment policies; and the operation and efficiency of financial markets. Theory, practice, and real-world examples are analyzed to value financial assets and compare alternatives. Students may receive credit for only one of the following courses: BMGT 443 or FINC 440.

FINC 450 Commercial Bank Management (3)
Prerequisites: FINC 330 and FINC 340. An analysis of commercial bank management. The aim is to examine how the changing commercial banking environment has affected profitability and evaluate bank business strategies. Discussion covers the loan function and the management of liquidity reserves, investments for income, and sources of funds. The objectives, functions, policies, organization, structure, services, and regulations of banks are considered. Students may receive credit for only one of the following courses: BMGT 445 or FINC 450.

FINC 460 International Finance (3)
Prerequisite: FINC 340. An analysis and discussion of financial management issues for the multinational enterprise. The aim is to use financial and economic strategies in quantitative decision-making. Topics include the organization and functions of the foreign exchange market and international capital markets; financing foreign trade; and identifying, analyzing, and evaluating the globalization strategies of the multinational enterprise. Students may receive credit for only one of the following courses: BMGT 446 or FINC 460.

FINC 486A Workplace Learning in Finance (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

FINC 486B Workplace Learning in Finance (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

FINC 490 Financial Plan Development (3)
(Content aligned with the Certified Financial Planner [CFP] curriculum.) Prerequisites: ACCT 323, FINC 321, FINC 340, FINC 352, and FINC 355. A thorough review of financial planning principles and applications, based on case studies. The objective is to gather and analyze data, evaluate the impact of governmental regulations and economic changes, and effectively communicate a comprehensive financial plan to clients. Topics include taxes, estates, asset protection, debt, credit, investments, insurance, economic theories, the financial planning process, ethics, and risk.

FINC 495 Finance Capstone (3)
(Intended as a final, capstone course to be taken in the student's last 15 credits.) Prerequisites: FINC 330 and FINC 340. A study of finance that integrates knowledge gained through previous coursework and experience and builds on that conceptual foundation through integrative analysis, academic research, practical application, and critical thinking. The objective is to apply financial theories and contemporary financial practices to business issues. Emerging issues in finance and business are considered. Individual and group case studies and research papers are used to integrate key financial knowledge in the areas of financial analysis, investments, business valuation, risk, and international finance. Students may receive credit for only one of the following courses: BMGT 495 or FINC 495.

Fire Science

FSCN 302 Fire and Emergency Services Administration (3)
A presentation of modern management and planning techniques that apply to organizing a fire department. The objective is to apply management concepts to fire service administration and analyze the community approach to risk reduction. Discussion covers procedures for evaluation and control of budgeting, personnel, communications, and planning. Topics also include the traditional and evolving roles of the fire department in protection, prevention, and community service.

FSCN 304 Personnel Management for Fire and Emergency Services (3)
Prerequisite: FSCN 302. An examination of personnel practices, including management procedures, collective bargaining, binding arbitration, and applicable legislative and administrative procedures. The aim is to manage emergency service personnel; develop, communicate, and implement organizational goals and objectives; and lead personnel in compliance with regulations and within an ethical framework. Topics include promotion, personnel development, career and incentive systems, validation of physical requirements, and managerial and supervisory procedures.

FSCN 305 Fire Prevention Organization and Management (3)
Prerequisite: FSCN 302. An examination of prevention as the primary community-based strategy for fire protection. The objective is to design, implement, and manage programs addressing community risks; administer prevention programs; and influence change and development of legislation, regulation, and policy. Emphasis is on applying principles to anticipate problems and develop strategies for fire prevention. Topics include community risk reduction, codes and standards, inspections and plans review, incident investigation, fire-prevention research, and the relationship of master planning to fire prevention. The cultural, economic, governmental, nongovernmental, and departmental influences on fire prevention are also explored.

FSCN 413 Community Risk Reduction for the Fire and Emergency Services (3)
Prerequisites: FSCN 304 and FSCN 305. An examination of the ethical, sociological, organizational, political, and legal components of community risk reduction. The goal is to analyze environments and design and develop a community risk reduction plan and implement that plan. A framework for understanding these issues and a methodology for developing a comprehensive community risk reduction plan are provided.

TABLE OF CONTENTS
INDEX

FSCN 416 Emergency Services Training and Education (3)
Prerequisites: FSCN 304 and FSCN 305. An examination of the management and administration of training and education in fire and emergency services. The objective is to manage and administer development programs, integrate concepts in training programs, and analyze and assess programs. Discussion explores how higher education/training contributes to the professional development of fire-service personnel. Topics include the many systems of training and education available and professional development on both individual and organizational levels. Focus is on safety, especially understanding and preventing training deaths and injuries.

French

FREN 111 Elementary French I (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of French; assumes no prior knowledge of French. Students with prior experience with the French language should take a placement test to assess appropriate level.) An introduction to the French language. The objective is to listen to, speak, read, and write elementary French in concrete, real-life situations and in culturally appropriate ways. Practice in pronunciation is provided. The diverse language and culture of the French-speaking world is also explored. Students may receive credit for only one of the following courses: FREN 101 or FREN 111.

FREN 112 Elementary French II (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of French.) Prerequisite: FREN 111 or appropriate score on a placement test. A continued introduction to the French language. The objective is to listen to, speak, read, and write French in concrete, real-life situations related to oneself and others in culturally appropriate ways. Practice in speaking and listening is provided. The diverse language and culture of the French-speaking world is explored. Students may receive credit for only one of the following courses: FREN 102 or FREN 112.

Geography

GEOG 100 Introduction to Geography (3)
An exploration of how geography is used to analyze, understand, and interpret our world. The goal is to use an interdisciplinary approach and a spatial perspective to analyze complex social issues. Emphasis is on using geospatial tools and concepts to investigate the interconnection of human and physical systems and their relationship to major global problems and prospects. Topics include globalization, climate change, population dynamics, cultural diversity, and ecological conservation.

Geology

GEOL 100 Physical Geology (3)
An introductory study of geology, encompassing the Earth, the materials that constitute its makeup, the structure of those materials, and the processes acting on them. The goal is to understand geological principles and how humans affect geological processes. Topics include the rocks and minerals composing Earth, the movement within Earth, and its surface features and the agents that form them and our environment. Discussion also covers energy and mineral resources. Students may receive credit for only one of the following courses: GEOL 100 or GEOL 101.

German

GERM 111 Elementary German I (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of German; assumes no prior knowledge of German. Students with prior experience with the German language should take a placement test to assess appropriate level.) An introduction to the German language. The objective is to communicate in German in some concrete, real-life situations using culturally appropriate language. Aspects of German life and culture are explored through the German language. Students may receive credit for only one of the following courses: GERM 101 or GERM 111.

GERM 112 Elementary German II (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of German.) Prerequisite: GERM 111 or appropriate score on a placement test. A continued introduction to spoken and written German. The goal is to communicate in German in concrete, real-life situations relating to oneself and others. German culture and language are explored. Students may receive credit for only one of the following courses: GERM 102 or GERM 112.

TABLE OF CONTENTS
INDEX

GERM 211 Intermediate German I (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: GERM 112 or appropriate score on placement test. Further development of listening, speaking, reading, and writing skills in German. The aim is to communicate in German in real-life situations and social contexts in culturally appropriate ways. Students may receive credit for only one of the following courses: GERM 114, GERM 201, or GERM 211.

GERM 212 Intermediate German II (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: GERM 211 or appropriate score on placement test. Further development of listening, speaking, reading, and writing skills in German. The objective is to interact effectively with German-speaking individuals in a variety of personal settings and on issues of topical interest in culturally appropriate ways. Students may receive credit for only one of the following courses: GERM 115, GERM 202, or GERM 212.

GERM 311 Advanced German I (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: GERM 212 or appropriate score on placement test. An in-depth review and expansion of German language communication skills. The aim is to express opinions and use narration and description in a variety of personal and professional contexts. Focus is on improving linguistic proficiency while increasing cultural awareness. Students may receive credit for only one of the following courses: GERM 301 or GERM 311.

GERM 314 Modern German-Speaking Cultures (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: GERM 212 or appropriate score on placement test. An overview of contemporary life and culture in the German-speaking world, taught entirely in German. The objective is to demonstrate intercultural communication skills, recognize aspects of German-speaking cultures and their significance to global society, and employ strategies to enhance language development and cultural awareness. Discussion covers the social, historical, and political experience of the German-speaking people.

Gerontology

GERO 100 Contemporary Issues in Aging (3)
(Fulfills the general education requirement in the behavioral and social sciences.) An overview of the study of aging from a life course perspective and a multidisciplinary exploration of aging in the 21st century, with an emphasis on the policies, evidence-based approaches, and attitudes that promote healthful aging. Skill-building exercises provide practice in locating and reading scholarly sources, creating effective presentations in different modalities, and communicating with and on behalf of older people.

GERO 301 Service/Program Management (3)
(Fulfills the general education requirement in behavioral and social sciences.) An exploration and analysis of the managerial aspects of providing health and human services in the field of gerontology through an integrated delivery system. The aim is to integrate concepts, strategies, and best practices for the management of health and human services. Topics include planning, strategic management, marketing, financing, legal issues, and capacity building.

GERO 302 Health and Aging (3)
An exploration of the physiological process of aging that covers normal aging and chronic illness. The goal is to distinguish normal aging from disease and evaluate factors that affect the health of older adults. Topics include biological process and theories of aging, bodily changes normally associated with aging, long-term and healthcare systems, and related medical terminology. Review also covers substance abuse; environmental factors affecting aging; and ways of promoting health, preventing disease, and assessing health risk.

GERO 306 Programs, Services, and Policies (3)
Prerequisite: GERO 100. An overview of the impact of policy related to older adults on U.S. society. The aim is to examine the role of legislative mandates on older adults at both societal and individual levels. Topics include Social Security, Medicare, and the Older Americans Act. Students may receive credit for only one of the following courses: GERO 304 or GERO 306.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

GERO 311 Gender and Aging (3)

(Fulfills the general education requirement in behavioral and social sciences.) An analysis and discussion of issues related to gender and the aging process. The goal is to evaluate and challenge negative, socially constructed assumptions associated with gender and aging and examine gender-relevant issues in health and well-being after midlife. Discussion covers life transitions, socioeconomic status, culture, family and social relationships, ageism, and sexuality and health as each relates to gender. The impact of public policy and services on gender and aging is also addressed. Students may receive credit for only one of the following courses: GERO 311 or GERO 497E.

GERO 320 Psychosocial Aspects of Aging (3)

(Fulfills the general education requirement in behavioral and social sciences.) An advanced multidisciplinary examination of the psychosocial forces that affect the aging process. Aspects of aging are analyzed from theoretical perspectives found in psychology, sociology, and social gerontology. The goal is to articulate the impact of biological, sociocultural, and life-cycle forces on psychological and social well-being in post-midlife. Topics include normative and atypical psychological and social functioning in post-midlife; the social construction of aging; and the impact of aging, ageism, and longevity on social structures such as the family, work, retirement, and healthcare. Students may receive credit for only one of the following courses: GERO 220, GERO 320, or PSYC 357.

GERO 331 Sociology of Aging (3)

An advanced examination of the social forces that affect the aging process from a number of theoretical perspectives found in sociology and social gerontology. The aim is to analyze the demographic changes taking place across the world; examine the social construction of aging and how age-related norms and roles vary across groups and cultures; and evaluate the impact of aging, ageism, and longevity on social structures such as the family, work, retirement, healthcare, government, and economics. Topics include sociological and social gerontological explanations of the aging process, interactions between the aging process and the larger social structure, the aging experience across different cultures, and current social policies toward aging and their implications for the future.

GERO 336 The Aging Family (3)

An examination of issues faced by aging families. Topics include the structure of family networks, solidarity and conflict between generations, types and quality of support given to and by the older person, and social roles (including role strain, conflict, and reward). Emphasis is on understanding family caregiving: the experience of caregiving; the caregiver-recipient relationship; and the social, psychological, and economic cost of caregiving. The phenomenon of grandparents parenting grandchildren is covered. The changing nature of family relationships is analyzed from the perspective of gender, race or ethnicity, social class, age, and historical context. Discussion also covers implications for social programs and policies to support aging families. Students may receive credit for only one of the following courses: GERO 336 or GERO 496L.

GERO 338 Health Promotion in Older Adults (3)

A project-based exploration of health promotion for an aging population. The objective is to articulate different models of health promotion for older adults and design a health promotion campaign.

GERO 342 Long-Term Care Administration (3)

Prerequisite: GERO 100. An overview of the administrative and operational issues of long-term care facilities. The aim is to identify common forms of long-term care and articulate the responsibilities of a long-term care administrator. Relationships with personnel and administrative structure are examined. Topics include policy, procedures, insurance, and financing. Discussion also covers the ethical and legal concerns of long-term care.

GERO 390 The Business of Aging (3)

A comprehensive study of the sources of economic security for older adults, the problems encountered in retirement, and the impact of an aging population on the nation's economy. The goal is to outline the key sources of economic security received by older adults (including Social Security, pensions, personal savings, Medicare, and Medicaid); examine how economic security varies by race, ethnicity, gender, and social status as people age; evaluate how longevity and the graying of society impact the nation's economy; and explore potential solutions to the problems posed by entitlement programs. Topics include retirement planning; financing longevity; health, disability, and long-term-care costs; economic disparities by social group; and the international economics of aging.

GERO 427 Culture and Aging (3)
(Fulfills the general education requirement in behavioral and social sciences.) An interdisciplinary examination of how different cultures interpret and deal with the aging and the life cycle. Focus is on the increasingly heterogeneous aging population in the United States. The goal is to raise critical awareness of how aging is experienced across cultures. Topics include cross-cultural theory and research on aging; global demographics of aging; cross-cultural perspectives of norms and values regarding work, family, and community roles for older adults; the social and economic status of older adults; intergenerational relationships; ethical caregiving; end-of-life issues; social services; and social policy. Health disparities among older adults of certain ethnicities within the United States are also addressed. Students may receive credit for only one of the following courses: GERO 327, GERO 410, or GERO 427.

GERO 486A Workplace Learning in Gerontology (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

GERO 486B Workplace Learning in Gerontology (6)
Prerequisite: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

GERO 495 Special Topics in Development and Health (1–3)
Specialized study in gerontology and related topics focusing on issues in development and health. May be repeated to a maximum of 6 credits when topics differ.

GERO 496 Special Topics in Social and Family Relations (1–3)
Specialized study in gerontology and related topics focusing on social and family relations. May be repeated to a maximum of 6 credits when topics differ.

GERO 497 Special Topics in Administration and Planning (1–3)
Specialized study in gerontology and related topics focusing on administration and planning. May be repeated to a maximum of 6 credits when topics differ.

Government and Politics

GVPT 100 Introduction to Political Science (3)
A survey of the basic principles of political science. The objective is to define the main features of primary systems of political economy to understand differing methods of governance and articulate consequences of government actions in a globally interdependent system. Topics include the relationship of political science to the other social sciences; modern democracy, political ideology, and political socialization; the function of public opinion, mass media, interest groups, and political parties; the basic institutions of government and the separation of powers; and the role of international relations and globalization.

GVPT 101 Introduction to Political Theory (3)
An overview of the main schools of political theory, including democracy, authoritarianism, and alternative theories. The aim is to demonstrate familiarity with important thinkers and major works in the history of political theory; use theoretical language to analyze and critique political behavior and events; identify the strengths and weaknesses of different forms of government; and demonstrate knowledge of crucial concepts (justice, power, authority, the state, social contract, etc.) and their history. Topics include the philosophical foundations of liberalism, socialism, and conservatism and the core political concepts of justice, power, and authority.

GVPT 170 American Government (3)
A comprehensive study of government in the United States, including the basic principles of American government and political culture. The aim is to explain the vertical and horizontal structure of the American government and the roles of the three federal branches, bureaucracies, and the state governments; describe the development of the American political system and its impact on the political landscape; and explain the processes of the electoral system, political parties, and interest groups to persuade and influence. Institutions, processes, and public policies are examined from a cross-cultural perspective.

GVPT 200 International Political Relations (3)
A study of the major factors underlying international relations, the methods of conducting foreign relations, and the means of avoiding or alleviating international conflicts. The objective is to interact with global communities, contribute to policy formation, analyze differing worldviews, and apply historical and cultural contexts to identify probable outcomes of disputes. Students may receive credit for only one of the following courses: GVPT 200 or GVPT 300.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

GVPT 210 Introduction to Public Policy and Public Administration (3)

Prerequisite: GVPT 100. An introduction to the study of the administrative process in the executive branch and the structure and function of the federal system. The aim is to apply the mechanisms of policy formulation to the budgetary process, analyze the nature of public personnel policy and the fundamentals of organization theory, and evaluate the impact of new technologies on public organizations. Topics include the organizational structure, the political cultural environment, intergovernmental relations, performance management, social equity, and public administration and public finance administration.

GVPT 280 Comparative Politics and Government (3)

An introductory study of institutional patterns and trends in a variety of countries with dissimilar governmental styles. The goal is to compare the stages of political development in the modern state system on a spectrum ranging from liberal democracies to authoritarian regimes. Discussion covers ethnic conflict and economic inequality in relation to the success and failure of governmental approaches in solving compelling issues.

GVPT 306 Global Political Economy (3)

A study of the relationship between political and economic processes in international affairs. Discussion covers the effect of globalization on the global environment, the economy, world peace, the power of the nation-state, and inequality between nation-states.

GVPT 308 International Human Rights (3)

An examination of the principles and practices governing human rights from ancient times to contemporary international conventions and U.N. declarations. The aim is to analyze, evaluate, and discuss present national/international pushes for human rights and emancipation. Students may receive credit for only one of the following courses: GVPT 308 or GVPT 399Y.

GVPT 403 Law, Morality, and War (3)

Prerequisite: WRTG 112. A study of just war traditions. The objective is to make informed decisions and analyze conflict. Discussions cover the theoretical and practical connections between law, war, and morality.

GVPT 406 Global Terrorism (3)

Prerequisite: WRTG 112. An examination of the development of global terrorism and its impact on the international community. The goal is to participate in strategy and policy formulation and implementation, evaluate threats, and assess infrastructures that support global terrorist organizations. Students may receive credit for only one of the following courses: GVPT 401A or GVPT 406.

GVPT 407 State Terrorism (3)

An examination of the use of force and power (terrorism) by states against various populations to advance the interests of their civilization or state. The objective is to apply knowledge of culture, tradition, ideology, and methodology to comprehend state terrorism; analyze risk to national security; and explain how domestic climates and international relationships interact to support state terrorism. Topics include state behavior and norms; state interests, power, and force; application of power and force; and coercion within and among civilizations. Students who have completed GVPT 401B or GVPT 401C may not receive credit for GVPT 407.

GVPT 408 Counterterrorism (3)

An investigation of counterterrorism (including its historical context), focusing on the evaluation of threats and the formulation of defeat strategies. The aim is to evaluate response strategies, help improve offensive and defensive planning, and construct a defeat strategy for a terrorist threat. Students may receive credit for only one of the following courses: GVPT 399H or GVPT 408.

GVPT 409 Terrorism, Antiterrorism, and Homeland Security (3)

An expanded study of global terrorism and the impact on the homeland security of the United States in the 21st century. The objective is to investigate the relationship between the evolving terrorism threat environment and its impact on the U.S. homeland. Topics include partners and approaches to detect, defeat, or mitigate terrorism and various ways the nation readies its diverse communities to identify, respond, and protect critical infrastructure. Students may receive credit for only one of the following courses: GVPT 409 or GVPT 498X.

GVPT 444 American Political Theory (3)

Prerequisite: WRTG 112. A study of the development and growth of American political concepts from the colonial period to the present. The objective is to apply the rule of law to the decision-making process; interpret, apply, and synthesize the concepts of individual rights and collective responsibilities; and evaluate the interconnection between war, peace, and diplomacy.

GVPT 457 American Foreign Relations (3)

Prerequisite: WRTG 112. A study of the principles and machinery of American foreign relations. The goal is to apply historical themes of American foreign policy to contemporary international relations, incorporate tenets of international law into American diplomatic approaches, and inform and influence policy making. Emphasis is on the conduct of the U.S. Department of State and the Foreign Service. Analysis covers the major foreign policies of the United States.

GVPT 475 The Presidency and the Executive Branch (3)
Prerequisite: WRTG 112. A study of the president's influence on legislative matters, the president's function in the executive branch (including domestic and foreign policy), and the president's role in his or her political party. The aim is to analyze contemporary uses of the presidency, evaluate an election strategy, and communicate realities of the presidential office.

GVPT 486A Workplace Learning in Government and Politics (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

GVPT 486B Workplace Learning in Government and Politics (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl)*. 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.

GVPT 495 Political Science Capstone (3)
Prerequisites: WRTG 112 and 9 upper-level credits in GVPT coursework. A study of political science that integrates knowledge gained through previous coursework and experience. The aim is to build on that conceptual foundation through integrative analysis, practical application, and critical thinking. Concepts and methods of political science are applied in producing a political, policy, or position paper for a project organization.

Graphic Communication

GRCO 100 Introduction to Graphic Communication (3)
(Access to Adobe Photoshop and Illustrator required.) An introduction to graphic communication and the various roles and responsibilities of the profession. The aim is to demonstrate the skills and knowledge necessary for graphic communication professionals. Design theories and content are explored through hands-on projects. Topics include industry standards, portfolios, and research and assessment practices.

GRCO 230 Typography and Layout (3)
Prerequisites: GRCO 100 and ARTT 120. An introduction to typography and layout as compositional tools to construct graphic communications. The goal is to analyze and determine appropriate typefaces and apply typographical skills to layout design. Emphasis is on the individual aspects of the letterform and the interrelationship of letters on the page. Discussion covers the process of design, from research to comprehensive mock-up, to produce portfolio-quality designs.

GRCO 350 Intermediate Graphic Communication: Portfolio Development (3)
Prerequisite: GRCO 230. The development of a professional graphic communications portfolio. The goal is to assemble a select body of work for web presentation that demonstrates knowledge of color, typography, composition, and design. Projects are designed to synthesize and refine basic design skills. Emphasis is on gathering the elements of a cohesive portfolio and presenting a personal body of work. Students may receive credit for only one of the following courses: ARTT 250 or GRCO 350.

GRCO 354 Digital Media (3)
(Formerly ARTT 354.) Prerequisite: GRCO 230. An introduction to digital media and design. The objective is to use current technologies in raster and vector image creation, two-dimensional animation, and the integration of text with graphics in cohesive layouts and to develop and oversee static and animated digital media projects through all stages of production. Focus is on advanced illustrative techniques for animated digital media, web graphics, and social media on a commercial level. Students may receive credit for only one of the following courses: ARTT 354 or GRCO 354.

GRCO 355 Digital Media II (3)
Prerequisite: GRCO 354. Further examination of design for interactive media that incorporate raster- and vector-based visuals, video files, and brand generation. The goal is to use current technologies to develop functional static and responsive multimedia layouts for a range of platforms, including desktop, hand-held, and mobile devices. Discussion covers strategies for developing work for a variety of output applications. Focus is on production of portfolio-caliber projects that simulate real-world work experience.

TABLE OF CONTENTS
INDEX

GRCO 450 Advanced Graphic Communication: Professional Branding (3)
Prerequisites: GRCO 350 and GRCO 355. A review of professional branding and development of a portfolio and personal branding package. The objective is to synthesize, refine, and expand an existing portfolio to reflect personal branding. Focus is on refining a portfolio through peer review, critique, and assessment. Projects include creating a personal mission statement, identity package, and video component.

GRCO 479 Motion Graphics (3)
(Formerly ARTT 479.) Prerequisite: GRCO 354 or ARTT 354. A study of media production. Discussion covers the aesthetic and practical aspects of creating moving images in a short movie or documentary. The goal is to understand the principles of preproduction, production, and postproduction. Students may receive credit for only one of the following courses: ARTT 479 or GRCO 479.

GRCO 486A Workplace Learning in Graphic Communication (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

GRCO 486B Workplace Learning in Graphic Communication (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl)*. 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.

GRCO 495 Graphic Communication Capstone (3)
Prerequisite: GRCO 479 and completion of 24 credits of major coursework. A portfolio-driven study of business and professional practices in the field of graphic communication. The goal is to be prepared for a career in graphic communication. Activities include review of existing work, creation of portfolio projects, and production of a professional portfolio (including a résumé). Focus is on applying skills (in areas such as motion graphics, typography, digital media, illustration, and commercial design) acquired through previous study. Students may receive credit for only one of the following courses: ARTT 495 or GRCO 495.

Health Services Management

HMGT 300 Introduction to the U.S. Healthcare Sector (3)
Prerequisite: WRTG 112 or WRTG 101. An overview of healthcare organizations in the United States and current and emerging concepts, trends, policies, and issues in healthcare. The aim is to explain the structure of the U.S. healthcare sector, understand the role of healthcare managers in meeting industry standards of care, and apply knowledge of healthcare workforce issues to solve management challenges. Students may receive credit for only one of the following courses: BMGT 361, HMGT 100, or HMGT 300.

HMGT 307 Managerial Epidemiology and Decision-Making in Healthcare (3)
Prerequisites: HMGT 300 and STAT 200. An overview of epidemiologic principles and tools applicable to decision-making in healthcare. The objective is to apply the basic principles of descriptive epidemiology to healthcare planning, directing, controlling, organizing, staffing, and financial management; critically evaluate the factors that influence the health status of populations served; and distinguish among study designs in terms of causal inference and sources of bias. Focus is on applying epidemiological and decision-making tools to integrative decision-making in healthcare.

HMGT 310 Healthcare Policies (3)
Prerequisite: HMGT 307. An overview and analysis of public policies that govern the organization, delivery, and financing of health services in the United States. The aim is to evaluate national, state, and local policies to determine their impact on the delivery of healthcare services.

HMGT 320 Management in Healthcare Organizations (3)
Prerequisite: HMGT 307. An introduction to management in the healthcare services field. The aim is to explain key management concepts and apply them to the management of health services organizations. Discussion covers the management skills and capabilities that are essential for effective supervision and leadership. An overview of the unique requirements of healthcare organizations and their management is provided. Focus is on the application of essential management and leadership skills in a healthcare environment. Students may receive credit for only one of the following courses: BMGT 367 or HMGT 320.

TABLE OF CONTENTS
INDEX

HMGT 322 Healthcare Financial Management (3)
Prerequisites: HMGT 300 and HMGT 310. An overview of the acquisition, allocation, and management of the financial resources of healthcare organizations. Economic and accounting practices are discussed in terms of budget administration, cost analysis, financial strategies, and internal controls. The goal is to examine financial information and regulatory requirements and policies, identify issues and solve problems, and make sound financial decisions in the healthcare field. Students may receive credit for only one of the following courses: HMGT 322 or HMGT 440.

HMGT 335 Healthcare Marketing (3)
Prerequisite: HMGT 307. An examination of the makeup of the healthcare market, the role of marketing in the delivery of healthcare, and relevant consumer behavior. Topics include basic principles and key concepts related to the design and implementation of marketing efforts in health services organizations. The goal is to develop and evaluate healthcare marketing plans. Discussion covers the marketing process and the development and analysis of strategic healthcare marketing plans.

HMGT 372 Legal and Ethical Issues in Healthcare (3)
Prerequisite: HMGT 300 or NURS 300. An examination of legal and ethical issues encountered in healthcare management and the ramifications of those issues on the delivery of health services and patient care. The aim is to apply ethical principles and practice within legal and ethical standards of healthcare.

HMGT 400 Research and Data Analysis in Healthcare (3)
Prerequisites: HMGT 320 and STAT 200. An introduction to research methods and the process of data identification and analysis in the healthcare field. The objective is to inform healthcare decision-making and formulate research hypotheses. Emphasis is on the analytic process, especially in the presentation and interpretation of results. Topics include the use of healthcare databases, the analysis of problems and issues, and evaluation of research in healthcare settings. Students may receive credit for only one of the following courses: HMGT 398C or HMGT 400.

HMGT 420 Healthcare Facilities Management (3)
Prerequisite: HMGT 320. An examination of the organization and operation of hospitals and freestanding ambulatory care centers, with a focus on the manager's role in internal operations and external relations. The objective is to understand the key issues driving healthcare facilities management and apply sound management principles to ensure successful operations. Discussion covers managed care programs and their impact on healthcare facilities management.

HMGT 435 Healthcare Economics (3)
Prerequisites: HMGT 300 and HMGT 310. A comprehensive and analytical study of basic economics and its relationship to the delivery of healthcare. The aim is to apply the principles of economics to healthcare management and to anticipate the impact of economics on the outcomes of healthcare management decisions. Topics include the microeconomic aspects of the organization and delivery of healthcare, financing and other major components of the healthcare system, and economic factors that influence the delivery of healthcare.

HMGT 486A Workplace Learning in Healthcare Services Management (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

HMGT 486B Workplace Learning in Healthcare Services Management (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

HMGT 495 Health Services Management Capstone (3)
(Intended as a final, capstone course to be taken in a student's last 15 credits.) Prerequisite: HMGT 320. A study of strategic planning and leadership within a healthcare organization. The aim is to integrate the knowledge and experience gained from previous study and build on that conceptual framework through analysis, practical application, and critical thinking. Leadership qualities and skills are also covered.

TABLE OF CONTENTS
INDEX

History

HIST 115 World History I (3)

A survey of global civilizations from prehistory to the 1500s. The aim is to explain the impact of environmental conditions on the development of civilizations using basic geographical knowledge; describe how human contact, global connections, and migrations contribute to the development of civilizations; and compare the development of institutions (social, political, familial, cultural, and religious) to explain their impact on societal transformations. Focus is on examining what history is and thinking critically about history by analyzing historical approaches and methods.

HIST 116 World History II (3)

A survey of global civilizations from the 1500s to the present. The aim is to explain the development of new political and economic systems using basic geographical knowledge; describe how human contact, global connections, and migrations contribute to the development of nations and global systems; and compare the development of institutions (social, political, familial, cultural, and religious) to explain their impact on societal transformations. Focus is on examining what history is and thinking critically about history by analyzing historical approaches and methods.

HIST 125 Technological Transformations (3)

A focused survey of the intersection of technology and history and the evolutionary process that marks what we call progress. The objective is to apply historical precedent to everyday responsibilities and relationships to advance the goals and ideals of contemporary society; compare and contrast historical eras; and describe how events influence our sense of time, space, and technology.

HIST 141 Western Civilization I (3)

A survey of the history of Western civilization from antiquity through the Reformation. The objective is to chart major societal changes; identify major conflicts and wars; describe the evolution of religions; and recognize how philosophy and the arts reflect and influence peoples' lives, cultures, and societies. The political, social, and intellectual developments that formed the values and institutions of the Western world are examined.

HIST 142 Western Civilization II (3)

A survey of the history of Western civilization from the Reformation to modern times. The objective is to chart major societal changes; identify major conflicts and wars; describe the evolution of religions; and recognize how philosophy and the arts reflect and influence peoples' lives, cultures, and societies.

HIST 156 History of the United States to 1865 (3)

A survey of the United States from colonial times to the end of the Civil War. The establishment and development of national institutions are traced. The aim is to locate, evaluate, and use primary and secondary sources and interpret current events and ideas in a historical context. Students may receive credit for only one of the following courses: HIST 156 or HUMN 119.

HIST 157 History of the United States Since 1865 (3)

A survey of economic, intellectual, political, and social developments since the Civil War. The objective is to use primary and secondary sources to describe U.S. historical events and interpret current events and ideas in a historical context. Discussion covers the rise of industry and the emergence of the United States as a world power. Students may receive credit for only one of the following courses: HIST 157 or HUMN 120.

HIST 202 Principles of War (3)

A study of the nine classic principles that guide the conduct of war at the strategic, operational, and tactical levels and form the foundation of the art and science of the military profession. The aim is to use primary and secondary historical resources to explore how past theory and practice have shaped the underlying policy, strategic planning, and operational procedures of today's military and national security agencies.

HIST 289 Historical Methods (3)

Prerequisite: A 100-level HIST course. An introduction to historical methods, approaches, and techniques. The goal is to explain what history is and why it matters, identify historical paradigms, and employ the moral and ethical standards of the historical profession. Focus is on the philosophical and practical skills employed by historians.

HIST 309 Historical Writing (3)

Prerequisite: HIST 289. A study of the historical research and writing process. The goal is to construct a framework for an original historical research project, locate and evaluate source materials, and demonstrate proficiency in research methods.

HIST 316L The American West (3)

An examination of the exploration, settlement, development, and mythology of the American West, from 1490 to 1990. Discussion covers the role of the West as a key factor in the formation of national identity. Assignments include advanced reading and research.

TABLE OF CONTENTS
INDEX

HIST 326 The Roman Republic (3)

Prerequisite: Any writing course. A study of ancient Rome during the period 753 to 44 BC, from its founding to the assassination of Julius Caesar. The goal is to use primary and secondary historical resources to explore Roman thought and demonstrate its influence in the modern Western world and apply it to modern contexts. Focus is on Rome's conquest of the Mediterranean world, the social and political pressures that led to that conquest, and the consequent transformation and decline of the republic. Students may receive credit for only one of the following courses: HIST 326 or HIST 421.

HIST 337 Europe and the World (3)

An analysis of how European powers shaped and were shaped by global events between 1884 and 1989 from the Conference of Berlin to the fall of the Berlin Wall. Emphasis is on the reciprocal relationships between great cities and the outposts of European culture worldwide. The objective is to examine the interplay between Europe and colonial regions, subjects, cultures, politics, economies, and immigration.

HIST 365 Modern America (3)

A comprehensive survey of the history of the United States from 1933 to 2001. The goal is to understand the impact of domestic and global issues on American society. Topics include the expanding federal government, the Cold War and its legacy, the struggle over constitutional rights and the changing landscape of American culture, society and politics.

HIST 377 U.S. Women's History: 1870 to 2000 (3)

An examination of the history of women in the United States from 1870 to the eve of the 21st century. The goal is to examine primary and secondary sources and documents to comprehend and articulate the impact of gender on the historical experiences of American women. Historical methodologies that focus on the ways in which race, class, ethnicity, and sexuality have shaped these experiences are used to analyze the varied experiences of U.S. women. The relationship between these experiences and the larger historical forces of the era, including social movements, technology, and changing family roles and structure, is evaluated. Students may receive credit for only one of the following courses: HIST 211, HIST 367, or HIST 377.

HIST 381 America in Vietnam (3)

Prerequisite: A writing course. An examination of the complexity of the lengthy involvement of the United States in Vietnam. The goal is to engage in divergent historical interpretations and develop personal conclusions and perspectives about America's role in Vietnam and its legacy. Discussion covers the social, cultural, political, and military dimensions of the Vietnam War, beginning with the declaration of Vietnamese independence at the conclusion of World War II. Emphasis is on influence of the media in shaping government policy and public opinion. Students may receive credit for only one of the following courses: BEHS 337 or HIST 381.

HIST 392 History of the Contemporary Middle East (3)

Prerequisite: A writing course. A survey of the history of the Middle East from the late 19th century to the present. The aim is to identify the important events of the last century in the Middle East; understand the sources of contention in that area; and examine the ideology, politics, and culture of the area and how they impact U.S.-Middle East relations. Focus is on major political, economic, social, and cultural trends that inform current events in the region. Topics include the late Ottoman Empire, European colonialism, the rise of nationalism and nation-states, the Arab-Israeli conflict, political Islam, the role of the United States in the region, and contemporary approaches to modernity in the Middle East.

HIST 461 African American History: 1865 to the Present (3)

Prerequisite: A writing course. An examination of African Americans in the United States since the Civil War. The objective is to examine the significance of the emancipation of African Americans and various leadership and philosophical perspectives within the African American community. Topics include emancipation and Reconstruction; segregation, accommodationism, and institution building; migration and urbanization; resistance and the birth and growth of the civil rights movement; and the problem of race and racism as a national issue with global impact in the modern world.

HIST 462 The U.S. Civil War (3)

An examination of the origins, conduct, and impact of the American Civil War and Reconstruction (1850–77). The goal is to apply historical methodology to issues of the Civil War and Reconstruction; assess Civil War strategies, tactics, and operations; and evaluate how race, culture, politics, and technology affected the course of the Civil War and Reconstruction.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

HIST 464 World War I (3)
Prerequisite: Any writing course. An intensive study of the First World War. Topics include the development of nationalism and socialism in late 19th-century Europe, the causes of the First World War, trench warfare on the western front, war in the Balkans, total war on the home fronts, the Russian Revolution of 1917, the collapse of the Central Powers, the 1918 settlements, the postwar conflicts that continued to haunt Europe until 1923, and the concept of the Lost Generation.

HIST 465 World War II (3)
An investigation of the global issues and events that led to the Second World War. Emphasis is on analyzing the factors that contributed to the competing ideologies and the social, political, and economic conditions that ignited the most lethal conflict in human history. The goal is to understand the causes, nature, and outcome of the Second World War and the impact upon the world in which we live.

HIST 480 History of China to 1912 (3)
A study of the history of China from Confucius (around 500 BC) to the demise of the Qing Dynasty in 1912. The objectives are to interpret, educate, and advise others based on a historical, cultural, and social awareness of traditional China. Emphasis is on the changes within Chinese political, social, cultural, and philosophical structures that have molded the history of China and its peoples.

HIST 482 History of Japan to 1800 (3)
Prerequisite: A writing course. An examination of traditional Japanese civilization from the age of Shinto mythology to the late Edo period. The aim is to interpret, educate, and advise others based on a historical, cultural, and social awareness of traditional Japan.

HIST 483 History of Japan Since 1800 (3)
Prerequisite: A writing course. An examination of Japan's emergence as an industrial society and world power. The goal is to interpret, educate, and advise others based on a historical, cultural, and social awareness of modern Japan. Discussion covers Japan's role in World War II, postwar recovery, and re-emergence as an exporter of cultural goods.

HIST 486A Workplace Learning in History (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

HIST 486B Workplace Learning in History (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

HIST 495 History Capstone (3)
Prerequisites: HIST 289, HIST 309, and 21 credits in HIST courses. Intensive research into a specific topic in history of the student's choice. The objective is to produce a substantial, original historical research project suitable for presentation or publication.

Homeland Security

HMLS 302 Introduction to Homeland Security (3)
An introduction to the theory and practice of homeland security in both the public and private sectors at national, regional, state, and local levels. The objective is to apply management concepts to homeland security, identify legal and policy issues related to homeland security, and compare the four phases of homeland security. An overview of the administrative, legislative, and operational elements of homeland security programs and processes (including a review of homeland security history, policies, and programs) is provided. Topics include the threat of terrorism and countermeasures, including intelligence, investigation, and policies that support U.S. homeland security objectives.

HMLS 304 Strategic Planning in Homeland Security (3)
Prerequisite: HMLS 302. An examination of the fundamentals of strategic planning, necessary for the maintenance of domestic security and the operation of the homeland security organization in the public and private sectors. The goal is to develop and analyze homeland security strategic plans. Topics include organizational priorities, planning documents, policy development, legislation, financial operations, and the evaluation process. Analysis covers threat, risk, vulnerability, probability, and impact as parameters for decision-making and resource allocation.

HMLS 310 Homeland Security Response to Critical Incidents (3)
Prerequisites: HMLS 302 and HMLS 406. A real-world assessment of the issues involved in responding to homeland security critical incidents. The aim is to prepare for future challenges, integrate critical incident responses at all levels, and analyze the effect of regulations and laws on critical incident response. Discussion covers historical and potential incidents as they relate to resources, cooperation, politics, regulations, operations, and post-incident response.

HMLS 406 Legal and Political Issues of Homeland Security (3)
Prerequisite: HMLS 302. A study of the legal aspects of and public policy in homeland security. The aim is to analyze governmental and private-sector roles and form a model homeland security policy. The development of public policy in homeland security is examined at local, regional, national, and international levels. Topics include surveillance, personal identity verification, personal privacy and redress, federal legislation passed in the aftermath of the terrorist attacks of 2001, the rights of foreign nationals, the rights of U.S. citizens, the governmental infrastructure for decisions concerning legal rights, and the difficulties of prosecuting terrorist suspects (such as jurisdictional issues, rules of evidence, and prosecution strategies).

HMLS 408 Infrastructure in Homeland Security (3)
Prerequisite: HMLS 406. An examination of infrastructure protection at international, national, regional, state, and local levels. The objective is to assess threat, risk, and vulnerabilities and recommend protective measures. Topics include critical infrastructure at all levels of government, the private sector, and the international community. An overview of U.S. homeland security policy as it relates to the protection of critical infrastructures and key assets (including the roles of the federal, state, and local governments and the private sector in the security of these resources) is provided. Focus is on risk reduction and protection of critical infrastructures using available resources and partnerships between the public and private sectors.

HMLS 414 Homeland Security and Intelligence (3)
Prerequisite: HMLS 406. A study of the role of intelligence in homeland security. The objective is to interpret the concepts of information; analyze the production of intelligence; and recognize the U.S. intelligence and law enforcement communities, as well as other agencies and organizations that have a part in the nation's homeland security intelligence activities. Topics include the various steps of the intelligence process: the collection, analysis, sharing, and dissemination of information between governments and between government and the private sector. Emphasis is on evaluating current intelligence and enforcement efforts. Discussion also covers future challenges and opportunities for intelligence operations.

HMLS 416 Homeland Security and International Relations (3)
Prerequisite: HMLS 406. An examination of the relationship of international institutions to U.S. homeland security policy, intelligence, and operations. The aim is to incorporate a global perspective in the development of U.S. homeland security, analyze international institutions that influence U.S. homeland security, and integrate international information sharing in public- and private-sector approaches to security. Domestic security operations abroad are compared to U.S. policy, laws, and procedures. Topics include the commonality of global approaches to domestic security everywhere and the value of information sharing between governments and international institutions.

HMLS 495 Public Safety Leadership Capstone (3)
Prerequisites: At least 15 credits in upper-level FSCN, EMGT, HMLS, or PSAD courses. A study of leadership theories, skills, and techniques used in the public safety professions. The interdisciplinary perspective—encompassing criminal justice, emergency management, fire science, and homeland security—is designed to support integrated public safety management. A review of current issues and contemporary leadership styles in the public safety professions integrates knowledge and principles gained through previous coursework. Case studies and exercises are used to address challenges in strategic planning. Other tools focus on evaluation of personal leadership styles and techniques.

Humanities

HUMN 100 Introduction to Humanities (3)
An introduction to the humanities through a review of some of the major developments in human culture. The goal is to analyze how societies express their ideas through art, literature, music, religion, and philosophy and to consider some of the underlying assumptions about the way societies are formed and run. Focus is on developing the conceptual tools to understand cultural phenomena critically.

HUMN 344 Technology and Culture (3)
An interdisciplinary survey examining the impact technology has on human culture. The objective is to evaluate the influence technology has on the human experience, employ interdisciplinary knowledge on issues of technology and culture, and communicate in writing and oral presentation the results of critical reflection and cultural criticism. Topics include technology and history, misinformation and disinformation, social media, ethics, the arts, race and gender, transhumanism, and technology and the self.

TABLE OF CONTENTS
INDEX

HUMN 351 Myth in the World (3)
An interdisciplinary survey of myths from around the world. The objective is to evaluate the influences of myth on culture and society; develop critical reflection using the methods of interdisciplinary study; discuss how myths shape cultural, individual, and national identities; and communicate in writing and oral presentation the influence of world myths on their material and nonmaterial culture. Topics include origin myths, comparative mythology, gender, the archetypes, heroes, tricksters, material and nonmaterial culture, ritual, and sacred place.

HUMN 495 Humanities Capstone (3)
Prerequisites: HUMN 100, an upper-level ARTH course, an upper-level ENGL course, an upper-level HUMN course, and an upper-level PHIL course. A study of the humanities that synthesizes knowledge gained through previous study. A research project is used to examine the nature of human responsibility to self, others, and the environment; the role of intellectual inquiry in human life; and the role of creativity in human life. Career options are also explored.

Human Resource Management

HRMN 202 Organizational Communication (3)
(Formerly HRMN 302.) A study of the structure of communication in organizations. The goal is to apply theory and examples to improve managerial effectiveness in communication and negotiation. Problems, issues, and techniques of organizational communication are analyzed through case histories, exercises, and projects. Students may receive credit for only one of the following courses: BMGT 398N, HRMN 202, HRMN 302, MGMT 320, MGST 315, or TEMN 315.

HRMN 300 Human Resource Management (3)
A basic study of the strategic role of human resource management. The objective is to apply knowledge of human behavior, labor relations, and current laws and regulations to a working environment. Topics include employment laws and regulations, diversity in a global economy, total rewards management, and training and development for organizational success. Students may receive credit for only one of the following courses: BMGT 360, HRMN 300, or TMGT 360.

HRMN 362 Labor Relations (3)
A survey of contemporary labor relations practices. The aim is to research and analyze labor relations issues and support the labor relations process. Discussion covers the history of organized labor in the United States, the role of third parties, organizing campaigns, the collective bargaining process, and the resolution of employee grievances. Students may receive credit for only one of the following courses: BMGT 362 or HRMN 362.

HRMN 367 Organizational Culture and Change (3)
An examination of the nature, definitions, theories, and aspects of organizational culture. The goal is to apply knowledge of organizational culture to develop a change-management plan. Analysis covers patterns of behavior and their relationship to organizational culture, especially the impact of the organization's business on employee behavior and culture. Topics include the role of nationality, gender, and race within organizational culture; implications of addressing organizational challenges; theory versus practice; and the relative roles of the individual, groups, and the organization in a cultural context. Students may receive credit for only one of the following courses: BMGT 398T or HRMN 367.

HRMN 395 The Total Rewards Approach to Compensation Management (3)
Prerequisite: HRMN 300. An exploration of alternative compensation philosophies that define total rewards as everything that employees value in the employment relationship. The objective is to design a total rewards program that ensures organizational success. Topics include building and communicating a total rewards strategy, compensation fundamentals, the conduct and documentation of a job analysis, linking pay to performance, employee motivation, and performance appraisal. Strategies such as incentive cash and/or stock compensation programs, employee ownership, benefits, and nonmonetary rewards are discussed and evaluated. The interrelationships among compensation, motivation, performance appraisal, and performance within the organization are examined. Discussion also covers the design and implementation of a total rewards program, including organizational compatibility. Students may receive credit for only one of the following courses: BMGT 388L, HRMN 390, or HRMN 395.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

HRMN 400 Talent Acquisition and Management (3)
Prerequisite: HRMN 300. A study of the role of human resource management in the strategic planning and operation of organizations, including staffing, onboarding, recruiting, performance appraisal systems, and compensation and labor/management issues. The goal is to research and evaluate issues and present strategic solutions related to talent acquisition and management. The influence of federal regulations (including equal opportunity, sexual harassment, discrimination, and other employee-related regulations) is analyzed. A review of research findings, readings, discussions, case studies, and applicable federal regulations supports the critical evaluation of human resource problems as they relate to the employment life cycle. Students may receive credit for only one of the following courses: BMGT 460 or HRMN 400.

HRMN 406 Employee Training and Development (3)
Prerequisite: HRMN 300. An examination of employee training and human resource development in various organizations. Topics include the development, administration, and evaluation of training programs; employee development; career development; and organizational change. Issues in employee development (including assessment of employee competencies, opportunities for learning and growth, and the roles of managers in employee development) are explored. Students may receive credit for only one of the following courses: BMGT 498I, HRMN 406, or MGMT 498I.

HRMN 408 Employment Law for Business (3)
(Designed for managers and human resource professionals.) Prerequisite: HRMN 300. A conceptual and functional analysis of the legal framework of employment relations. The aim is to understand employment law; comply with laws and regulations; and evaluate rights, obligations, and liabilities in the employment process, from hiring and staffing to compensation and layoff. Topics include discrimination based on race, national origin, religion, sex, affinity and sexual orientation, age, and disability; the hiring process, testing, and performance appraisal; employee privacy; wrongful discharge; employee benefits; health and safety; independent contractors; and labor unions. Students may receive credit for only one of the following courses: BMGT 468, BMGT 498G, HRMN 408, or MGMT 498G.

HRMN 410 HR Information Systems and Metrics Analysis (3)
A study of human resource metrics associated with performance management, talent acquisition, retention, and employee engagement in the strategic planning and operation of organizations. The goal is to research and evaluate HR information systems for the collection, mining, dissemination, and analysis of data related to HR issues and present strategic solutions. A review of research findings and case studies supports the critical evaluation of human resource problems. Common HR metrics are applied to people analytics for problem-solving.

HRMN 467 Global Human Resource Management (3)
Prerequisite: HRMN 300. A comprehensive study of global human resource management. The objective is to demonstrate intercultural competencies; identify trends in the globalized workforce; and analyze policies, practices, and functions in global human resources. Topics include global staffing, training, compensation, and evaluation.

HRMN 486A Workplace Learning in Human Resource Management (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

HRMN 486B Workplace Learning in Human Resource Management (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

HRMN 495 Human Resource Management Capstone (3)
(Intended as a final, capstone course to be taken in a student's last 15 credits.) Prerequisite: HRMN 400. A study of human resource management that integrates knowledge gained through previous coursework and experience and builds on that conceptual foundation through integrative analysis, practical application, and critical thinking. The goal is to consider and analyze emerging issues in human resource management. Students may receive credit for only one of the following courses: BMGT 388K, HRMN 494, or HRMN 495.

Information Systems Management

IFSM 201 Concepts and Applications of Information Technology (3)

(Access to a standard office productivity package, i.e., word processing, spreadsheet, database, and presentation software, required.) An introduction to data and the range of technologies (including hardware, software, databases, and networking and information systems) that provide the foundation for the data-centric focus of modern organizations. The objective is to apply knowledge of basic technical, ethical, and security considerations to select and use information technology (and the data that arises from technology) effectively in one's personal and professional lives. Discussion covers issues related to technology as a vehicle for collecting, storing, and sharing data and information, including privacy, ethics, security, and social impact. Applied exercises focus on the manipulation, analysis, and visualization of data and effective data communication strategies. Students may receive credit for only one of the following courses: BMGT 301, CAPP 101, CAPP 300, CMST 300, IFSM 201, or TMGT 201.

IFSM 300 Information Systems in Organizations (3)

An overview of information systems and how they provide value by supporting organizational objectives. The goal is to analyze business strategies to recognize how technology solutions enable strategic outcomes and to identify information system requirements by analyzing business processes. Discussion covers concepts of business processes and alignment of information systems solutions to strategic goals.

IFSM 301 Foundations of Management Information Systems (3)

Prerequisite: IFSM 300. An overview of information technology management and governance. The goal is to be familiar with IT organizations, management of IT strategy, and factors in IT decision-making. Topics include strategic alignment, portfolio management, risk management, business continuity, compliance, and organizational relationships.

IFSM 304 Ethics in Information Technology (3)

A comprehensive study of ethics and of personal and organizational ethical decision-making in the use of information systems in a global environment. The aim is to identify ethical issues raised by existing and emerging technologies, apply a structured framework to analyze risk and decision alternatives, and understand the impact of personal ethics and organizational values on an ethical workplace.

IFSM 305 Information Systems in Healthcare Organizations (3)

An overview of how information systems provide value by supporting organizational objectives in the healthcare sector. The goal is to evaluate how technology solutions support organizational strategy in the healthcare environment and improve quality of care, safety, and financial management. Topics include the flow of data among disparate health information systems and the ethical, legal, and regulatory policy implications.

IFSM 310 Software and Hardware Infrastructure Concepts (3)

A study of the hardware, software, and network components of computer systems and their interrelationships. The objective is to select appropriate components for organizational infrastructures. Discussion covers the application of system development life-cycle methodology to build secure integrated systems that meet business requirements. Students may receive credit for only one of the following courses: CMIS 270, CMIS 310, CMSC 311, or IFSM 310.

IFSM 311 Enterprise Architecture (3)

Prerequisite: IFSM 310. A study of enterprise architecture and frameworks, including the transition of current business processes and functional systems to an enterprise solution. The aim is to analyze how enterprise architecture and resulting enterprise systems support an organization's ability to adapt and respond to a continually changing business and competitive environment.

IFSM 370 Telecommunications in Information Systems (3)

Prerequisite: IFSM 300. An introduction to telecommunication infrastructure. The goal is to plan, analyze, and design a secure telecommunication infrastructure that meets business needs and protects information assets. Topics include cybersecurity, data communication protocols and standards, networks, and trends in telecommunications. Students may receive credit for only one of the following courses: CMIS 370, CMSC 370, CSIA 302, IFSM 370, or IFSM 450.

IFSM 380 Managing and Leading in Information Technology (3)

Prerequisite: IFSM 201 or IFSM 300. A foundation in leadership skills for the fast-paced information technology environment. The goal is to expand interpersonal communication skills, think critically, solve problems, and apply basic management principles to complete tasks effectively. Topics include effective communication in customer facing and managerial environments, critical thinking and problem-solving, time management, and the application of leadership and management concepts in the workplace of today and tomorrow. Students may receive credit for only one of the following courses: IFSM 250 or IFSM 380.

TABLE OF CONTENTS
INDEX

IFSM 432 Business Continuity Planning (3)
Prerequisite: IFSM 311. An analysis of the requirements for business continuity and disaster recovery planning related to mission critical business information systems. The goal is to assess the risk to continuity of business processes, develop a business continuity/disaster recovery plan according to industry standards and best practices, and develop a test plan. Topics include risk assessment and organizational requirements for maintaining systems. A group project is designed to produce and validate a comprehensive business continuity and disaster recovery plan. Students may receive credit for only one of the following courses: IFSM 432 or IFSM 498N.

IFSM 438 Information Systems Project Management (3)
Prerequisite: IFSM 300 or CSIA 350. A practical application of project management principles and procedures. The objective is to manage and control IT projects in alignment with organizational strategic goals and within resource constraints and to manage high-performing project teams to implement IT solutions. Topics include the development, control, and execution of plans to manage information systems projects as part of a team and the use of Microsoft Project to develop project schedules and related components. Students may receive credit for only one of the following courses: IFSM 438 or TMGT 430.

IFSM 441 Agile Project Management (3)
Prerequisite: IFSM 438. An advanced study of agile project management methods for software development. The objective is to apply agile practices to better manage projects characterized by complexity and uncertainty with responsiveness and adaptability and to consider alternative approaches to managing projects by matching the approach to the characteristics of a project. Topics include estimation techniques; the scrum (software development) process, i.e., inspect, adapt, and improve; and dealing with organizational impediments to adoption.

IFSM 461 Systems Analysis and Design (3)
Prerequisite: IFSM 311. A project-driven study of tools and techniques for translating business requirements into operational systems. The goal is to plan, build, and maintain systems that meet organizational strategic goals by applying enterprise architecture and enterprise governance principles and practices. Topics include processes and system development life-cycle methodologies, data modeling methods, and the importance of stakeholder involvement. Students may receive credit for only one of the following courses: IFSM 436, IFSM 460, or IFSM 461.

IFSM 486A Workplace Learning in Management Information Systems (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

IFSM 486B Workplace Learning in Management Information Systems (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

IFSM 495 Management Information Systems Capstone (3)
Prerequisites: IFSM 438 and IFSM 461. A practical application of the knowledge and experience gained from previous study in management information systems. The aim is to demonstrate a mastery of management information systems concepts. Emerging issues and trends in management information systems are considered.

Japanese

JAPN 111 Elementary Japanese I (3)
For online sections, sound card, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Japanese; assumes no prior knowledge of Japanese. Students with prior experience with the Japanese language should take a placement test to assess appropriate level.) An introduction to spoken and written Japanese. The objective is to communicate in Japanese in some concrete, real-life situations using culturally appropriate language; read and write hiragana; and read some katakana words in context.

JAPN 112 Elementary Japanese II (3)
For online sections, sound card, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Japanese.) Prerequisite: JAPN 111 or appropriate score on a placement test. A continued introduction to spoken and written Japanese. The goal is to communicate in Japanese in concrete, real-life situations using culturally appropriate language; read and write katakana; and recognize some kanji characters in context. Practice is provided in improving pronunciation and developing the oral and written skills used in everyday communication.

TABLE OF CONTENTS
INDEX

JAPN 114 Elementary Japanese III (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Japanese.) Prerequisite: JAPN 112 or appropriate score on a placement test. Further study of spoken and written Japanese. The aim is to communicate in Japanese in a variety of concrete, real-life situations, using culturally appropriate language and to expand recognition of kanji characters in context. Practice is provided in improving pronunciation and developing the oral and written skills used in everyday communication.

JAPN 115 Elementary Japanese IV (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Japanese.) Prerequisite: JAPN 114 or appropriate score on a placement test. Further development of skills in elementary spoken and written Japanese. The aim is to interact effectively with native speakers of Japanese in a variety of real-life situations using culturally appropriate language and to recognize and distinguish more commonly used kanji characters in context. Practice is provided in fine-tuning pronunciation and applying language skills to a range of contexts.

JAPN 221 Intermediate Japanese I (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Japanese.) Prerequisite: JAPN 115 or appropriate score on a placement test. Development of skills in intermediate spoken and written Japanese. The aim is to interact effectively with native speakers of Japanese in a range of personal and professional situations and to recognize and read approximately 275 Japanese characters in context. Focus is on using culturally appropriate language in a variety of contexts.

JAPN 222 Intermediate Japanese II (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Japanese.) Prerequisite: JAPN 221 or appropriate score on a placement test. Further development of skills in intermediate spoken and written Japanese. The aim is to communicate effectively with native speakers of Japanese in a broad range of personal and professional situations and to recognize and read approximately 320 Japanese characters in context. Practice is provided in interacting with others in a variety of interpersonal contexts.

JAPN 333 Japanese Society and Culture (3)
(Formerly ASTD 333. Fulfills the general education requirement in the arts and humanities. Conducted in English.) A study of the origin and historical background of contemporary Japanese society and culture. Students may receive credit for only one of the following courses: ASTD 333 or JAPN 333.

Journalism

JOUR 201 Introduction to News Writing (3)
(Fulfills the general education requirement in communications.) Prerequisite: WRTG 112. An introduction to writing news articles for print and electronic media. The aim is to evaluate the newsworthiness of information and events and write in journalistic style. Emphasis is on writing, from mechanics (grammar, spelling, punctuation, and journalistic style) to content (accuracy, completeness, audience, and readability) and reporting.

JOUR 330 Public Relations Theory (3)
Prerequisite: JOUR 201. A study of the evolution, scope, and contemporary practice of public relations and its strategic value in business, nonprofits, government, associations, and other organizations. The goal is to apply legal, ethical, and professional standards to the everyday practice of public relations. Topics include communication theory, social science, and audience dimensions as they are applied to a four-step process: research, planning, communication, and evaluation.

JOUR 486A Workplace Learning in Journalism (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

JOUR 486B Workplace Learning in Journalism (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

TABLE OF CONTENTS
INDEX

Korean

KORN 333 Korean Society and Culture (3)
(Formerly ASTD 353. Fulfills the general education requirement in the arts and humanities. Conducted in English.) An interdisciplinary study of contemporary Korea from a variety of sociohistorical and cultural perspectives. Topics include the Korean Diaspora, the Korean Wave (Hallyu), Korea as a conduit between China and Japan, social and religious practices, Korean women, the Japanese occupation, and Korea's global impact. The aim is to articulate the key historic developments that have shaped contemporary Korean society, recognize and distinguish unique Korean influences and contributions, and assess key aspects of traditional and contemporary Korean society and culture. Focus is on developing a stronger understanding of Korean society and culture for practical and professional application. Students may receive credit for only one of the following courses: ASTD 353 or KORN 333.

Legal Studies

LGST 101 Introduction to Law (3)
A survey of the U.S. legal system and the roles and responsibilities of the various personnel who work in that environment. The objective is to evaluate situations and make recommendations for action based on an understanding of law, legal institutions, and court procedures. Topics include the organization and powers of federal and state lawmaking institutions, court procedures, legal analysis, and careers in the legal environment. Students may receive credit for only one of the following courses: LGST 101 or PLGL 101.

LGST 200 Techniques of Legal Research (3)
Prerequisite: LGST 101. An introduction to common research methods used to locate primary and secondary authority relevant to given topics and issues. The goal is to find valid, relevant, mandatory primary authority. Topics include the analysis, publication, and citation of judicial opinions and statutory law; the features and use of secondary sources; and various computer-assisted research tools to find and validate primary authority. Students may receive credit for only one of the following courses: LGST 200 or PLGL 200.

LGST 201 Legal Writing (3)
Prerequisite: LGST 200. An introduction to the principles of writing clearly and effectively in the legal environment. The objective is to draft writings that synthesize law, analyze legal issues, and explain law and legal analysis to a nonlegal audience. Assignments include a legal synthesis memo, case law and statutory analysis memos, and a client letter. Students may receive credit for only one of the following courses: LGST 201 or PLGL 201.

LGST 204 Legal Ethics (3)
A survey of basic principles relating to the ethical practice of law. The objective is to identify ethical problems, draft writings that apply ethical rules and interpretations to legal ethical dilemmas and avoid and resolve legal ethical problems through appropriate use of office procedures. Rules and guidelines governing the ethical conduct of lawyers and nonlawyers are covered, as are law office management principles relevant to ethical requirements. Students may receive credit for only one of the following courses: LGST 204 or PLGL 204.

LGST 300 Advanced Legal Research and Analysis (3)
Prerequisite: LGST 200. An in-depth examination of research methods to identify primary authority relevant to legal issues. The goal is to identify legal issues, implement research strategies to find relevant primary authority, and use this authority to analyze the issues. Topics include the use of computer-assisted legal research systems to locate case law, statutory law, administrative law, rules of procedure and evidence, and methods to identify and analyze legal issues. Students may receive credit for only one of the following courses: LGST 400 or PLGL 400.

LGST 301 Advanced Legal Writing (3)
Prerequisite: LGST 201. A focused study of the principles and techniques for drafting legal advocacy writings. The objective is to analyze legal issues and advocate for results based on that analysis. Assignments include a complex office memorandum, a demand letter, and an external advocacy memorandum. Students may receive credit for only one of the following courses: LGST 301, LGST 401, or PLGL 401.

LGST 312 Torts (3)
Prerequisite: LGST 201. A study of the causes of action, defenses, and remedies in the major categories of tort law, as well as tort-litigation procedures and writings. The goal is to investigate and evaluate tort claims to develop litigation strategies and research law to draft legal writings that support a legal conclusion. Topics include intentional torts, negligence, strict liability, damages, and civil procedure. Students may receive credit for only one of the following courses: LGST 312 or PLGL 312.

LGST 314 Workers' Compensation Law (1)
A thorough study of the Maryland Workers' Compensation Act and the practice of workers' compensation law in Maryland. The goal is to apply knowledge of legal systems, concepts, and methodologies to support client objectives efficiently and ethically. Topics include employer/employee relationships, injuries, defenses, compensation benefits, vocational rehabilitation, and appeals. Assignments include legal and factual research and the composition of legal documents or completion of forms. Students may receive credit for only one of the following courses: LGST 314 or PLGL 398H.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

LGST 315 Domestic Relations (3)

Prerequisite: LGST 201. A study of the processes, procedures, and writings of family law practice. The aim is to identify, analyze, and apply the rules of professional conduct to domestic issues; research applicable law and factual information related to domestic relations issues and draft legal writings; and complete standardized forms to resolve domestic issues. Topics include divorce, separation, and annulment and alimony; child custody and visitation; child support; disposition of property; and the legal rights of children. Relevant aspects of civil procedures, enforcement, and the modification of orders and agreements are covered. Students may receive credit for only one of the following courses: FMCD 487, LGST 315, or PLGL 315.

LGST 316 Estates and Probate (3)

Prerequisite: LGST 201. A fundamental study of the legal concepts required to draft and prepare simple wills and administer estates. The goal is to construct an estate plan supporting the creation and administration of a simple estate. Topics include preliminary and practical considerations of administering an estate; the appraisal of estate assets and probate inventory; inheritance taxes; claims against the estate; management of debts, accounting, and distribution considerations; the drafting and execution of wills; and guardianships. Assignments include legal research and written analysis that reflect the processes and procedures required by law. Students may receive credit for only one of the following courses: LGST 316, PLGL 216, or PLGL 316.

LGST 320 Criminal Law and Procedures (3)

Prerequisite: LGST 201. A study of the substantive and procedural aspects of the criminal justice system. The objective is to identify, analyze, and apply the rules of professional conduct to develop ethical strategies, research law, and draft legal writings to support the prosecution or defense of crimes. Topics include crimes and defenses, penalties, and court procedures. Students may receive credit for only one of the following courses: LGST 320 or PLGL 320.

LGST 325 Litigation (3)

Prerequisite: LGST 201. A comprehensive study of the Federal Rules of Civil Procedure and the process of civil litigation. The aim is to use technology and administrative best practices to collect, track, retrieve, and prepare evidence during the litigation process; interpret and apply the rules to develop case strategies; and interact with individuals within the legal system to support the litigation process effectively and ethically. Students may receive credit for only one of the following courses: LGST 325 or PLGL 325.

LGST 327 Alternative Dispute Resolution (3)

An overview of the various processes and techniques to settle disputes without court adjudication. Topics include alternatives to litigation and their advantages, characteristics of effective mediation, ethics, and virtual dispute resolution techniques. The objective is to become familiar with various methods of dispute resolution and potential career opportunities in alternative dispute resolution. Students may receive credit for only one of the following courses: LGST 327, PLGL 327, or PLGL 398G.

LGST 330 Administrative Law (3)

Prerequisite: LGST 201. An overview of the functions and procedures of federal and state administrative agencies. The goal is to monitor and analyze administrative agency actions to make recommendations to proposed and final agency rules and administrative decisions. Topics include rulemaking, adjudication, the use and control of agency discretion, and disclosure of information. Focus is on researching relevant law and writing effective and persuasive communications for use in administrative adjudications or to obtain information held by government agencies. Students may receive credit for only one of the following courses: LGST 330 or PLGL 330.

LGST 340 Contract Law (3)

Prerequisite: LGST 201. A comprehensive study of the major areas of contract law. The objective is to identify and analyze contractual precedent and statutory authority; develop litigation strategies; and explain contract concepts, remedies, and procedures that support a legal conclusion. Topics include formation, interpretation and enforcement, discharge, breach, and remedies for breach. Students may receive credit for only one of the following courses: LGST 340 or PLGL 340.

LGST 486A Workplace Learning in Legal Studies (3)

Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

LGST 486B Workplace Learning in Legal Studies (6)

Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

LGST 495 Legal Studies Capstone (3)
Prerequisite: Completion of at least 24 credits of major coursework, including LGST 301. A portfolio-driven study of professional practices in the legal field. The goal is to integrate the competencies gained through previous coursework and experience. Assignments include projects relevant to work in the legal environment.

Library Skills and Information Literacy

LIBS 150 Introduction to Research (1)
An introduction to the research process and methods for retrieving information in a library or through online sources. The aim is to identify an information need and locate, evaluate, and use appropriate resources in keeping with academic integrity and ethical standards. Focus is on implementing effective strategies for finding relevant information—including selecting appropriate print and electronic sources and effectively using web search engines and the UMGC Library's electronic resources to find information—and evaluating and correctly citing the information found. Students may not earn credit for LIBS 150 through challenge exam or portfolio credit and may receive credit for only one of the following courses: COMP 111, LIBS 100, or LIBS 150.

Marketing

MRKT 210 Marketing Principles (3)
(Formerly MRKT 310.) A foundational study of the marketing principles followed to create, communicate, and deliver value for customers. Focus is on the pivotal role of value and customer satisfaction in marketing. Discussion covers strategies, tactics, and all the major components of the marketing process. Students may receive credit for only one of the following courses: BMGT 350, MGMT 332, MRKT 210, MRKT 310, or TMGT 322.

MRKT 311 Digital Marketing Principles (3)
An introduction to the various types of digital marketing and the skills needed for each type. The aim is to recognize the various stages in the customer journey and marketing funnel. Discussions explore developing a unique value proposition and assessing the contribution of a SWOT (strengths, weaknesses, opportunities, threats) analysis to a marketing plan. Projects involve developing a digital marketing plan that includes designing a digital strategy to create and deliver value to consumers in a digital world.

MRKT 314 Nonprofit Marketing (3)
Prerequisite: MRKT 310 or MRKT 311. An exploration of the unique challenges and opportunities of marketing within nonprofit organizations. Discussion covers how to apply marketing principles, including strategic planning, branding, public relations, fundraising, and volunteer recruitment, to the nonprofit sector. Topics include the importance of creating a strong brand identity, effectively communicating the organization's mission and values to the public, utilizing various techniques for raising funds, and building relationships with donors.

MRKT 354 Integrated Marketing Communications (3)
Prerequisite: MRKT 310 or MRKT 311. A study of the integration of marketing communication strategies to coordinate the marketing mix's components and achieve harmony in messages to customers and other stakeholders. Emphasis is on leveraging various digital tools to achieve customer-centered marketing communications objectives. Topics include the variety of communication modalities encompassed in an integrated marketing communications plan: digital media (including search, display, and social media), traditional advertising, personal selling, sales promotion, public relations, and direct marketing.

MRKT 356 Email Marketing (3)
Prerequisite: MRKT 310 or MRKT 311. A study of email marketing techniques as essential components of an effective marketing strategy. The goal is to design email marketing campaigns. Topics include the fundamental concepts of email marketing, legal and privacy regulations, email automation, and the evaluation of success in email campaigns.

MRKT 394 Managing Customer Relationships in Digital Marketing (3)
Prerequisite: MRKT 310 or MRKT 311. An examination of customer relationship management (CRM) from strategic, operational, and analytical perspectives through the engagement of marketing, sales, and customer service functions with prospective and acquired customers. The goal is to build customer relationships and business processes through effective CRM strategy development and execution. Topics include integrating people, technology, and analytics to effectively bring valued solutions and knowledge to customers and profitable relationships to organizations.

TABLE OF CONTENTS
INDEX

MRKT 411 Consumer Behavior in Digital Media (3)
Prerequisite: MRKT 310 or MRKT 311. A study of consumer behavior covering what happens before, during, and after the point of purchase with an emphasis on the role of digital media. The objective is to gain insight into how digital media affects consumer choices and behavior. Discussion examines how consumers interpret information received from different sources and how the opinions of other people and groups influence purchase decision-making. Topics include consumer behavior, persuasive communications in digital formats, data privacy, and consumer rights.

MRKT 412 Marketing Research (3)
Prerequisite: MRKT 310 or MRKT 311. A study of the specialized field of marketing research as it is used to identify market needs, profile target markets, test promotional efforts, and measure the effectiveness of marketing plans. The goal is to assess marketing research needs, design and implement a marketing research plan, and use results to formulate marketing strategies. Discussion covers procedures for planning survey projects, designing statistical samples, tabulating data, and preparing reports. Emphasis is on managing the marketing research function. Students may receive credit for only one of the following courses: BMGT 452 or MRKT 412.

MRKT 454 Global Marketing (3)
Prerequisite: MRKT 310 or MRKT 311. An in-depth study of marketing principles as they relate to the global marketplace. The aim is to apply marketing principles and strategies to a global organization and markets. Discussion covers the influence of internationalization on the U.S. economy, the competitive pressures on the intensifying global markets, and the development of marketing plans tailored to reach international and global markets. Topics also include the political, economic, legal, regulatory, and sociocultural trends affecting international marketing; the dynamic environments in which global marketing strategies are formulated; and the challenge of implementing marketing programs leading to competitive advantage.

MRKT 458 Social Media Marketing (3)
Prerequisite: MRKT 310 or MRKT 311. An introduction to social media marketing to increase brand and product exposure and cultivate meaningful relationships with consumers. The aim is to engage with consumers to create an interactive, relevant conversation as part of a dynamic marketing strategy. Discussions explore the current benefits and advantages of social media strategies and campaigns. Projects involve developing social media posts, using best practices for target markets, and evaluating successful campaigns.

MRKT 486A Workplace Learning in Marketing (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

MRKT 486B Workplace Learning in Marketing (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

MRKT 495 Marketing Management Capstone (3)
Prerequisites: MRKT 354, MRKT 411, and MRKT 412. A study of marketing that integrates knowledge gained through previous coursework and experience in marketing and builds on those concepts through integrative analysis, practical application, and critical thinking. The aim is to manage the marketing process, perform root cause analysis, formulate alternative solutions, and propose marketing strategies and tactics. Emphasis is on the use of appropriate decision models. Topics include the analysis of consumers and markets. Discussion also covers emerging issues. Students may receive credit for only one of the following courses: BMGT 457 or MRKT 495.

Mathematics

MATH 105 Topics for Mathematical Literacy (3)
(For students who do not need a college algebra, statistics, or higher-level mathematics course. Meets the general education requirement in mathematics.) An investigation of contemporary topics in mathematics. The aim is to apply mathematical processes to solve problems involving exponential and logarithmic modeling, personal finance, probability, basic logical thinking, and statistical reasoning.

MATH 107 College Algebra (3)
(The first course in the two-course series MATH 107–MATH 108. An alternative to MATH 115.) An introduction to equations and inequalities and a study of functions and their properties, including the development of graphing skills with polynomial, rational, exponential, and logarithmic functions. The objective is to apply appropriate technology and demonstrate fluency in the language of algebra; communicate mathematical ideas; perform operations on real numbers, complex numbers, and functions; solve equations and inequalities; analyze and graph circles and functions; and use mathematical modeling to translate, solve, and interpret applied problems. Technology is used for data modeling. Discussion also covers applications. Students may receive credit for only one of the following courses: MATH 107 or MATH 115.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

MATH 108 Trigonometry and Analytical Geometry (3)

(The second course in the two-course series MATH 107–MATH 108. An alternative to MATH 115.) Prerequisite: MATH 107. An introduction to trigonometric functions, identities, and equations and their applications. The goal is to demonstrate fluency in the language of trigonometry, analytic geometry, and selected mathematical topics; communicate mathematical ideas appropriately; apply and prove trigonometric identities; solve triangles and trigonometric equations; and perform vector operations. Discussion covers analytical geometry and conic sections, systems of linear equations, matrices, sequences, and series. Students may receive credit for only one of the following courses: MATH 108 or MATH 115.

MATH 115 Pre-Calculus (3)

(Not open to students who have completed MATH 140 or any course for which MATH 140 is a prerequisite.) An explication of equations, functions, and graphs. The goal is to demonstrate fluency in pre-calculus; communicate mathematical ideas appropriately; solve equations and inequalities; analyze and graph functions; and use mathematical modeling to translate, solve, and interpret applied problems. Topics include polynomials, rational functions, exponential and logarithmic functions, trigonometry, and analytical geometry. Students may receive credit for only one of the following courses: MATH 107, MATH 108, or MATH 115.

MATH 140 Calculus I (4)

Prerequisite: MATH 108 or MATH 115. An introduction to calculus. The goal is to demonstrate fluency in the language of calculus; discuss mathematical ideas appropriately; and solve problems by identifying, representing, and modeling functional relationships. Topics include functions, the sketching of graphs of functions, limits, continuity, derivatives and applications of the derivative, definite and indefinite integrals, and calculation of area. Students may receive credit for only one of the following courses: MATH 130, MATH 131, or MATH 140.

MATH 141 Calculus II (4)

(A continuation of MATH 140.) Prerequisite: MATH 140. A study of integration and functions. The aim is to demonstrate fluency in the language of calculus; discuss mathematical ideas appropriately; model and solve problems using integrals and interpret the results; and use infinite series to approximate functions to model real-world scenarios. Focus is on techniques of integration, improper integrals, and applications of integration (such as volumes, work, arc length, and moments); inverse, exponential, and logarithmic functions; and sequences and series. Students may receive credit for only one of the following courses: MATH 131, MATH 132, or MATH 141.

MATH 241 Calculus III (4)

Prerequisite: MATH 141. An introduction to multivariable calculus. Exposition covers vectors and vector-valued functions; partial derivatives and applications of partial derivatives (such as tangent planes and Lagrangian multipliers); multiple integrals; volume; surface area; and the classical theorems of Green, Stokes, and Gauss. The objective is to use multivariate calculus to solve real-world problems.

MATH 246 Differential Equations (3)

Prerequisite: MATH 141 or MATH 132. An introduction to the basic methods of solving differential equations. The goal is to demonstrate fluency in the language of differential equations; communicate mathematical ideas; solve boundary-value problems for first- and second-order equations; and solve systems of linear differential equations. Topics include solutions of boundary-value problems for first- and second-order differential equations; solutions of systems of linear differential equations; series solutions, existence, and uniqueness; and formulation and solution of differential equations for physical systems.

MATH 301 Concepts of Real Analysis I (3)

Prerequisite: MATH 141. A study of real analysis. The aim is to construct formal mathematical proofs and solve problems. Topics include sequences and series of numbers, continuity and differentiability of real-valued functions of one variable, the Riemann integral, sequences of functions, and power series. Students may receive credit for only one of the following courses: MATH 301 or MATH 410.

MATH 340 Linear Algebra (4)

Prerequisite: MATH 140. An examination of linear algebra. The aim is to demonstrate applications of various concepts in linear algebra. Topics include abstract vector spaces, linear transformations, algebra of matrices, determinants, similarity, eigenvalues and eigenvectors, and applications to systems of equations. Discussion also covers solutions of problems in physics, engineering, and the sciences. Students may receive credit for only one of the following courses: MATH 240, MATH 340, MATH 400, or MATH 461.

MATH 402 Algebraic Structures (3)

Prerequisite: MATH 141. An overview of algebraic structures. The aim is to construct mathematically correct and concise proofs. Set theory, techniques of proofs, and the application of those techniques are introduced. Topics include groups, subgroups, isomorphisms, rings, integral domains, and fields.

MATH 463 Complex Analysis (3)
Prerequisite: MATH 141. An overview of the theory and practice of complex variables to enrich the study of differential equations, real analysis, and numerical analysis. The aim is to use complex variables to analyze problems that have direct application to physical problems. Topics include complex numbers, functions, inverse functions, mappings, integrals, series, and poles in complex numbers.

Music

MUSC 210 Music as Cultural Expression (3)
A study of the role of music in various cultures. The objective is to identify key features that define various genres of world music, articulate the roles and functions of music in world cultures, use the medium of music to explore intercultural relationships, and consciously define personal musical perspectives. Discussion covers music from various cultural traditions and the contexts in which composers and musicians practice their craft. Students may receive credit for only one of the following courses: HUMN 211 or MUSC 210.

Natural Science

NSCI 100 Introduction to Physical Science (3)
Prerequisite: MATH 105, STAT 200, or a more advanced MATH or STAT course. An introduction to the basic principles of physics and chemistry, with applications to geology, oceanography, meteorology, and astronomy. The objective is to use scientific and quantitative reasoning to make informed decisions about topics related to physical science. Discussion covers the development of scientific thinking, the scientific method, the relationships among the various physical sciences, the role of the physical sciences in interpreting the natural world, and the integrated use of technology. Students may receive credit for only one of the following courses: GNSC 100, NSCI 100, or NSCI 103.

NSCI 101 Physical Science Laboratory (1)
(Fulfills the laboratory science requirement.) Prerequisite: MATH 105, STAT 200, or a more advanced MATH or STAT course. Prerequisite or corequisite: NSCI 100. A laboratory study of the basic principles of physics and chemistry, with applications to geology, oceanography, meteorology, and astronomy. The objective is to apply the scientific method and use scientific and quantitative reasoning to make informed decisions about experimental results in the physical sciences. Discussion and laboratory activities cover the development of scientific thinking, the scientific method, the relationships among the various physical sciences, and the role of the physical sciences in interpreting the natural world.

NSCI 103 Fundamentals of Physical Science (4)
(Fulfills the laboratory science requirement.) Prerequisite: MATH 105, STAT 200, or a more advanced MATH or STAT course. An introduction to the basic principles of physics and chemistry, with applications to geology, oceanography, meteorology, and astronomy. The objective is to apply the scientific method and use scientific and quantitative reasoning to make informed decisions about experimental results in the physical sciences. Discussion and laboratory activities cover the development of scientific thinking, the scientific method, the relationships among the various physical sciences, the role of the physical sciences in interpreting the natural world, and the integrated use of technology. Students may receive credit for only one of the following courses: GNSC 100, NSCI 100, or NSCI 103.

NSCI 120 Natural Sciences Laboratory (1)
(Fulfills the laboratory science requirement.) Prerequisite: MATH 105, STAT 200, or a more advanced MATH or STAT course. A study of the basic principles of science investigation and observation. The objective is to apply knowledge of the natural world and experimental design to address questions about physical, chemical, geological, and ecological phenomena. Activities include observation of the natural world, experiments, measurements, data collection, and quantitative reasoning exercises.

NSCI 170 Weather and Climate (3)
An introduction to the basic principles of atmospheric science. The goal is to use scientific and quantitative reasoning to make informed decisions about topics related to atmospheric science. Topics include the effect of different weather elements (such as temperature, pressure, winds, and humidity) on weather patterns and climate. Discussion also covers weather phenomena such as El Niño, thunderstorms, tornadoes, tropical cyclones, and midlatitude cyclones, as well as the impact of humans on Earth's atmosphere. Students may receive credit for only one of the following courses: GNSC 170, GNSC 398D, or NSCI 170.

NSCI 171 Weather and Climate Laboratory (1)
(Fulfills the laboratory science requirement.) Prerequisite or corequisite: NSCI 170. An introduction to the basic concepts of meteorology. The aim is to apply the scientific method and use scientific and quantitative reasoning to make informed decisions about experimental results in meteorology. Focus is on the observation, measurement, and analysis of weather data, including the interpretation of weather patterns and conditions found on weather maps, satellite images, radar imagery, and atmosphere diagrams. Students may receive credit for only one of the following courses: GNSC 171 or NSCI 171.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

NSCI 301 Laboratory Management and Safety (3)
An overview of the role of scientific methodology, data handling, and management practices in research and manufacturing laboratories. The aim is to examine scientific principles; research and development practices; safety and health compliance; and management of laboratory personnel, space, inventory, and equipment. Assignments address laboratory operating systems, finances and recordkeeping, safety regulations and procedures, data management, project planning, problem-solving, procurement, personnel training, and communication with a broad array of stakeholders. Students may receive credit for only one of the following courses: GNSC 301, MEDT 301, or NSCI 301.

NSCI 362 Our Environment: Human Impact and Sustainable Choices (3)
A scientific examination of the impact humans have had on the global environment in the current era, the Anthropocene. The goal is to apply scientific reasoning to evaluate human impact on the environment and strategies to mitigate this impact. Topics address sustainability as it relates to individual choices, collective responsibility, environmental stewardship, energy use, diet, and consumer behavior. Current scientific research is used to explore environmental issues such as population growth, climate change, resource depletion, biodiversity losses, food security, and the economic implications of making sustainable choices. Students may receive credit for only one of the following courses: BEHS 361, BEHS 365, ENMT 365, GNSC 361, HUMN 360, NSCI 361, or NSCI 362.

NSCI 398 Special Topics in Natural Science (3)
A study of topics in the sciences of special interest to students and faculty.

Nursing

NURS 302 Transition to Professional Nursing Practice (3)
(Open only to students majoring in nursing [RN to BSN].) An exploration of the diverse roles, responsibilities, ethics, core values, and identity of the professional registered nurse, designed to enhance knowledge, skills, and attitudes. The objective is to develop personal well-being and a spirit of inquiry, as well as skills in emotional intelligence, critical thinking, clinical judgment, interprofessional communication, professional development, and the use of scholarly resources. Nursing and other healthcare theories are applied to the clinical practice of nursing. Topics include healthcare literacy, quality improvement, health equity, and patient safety. Students may receive credit for only one of the following courses: NURS 302 or NURS 300.

NURS 322 Health Assessment and Wellness Promotion (4)
(Open only to students majoring in nursing [RN to BSN].) Prerequisite or corequisite: NURS 302. An examination of how to use the findings from a comprehensive, holistic health assessment to develop a plan of care for wellness promotion and chronic disease management. The objective is to demonstrate professional communication, collaboration strategies, cultural sensitivity, and compassionate care in performing health assessments for culturally diverse patients and families across the lifespan. The principles of person-centered and humanistic care, critical thinking, and clinical judgment are integrated with performing, documenting, and communicating the assessment of patients. Students may receive credit for only one of the following courses: NURS 322 or NURS 362.

NURS 352 Introduction to Nursing Scholarship (3)
(Open only to students majoring in nursing [RN to BSN].) Prerequisite or corequisite: NURS 322. A study of various approaches to scholarly practice, focusing on qualitative and quantitative research methods to advance nursing knowledge and practice. The goal is to critically appraise current evidence-based research findings as they apply to nursing practice. Discussion covers appraising research reports, legal and ethical conduct in protecting human subjects, and the impact of clinical research on health equity in clinical research studies. Activities include generating a clinical search strategy, and practicing scholarly inquiry questions that address a current nursing practice issue and incorporates quality improvement principles to benefit nursing practice for individuals, communities, and populations. Students may receive credit for only one of the following courses: NURS 352 or NURS 410.

NURS 372 Introduction to Healthcare Informatics Technology in Nursing (3)
(Open only to students majoring in nursing [RN to BSN].) Prerequisite or corequisite: NURS 352. A study of the various communication and information technologies utilized in patient-centered nursing practice settings at the healthcare systems, community, and population levels. Discussion covers complying with ethical, legal, and regulatory standards in healthcare information technologies to deliver safe, high-quality nursing care. Evidence related to healthcare information technology that may affect practice is summarized using clinical judgment and reasoning. The goal is to identify various types of information and communication technologies to gather data, generate knowledge, collaborate with other professionals, and promote accurate documentation of care within diverse populations in a variety of settings. Students may receive credit for only one of the following courses: NURS 305 or NURS 372.

NURS 392 Policy, Politics, and Economics in Healthcare (3)

(Open only to students majoring in nursing [RN to BSN].) Prerequisite or corequisite: NURS 372. A study of the policies, politics, and economics of the nursing profession. Topics include advocacy strategies, professional organizations, and population health policy. Focus is on policies that affect health equity, health promotion, chronic diseases, nursing workforce, quality improvement and patient safety, access to care, social determinants of health, and cost factors. The impact of sociocultural, economic, and environmental factors on health policy legislation to support nurses in leading the change process is analyzed. Discussion also covers challenges related to diversity, equity, inclusion, access to care, affordability, and social justice at the local, state, and national levels within a variety of healthcare settings, as well as the legislative process, advocacy efforts of nursing professional organizations, and payment models. The aim is to practice effective oral and written communication and ethical advocacy skills to encourage policy change that will support the application of social justice principles in healthcare. Students may receive credit for only one of the following courses: NURS 392 or NURS 420.

NURS 412 Population, Global, and Community Health Issues (3)

(Open only to students majoring in nursing [RN to BSN].) Prerequisite or corequisite: NURS 392. A study of the diverse roles of community/public/global health nurses in promoting population-focused care that supports diversity, equity, inclusion, cultural competence, social justice, and high-quality health outcomes. The goal is to integrate evidence, theory, professional standards, ethics, and knowledge from nursing, public health, and other health-related disciplines to guide population-focused nursing practice. Topics include global health data, social determinants of health, disaster preparedness, health literacy, potential outcomes that influence the access and delivery of safe care, use of resources and technology, and development of equitable policies to promote population health and disease prevention. Discussion also covers ways to foster interprofessional communication and collaboration and develop leadership skills to engage in effective partnerships while advocating for the overall health of people. Students may receive credit for only one of the following courses: NURS 350 or NURS 412.

NURS 432 Leadership in Personal and Professional Nursing Practice (3)

(Open only to students majoring in nursing [RN to BSN].) Prerequisite or corequisite: NURS 412. An examination of leadership principles, styles, and theories for diverse nursing leadership roles in a variety of healthcare settings. Topics include communication, interprofessionalism, budgeting, collaboration, and conflict management. The objective is to integrate a spirit of inquiry, clinical judgment, and innovative ideas, as well as principles of diversity, equity, and inclusion, while applying evidence-based practice to current issues facing nurse leaders today. Topics include personal biases, ethics, emotional intelligence, self-efficacy, teamwork, and compassionate care for all.

NURS 452 Complex Healthcare Systems: Quality Improvement and Patient Safety (3)

(Open only to students majoring in nursing [RN to BSN].) Prerequisite or corequisite: NURS 432. An exploration of the relationships among theories, frameworks, concepts, models of leadership, patient safety, and quality improvement within today's fast-paced, dynamic healthcare systems. The objective is to develop innovative solutions to address complex healthcare issues utilizing evidence-based practice across the continuum of care. Topics include financial management principles, cost-effectiveness of care, and payment models. Nursing knowledge is applied to a systems-based framework, including policy, regulatory, and ethical standards, with a focus on diversity, equity, and inclusion; health disparities; racism; and social determinants of health.

NURS 472 Nursing Practice Experience (2)

(Open only to students majoring in nursing [RN to BSN].) Prerequisite: NURS 412; prerequisite or corequisite: NURS 452. A nursing experience designed to synthesize knowledge derived from nursing theory, leadership, scholarship, and practice experiences. The aim is to incorporate the essential concepts of high-quality care, patient safety, interprofessional partnerships, systems-based practice, and healthcare informatics to improve healthcare outcomes along a continuum of care. Activities include collecting data and information about regional community-based organizations to develop a project to improve the health and well-being of individuals, families, communities, and populations. Focus is on building skills in critical thinking, clinical reasoning, compassionate care, communication, ethics, and professionalism. Topics include aging and end-of-life care, chronic disease management, health promotion, and regenerative-restorative nursing care.

TABLE OF CONTENTS
INDEX

NURS 496 Nursing Capstone (3)
(Open only to students majoring in nursing [RN to BSN].) Prerequisite: 24 credits of major coursework, including NURS 432; prerequisite or corequisite: NURS 472. A writing-intensive examination of nursing designed to synthesize and demonstrate skills and competencies gained throughout previous study. Activities include designing a quality improvement patient safety project related to a current nursing practice issue utilizing evidence-based practice. Students may receive credit for only one of the following courses: NURS 485, NURS 495, or NURS 496.

Nutrition

NUTR 100 Elements of Nutrition (3)
A study of the scientific and quantitative foundations of the applied science of human nutrition. The goal is to understand how nutrition reflects an integration across scientific disciplines and how foods provide important nutrients that provide substance and energy for healthy living. Topics include scientific reasoning, healthy meal planning, and weight management. Students may receive credit for only one of the following courses: NUTR 100 or NUTR 200.

NUTR 101 Nutrition Laboratory (1)
(For students not majoring in biotechnology or laboratory management. Fulfills the laboratory science requirement only with previous or concurrent credit for NUTR 100.) Prerequisite or corequisite: NUTR 100. A hands-on study of human nutrition. The goal is to use an experimental approach to questions in nutrition science. Laboratory exercises emphasize critical thinking in the analysis of quantitative data derived from investigations into various areas of nutrition science including energy balance, macro and micronutrients, food guidelines, and food safety.

Operations Management

OPMG 300 Operations Management (3)
Prerequisites: ACCT 301 and FINC 331 (or FINC 330). A comprehensive study of the design and management of business operations, with an emphasis on building competitive advantage. The objective is to optimize operating processes for both products and services. Topics include product development, process analysis, project management, quality management, and the supply chain.

OPMG 310 Sustainability Management (3)
Prerequisite: OPMG 300. An introduction to the principles, strategies, and practical applications of sustainable business practices. The aim is to integrate social responsibility, environmental stewardship, sustainable resource utilization, and economic stability into organizational decision-making. Topics include traditional profit incentives; the environmental, social, and economic impact of business; emerging trends and innovation; and sustainable business strategies that contribute to long-term profitability.

OPMG 320 Quality in the Value Chain (3)
Prerequisite: OPMG 300. A study of tools and methodologies for improving quality across the organizational value chain to identify, analyze, and reduce inefficiencies while enhancing customer satisfaction. The goal is to apply quality management techniques across different stages of the value chain to improve overall customer satisfaction and performance. Topics include quality assessment, quality improvement initiatives, and the application of quality management techniques to improve the value chain.

OPMG 330 Logistics (3)
Prerequisite: OPMG 300. A detailed study of logistics within the context of supply chain management, focusing on operational and strategic aspects. The aim is to optimize logistics processes through the analysis of data and the application of appropriate technology. Topics include transportation management, warehousing, inventory control, distribution strategies, and the utilization of information technology in logistics.

OPMG 340 Supply Chain (3)
Prerequisite: OPMG 330. An exploration of supply chain management across various industries. The goal is to optimize supply chain processes to enhance efficiency, reduce costs, and improve customer satisfaction in a global business environment. Topics include supply chain design, resource procurement, production planning, logistics, inventory management and system integration.

OPMG 350 Project and Procurement Management (3)
An applied study of procurement processes with an emphasis on utilizing project management techniques. The objective is to effectively manage procurement activities through supplier selection, contract management, negotiation strategies, and risk management. Topics are explored through case studies, interactive simulations, and practical exercises.

TABLE OF CONTENTS
INDEX

OPMG 495 Sustainable Value Chain Capstone (3)
Prerequisites: MRKT 394, BMGT 487, DATA 320, DATA 335, BMGT 411, OPMG 310, and OPMG 320. A cumulative study of sustainability in an organization's value chain. The objective is to analyze the sustainability of different organizational structures and their value chains and propose solutions for creating sustainable value chains. Topics include analyzing quality in the value chain; aligning managerial decisions to business policy and strategy; and assessing value chains for environmental, social, and economic sustainability.

Professional Exploration

PACE 100 Professional and Career Exploration for Transfer Students (3)
(Fulfills the general education requirement in professional explorations for eligible students with 60 or more credits in transfer.) A condensed orientation to UMGC and exploration of how UMGC academic programs align to professional goals and career options. Focus is on exploring ways to develop and enhance career opportunities, becoming familiar with program options, and reflecting on personal goals. Students may receive credit for only one of the following courses: PACE 100, PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, or PACE 111T.

PACE 111B Program and Career Exploration in Business (3)
(Fulfills the general education requirement in research and computing literacy.) An orientation to UMGC and exploration of how UMGC academic programs align to professional goals and career options. Focus is on developing and practicing communication, teamwork, professionalism, and integrity skills while exploring ways to develop and enhance career opportunities. The aim is to become familiar with the university's academic culture and expectations; learn about UMGC resources for success; reflect on academic and professional goals; and explore opportunities to shorten programs through transfer credit and other prior learning. Students may receive credit for only one of the following courses: PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, or PACE 111T.

PACE 111C Program and Career Exploration in Communication/Humanities (3)
(Fulfills the general education requirement in research and computing literacy.) An orientation to UMGC and exploration of how UMGC academic programs align to professional goals and career options. Focus is on developing and practicing communication, teamwork, professionalism, and integrity skills while exploring ways to develop and enhance career opportunities. The aim is to become familiar with the university's academic culture and expectations; learn about UMGC resources for success; reflect on academic and professional goals; and explore opportunities to shorten programs through transfer credit and other prior learning. Students may receive credit for only one of the following courses: PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, or PACE 111T.

PACE 111M Program and Career Exploration in Multidisciplinary Studies (3)
(Fulfills the general education requirement in research and computing literacy.) An orientation to UMGC and exploration of how UMGC academic programs align to professional goals and career options. Focus is on developing and practicing communication, teamwork, professionalism, and integrity skills while exploring ways to develop and enhance career opportunities. The aim is to become familiar with the university's academic culture and expectations; learn about UMGC resources for success; reflect on academic and professional goals; and explore opportunities to shorten programs through transfer credit and other prior learning. Students may receive credit for only one of the following courses: PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, or PACE 111T.

PACE 111P Program and Career Exploration in Public Safety (3)
(Fulfills the general education requirement in professional explorations.) An orientation to UMGC and exploration of how UMGC academic programs align to professional goals and career options. Focus is on developing and practicing communication, teamwork, professionalism, and integrity skills while exploring ways to develop and enhance career opportunities. The aim is to become familiar with the university's academic culture and expectations; learn about UMGC resources for success; reflect on academic and professional goals; and explore opportunities to shorten programs through transfer credit and other prior learning. Students may receive credit for only one of the following courses: PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, or PACE 111T.

TABLE OF CONTENTS
INDEX

PACE 111S Program and Career Exploration in Health and Sciences (3)

(Fulfills the general education requirement in research and computing literacy.) An orientation to UMGC and exploration of how UMGC academic programs align to professional goals and career options. Focus is on developing and practicing communication, teamwork, professionalism, and integrity skills while exploring ways to develop and enhance career opportunities. The aim is to become familiar with the university's academic culture and expectations; learn about UMGC resources for success; reflect on academic and professional goals; and explore opportunities to shorten programs through transfer credit and other prior learning. Students may receive credit for only one of the following courses: PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, or PACE 111T.

PACE 111T Program and Career Exploration in Technology (3)

(Fulfills the general education requirement in research and computing literacy.) An orientation to UMGC and exploration of how UMGC academic programs align to professional goals and career options. Focus is on developing and practicing communication, teamwork, professionalism, and integrity skills while exploring ways to develop and enhance career opportunities. The aim is to become familiar with the university's academic culture and expectations; learn about UMGC resources for success; reflect on academic and professional goals; and explore opportunities to shorten programs through transfer credit and other prior learning. Students may receive credit for only one of the following courses: PACE 111B, PACE 111C, PACE 111M, PACE 111P, PACE 111S, or PACE 111T.

TABLE OF CONTENTS
INDEX

Philosophy

PHIL 100 Introduction to Philosophy (3)

An introduction to the literature, problems, and methods of philosophy. The goal is to identify and consider central, recurring problems of philosophy. Emphasis is on developing awareness of the significance of philosophical problems and learning to offer rationally justifiable solutions. Students may receive credit for only one of the following courses: HUMN 125 or PHIL 100.

PHIL 110 Practical Reasoning (3)

An examination of methods for thinking analytically about real-world problems and solving them. The goal is to apply logical arguments to practical decision-making. Topics include inductive and deductive reasoning; the properties of arguments; methods of logical analysis; synthesis of ideas; informal fallacies; and the role of presuppositions and other factors in scientific, social, ethical, and political problems.

PHIL 140 Introduction to Moral Philosophy and Ethical Reasoning (3)

An introductory exploration of the foundational theories of Eastern and Western moral philosophy and an examination of methods for thinking clearly about ethical issues. The objective is to employ a knowledge of moral theory and the methods of ethical reasoning to address contemporary ethical issues and dilemmas in areas such as business, medicine, information technology, and personal ethics. Students may receive credit for only one of the following courses: HUMN 300 or PHIL 140.

PHIL 304 Contemporary Social Justice Issues (3)

An exploration of the political and ethical writings of philosophers who shaped contemporary ideas of social justice and individual rights. The objective is to evaluate political theories and philosophies, defend ethical reasoning on issues of justice, and communicate critical reflections on contemporary social justice issues such as environmental justice, healthcare, racial justice, women's rights, immigration, and religious freedom. Topics include freedom and the social contract, individual and human rights, distributive and economic justice, gender and racial justice, internationalism, and theories of war.

PHIL 336 Ideas Shaping the 21st Century (3)

An exploration of the philosophical arguments concerning the ideas shaping human knowledge in the 21st century. The objective is to evaluate the ideas and arguments that shape human understanding of reality from antiquity to the 21st century, develop critical reflection of these ideas utilizing the tools of analytical philosophy, and communicate the results of philosophical and critical reflection in writing and oral presentation. Topics include an introduction to analytical philosophy, the human mind, consciousness, materialism, naturalism, and the limits of scientific realism. Students may receive credit for only one of the following courses: HUMN 336 or PHIL 336.

PHIL 348 Religions of the East (3)

An examination of South and East Asian religions, including the Jain, Hindu, Sikh, Buddhist, Confucian, Daoist, and Shinto traditions. The goal is to apply key methods in the academic study of religions to examine their geographical, historical, and cultural contexts. Topics include the religious meaning and social significance of rituals, material culture, and written texts. Papers and presentations organize research findings, critical reflections, and creative perspectives. Students may receive credit for only one of the following courses: HUMN 348, HUMN 350, or PHIL 348.

PHIL 349 Religions of the West (3)
An examination of Western religions including the Zoroastrian, Judaic, Christian, and Islamic traditions. The goal is to apply key methods in the academic study of religions to examine their geographical, historical, and cultural contexts. Topics include the religious meaning and social significance of rituals, material culture, and written texts. Papers and presentations organize research findings, critical reflections, and creative perspectives. Students may receive credit for only one of the following courses: HUMN 350 or PHIL 349.

Physics

PHYS 121 Fundamentals of Physics I (4)
(For students majoring in a science. Fulfills the laboratory science requirement.) Prerequisite: MATH 107 or a more advanced mathematics course. An exploration of mechanics. The aim is to apply the laws of physics to a broad range of motion-related physical phenomena. Topics include kinematics, force, dynamics, conservation laws, and rotational motion. Elementary trigonometric and vector properties are used.

PHYS 122 Fundamentals of Physics II (4)
(A continuation of PHYS 121. Fulfills the laboratory science requirement.) Prerequisite: PHYS 121. An exploration of heat, waves, electricity, magnetism, optics, and modern physics. The aim is to apply the laws of physics to a broad range of physical phenomena. Topics include the laws of thermodynamics, ideal gas law, Coulomb's law, electric field and potential, Ohm's law, magnetic field and force, Ampere's law, Faraday's law, electromagnetic waves, sound, optics, Bohr's model of the atom, radioactivity, and nuclear decay.

Psychology

PSYC 100 Introduction to Psychology (3)
A survey of the basic principles, research concepts, and problems in psychological science. The biological, cognitive, and social perspectives of human thought and behavior are addressed. The goal is to apply major concepts and use the scientific method to enhance the understanding of individual, community, and organizational life experiences. Topics include neuroscience, sensation and perception, learning and conditioning, memory, motivation, language and intelligence, personality and social behavior, and psychopathology and therapy. Applications of psychology are also presented. Students may receive credit for only one of the following courses: BEHS 101 or PSYC 100.

PSYC 220 Social Psychology (3)
(Formerly PSYC 321.) Prerequisite: PSYC 100. An examination of the influence of social factors on individual and interpersonal behaviors. The objective is to analyze how thoughts, feelings, and behaviors are affected by the presence of others (actual or imagined). Topics include the self, social perception, social cognition and information processing, relationships, attitudes, social influence, and group behavior. Students may receive credit for only one of the following courses: BEHS 221, BEHS 421, BEHS 450, PSYC 220, PSYC 221, or PSYC 321.

PSYC 251 Lifespan Development (3)
(Formerly PSYC 351.) Prerequisite: PSYC 100. An integrated study of the biological, socioemotional, and cognitive development of humans from conception through death. Knowledge of lifespan development is applied to interpersonal, community, and organizational relationships. Emphasis is on the interaction of nature and nurture on one's physiology, capability, and potential at each progressive stage of development.

PSYC 300 Research Methods in Psychology (3)
Prerequisites: PSYC 100 and STAT 200. A survey of research methods focusing on the fundamentals of research design and behavior. The aim is to apply research methodologies critically and creatively to communicate effectively about the domains of psychology. Topics include scientific writing using APA style, evaluation of research literature, and ethical issues in research. Practice is provided in asking research questions, formulating research hypotheses, designing and conducting a simulated research study, and presenting results. Students may receive credit for only one of the following courses: PSYC 300 or PSYC 305.

PSYC 301 Biological Basis of Behavior (3)
Prerequisite: PSYC 100. An introduction to the anatomical structures and physiological processes that determine behavior. The objective is to use scientifically valid resources to communicate effectively about the biological basis of behavior. Topics include the acquisition and processing of sensory information, the neural control of movement, and the biological bases of complex behaviors (such as sleep, learning, memory, sex, and language), as well as the basic functioning of the nervous system.

PSYC 306 Special Topics in Psychology (1–3)
Seminar discussion of topics of current interest. Areas explored may extend or augment those covered in more general topical courses. May be repeated to a maximum of 6 credits when topics differ.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

PSYC 307 Special Topics in Biological Psychology (1–3)
Seminar discussion of topics of current interest. Areas explored may extend or augment those covered in more general topical courses. May be repeated to a maximum of 6 credits when topics differ.

PSYC 308 Special Topics in Social Psychology (1–3)
Seminar discussion of topics of current interest. Areas explored may extend or augment those covered in more general topical courses. May be repeated to a maximum of 6 credits when topics differ.

PSYC 309 Special Topics in Professional Psychology (1–3)
Seminar discussion of topics of current interest. The goal is to attain specialized knowledge in a particular area of professional psychology. Topics may extend or augment those covered in more general courses. May be repeated to a maximum of 6 credits when topics differ.

PSYC 310 Sensation and Perception (3)
Prerequisite: PSYC 100. A survey of theories and historical and contemporary research in how the auditory, visual, gustatory, olfactory, kinesthetic, and tactile senses acquire information and how psychological, anatomical, physiological, and environmental factors help us perceive the world. The objective is to apply an understanding of complex neural and behavioral processes to evaluate research and analyze variations within and between species.

PSYC 332 Psychology of Human Sexuality (3)
An examination of human sexuality and sexual behavior. The objective is to apply knowledge of the physiology and psychology of human sexuality. Topics include sexual anatomy, intimate relationships, sexual health, and sexual identity across the lifespan. Students may receive credit for only one of the following courses: BEHS 363, HLTH 377, or PSYC 332.

PSYC 335 Theories of Personality (3)
(Formerly PSYC 435.) Prerequisite: PSYC 100. A study of major theories and perspectives on personality. The goal is to explain and evaluate major concepts in personality. Topics include trait, psychodynamic, behavioral, and humanistic theories. Methods of personality research and relevant findings are also introduced. Students may receive credit for only one of the following courses: PSYC 335 or PSYC 435.

PSYC 338 Psychology of Gender (3)
A survey of the biology, lifespan development, socialization, personality attributes, mental health factors, and special considerations associated with gender. The aim is to apply knowledge of cultural and historical influences relating to gender. Topics include conceptions of gender, gender roles, and gender similarities and differences.

PSYC 341 Memory and Cognition (3)
Prerequisite: PSYC 100. An introduction to basic models, methods of research, and findings in the fields of memory, problem-solving, and language. The objective is to apply knowledge of cognitive processes to a variety of situations, including organizational and educational settings. Both applications and theory are explored.

PSYC 353 Psychopathology and Mental Health (3)
Prerequisite: PSYC 100. An examination of mental disorders across the lifespan. The goal is to evaluate emerging issues in psychopathology and mental health. Topics include the identification and diagnosis of specific disorders and the evolution of treatment protocols. Students may receive credit for only one of the following courses: PSYC 331, PSYC 353, or PSYC 431.

PSYC 354 Cross-Cultural Psychology (3)
An examination of the interplay of individual, ethnic, and cultural factors in psychosocial growth and well-being. The objective is to use theory, research, and the practiced utilization of cultural factors to understand identity development, communication, social institutions and norms, health and well-being, cross-cultural interpersonal relations, and cultural humility and competence. Issues of globalization, diversity, cultural bias, and intersectionality are addressed.

PSYC 361 Industrial and Organizational Psychology (3)
Prerequisite: PSYC 100. A general survey of the field of industrial/organizational psychology. The objective is to examine the behavioral, sociocultural, and ethical factors that influence workplace environments. Topics include entering into the organization and evaluating and changing individual workplace behaviors.

PSYC 386 Psychology of Stress (3)
An examination of the forces that define and determine the stress response. The aim is to apply stress management techniques to remediate the negative impact of stress. Stress is studied as the product of the interactions among one's social structure, occupational status, and psychological and physiological levels of well-being. The psychological perspective is examined in relation to the stresses produced in a variety of contexts, such as families and work organizations. Students may receive credit for only one of the following courses: BEHS 463, HLTH 285, or PSYC 386.

PSYC 432 Introduction to Counseling Psychology (3)
Prerequisite: PSYC 100. A survey and critical analysis of research and intervention strategies developed and used by counseling psychologist. The goal is to evaluate current trends in content and methodology. Topics include counseling protocols in various applied settings.

PSYC 436 Introduction to Clinical Psychology (3)
Prerequisite: PSYC 100. A survey of the field of clinical psychology as a distinct mental health discipline. The objective is to evaluate current trends in content and methodology. History of the field, diagnostic and therapeutic strategies employed by clinical psychologists, ethical issues, and working with diverse populations are explored. Emphasis is on the scientist-practitioner model and the critical analysis of theories and empirical research.

PSYC 437 Positive Psychology (3)
Prerequisite: PSYC 100. A survey of the science of positive psychology. The aim is to analyze and evaluate theories and applications of positive psychology. Focus is on the unique characteristics of the human experience that contribute to health and well-being. Topics include hope, optimism, human strengths, happiness, flow, and attachment.

PSYC 495 Psychology Capstone (3)
Prerequisite: Completion of 24 credits of required major courses including PSYC 100 and PSYC 300. A capstone study of psychology that integrates knowledge gained through previous coursework and experience. The aim is to build on that conceptual foundation through case study, reflective essays, and portfolio development.

Public Safety Administration

PSAD 302 Introduction to Public Safety Administration (3)
An introduction to public safety organizations and the functions of administrators within these organizations. The objective is to identify key functions of public safety administration and describe the history and current forces and trends facing public safety administrators. The history, development, growth, and future of various interdependent public safety entities are examined from an interdisciplinary perspective. Topics include key responsibilities of administrators in public safety administration.

PSAD 304 Contemporary Public Safety Practices (3)
An investigation of contemporary strategic public safety practices. The goal is to explore several best practices generally associated with successful organizations and apply them to the field of public safety. Topics include the role of hazard and risk management, quality control, and customer service in public safety organizations. Discussion also covers contemporary views of public safety integration and consolidation, as well as public and private partnerships.

PSAD 306 Public Safety Planning (3)
An examination of strategic, operational, and tactical planning in public safety administration with an emphasis on the planning process. The aim is to demonstrate key skills in public safety planning by successfully developing a hazards mitigation plan. Topics include strategic, operational, and tactical planning as well as resource allocation and hazards mitigation.

PSAD 408 Public Safety Legal Issues and Public Policy (3)
A review of the U.S. legal system and an analysis of the law as it relates to the administration of public safety organizations. Principles of legal obligations, limitations, liabilities, and immunities are examined and discussed, both in general terms and, where applicable, in terms of how they differ in the treatment of public employers and employees. The objective is to develop an appreciation of the legal responsibilities of a public safety administrator to their employees and the public at large.

PSAD 410 Public Safety Research and Technology (3)
An examination of research and the applications of technology in public safety administration. The goal is to describe the principles of scientific research; evaluate existing research and technology; and apply the methods and resources of research, science, and technology to public safety administration. Topics include scientific research, research methodology, technology, and the evaluation and use of research and technology in public safety administration.

PSAD 414 Public Safety Administration Ethics (3)
An in-depth examination of ethics and ethical issues in public safety administration. The aim is to recognize the principles of ethical decision-making and those factors that tend to undermine their application and those that tend to support them. Topics include the most well-known ethical systems, values and empathy, moral disengagement, ethical decision-making and ethical leadership, and deception as viewed through the lens of ethical responsibility.

TABLE OF CONTENTS
INDEX

PSAD 416 Public Safety Leadership (3)
A study of leadership theories, skills, and techniques used in public safety administration. The objective is to define and explain basic concepts of leadership; analyze personal leadership knowledge, skills, and abilities; and evaluate leadership performance in the current public safety environment. Topics include leadership, leadership theories and styles, leadership roles, leadership performance, individual leadership skills and plans, effective leadership, and future trends.

PSAD 486A Workplace Learning in Public Safety Administration (3)
Prerequisite: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

PSAD 486B Workplace Learning in Public Safety Administration (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

PSAD 495 Public Safety Administration Capstone (3)
Prerequisites: PSAD 306, PSAD 408, PSAD 410, PSAD 414, and PSAD 416. An intensive study of public safety administration that integrates knowledge gained through previous coursework and builds on that foundation through integrative analysis, practical application, and critical thinking. Focus is on using these skills to address the challenges of current and future issues in public safety administration. The aim is to integrate leadership, administration, and management concepts and apply them to current public safety issues. Assignments include the development of a comprehensive case study related to a current public safety issue.

Sociology

SOCY 100 Introduction to Sociology (3)
An introduction to the basic concepts, theoretical perspectives, and research methods in sociology. The objective is to apply sociological imagination, perspectives, and research to uncover patterns of social behavior and identify their consequences. Topics include culture, socialization, groups, deviance, stratification, institutions, and social change. Students may receive credit for only one of the following courses: BEHS 102 or SOCY 100.

SOCY 300 American Society (3)
Prerequisite: SOCY 100. An in-depth examination of American society and what it means to be American from a sociological perspective. Discussion explores past and current values, ideals, and norms and applies sociological theories to analyze the ways that these values, ideals, and norms have shaped aspects of American social life, such as politics, consumerism, popular culture, social stratification, economics, diversity, education, religion, and social change. The objective is to identify and describe various aspects of social and cultural change to better understand American society.

SOCY 309 Social Demography (3)
(Formerly SOCY 410.) Prerequisite: SOCY 100. A study of social demography. The goal is to identify, evaluate, and interpret key demographic concepts and develop an understanding of global population dynamics. Topics include types of demographic analysis, demographic data, population characteristics, migration, mortality, fertility, population theories, world population growth, and population policy. Students may receive credit for only one of the following courses: SOCY 309 or SOCY 410.

SOCY 313 The Individual and Society (3)
Prerequisite: SOCY 100. A sociological examination of how individuals shape and are shaped by society. The goal is to analyze and communicate how the individual self is molded through social forces and how individuals contribute to the continuous creation of society, using micro-level sociological theories and concepts. Discussions apply sociological concepts and theories to examine interpersonal relations, group processes, identity, and social change. Topics include the influence of social inequality on identity, the social aspects of emotion management, interpersonal conflict and cooperation, and workplace interactions. Students may receive credit for only one of the following courses: BEHS 312, SOCY 311, or SOCY 313.

SOCY 325 The Sociology of Gender (3)
Prerequisite: SOCY 100. An advanced sociological examination of how gender intersects with other social strata to produce or reproduce systems of oppression and/or privilege. The goal is to uncover the sociological significance of gender in everyday life. Activities include an interactive implicit associations gender quiz and a gendered analysis of a personal or professional experience. Topics include gender socialization, gender-based violence, intersectionality, artificial intelligence and gender, gender and health, gender relations in the family, hegemonic masculinity, and gender stratification in the labor force.

TABLE OF CONTENTS
INDEX

SOCY 350 Contemporary Social Problems (3)
Prerequisite: SOCY 100. An advanced examination of various local, national, and global problems that affect societies. The aim is to apply sociological perspectives and research to analyze the process by which social conditions become recognized as social problems and are resolved by various actors. Topics include the subjective/objective aspects of social problems, claims about social problems in the media, and how sociologists can help inform possible solutions to social problems. Discussion also covers problems related to human rights, violence, social isolation/loneliness, and social inequality. Students may receive credit for only one of the following courses: SOCY 105, SOCY 210, or SOCY 350.

SOCY 398 Special Topics in Sociology (3)
Prerequisite: SOCY 100. A study of topics of special interest. May be repeated to a maximum of 6 credits when topics differ.

SOCY 423 Race and Ethnicity: A Global Perspective (3)
Prerequisite: SOCY 100. An advanced examination of race and ethnicity in a variety of social and cultural contexts across the globe. The aim is to apply sociological theories and concepts to understand how race and ethnicity are constructed; how prejudice develops; the ways in which structural racism manifests in society; the social effects of migration and immigration; the global outcomes of slavery and genocide; and how social movements seek to effect change for a more equitable society. Topics include theories of prejudice transmission and reduction, critical race theory, and global consequences of structural racism related to climate change and health.

SOCY 426 Sociology of Religion (3)
Prerequisite: SOCY 100. An advanced examination of religion from a sociological perspective. The aim is to evaluate the influence of social location on religious beliefs and attitudes; examine relationships between church and state; and analyze current religious conflicts and controversies. Topics include fundamentalism versus extremism; modernity; religious conflicts; and the relationship of religion with race, class, gender, sexuality, and politics.

SOCY 428 Migrants and Refugees (3)
Prerequisite: SOCY 100. An advanced sociological study of international, global, and economic issues regarding migrants and refugees, addressing population movements to and from countries. The objective is to analyze data and historical evidence and assess the role of globalization on migration. Topics include migrants and refugees, immigration, the role of conflict in migration, politics and laws regarding migrants and refugees, and the role of globalization in generating population flows.

SOCY 443 Sociology of the Family (3)
Prerequisite: SOCY 100. An advanced examination of the family in society. The goal is to analyze, communicate, and project trends regarding family structures and outcomes through the application of major sociological perspectives. Sociological research is used to describe changing definitions of family; demographic trends in marriage and family patterns; social dynamics within families; and the effects of technology on family relationships. Topics include single parenting, blended families, cultural differences among families, changes in families over the life course, and governmental policies regarding families.

SOCY 462 Women in the Military (3)
Prerequisite: SOCY 100. An advanced examination of women in the military from a sociological perspective. The objective is to understand gender, power, and the changing roles of women in the military; assess how policies affect women in the military; examine military, community, and family support systems for military women; and compare the roles and duties of women in the U.S. armed forces in war and peacetime with those of military women in other countries. Topics include the social construction of gender and sexuality of the armed forces; the history of women in the military; violence against women in the military; rank, status, and advancement of women in the military; and postmilitary transitions and career options for women.

SOCY 473 Cities and Communities (3)
Prerequisite: SOCY 100. An advanced sociological study of cities and the urban landscape. The aim is to apply major sociological theories to investigate interdependencies between social action, urbanization, and the environment. Focus is on current issues relevant to the challenge of building livable and sustainable cities. Topics include urban social networks, suburbanization, social problems of urbanization, and urban planning and policies.

SOCY 486A Workplace Learning in Sociology (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

SOCY 486B Workplace Learning in Sociology (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

TABLE OF CONTENTS
INDEX

Spanish

SPAN 111 Elementary Spanish I (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Spanish; assumes no prior knowledge of Spanish. Students with prior experience with the Spanish language should take a placement test to assess appropriate level.) An introduction to the Spanish language. The objective is to listen to, speak, read, and write elementary Spanish in concrete, real-life situations and in culturally appropriate ways. The diverse language and culture of the Spanish-speaking world is explored. Students may receive credit for only one of the following courses: SPAN 101 or SPAN 111.

SPAN 112 Elementary Spanish II (3)
For online sections, microphone, speakers, and occasional synchronous work required. (Not open to native speakers of Spanish.) Prerequisite: SPAN 111 or appropriate score on a placement test. A continued introduction to the Spanish language. The goal is to listen to, speak, read, and write Spanish in concrete, real-life situations and in culturally appropriate ways. The diverse language and culture of the Spanish-speaking world is explored. Students may receive credit for only one of the following courses: SPAN 102 or SPAN 112.

SPAN 211 Intermediate Spanish I (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: SPAN 112 or appropriate score on a placement test. An intermediate-level study of the Spanish language. The aim is to improve listening, speaking, reading, and writing skills in Spanish and apply them in a variety of real-life situations and social contexts in culturally appropriate ways. Students may receive credit for only one of the following courses: SPAN 114, SPAN 201, or SPAN 211.

SPAN 212 Intermediate Spanish II (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: SPAN 211 or appropriate score on a placement test. Further intermediate-level study of the Spanish language. The objective is to listen to, speak, read, and write Spanish and interact effectively with native speakers in a variety of personal and professional settings in culturally appropriate ways. Students may receive credit for only one of the following courses: SPAN 115, SPAN 202, or SPAN 212.

SPAN 311 Advanced Spanish I (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: SPAN 212 or appropriate score on placement test. An in-depth review and expansion of Spanish language communication skills. The aim is to express opinions and use narration and description in a variety of personal and professional contexts. Focus is on improving linguistic proficiency while increasing cultural awareness. Students may receive credit for only one of the following courses: SPAN 301 or SPAN 311.

SPAN 314 Modern Spanish-Speaking Cultures (3)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: SPAN 212 or appropriate score on placement test. An overview of the diverse cultures that constitute the Spanish-speaking world, taught entirely in Spanish. The objective is to foster intercultural communication skills, recognize aspects of Spanish-speaking cultures and their significance to global and American society, and employ strategies to enhance language development and cultural awareness. Discussion covers the social, historical, and political experience of the Spanish-speaking people of Latin America, Spain, and the United States.

SPAN 418 Business Spanish I (4)
For online sections, microphone, speakers, and occasional synchronous work required. (Formerly SPAN 318.) Prerequisite: Any 300-level SPAN course or appropriate score on placement test. An exploration of business contexts and practices in the Spanish-speaking world, taught entirely in Spanish. The objective is to use knowledge of diverse business cultures to communicate and interact effectively in a business environment. Topics include contemporary economic conditions in various Spanish-speaking areas (including those within the United States), enterprise, management, human resources, and cultural issues that influence the workplace. Assignments include preparing a job-search portfolio and making a business presentation, both in Spanish. Students may receive credit for only one of the following courses: SPAN 315, SPAN 318, or SPAN 418.

TABLE OF CONTENTS
INDEX

SPAN 419 Business Spanish II (4)
For online sections, microphone, speakers, and occasional synchronous work required. Prerequisite: Any 300-level SPAN course or appropriate score on placement test. A continued exploration of business conditions and practices in the Spanish-speaking world, taught entirely in Spanish. The goal is to use knowledge of diverse business cultures to communicate and interact effectively in a business environment in Spanish. Topics include contemporary economic conditions in various Spanish-speaking areas (including areas within the United States), marketing, investments, finances, logistics, and cultural issues that influence the market. Projects include preparation of a business proposal portfolio and a professional presentation with a peer review, both in Spanish.

SPAN 486A Workplace Learning in Spanish (3)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

SPAN 486B Workplace Learning in Spanish (6)
Prerequisites: 9 credits in the discipline and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

Speech

SPCH 100 Foundations of Oral Communication (3)
For online sections, access to a broadband internet connection, use of a digital camera capable of recording 10-minute videos, and the ability to save and transfer video to a hosting site required. (Fulfills the prerequisite for all upper-level SPCH courses.) An introduction to oral communication, with emphasis on interpersonal communication, small-group communication, and public speaking. The objective is to prepare speeches, provide feedback to others, and participate in group activities. Students may receive credit for only one of the following courses: SPCH 100, SPCH 100X, SPCH 101, SPCH 107, or SPCH 108.

SPCH 125 Introduction to Interpersonal Communication (3)
(Fulfills the prerequisite for all upper-level SPCH courses.) An exploration of the role interpersonal communication plays in our personal and professional lives. The aim is to apply theoretical frameworks and key concepts in communication to personal behavior and personal and professional contexts. Topics include self-identity, perception, listening, verbal and nonverbal communication, relationship development, and conflict management.

SPCH 324 Communication and Gender (3)
Prerequisite: Any SPCH course or COMM 300. An investigation of how communication influences gender and how gender affects communication. The objective is to apply theoretical frameworks and key concepts of gender to contexts, situations, and messages. Discussion covers gender roles, gender variation across communication styles, and the role gender plays in personal and professional relationships, as well as its role in culture and the media.

SPCH 470 Effective Listening (3)
Prerequisite: Any SPCH course or COMM 300. An exploration of the complexities of message reception and interpretation as related to personal growth, social relationships, and professional development. The goal is to assess and modify listening practices. Topics include the role of listening in communication, types of listening, and listening skills for specific contexts.

SPCH 472 Nonverbal Communication (3)
Prerequisite: Any SPCH course or COMM 300. A comprehensive investigation of nonverbal communication in human interaction. The aim is to analyze the impact of nonverbal messages on interpersonal, organizational, and public communication. Emphasis is on hands-on application of principles and practices to real-world situations. Topics include foundations of interpersonal attraction, use and abuse of personal space, and cross-cultural and gendered behaviors.

SPCH 482 Intercultural Communication (3)
Prerequisite: Any SPCH course or COMM 300. An examination of the major variables of communication in an intercultural context. The objective is to develop and apply communication strategies. Topics include cultural, racial, and national differences; stereotypes; values; cultural assumptions; and verbal and nonverbal channels.

TABLE OF CONTENTS
INDEX

Statistics and Probability

STAT 200 Introduction to Statistics (3)
An introduction to statistics. The objective is to assess the validity of statistical conclusions; organize, summarize, interpret, and present data using graphical and tabular representations; and apply principles of inferential statistics. Focus is on selecting and applying appropriate statistical tests and determining reasonable inferences and predictions from a set of data. Topics include methods of sampling; percentiles; concepts of probability; probability distributions; normal, t-, and chi-square distributions; confidence intervals; hypothesis testing of one and two means; proportions; binomial experiments; sample size calculations; correlation; regression; and analysis of variance (ANOVA). Students may receive credit for only one of the following courses: BEHS 202, BEHS 302, BMGT 230, ECON 321, GNST 201, MATH 111, MGMT 316, PSYC 200, SOCY 201, STAT 100, STAT 200, STAT 225, or STAT 230.

STAT 400 Applied Probability and Statistics (3)
Prerequisite: MATH 141. An intermediate study of statistical and probabilistic theory. The aim is to apply quantitative tools for decision-making and interpret statistical results in professional literature and the media. Topics include random variables, standard distributions, sampling methods, law of large numbers and the Central Limit Theorem, moments, estimations of parameters, and testing of hypotheses.

Theatre

THET 110 Introduction to the Theatre (3)
An introduction to the experience of the theatre. The objective is to gain a historical perspective and critically appraise dramatic content in the performing arts. Emphasis is on engaging with theatrical performances as informed audience members and assessing one's role within the script-performance-audience dynamic. Assignments include attendance at two live professional performances. Students may receive credits for only one of the following courses: HUMN 110 or THET 110.

Women, Gender, and Sexuality Studies

WMST 200 Introduction to Women, Gender, and Sexuality Studies (3)
An interdisciplinary study of the status, roles, and experiences of women in contemporary society. The aim is to recognize the impact of gender in all academic disciplines; analyze political, economic, social, and cultural issues through a feminist lens; and apply knowledge of local and global issues to affect positive change in women's lives. Discussion covers women's experiences across geography and history. Topics include gender and other identities, systems of privilege and inequality, sexuality, and power relations.

Writing

WRTG 111 Foundations of Writing and Communication (3)
(The first course in the two-course series WRTG 111–WRTG 112. Fulfills the general education requirement in communications.) An introduction to essential skills in reading, writing, and speaking for academic and professional contexts. The goal is to develop proficiency in creating and analyzing different types of communication, including written, spoken, visual, and multimodal formats, while connecting ideas with others' perspectives. Topics include integrating sources with attribution, exploring ethical and effective use of AI in communication, and making rhetorical choices to achieve clarity and audience engagement. Students may receive credit for only one of the following courses: WRTG 100A, WRTG 111, or WRTG 111X.

WRTG 112 Academic Writing II (3)
(The second course in the two-course series WRTG 111–WRTG 112. Fulfills the general education requirement in communications.) Continued practice in reading, writing, and critical thinking with an emphasis on research and argumentation. The goal is to implement strategies for analyzing ideas and rhetorical techniques in academic texts and for conducting research. Focus is on writing an argumentative research paper that synthesizes information and ideas from multiple sources and demonstrates critical thinking, varied rhetorical strategies, proper source documentation, and effective language use. Students may receive credit for only one of the following courses: ENGL 101, ENGL 101X, WRTG 101, WRTG 101S, WRTG 101X, WRTG 112, or WRTG 112X.

TABLE OF CONTENTS
INDEX

WRTG 291 Research Writing (3)
(Fulfills the general education requirement in communications.) Prerequisite: WRTG 112. Continued practice in critical reading, thinking, and writing skills. The objective is to analyze, evaluate, and synthesize diverse sources and viewpoints to develop persuasive and academic writing projects. Assignments include prewriting exercises, an annotated bibliography, a synthesis research essay, and a reflective paper. Students may receive credit for only one of the following courses: ENGL 291, ENGL 291H, or WRTG 291.

WRTG 293 Introduction to Professional Writing (3)
(Fulfills the general education requirement in communications.) Prerequisite: WRTG 112. An overview of professional writing. The goal is to analyze professional communication scenarios to develop effective workplace writing. Topics include the standards, conventions, and technologies of professional writing; communicating to a variety of audiences; and developing appropriate written responses to workplace challenges. Students may receive credit for only one of the following courses: COMM 293, ENGL 293, or WRTG 293.

WRTG 391 Advanced Research Writing (3)
(Fulfills the general education requirement in upper-level advanced writing.) Prerequisite: WRTG 112. Instruction and practice in academic research skills. The objective is to critically analyze scholarly and other credible sources and effectively integrate source material into a complex argument. Emphasis is on synthesizing multiple sources in producing a literature review on a focused topic. Students may receive credit for only one of the following courses: ENGL 391, ENGL 391X, WRTG 391, or WRTG 391X.

WRTG 393 Advanced Technical Writing (3)
(Fulfills the general education requirement in upper-level advanced writing.) Prerequisite: WRTG 112. A comprehensive, project-based study of applied technical writing. The aim is to design and develop appropriate and effective technical documents using strategies and technologies for a variety of audiences. Students may receive credit for only one of the following courses: COMM 393/393X, ENGL 393/393X, or WRTG 393/393X.

WRTG 394 Advanced Business Writing (3)
(Fulfills the general education requirement in upper-level advanced writing.) Prerequisite: WRTG 112. A comprehensive, project-based study of applied business writing. The aim is to develop documents appropriate to audience and purpose that are well argued and conform to standards of business writing. Topics include context, purpose, audience, style, organization, format, results, technologies, and strategies for persuasion in typical workplace messages. In addition to shorter assignments, a substantial formal report that incorporates research and support for conclusions or recommendations is required. Students may receive credit for only one of the following courses: COMM 394/394X, ENGL 394/394X, or WRTG 394/394X.

TABLE OF CONTENTS
INDEX

COURSE INFORMATION
GRADUATE COURSE DESCRIPTIONS

Index to Course Descriptions

The courses summarized on the following pages are listed alphabetically by discipline or subject, as follows.

Accounting 285
Accounting and Financial Management 287
Acquisition and Contract Management 287
Bioinformatics 288
Biosecurity and Biodefense 288
Biotechnology Management 289
Biotechnology Regulatory Affairs 289
Biotechnology Studies 290
Business and Management 291
Clinical Professional Counseling 291
Cloud Computing Systems 296
Community College Policy and Administration 298
Criminal Justice Management 301
Cyber Operations 301
Cybersecurity Management and Policy 303
Cybersecurity Technology 304
Data Analytics 306
Database Systems Technology 307
Decisive Communication and Leadership 308
Digital Forensics and Cyber Investigation 308
Distance Education 310
Distance Education Policy and Management 311
Distance Education Teaching and Training 312
Distance Education Technology 312
Emergency Management 312
Environmental Management 313
Financial Management 315
Global Health Management 316
Health Care Administration 317
Health Informatics Administration 318
Human Resource Management 319
Homeland Security Management 320
Informatics 321
Information Assurance 321
Information Systems and Services 322
Information Technology 322
Instructional Technology 323
Intelligence Management 324
Learning Design and Technology 325
Management 326
Marketing 327
Nonprofit Management 328
Project Management 329
Software Engineering 330
Special Topics 331
Strategic Communications 331
Systems Engineering 332
Transformational Leadership 333

Accounting

ACCT 605 Accounting for Managers (3)

(For MBA students only.) A fundamental study of financial accounting and how it is used in managerial decision-making. Discussion covers financial statements, cost behavior, budgeting, performance measurement, and control systems. The objective is to use cost-volume-profit analysis to make pricing and product-mix decisions and to create and analyze budgets, which are essential tools for planning and controlling business activities. Topics include the process of developing a budget and ways to evaluate performance against budgeted expectations. Emphasis is on developing the ability to think critically about accounting information and its use in managerial decision-making. Activities provide practical experience in financial statement analysis, cost behavior analysis, budgeting, and performance measurement.

ACCT 610 Financial Reporting and Analysis for Accountants (3)

Prerequisite: 15 credits of undergraduate accounting. An advanced study of U.S. generally accepted accounting principles (GAAP) according to the Federal Accounting Standards Board (FASB). The objective is to conduct research and measure, analyze, report, and interpret accounting data to empower stakeholders for strategic business decision-making. Emphasis is on the FASB's Accounting Standards Codification for decision support; professional ethical standards; environmental, social, and governance (ESG) reporting; and Securities and Exchange Commission reports. Activities include data analysis of research-based case studies using practitioner-based software.

ACCT 611 Managerial Accounting Data Analytics (3)

Prerequisite: 15 credits of undergraduate accounting. A comprehensive study of management accounting methodologies employed for strategic problem-solving with an emphasis on data analytics. Focus is on developing competencies in analysis and decision-making, as well as technology integration, systems understanding, and process management. Discussion covers diverse tools, such as break-even analysis, regression analysis, the balanced scorecard, activity-based costing/management, and value chain analysis. Topics include elements of strategic management, including environmental, social, and governance (ESG) considerations; ethical issues; and performance management.

ACCT 613 Tax Compliance and Planning (3)

Prerequisite: ACCT 610. An in-depth study of U.S. income taxation systems and regulations, grounded in legislation, administrative procedures, and judicial rulings. Focus is on building competencies in tax research and analysis, decision-making, and preparing tax forms using practitioner-based tax software. Discussion covers the preparation of individual, corporate, and other entity tax returns using professional tax preparation software. Topics also include strategic tax planning and administration using cutting-edge data analytics tools; interpreting and reporting requirements for diverse business entities; and incorporating environmental, social, and governance (ESG) considerations.

ACCT 618 Accounting Information Systems (3)

(Formerly ACCT 614.) Prerequisite: ACCT 610. A comprehensive study of the role and significance of information systems in accounting processes, including accounting information systems (AIS). The aim is to evaluate AIS security and controls, risk assessment, process management, and database design. Emphasis is on organization and manipulation of databases for strategic business decisions. Practitioner-based software is used for data analytics and visualizations; artificial intelligence (AI) is leveraged to address real-world case studies. Activities include conducting research and writing articles suitable for publication on contemporary cybercrimes affecting organizations.

ACCT 620 CyberAccounting: Management and Compliance (3)

Prerequisite: ACCT 618. An in-depth study of strategic cyberaccounting practices designed to fortify the security of accounting information systems and client data. Focus is on developing competencies in research, risk assessment, analysis, and decision-making, as well as building cyberaccounting skill sets to mitigate cyber intrusions. Discussion covers federal and state regulatory cybersecurity requirements and voluntary standards, such as the G7 Fundamental Elements of Cybersecurity for the Financial Sector and the AICPA's Cybersecurity Risk Management Framework. Topics also include data analytics and the use of technology.

ACCT 625 Government and Not-for-Profit Accounting (3)

Prerequisite: ACCT 610. An examination of governmental accounting standards and not-for-profit financial reporting standards governing U.S. public-sector and not-for-profit organizations. Discussion covers research, measurement, analysis, and reporting, as well as similarities and differences among accounting rules for diverse entity types and the rationale for the accounting standards governing each type. Focus is on developing competencies in systems and process management. Environmental, social, and governance (ESG) factors are considered. Activities include analyzing U.S. and state government data and creating visualizations to assist others in making better-informed decisions.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

ACCT 628 Auditing and Attestation (3)
(Formerly ACCT 612.) Prerequisite: ACCT 610. A comprehensive study of generally accepted auditing standards governed by the AICPA. Focus is on building competencies in analysis, decision-making, measurement, research, risk assessment, and the preparation of audit reports and on developing a mentally independent attitude, professional skepticism, and professionalism to ensure audit and attestation quality. Discussion covers cutting-edge advancements in data analytics to improve audit and attestation efficiency using practitioner-based software. Students may receive credit for only one of the following courses: ACCT 612 or ACCT 628.

ACCT 630 Fraud Examination (3)
Prerequisite: ACCT 628. A comprehensive examination of the nature and components of occupational fraud, designed to enhance competencies in risk assessment, analysis, decision-making, and research to prepare for roles in fraud prevention, detection, and investigation. Emphasis is on the identification of internal control weaknesses to design fraud investigation programs strategically. Activities include practice with data analytics tools, such as Benford's law, DuPont analysis, and other diagnostic analytics, using FBI and other U.S. government agencies cybercrime and occupational fraud data. Students may receive credit for only one of the following courses: ACCT 608 or ACCT 630.

ACCT 635 Ethics and Professional Responsibilities for Accounting (3)
Prerequisite: ACCT 610. A comprehensive examination of the AICPA's Code of Professional Conduct and ethical accounting standards mandated by other professional organizations. Focus is on building competencies in research, analysis, decision-making, reporting, and resource management to enhance ethical reasoning and knowledge of professional responsibilities and to make judgment calls in accounting scenarios. Discussion covers environmental, social, and governance (ESG) factors as part of ethical accounting practices. Case studies are used to analyze ethical dilemmas in accounting. Students may receive credit for only one of the following courses: ACCT 608 or ACCT 635.

ACCT 640 Accounting in a Global Context (3)
Prerequisite: ACCT 610. An in-depth exploration of the multi-faceted realm of international accounting and reporting practices focused on evolving International Financial Reporting Standards (IFRS). U.S. generally accepted accounting principles (GAAP) are compared to IFRS and specific-country GAAP. Focus is on developing competencies in research, analysis, decision-making, measurement, and reporting. Discussion covers the influence of business operations; cultural variances in privacy rights; environmental, social, and governance (ESG) reporting; and inherent risks in global business transactions. Topics include diverse challenges in global financial reporting, including XBRL (extensible business reporting language). Students may receive credit for only one of the following courses: ACCT 640 or ACCT 665.

ACCT 645 CyberAccounting: Forensics (3)
Prerequisites: ACCT 618 and ACCT 630. An applied study of digital tools and techniques used in forensic accounting investigations that integrates research, risk assessment, and analysis. Emphasis is on decision-making, technology, systems, and process management. The goal is to disentangle intricate forensic evidence by analyzing financial data, prepare written reports for expert witnesses to present as testimony in legal proceedings, and use artificial intelligence to develop a well-rounded skill set for navigating complex forensic accounting scenarios.

ACCT 660 Information Technology Auditing (3)
(Formerly MSAS 670.) Prerequisites: ACCT 618, ACCT 630, and INFA 610. A comprehensive study of information technology (IT) auditing. Discussion covers the advanced knowledge and skills needed to protect organizational assets using logical, physical, and financial controls. Emphasis is on data integrity, security, and efficiency of information systems. Activities integrate theoretical concepts with practical applications focusing on critical IT auditing competencies, such as research, risk assessment, analysis, decision-making, reporting, technology, strategic management, and data analytics. Students may receive credit for only one of the following courses: ACCT 660 or MSAS 670.

ACCT 686 Workplace Learning in Accounting (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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 690 CyberAccounting: Risk Management Capstone (3)

(Formerly ACCT 670.) Prerequisites: ACCT 610, ACCT 618, ACCT 620, ACCT 628, ACCT 630, ACCT 645, ACCT 660, and INFA 610; may be taken concurrently with ACCT 635 or INFA 660. An in-depth study of cyberaccounting risk management as practiced by federal, state, and local entities and in alignment with AICPA's Cybersecurity Risk Management Reporting Framework. Topics include research, risk assessment, analysis, decision-making, artificial intelligence, technology, systems, process management, and resource management. Emphasis is on developing data analytics skills to assess client risks and designing and implementing controls for potential vulnerabilities to mitigate cyberaccounting threats in professional accounting services. Students may receive credit for only one of the following courses: ACCT 670 or ACCT 690.

Accounting and Financial Management

MSAF 690 Accounting and Financial Management Capstone (3)

(Formerly MSAF 670.) Prerequisites: ACCT 610, ACCT 611, ACCT 613, ACCT 628, FIN 605, FIN 610, FIN 620, and FIN 660. A capstone study of accounting and financial management that integrates subject matter from both disciplines. Advanced principles, techniques, and theories are applied through the analysis and presentation of case studies by student teams. Assignments include a research paper that comprehensively assesses an important current issue or emerging trend in the fields of financial management and accounting. Students may receive credit for only one of the following courses: MSAF 670 or MSAF 690.

Acquisition and Contract Management

ACM 610 Fundamentals of Acquisition Planning and Costs Price Analysis (6)

Prerequisite: DCL 600M. Serve as a contract manager and explore three major segments of the acquisition process—acquisition planning, acquisition management, and contract pricing—through pre-award, negotiation preparation, and post-award stages. Complete an acquisition plan using quantitative techniques to quantify and facilitate decisions. Apply various cost analysis techniques and quantitative tools to evaluate a contractor's cost proposal and develop a negotiation range and objective.

ACM 620 Sourcing Decisions and Legal Considerations in Contracting (6)

Prerequisite: ACM 610. Serve as a contract manager and apply legal, administrative, and ethical requirements and principles to procurement and contract management. Explore a broad array of legal issues applicable to acquisition and the Federal Acquisition Regulation and the American Bar Association model procurement code for state and local government.

ACM 630 Strategic Supplier Relations in Sustainable Supply Environments (6)

Prerequisite: ACM 620. Serve as an acquisitions manager and acquire techniques, methodologies, and strategies designed to enhance organizational procurement and acquisition efficiency and manage supply chain issues. Explore integrated supply chains, including the integration of information, supplies, and materials flows across multiple supply chain channels; the role of information systems and technology in supply chain management; e-commerce strategies; and the development and maintenance of supply chain partnerships and other relationships.

ACM 640 Performance Based Logistics and Asset Management (6)

Prerequisite: ACM 630. Serve as an acquisitions manager and explore logistical issues, techniques, methodologies, and strategies designed to enhance organizational efficiency with the acquisition life cycle. Apply specific concepts, including the total cost approach to logistics, planning and implementation, systems relationships and integration, and demand forecasting, to solve logistical and asset management issues that arise within the acquisition life cycle.

ACM 670 Acquisition and Contract Management Capstone (6)

Prerequisite: ACM 640. Assume the role of an executive manager and create an acquisitions and contract management business continuity and disaster management plan. Make executive-level decisions to ensure adherence to all rules and regulations surrounding these areas. Develop long-term strategic plans for maintaining operations, reducing costs, evaluating supplier portfolios, and developing sustainable supply chains within the acquisition life cycle. Practice ethical decision-making and negotiation techniques in analyzing cases containing detailed cost and pricing data.

TABLE OF CONTENTS
INDEX

Bioinformatics

BIFS 613 Statistical Processes for Biotechnology (3)
Prerequisite: STAT 200. A study of statistical tools such as Bayesian statistics, Markov processes, and information theoretic indices and how they can be used to analyze sequence homology, the presence of motifs in sequences, gene expression, and gene regulation. Topics include information content, mutual information, long-range correlation, repeats, Fourier analysis, and linguistic methods.

BIFS 614 Data Structures and Algorithms (3)
An introduction to the definitions, implementations, and applications of the most basic data structures used in bioinformatics. Basic formalism and concepts used in algorithm design and the analysis of algorithms are also introduced. The relative efficiency of algorithms is estimated by application of these concepts to biological data analysis. Algorithms and data structures discussed include those for database searches, motif finding, sequence alignment, gene prediction, and microarray analysis.

BIFS 617 Advanced Bioinformatics (3)
An overview of basic programming concepts for performing bioinformatics analyses of biological data. Topics include software development life cycles, data types and data representation, arithmetic and logical operations, conditional execution, iteration, functions, and arrays. Discussion also covers basic data structures. Emphasis is on bioinformatics pipeline development, automation of data analysis, and building bioinformatics applications using a high-level programming language.

BIFS 618 Java for Biotechnology Applications (3)
Prerequisite: BIFS 617. A study of basic concepts in Java and object-oriented programming in bioinformatics application development. Emphasis is on web-based, graphical, and database-driven application design. Review covers the function and design of some Java-based bioinformatics tools. Some commonly used libraries in the BioJava project are introduced, and developments of reusable modular application objects are examined. Basic problem-solving skills in the field of biotechnology using Java programming are developed through practical projects.

BIFS 619 Systems Level Approaches in Bioinformatics (3)
Prerequisite: BIFS 617. A study of the bioinformatics techniques used in omics (genomics, proteomics, etc.) experiments. Focus is on analyzing experiment protocols, comparing the tools used for these experiments, and interpreting the data resulting from the experiments.

Biosecurity and Biodefense

BSBD 640 Agents of Bioterrorism (3)
An examination of the probable weapons of biowarfare, including biological, chemical, and nuclear weapons, from several perspectives. Topics include their mechanism of action, biological impact, detection and recognition, epidemiology, and treatment. Their potential dangers and effectiveness are evaluated, and strategies for defense against attacks by such weapons are investigated. Discussion covers the bioethical challenges of anti-bioterror research.

BSBD 641 Biosecurity and Bioterrorism (3)
A review of bioterrorism, biosecurity, and government biodefense strategy, including the history and science of biological agents in agriculture and society. Discussion covers surveillance; public health preparedness; response; and recovery at the community, state, and federal government levels. Various aspects of the law, including the Posse Comitatus Act and federal and state quarantine powers, are introduced. The mental health consequences of bioterrorism are also discussed. A case study of a hypothetical biological attack is analyzed in detail.

BSBD 642 Advanced Biosecurity and Bioterrorism (3)
Prerequisite: BSBD 641. A thorough examination of special and advanced topics in bioterrorism and biosecurity issues. Topics include the hidden biological warfare programs of the 20th century; advances in biotechnology and molecular microbiology and the dilemma of dual-use research; domestic and foreign terrorist groups, including rogue states; state-of-the-art microbial forensics; ethics and civil rights; and current trends in policy development, consequence management, and public health responses to new threats to homeland security. Discussion also addresses special topics of the students' choice. Future challenges in biosecurity are discussed as part of a comprehensive bioterrorism exercise and the analysis of case studies of hypothetical threats.

TABLE OF CONTENTS
INDEX

BSBD 643 Strategies for Interagency Cooperation, Verification, and Global Countermeasures in Biodefense (6)

An in-depth study of the verification procedures used in global countermeasures and strategies. Global biosecurity and oversight are examined using real-world examples. Discussion covers the epidemiology of emerging infectious diseases as they relate to defense against threats from nonconventional sources. Topics also include the evolution and current status of the Biological Weapons Convention; the integration of responses from local, state, and multiple federal agencies; and other challenges facing public health departments, including the potential economic, political, and social impacts of bioterrorism.

Biotechnology Management

BTMN 632 Commercializing Biotechnology in Early-Stage Ventures (3)

(Formerly BIOT 641.) An overview of methods for planning and organizing biotechnology ventures. The elements of a business plan are considered, as are methods for assessing various needs, such as capital, personnel, technology, and marketing. Emphasis is on approaches to marketing technology and developing joint ventures. The advantages and disadvantages of forming international ventures are weighed. Discussion also covers the importance of maintaining relations with external constituents and the need for managing public awareness.

BTMN 634 Selection and Evaluation of Biotechnology Projects (3)

A study of the application of methodologies for technology forecasting, technology assessment, project management, and data auditing to the selection and evaluation of biotechnology projects. The underlying rationale, principles, procedures, and cost-effectiveness of data auditing are examined. A systems approach to performance evaluation is presented.

BTMN 636 Biotechnology and the Regulatory Environment (3)

A comprehensive review of the role of regulation in biotechnology products and services development and commercialization. Emphasis is on the roles of the federal government, state government agencies, international bodies, and professional groups, especially the regulatory roles of the U.S. Environmental Protection Agency, Department of Agriculture, and Food and Drug Administration. Discussion covers human subject protection, good laboratory practices, and good manufacturing practices.

Biotechnology Regulatory Affairs

BTRA 640 Preclinical and Clinical Research Design (3)

An examination of preclinical and clinical research designs. Emphasis is on identifying and addressing challenges associated with elements of good laboratory and clinical practice and qualifying and managing a laboratory for a clinical trial. Discussion covers best practices for planning research and collecting, analyzing, and reporting data from drug/device development studies.

BTRA 641 Product Life-Cycle Approval, Production, and Marketing for Devices and Drugs (3)

An in-depth study of the product life cycle for medical devices and implants and pharmaceuticals. Focus is on the various stages within the life cycle from conceptualization of a product pipeline in research and development through postmarket surveillance and production. Topics include regulatory submission, approval, production, and the postmarket environment for both drugs and devices. Challenges surrounding the approval and naming of follow-on biologics are addressed. Discussion also covers combination medicines, the stages of a drug pipeline and risk assessment at each stage, and the decreasing productivity of the drug pipeline. The role of a contract research organization in testing and approval is explained, and the nature of the support services they provide to the biotechnology and devices industry is explored.

BTRA 642 Global Biotechnology Business Issues (3)

An exploration of different aspects of international pharmaceutical regulation, as outlined in the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use. Topics include international biotechnology issues, global harmonization efforts, and the cultural impact of biotechnologies. Discussion also covers domestic and international business considerations and international regulatory requirements.

BTRA 643 Practical Applications of Biotech Regulatory Affairs (6)

A capstone study of regulatory affairs related to the biotechnology industry that integrates knowledge and skills gained from previous study. Emphasis is on completion of a group project simulating the development of a drug or device through the product life cycle. The project is designed to demonstrate knowledge of international biotech business, ethics, and production issues and skills in making decisions regarding a wide range of regulatory issues and to provide a transition for applying these skills to applications in the biotechnology environment.

TABLE OF CONTENTS
INDEX

Biotechnology Studies

BIOT 601 Introduction to Molecular Biology (3)
A thorough grounding in the fundamentals of biology, including a broad review of the life sciences with emphasis on molecular biology. Topics include the basic concepts and processes of cell biology, molecular biology, and immunology. The components of a cell, the processes occurring in a single cell, and the functioning of a multicellular organism are explained. Discussion also covers the use of model organisms to understand basic and applied biology.

BIOT 630 Introduction to Bioinformatics (3)
An introduction to bioinformatics. Emphasis is on the interpretation of data. Topics include new, sophisticated DNA, RNA, and protein sequence analyses and pattern recognition and DNA computing, as well as more traditional mathematical modeling (using Bayesian probability and basic algorithms, machine learning and neural networks, and Markov models and dynamic programming). Discussion also covers the analysis of tridimensional structures, phylogenic relationships, and genomic and proteomic data.

BIOT 640 Societal Issues in Biotechnology (3)
An examination of current societal issues in biotechnology from several perspectives. Topics include the commercialization of biotechnology; biohazards; managerial views of legal issues and bioethics; the need for public scrutiny; environmental and cultural issues; and the role of governmental regulatory agencies in researching, developing, and commercializing biotechnology. An overview of the early history and modern developments of biotechnology is provided.

BIOT 643 Techniques of Biotechnology (3)
A comprehensive review of current techniques in biotechnology research and applications. The development and use of some of the techniques are placed in historical context. Discussion covers techniques used in genomics, transcriptomics, and proteomics and the applications of these techniques. Current plant and animal transformation methods are explained. High throughput technologies, including sequencing, real-time RT-PCR, SAGE, and microarrays, are also explored. Topics also include therapeutic applications of biotechnology, such as gene therapy, stem cell technology, and RNA interference. Emerging technologies in this field are introduced.

BIOT 645 Bioprocessing and the Business of Biotechnology (3)
A detailed exploration of the business of biotechnology, its structure and operation, and the science upon which this relatively new global industry sector was founded. Discussion covers a wide range of biotechnology applications, from biopharmaceuticals to biofuels, and the technical advances behind them. Focus is on methods and economics of bioprocessing and unique aspects of the funding, alliances, and global models used in the business of biotechnology.

BIOT 670I Biotechnology Capstone: Bioinformatics (3)
(Open only to students in the bioinformatics concentration.) Prerequisite: Completion of 30 credits of program coursework, including all core courses. An in-depth exploration of the bioinformatics field. The objective is to apply knowledge of the field while demonstrating research, analytical, oral and written communication, teamwork, and leadership skills during a semester-long project. Projects are garnered from real-world problems from industry, academic institutions, and government organizations. Students may receive credit for only one of the following courses: BIOT 670, BIOT 670I, BIOT 670M, BIOT 670R, or BIOT 670S.

BIOT 670M Biotechnology Capstone: Biotechnology Management (3)
(Open only to students in the biotechnology management concentration.) Prerequisite: Completion of 30 credits of program coursework, including all core courses. An in-depth exploration of the biotechnology management field. The objective is to apply knowledge of the field while demonstrating research, analytical, oral and written communication, teamwork, and leadership skills during a semester-long project. Projects are garnered from real-world problems from industry, academic institutions, and government organizations. Students may receive credit for only one of the following courses: BIOT 670, BIOT 670I, BIOT 670M, BIOT 670R, or BIOT 670S.

BIOT 670R Biotechnology Capstone: Regulatory Affairs (3)
(Open only to students in the biotechnology regulatory affairs concentration.) Prerequisite: Completion of 30 credits of program coursework, including all core courses. An in-depth exploration of the biotechnology regulatory affairs field. The objective is to apply knowledge of the field while demonstrating research, analytical, oral and written communication, teamwork, and leadership skills during a semester-long project. Projects are garnered from real-world problems from industry, academic institutions, and government organizations. Students may receive credit for only one of the following courses: BIOT 670, BIOT 670I, BIOT 670M, BIOT 670R, or BIOT 670S.

TABLE OF CONTENTS
INDEX

BIOT 670S Biotechnology Capstone: Biosecurity and Biodefense (3)
(Open only to students in the biosecurity and biodefense concentration.) Prerequisite: Completion of 30 credits of program coursework, including all core courses. An in-depth exploration of the biosecurity and biodefense field. The objective is to apply knowledge of the field while demonstrating research, analytical, oral and written communication, teamwork, and leadership skills during a semester-long project. Projects are garnered from real-world problems from industry, academic institutions, and government organizations. Students may receive credit for only one of the following courses: BIOT 670, BIOT 670I, BIOT 670M, BIOT 670R, or BIOT 670S.

Business and Management

BMGT 610 Business Analytics (3)
A study of business analytics, an important capability for companies operating in competitive markets. Topics include collecting, importing, exporting, organizing, and optimizing data and creating and managing data frames. Statistical software and data visualization tools are used to make informed data-driven decisions, solve real-world problems, and increase productivity and efficiency.

BMGT 620 Innovation and Entrepreneurship (3)
An examination of innovation and entrepreneurship in a business environment. Focus is on applying principles of innovation and entrepreneurship to the creation, development, and management of new ventures. Discussion covers the principles of innovation, design thinking, opportunity recognition, funding, and scaling up of entrepreneurial ventures, as well as the challenges and opportunities for innovation in existing organizations. The goal is to think critically about innovation and gain practical experience in managing innovation in organizations and creating and developing new ventures.

BMGT 690 Business Strategy Capstone (3)
Prerequisite: All MBA core courses. An examination of business strategy that synthesizes and applies key concepts gained through previous study to an actual business situation. A business simulation is used to make strategic decisions related to financial, marketing, sales, and production scenarios. Activities include developing a business plan for a foreign-market entry, conducting an analysis of two foreign markets, examining the markets' potential, determining country and financial risks, examining potential customers, selecting suitable distributors, and making a market-entry decision as part of a team.

Clinical Professional Counseling

CNSL 604 Professional Orientation in Counseling (3)
Prerequisite: Admission to the counseling program or approval of program director. An introduction to the foundations of professional counseling. Discussion covers the history, philosophy, trends, and practice of counseling; the roles and functions of the counseling profession, including the ethics, laws, and guiding principles for counselors across entry-level areas of specialty (e.g., mental health counseling; marriage, couples, and family counseling; school counseling; and addictions counseling); practice settings; methods and models of clinical supervision; professional organizations; preparation standards and credentials; and other related professional issues. Topics also include compassion fatigue, burnout, counselor incapacitation, and self-care.

CNSL 606 Legal, Ethical, and Professional Practices in Counseling (3)
Prerequisite: Admission to the counseling program or approval of program director. An exploration of the many ethical, legal, and professional issues encountered by licensed professional counselors. Discussion covers the breadth and depth of ethical principles and professional codes of ethics. Practice is provided in identifying ethical dilemmas and applying the ethical standards and legal statutes that affect professional counselors when making critical decisions concerning work with individuals across varied mental health settings. Focus is on ethical issues relevant to the addiction treatment field. Topics also include confidentiality, self-care, paperwork and reporting practices, private practice, and career environments.

CNSL 611 Social and Cultural Foundations in Counseling (3)
Prerequisite: Admission to the counseling program or approval of program director. An examination of foundational principles, sensitivities, and knowledge relevant to becoming a culturally competent professional counselor. Topics include the psychological and sociological factors relating to the formation of self-concept and cultural identity and their impact on effective counseling education, interventions, and outcomes. The effects of the external environment on the formation of cultural characteristics and personal worldview are explored. Discussion also covers human roles, societal subgroups, social patterns, societal changes, influences and trends, and diversity of lifestyles. Theories of multicultural counseling, identity development, pluralistic trends, and systems-oriented intervention strategies (individual, couple, family, group, and community) are examined.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CNSL 612 Lifespan and Development: Perspectives and Counseling (3)
Prerequisite: Admission to the counseling program or approval of program director. A study of current theories and perspectives on human biopsychosocial development and change through the lifespan. The physical, psychological, interpersonal, and societal issues related to identity (e.g., gender, ethnicity, race, religion, and sex) development and growth across the stages of life are explored within an interdisciplinary perspective. Discussion covers developmental theories and counseling resources. Emphasis is on how this information applies to assessment and counseling across the lifespan.

CNSL 614 Research Design and Program Evaluation in Counseling (3)
Prerequisite: Admission to the counseling program. An examination of research and its importance in advancing counseling practices and programs. The goal is to develop practical skills in evaluation research dedicated to continuously improving practitioner and evidence-based practices. Emphasis is on skills in reading and interpreting research literature and fundamentals in statistics, research design, research ethics, and program evaluation within professional counseling. Principles of qualitative and quantitative research methods are explored. Topics include program development and demonstration proposals; program objectives development and evaluation; and needs assessment principles, models, and applications. Key ethical and cultural components in planning and implementing counseling program evaluations are addressed.

CNSL 621 Applied Theories of Counseling (3)
Prerequisite or corequisite: CNSL 604. A study of the major theoretical schools, theories, practices, ethics, and cultural considerations in professional counseling and psychotherapy. Focus is on the theories and techniques that are consistent with current professional research and counseling practice. Identifying the theories with which one is most comfortable is encouraged. Discussion covers the value of an eclectic theory base.

CNSL 622 Counseling Techniques: The Helping Relationship (3)
Prerequisite or corequisite: CNSL 604. An overview of basic counseling skills. Emphasis is on the development of fundamental counseling skills, including active listening, empathy, and basic interviewing. Discussion covers issues related to the development of the therapeutic relationship, cultural diversity, and the impact of the counselor on the counseling process.

CNSL 624 Psychopathology and Diagnosis (3)
Prerequisites: CNSL 604 and CNSL 611. An introduction to the current symptoms, criteria, diagnostic categorization and treatment options for the major psychological disorders. The most recent Diagnostic and Statistical Manual of Mental Disorders (DSM) and International Classification of Diseases (ICD) are used as the foundation for the classification of psychological disorders. Emphasis is on responsible and competent assessment, diagnosis, conceptualization, and delivery of optimum treatment to clients. The importance of conducting mental status examinations, formulating differential diagnoses, and determining etiology is explored. Discussion covers the influences of biological, cultural, historical, and spiritual factors on abnormal human behavior and the influence of abnormal behavior on society.

CNSL 626 Group Counseling (3)
Prerequisites: CNSL 611, CNSL 621, and CNSL 622. A balanced introduction to group counseling theory, functions, and techniques, including procedures appropriately applied to decision-making, problem-solving, and conflict resolution. Emphasis is on the social-psychological interaction and dynamics of small groups and their therapeutic applications with a variety of diverse populations and age groups. Techniques for ethical applications of group leadership are practiced, building experiential knowledge and both basic and advanced skills for strategically planning, implementing, and evaluating group processes. Activities include direct experience in a small-group activity, approved by the program, for a minimum of 10 clock hours. Topics are examined from a multicultural perspective that emphasizes the differing experiences, cultures, histories, and perspectives of people from varied ethnic, gender, racial, and social class backgrounds. Discussion covers theories, techniques, conceptualization, and evaluation.

CNSL 627 Advanced Techniques of Counseling (3)
Prerequisite: CNSL 624. An advanced study of counseling skills, processes, and strategies aligned with prominent counseling theories, techniques, and evidence-based interventions. Emphasis is on practical technical and conceptual skills development, clinical acumen, case-study analysis, and treatment planning. Topics include the application of one or more treatment models to various disorders, with consideration of ethical and cultural factors.

TABLE OF CONTENTS
INDEX

CNSL 628 Assessment and Appraisal in Counseling (3)
Prerequisites: CNSL 614 and CNSL 624. An introduction to the principles and procedures of assessment applied in clinical professional counseling. Topics include psychometric concepts (e.g., validity, reliability, norm, and criterion-referenced evaluation); the principles of good test construction and evaluation; appraisal techniques; instrumentation; and implementation, application, and communication of test results. Discussion covers both the general classes of formalized psychological measuring devices and their characteristics and informal assessment (e.g., observations, interviews, and rating scales). The impact of cultural factors and age on test administration, test scores, and test interpretation is addressed, as are ethical and legal issues pertaining to the testing process. Mental status evaluation and substance abuse assessment are also examined.

CNSL 631 Foundations of Substance Use and Addictions Counseling (3)
Prerequisites: CNSL 621 and CNSL 622. Prerequisites or corequisites: CNSL 606 and CNSL 624. An overview of the addictive process and the practice of addiction counseling. The aim is to develop conceptual knowledge, practical skills, and self-awareness concerning the etiology of substance abuse and addiction and their impact across the lifespan. Topics include the principles of screening, intake, orientation, and diagnosis of substance use; induced and co-occurring disorders in adults and adolescents; the impact of family dynamic on addiction maintenance and recovery; and treatment planning. Focus is on becoming familiar with an array of screening and assessment instruments, services, and programs available to individuals presenting with addictions and diagnostic and treatment planning tools. Workforce applications covered include writing required reports and performing record-keeping functions. Discussion also covers the treatment of co-occurring disorders, process addictions (e.g., gambling), ethical considerations, and multicultural issues.

CNSL 632 Marriage, Couples, and Family Counseling (3)
Prerequisites: CNSL 621 and CNSL 622. Prerequisite or corequisite: CNSL 606. An overview of the historical development and principal conceptualizations of marital and family counseling, including its history and founders, basic models (theoretical frameworks and related practices), assessments, current trends, future themes, and ethical practices. Major theories in marriage and family therapy are reviewed, as are approaches that may influence therapeutic work with couples. Systems theory is introduced, uniquely framing the family, rather than an individual, as the "client." Topics include homeostasis, family roles, and patterns of interaction within families. Concepts are applied to individual cases and emphasize translating theory into practice. Emphasis is on cultural competence and awareness of family diversity.

CNSL 633 Career Development and Counseling (3)
Prerequisite: CNSL 604. A survey of major theories of career development and career counseling strategies, tools, and resources, using a practitioner's approach. A broad view of career as lifestyle is introduced. Topics include career counseling in educational and work settings and career transitions throughout life. Emphasis is on developing individual and group career counseling skills across diverse populations, facilitating client awareness, choice, and actions that support a balance of life roles. Integrating career counseling with mental health and addictions treatment is examined.

CNSL 634 Introduction to School Counseling (3)
Prerequisite: CNSL 604. An introduction to the roles and responsibilities of school counselors. Topics include the theories and concepts that ground the profession, guide the development of school counseling programs, and influence and strengthen best practices. Discussion covers how counselors work with the school, family, and community to support and reinforce student learning.

CNSL 641 Introduction to Psychopharmacology (3)
Prerequisites: CNSL 606 and CNSL 624. An exploration of mental disorders according to the most recent edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM) and of psychopharmacology medications. The neurochemical, physiological, and behavioral effects of the major classes of psychoactive drugs, both therapeutic agents and drugs of abuse, are surveyed. Discussion covers drugs' mechanism of action, therapeutic indications, addiction potential, and physiological/behavioral side effects.

CNSL 643 Substance Use and Dependency Treatment Delivery (3)
Prerequisite: CNSL 631. An exploration of theories and models used to develop techniques for treatment of individuals with chemical dependency. Focus is on treatment issues specific to substance use disorders, including assessment of and service delivery to special populations, adolescents, and adults. Review covers cultural uniqueness, diversity issues within special populations, and developmental influences. Clinical issues that shape practice for professionals treating chemical dependency are explored in relation to their integration into clinical practice. Topics include ways in which cross-addiction, co-occurring disorders, physical and mental disorders, therapeutic denial, treatment readiness and resistance, minimization, enabling, relapse, and family and historical influences affect treatment planning; treatment protocols; and service provision for substance-dependent individuals.

TABLE OF CONTENTS
INDEX

CNSL 644 Co-Occurring Disorders (3)
Prerequisite: CNSL 631. An overview of co-occurring psychiatric and substance use disorders and their impact on the individual, family, and community. An introduction to the epidemiology, prevalence, and science of co-occurring disorders is provided. The objective is to conceptualize co-occurring mental health, substance use, and physical health disorders and how their interaction affects screening, assessment, and treatment. Discussion covers common mental health disorders that frequently co-occur with substance use, including depression, bipolar, schizophrenia, anxiety, attention-deficit hyperactivity disorder (ADHD), post-traumatic stress, and personality disorders. Topics also include treatment considerations, including multidimensional screening, assessment, and treatment planning, and evidence-based practices for co-occurring disorders (e.g., motivational interviewing, cognitive behavioral therapy, medication-assisted treatments, and integrated behavioral health interventions).

CNSL 648 Special Topics in Addiction Counseling (3)
Prerequisite: CNSL 631. Seminar discussion of topics of current interest in addiction counseling. The goal is to attain specialized knowledge in a particular area of counseling dedicated to substance use dependency and addiction theory, education, prevention, intervention, and treatment delivery. Topics may extend or augment those covered in more general courses. May be repeated to a maximum of 6 credits when topics differ.

CNSL 651 Relationships Counseling (3)
Prerequisites: CNSL 606, CNSL 621, and CNSL 622. An introduction to the diverse and complex dynamic of clinical work with couples. An overview of special issues related to couples therapy, sex therapy, and infidelity is provided. The objective is to develop intervention skills related to introduced approaches and to working with couples of diverse backgrounds.

CNSL 653 Sexual Issues in Marriage and Family Therapy (3)
Prerequisites: CNSL 621 and CNSL 622. A study of the history of sex research and sex therapy. Common sexual issues and sexual dysfunctions seen by marriage and family therapists are defined. Discussion covers basic traditional therapeutic models for the treatment of sexual problems. The systemic basis of sexual issues is explored in an interpersonal context. Topics include systemic assessment, diagnosis, and treatment.

CNSL 661 Counseling Children and Adolescents (3)
Prerequisites: CNSL 606, CNSL 611, CNSL 612, CNSL 621, and CNSL 622. A study of appropriate counseling strategies for effectively helping parents and minor children address difficult problems within a developmental, familial, and social framework. Discussion covers a conceptual model for treatment planning, clinical assessment, and protocols, including areas of developmental adjustment, abuse and neglect, and individual interpersonal issues. Treatment approaches examined include behavioral, art, and play therapy options. Topics also include issues of professional practice, such as codes, ethical standards, documentation, and safe practice for counseling children and adolescents.

CNSL 663 Child and Adolescent Psychopathology (3)
Prerequisites: CNSL 606, CNSL 611, CNSL 612, and CNSL 627. Prerequisite or corequisite: CNSL 661. An overview of common mental health diagnoses occurring in childhood and adolescence. A historical perspective of the development of the field of psychopathology relating to children and adolescents is provided. Discussion covers the presentation, assessment, diagnosis, and treatment of disorders, as well as resiliency factors, from a research-based perspective.

CNSL 668 Expressive and Creative Arts in Counseling (3)
Prerequisites: CNSL 621 and CNSL 622. An examination of play and activity counseling theories and interventions applicable to working with a variety of client concerns in clinical and school settings. Emphasis is on exploring the use of drawing, clay, sand trays, puppets, musical instruments, and picture cards to understand their utility and application as “mediating tools” in counseling and therapeutic contexts for individuals and groups of all ages.

CNSL 671 Military Culture (3)
Prerequisite: Admission to the counseling program or approval of program director. An introduction to the distinguishing qualities of contemporary life in the U.S. military. The history and mission of the U.S. military branches are examined. Topics include military values, social structure, chain of command, work ethic, job demands, and language that may uniquely differentiate active military members, veterans, and family members from their civilian counterparts. The goal is to connect more readily with military and veteran clients and their families through increased knowledge and sensitivity to those clients’ unique needs.

TABLE OF CONTENTS
INDEX

CNSL 673 Counseling Military Families (3)
Prerequisites: CNSL 621 and CNSL 622. Prerequisite or corequisite CNSL 611. A focused exploration of military culture, within which servicemembers and their families function. Topics include different military contexts (i.e., active duty, guard/reserve, veteran); stressors (e.g., deployments, therapeutic needs, substance use, relationship maintenance, and the impact of injury and death); ethical issues for working with this specialty population; the diversity of military family structures and how a range of diversity filters can affect the military family and military culture; and theory-based and research-informed strategies for intervention. Discussion covers counseling for PTSD.

CNSL 678 Trauma, Crisis, and Disaster Counseling (3)
Prerequisites or corequisites: CNSL 604, CNSL 611, and CNSL 612. A study of theory and best practices related to trauma and crisis management, working with individuals and groups recovering from the effects of trauma and crisis (e.g., serious accidents, life-threatening illnesses, natural disasters, mass violence events, war, physical abuse, and sexual assault). Focus is on risk assessment, safety planning, intervention, and follow-up planning relevant to crises occurring in counseling environments. Resiliency enhancement for client and counselor is explored. Discussion covers appropriate ethical and legal responses to individual, community, national, and international crises.

CNSL 681 Biopsychosocial Aspects of Health, Behavioral Health, Aging, and Disability (3)
Prerequisite or corequisite: CNSL 604. An exploration of the interdisciplinary field of gerontology. Current topics associated with the aging process are introduced. Discussion covers contemporary issues that affect individuals, families, and society during the later years. An overview of theory, policies, and practices associated with aging and counseling elderly clients is provided.

CNSL 683 Counseling the Older Adult (3)
Prerequisite: CNSL 612. Prerequisites or corequisites: CNSL 627, CNSL 628, and CNSL 681. An advanced examination of clinical professional counseling. Discussion covers the aging process, needs and life issues, adaptations to changes, and ways that interventions may assist with these adaptations from a lifespan perspective. Emphasis is on assessment, case management, and intervention skills for effective counseling work with older populations and family caregivers in a variety of institutional and community service settings. Topics also include evidence-based practices that enhance dignity, quality of life, respect for differences, and maximum independent functioning. Activities include developing a personalized model of practice based on knowledge of practiced concepts, applied values, and a growing understanding of this population.

CNSL 685 Biopsychosocial Approach to Sexuality Across the Lifespan (3)
An exploration of developmental sexuality across the lifespan, including sexual and reproductive anatomy and physiology, human sexual response cycles, and the normative developmental tasks and challenges related to sex and sexuality from a biopsychosocial perspective. Emphasis is on achieving competency in understanding, assessment, and conceptualization of sexuality in a sex-positive way at various life stages. The development of gender identity, gender expression, and gender roles across the lifespan are explored. Clinical interventions and communication skills addressing common challenges related to human sexuality in professional counseling settings are introduced.

CNSL 687 Diversity and Sexuality: Sociocultural, Medical, Technological, and Ethical Influences (3)
Prerequisites: CNSL 606, CNSL 612, and CNSL 627. Prerequisite or corequisite: CNSL 653 or CNSL 685. An examination of the sociocultural, medical, technological, and ethical factors affecting the current landscape of sex and sexuality. Topics include the impact of race, religion, ethnicity, socioeconomic status, gender, and ability on sexual values, attitudes, and behaviors. Discussion also covers the impact of a range of pervasive social justice issues on sexual functioning and satisfaction. Diversity in sexual expression and lifestyles, as well as the unique considerations for these populations and lifestyles, is reviewed. The influence of changing technology for pleasure enhancement and the risks of maladaptive use is explored. Emphasis is on becoming knowledgeable about the history of sex therapy research and developing competency in ethical decision-making and best practices in sex therapy.

CNSL 688 Sex Therapy in Action: Assessment, Diagnosis, and Treatment of Psychosexual Issues and Dysfunction (3)
Prerequisites: CNSL 606, CNSL 612, CNSL 627, CNSL 628, and CNSL 653 (or CNSL 685). Prerequisite or corequisite: CNSL 687. A study of the practice of sex therapy through the assessment, diagnosis, and treatment of psychosexual disorders in the DSM-V-TR, including sexual issues arising from trauma, medical or mental health factors, relational factors, or environmental factors. Several models and theories are introduced and examined from both individual and relational perspectives to effectively diagnose and treat sexual functioning issues, out-of-control sexual behaviors, and paraphilic disorders. Discussion covers the short- and long-term impact of sexual abuse and trauma on sexual functioning. Clinical skills in dealing with survivors through a trauma-informed lens are developed, as are skills in professional communication, collaboration, and supervision to offer an integrated treatment model and gain knowledge in appropriate referral practices to other healthcare providers.

CNSL 689 Seminar: Special Topics in Counseling (3)
Seminar discussion of topics of current interest in counseling. The goal is to attain specialized knowledge in a particular area of counseling. Topics may extend or augment those covered in more general courses. May be repeated to a maximum of 6 credits when topics differ.

CNSL 690 Practicum (3)
Prerequisites: CNSL 606, CNSL 624, and CNSL 626; departmental approval; and proof of individual professional counseling liability insurance. An approved supervised pre-internship experience in an approved agency, educational, or clinical setting designed to develop individual and group counseling skills. Activities require the completion of a minimum of 100 clock hours of counseling and related services (40 of which are direct service client contact hours) and individual or triadic and group supervision by faculty.

CNSL 691 Internship 1: Professional Counseling (3)
Prerequisites: CNSL 690, departmental approval, and proof of individual professional counseling liability insurance. An approved supervised experience in an approved agency, educational, or clinical setting, designed to develop individual and group counseling skills. Activities require the completion of a minimum of 300 clock hours of counseling and related services (120 of which are direct service client contact hours) and individual or triadic and group supervision by faculty.

CNSL 692 Internship 2: Professional Counseling (3)
Prerequisites: CNSL 691, departmental approval, and proof of individual professional counseling liability insurance. An approved supervised experience in an approved agency, educational, or clinical setting, designed to develop individual and group counseling skills. Activities require the completion of a minimum of 300 clock hours of counseling and related services (120 of which are direct service client contact hours) and individual or triadic and group supervision by faculty.

CNSL 693 Internship 1: Substance Use and Addictions (3)
(For students seeking to pursue dual licensure as both a licensed clinical professional counselor and a licensed clinical alcohol and drug counselor.) Prerequisites: CNSL 691 and CNSL 692, departmental approval, and proof of individual professional counseling liability insurance. A practical, field-based supervised experience of 300 hours in an addiction counseling setting.

CNSL 694 Internship 2: Substance Use and Addictions (3)
(For students seeking to pursue dual licensure as both a licensed clinical professional counselor and a licensed clinical alcohol and drug counselor.) Prerequisites or corequisites: CNSL 693, departmental approval, and proof of individual professional counseling liability insurance. An approved practical, field-based supervised experience of 300 hours in an addiction counseling setting.

CNSL 696 Internship Bridge (1)
Prerequisites: Departmental approval and proof of individual professional counseling liability insurance. Continued supervised field work between the fall and spring semesters, as described in the Student Clinical Field Handbook, designed to facilitate the accrual of supervised hours to meet the required minimum of 600 clock hours of counseling and related services.

Cloud Computing Systems

Courses in cloud computing systems (designated CCS) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz or faster, at least 6GB of available disk space, and at least 16GB RAM (32GB recommended). Display devices should have a resolution of 1920 X 1080 or better (PCs) or 1440 X 900 Retina display (Mac).

CLCS 605 Introduction to Cloud Computing (3)
An introduction to the core concepts of cloud computing, including its service models (IaaS, PaaS, SaaS), deployment models (public, private, hybrid), and cloud architecture. The goal is to configure and manage cloud resources; understand cloud security and compliance; and evaluate major cloud providers such as AWS, Azure, and Google Cloud. Hands-on exercises are used to develop the skills needed to implement cloud solutions and make informed decisions for business needs. Students may receive credit for only one of the following courses: CLCS 605 or CCS 610.

CLCS 615 Cloud Services and Technologies (3)
A comprehensive exploration of cloud computing concepts, platforms, and technologies. Discussion covers the fundamental principles, benefits, and challenges associated with cloud-based solutions. Topics also include key cloud technologies such as cloud storage, networking, security, and databases. Hands-on exercises and experience with popular cloud platforms reinforce theoretical concepts and provide practice for real-world applications. Students may receive credit for only one of the following courses: CLCS 615 or CCS 610.

CLCS 625 Applications of Cloud Computing (3)
An exploration of the practical applications of cloud computing across various industries and domains. The aim is to leverage cloud solutions to solve complex business challenges. Hands-on projects provide insights into the benefits, challenges, and best practices associated with cloud adoption. Students may receive credit for only one of the following courses: CLCS 625 or CCS 625.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CLCS 635 Networking Engineering for Cloud Computing (3)
An exploration of networking concepts and practices essential for designing, deploying, and managing cloud-based environments. Discussion covers the fundamentals of cloud networking, including network design, configuration, and optimization in cloud environments. Topics also include network architecture, virtualization, software-defined networking (SDN), virtual private networks (VPNs), load balancing, network security, and hybrid cloud integration. Hands-on exercises provide practical experience in configuring and managing cloud networks, addressing performance and security challenges, and implementing best practices for scalable and resilient network infrastructures. Students may receive credit for only one of the following courses: CLCS 635 or CCS 625.

CLCS 645 Cloud Infrastructure Planning and Design (3)
A comprehensive exploration of the principles, methodologies, and best practices of planning and designing cloud-based infrastructure. Discussion covers the factors influencing cloud infrastructure decisions, including scalability, performance, cost-effectiveness, security, and reliability. Topics also include cloud architecture patterns, capacity planning, disaster recovery, and compliance frameworks. Hands-on exercises and experience with cloud infrastructure tools reinforce theoretical concepts and provide preparation for real-world challenges. Students may receive credit for only one of the following courses: CLCS 645 or CCS 630.

CLCS 655 Cloud Computing Implementation (3)
Prerequisite: CLCS 645. Development of the practical skills needed to deploy, configure, and manage cloud-based solutions. Real-world scenarios are used to master cloud service models, architecture design, security, and cost management. Hands-on labs and case studies provide practice in using major cloud platforms and tools to optimize cloud systems for performance, scalability, and cost-effectiveness. Students may receive credit for only one of the following courses: CLCS 655 or CCS 630.

CLCS 660 AI-Based Cloud Automation and Scripting (3)
Prerequisite: CLCS 645. A study of the automation of cloud infrastructure and processes using scripting languages. The objective is to leverage scripting to streamline tasks, improve efficiency, and reduce manual errors. Topics include popular scripting languages (e.g., Python, Bash), cloud APIs (application programming interfaces), AI, and automation tools. Hands-on labs provide practical experience in automating cloud resource provisioning, configuration management, and deployment pipelines. Students may receive credit for only one of the following courses: CLCS 660 or CCS 640.

CLCS 665 Cloud Computing Security, Risk, Mitigation, and Compliance (3)
Prerequisite: CLCS 645. An examination of critical aspects of securing cloud environments, mitigating risks, and ensuring compliance with industry regulations. Discussion covers the unique security challenges associated with cloud computing and effective strategies to address these challenges through risk management and compliance measures. Students may receive credit for only one of the following courses: CLCS 665 or CCS 640.

CLCS 685 Cloud Operations and Maintenance (3)
An in-depth exploration of cloud operations and maintenance, focusing on the skills and tools required to manage and optimize cloud-based infrastructure and services. The aim is to effectively monitor, maintain, and troubleshoot cloud environments to ensure optimal performance, reliability, and cost efficiency. Hands-on exercises and real-world scenarios provide practical experience in cloud operations and maintenance. Students may receive credit for only one of the following courses: CLCS 685 or CCS 670.

CLCS 686 Workplace Learning in Cloud Computing Systems (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CLCS 690 Cloud Computing Systems Capstone (3)
A hands-on, project-based capstone examination of cloud computing systems, designed to integrate and apply the knowledge, skills, and abilities acquired through previous study. The objective is to demonstrate proficiency in cloud architecture, deployment, security, automation, and operations. Assignments focus on projects that address real-world challenges and scenarios. Students may receive credit for only one of the following courses: CLCS 690 or CCS 670.

Community College Policy and Administration

CCPA 800A Foundations of Management (3)

A comprehensive foundation in the history of management and the structure and function of organizations. The objective is to develop a new way of understanding and managing operational and strategic issues in public and private organizations in the face of accelerating social, economic, and technological changes. Topics include organizational theory, strategic thinking and strategic management, theories of decision-making, leadership, organizational culture, and management in a postindustrial society. Emphasis is on using problem-solving, application, and evaluation skills to analyze the theories and practices of current and emerging organizational challenges and opportunities, critically assessing the ideas of others, and to defend one's own ideas through the application of scholarship. Students may receive credit for only one of the following courses: CCPA 800A or DMCC 800.

CCPA 800B Foundations of Management (3)

A comprehensive foundation in the history of management and the structure and function of organizations. The objective is to develop a new way of understanding and managing operational and strategic issues in public and private organizations in the face of accelerating social, economic, and technological changes. Topics include organizational theory, strategic thinking and strategic management, theories of decision-making, leadership, organizational culture, and management in a postindustrial society. Emphasis is on using problem-solving, application, and evaluation skills to analyze the theories and practices of current and emerging organizational challenges and opportunities, critically assessing the ideas of others, and to defend one's own ideas through the application of scholarship. Students may receive credit for only one of the following courses: CCPA 800B or DMCC 800.

CCPA 810A Leadership and Change (3)

A study of leadership not just for survival but for sustainability in environments where external pressure for change is the dominant feature. The objective is to examine change and leadership issues in varied industries and one's own organization by identifying and analyzing theories and concepts, assessing the applicability of classic works and current perspectives, testing ideas using case studies, and developing various scenarios and strategies. Topics include the knowledge and abilities, such as improvisation and reinvention, needed for managing change; the roles and skills needed at all levels for leading in new organizational models involving virtual teams; and the impact of change (particularly frequent change) on individuals and organizations. Emphasis is on recognizing the link between leadership, change, and organizational resilience and applying the lessons. Students may receive credit for only one of the following courses: CCPA 810A or DMCC 810.

CCPA 810B Leadership and Change (3)

A study of leadership not just for survival but for sustainability in environments where external pressure for change is the dominant feature. The objective is to examine change and leadership issues in varied industries and one's own organization by identifying and analyzing theories and concepts, assessing the applicability of classic works and current perspectives, testing ideas using case studies, and developing various scenarios and strategies. Topics include the knowledge and abilities, such as improvisation and reinvention, needed for managing change; the roles and skills needed at all levels for leading in new organizational models involving virtual teams; and the impact of change (particularly frequent change) on individuals and organizations. Emphasis is on recognizing the link between leadership, change, and organizational resilience and applying the lessons. Students may receive credit for only one of the following courses: CCPA 810B or DMCC 810.

CCPA 821A Higher Education Policy (3)

An examination of national, state, and local education policy formation and an analysis of the educational policy process, including antecedents, the framing of problems and solutions within policies, policy implementation, and policy consequences in the context of the community college environment. Topics may include the education ecosystem, external stakeholder relationships, educational outcomes, labor market–driven innovation and change, workforce education, organizational development, student-centric culture, and technology leadership. The goal is to develop key leadership competencies, including strategic planning, decision-making, resource management, communication, collaboration, and advocacy as they support effective policy development. Students may receive credit for only one of the following courses: CCPA 821A or DMCC 821.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CCPA 821B Higher Education Policy (3)
An examination of national, state, and local education policy formation and an analysis of the educational policy process, including antecedents, the framing of problems and solutions within policies, policy implementation, and policy consequences in the context of the community college environment. Topics may include the education ecosystem, external stakeholder relationships, educational outcomes, labor market–driven innovation and change, workforce education, organizational development, student-centric culture, and technology leadership. The goal is to develop key leadership competencies, including strategic planning, decision-making, resource management, communication, collaboration, and advocacy as they support effective policy development. Students may receive credit for only one of the following courses: CCPA 821B or DMCC 821.

CCPA 830A Research Methods (3)
An applied study of how to design, interpret, and critique both quantitative and qualitative research. The application of methods grounded in the philosophy of science provides a solid foundation that supports the identification and analysis of researchable questions and includes one qualitative and one quantitative methodology. Assignments include short analyses representative of the different methodological traditions. Students may receive credit for only one of the following courses: CCPA 830A or DMCC 830.

CCPA 830B Research Methods (3)
Prerequisite: CCPA 830A. An applied study of how to design, interpret, and critique both quantitative and qualitative research. The application of methods grounded in the philosophy of science provides a solid foundation that supports the identification and analysis of researchable questions and includes one qualitative and one quantitative methodology. Assignments include short analyses representative of the different methodological traditions. Students may receive credit for only one of the following courses: CCPA 830B or DMCC 830.

CCPA 841A Institutional Assessment in the Community College Environment (3)
An exploration of the criteria, indicators, and processes by which institutions define and evaluate their effectiveness and use data to improve the quality of programs and services. Emphasis is on the assessment of student learning outcomes, measurement of student success (e.g., progress through developmental courses, persistence, transfer, and graduation), program evaluations, and the role of regional accreditation. Topics include ways in which community college leaders can engage in a broad array of organizational and administrative activities to build cultures of evidence. Students may receive credit for only one of the following courses: CCPA 841A or DMCC 841.

CCPA 841B Institutional Assessment in the Community College Environment (3)
An exploration of the criteria, indicators, and processes by which institutions define and evaluate their effectiveness and use data to improve the quality of programs and services. Emphasis is on the assessment of student learning outcomes, measurement of student success (e.g., progress through developmental courses, persistence, transfer, and graduation), program evaluations, and the role of regional accreditation. Topics include ways in which community college leaders can engage in a broad array of organizational and administrative activities to build cultures of evidence. Students may receive credit for only one of the following courses: CCPA 841B or DMCC 841.

CCPA 851A Community College Advocacy, Resource Development, and Strategic Allocation (3)
An exploration of the process by which community college leaders advocate for their students and organization in the face of the challenges and opportunities in higher education today and the skills needed for successful advocacy. Topics include the use of argumentation, data, and presentation skills to develop and effectively present cases for support at local, state, and federal levels. Discussion covers the world of community college fundraising and the potential of entrepreneurial ventures to help close the funding gap. Both sides of the finance equation, including resource development and strategic allocation, are explored in depth. The goal is to develop an understanding of community college revenue sources (state funds, local funds, tuition, and other); define the role of entrepreneurship, philanthropy, and bonds in expanding college revenue; and apply financial analytics to define a healthy institution. Focus is on developing the skills to advocate and find support for equity and student success, building a capacity to allocate college resources to improve equitable student outcomes, and understanding that the budget as a moral document for the college. Students may receive credit for only one of the following courses: CCPA 851A or DMCC 851.

TABLE OF CONTENTS
INDEX

CCPA 851B Community College Advocacy, Resource Development, and Strategic Allocation (3)
An exploration of the process by which community college leaders advocate for their students and organization in the face of the challenges and opportunities in higher education today and the skills needed for successful advocacy. Topics include the use of argumentation, data, and presentation skills to develop and effectively present cases for support at local, state, and federal levels. Discussion covers the world of community college fundraising and the potential of entrepreneurial ventures to help close the funding gap. Both sides of the finance equation, including resource development and strategic allocation, are explored in depth. The goal is to develop an understanding of community college revenue sources (state funds, local funds, tuition, and other); define the role of entrepreneurship, philanthropy, and bonds in expanding college revenue; and apply financial analytics to define a healthy institution. Focus is on developing the skills to advocate and find support for equity and student success, building a capacity to allocate college resources to improve equitable student outcomes, and understanding that the budget as a moral document for the college. Students may receive credit for only one of the following courses: CCPA 851B or DMCC 851.

CCPA 861A Special Topics in Policy and Administration (3)
A survey of significant topics in community college policy and administration. The aim is to explore the history and modern mission of community colleges as engines of equity and economic mobility; the structure of community college systems across the United States; and key differences in governance, funding, and centralization of authority. Topics include the development of the student success movement, state and national issues, and the critical role of governance and governing boards in effective management. Emphasis is on developing an understanding of principles of good governance (e.g., policy governance, the board-CEO relationship, board stewardship and education, rogue board members, and other governance issues) and the ability to lead with board support.

CCPA 861B Special Topics in Policy and Administration (3)
A survey of significant topics in community college policy and administration. The aim is to explore the history and modern mission of community colleges as engines of equity and economic mobility; the structure of community college systems across the United States; and key differences in governance, funding, and centralization of authority. Topics include the development of the student success movement, state and national issues, and the critical role of governance and governing boards in effective management. Emphasis is on developing an understanding of principles of good governance (e.g., policy governance, the board-CEO relationship, board stewardship and education, rogue board members, and other governance issues) and the ability to lead with board support.

CCPA 880 Independent Doctoral Study (3)
Prerequisite: Permission of the department. Supervised doctoral study of policy and administration topics. May be repeated to a maximum of 12 credits.

CCPA 890 Dissertation Part I (3)
The identification and refinement of the dissertation topic. The objective is to research questions relevant to the chosen topic, conduct a review of the literature on that topic, and develop a conceptual model and associated hypotheses. Students may receive credit for only one of the following courses: CCPA 890 or DMCC 890.

CCPA 891 Dissertation Part II (3)
The identification of an appropriate dissertation methodology. The goal is to select the research methodology that will be utilized to evaluate the dissertation's conceptual model and hypotheses. The dissertation proposal is defended. Students may receive credit for only one of the following courses: CCPA 891 or DMCC 891.

CCPA 892 Dissertation Part III (3)
Development of dissertation content. The aim is to identify appropriate sources of data, collect and analyze the data in the context of the chosen methodology, and draw conclusions regarding the conceptual model and associated hypotheses. Students may receive credit for only one of the following courses: CCPA 892 or DMCC 892.

CCPA 893 Dissertation Part IV (3)
Finalization of dissertation content. The objective is to revise and complete the dissertation. Steps covered include developing all necessary supplemental materials, proofing and formatting the dissertation, and gaining faculty approval for final submission and final defense.

CCPA 899 Continuing Doctoral Matriculation (1)
Continued dissertation work.

Criminal Justice Management

CJMS 600 Critical Analysis of the Criminal Justice System (3)
An analysis of the U.S. criminal justice system. Topics include the role of criminal justice agencies and personnel in the prevention and response to crime and interagency cooperation and coalition building from a manager's perspective.

CJMS 610 Perspectives in Law Enforcement Management (3)
A study of law-enforcement philosophies and techniques to reduce crime commonly applied at the organizational level. Topics include the politics of policing, police/community relations, police research, professionalization of personnel, and emerging problems in policing from a domestic and international perspective.

CJMS 620 Issues in Correctional Administration (3)
Prerequisites: CJMS 600 and CJMS 610. An in-depth study of current challenges for managers in correctional environments. Topics include the privatization of corrections, intelligence sharing, re-entry and community corrections, security threat groups, assessment techniques and empirical evaluations of treatment methods, special populations, growth rates, the political environment, and interagency and community cooperation.

CJMS 630 Seminar in Security Management (3)
Prerequisites: CJMS 600 and CJMS 610. A study of the management of security operations within a private setting. Discussion covers vulnerability assessment; emergency planning; interagency cooperation; threat assessment; use of technology; and information gathering, sharing, and storing. Topics also include personnel management, budgeting, reporting requirements, and current trends.

CJMS 640 Criminal Justice Intelligence Systems and Approaches (3)
Prerequisites: CJMS 600 and CJMS 610. An in-depth examination of the principles that guide the gathering and sharing of intelligence in the United States. Emphasis is on the interoperability between crime-fighting agencies within the criminal justice system. Topics include analytic methodologies, interview and interrogation techniques, open-source and proprietary data sources, criminal organization analysis, criminal conspiracy, enterprise theory, trial testimony, and witness protection.

CJMS 650 Legal Aspects within the Criminal Justice System (3)
Prerequisites: CJMS 600 and CJMS 610. An introduction to the impact of constitutional and criminal law on managerial responsibilities within the criminal justice system. Topics include pivotal historic and current legal cases and their application to methods of prevention, as well as reaction to crime in the United States.

CJMS 660 Issues in Criminal Justice Leadership (3)
Prerequisite: 30 credits of program coursework, including all core and concentration courses except MGMT 670. A discussion of case studies involving successful leaders in the criminal justice system. Analysis covers the various characteristics and leadership styles that have proven most effective in the profession. Various theories, models, historical examples, and practical applications are reviewed. Senior criminal justice leaders discuss issues via videoconferencing. Topics include ethics and virtue in criminal justice; navigating the political environment (e.g., being politically savvy without being political); staff development; and labor relations, media relations, and working effectively with various advocacy groups.

Cyber Operations

Courses in cyber operations (designated COP) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz or faster, at least 6GB of available disk space, and at least 16GB RAM (32GB recommended). Display devices should have a resolution of 1920 X 1080 or better (PCs) or 1440 X 900 retina display (Mac).

CYOP 605 Introduction to Cyber Operations (3)
A hands-on introduction to the strategies, principles, and technologies essential to defending modern networks and information systems. The objective is to evaluate and maintain systems that are resilient and trustworthy in a dynamic threat landscape and to meet specific mission security objectives. An overview of cyber defense is provided. Topics include fundamental principles of cybersecurity and vulnerabilities and risk management of information systems. Students may receive credit for only one of the following courses: COP 610 or CYOP 605.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CYOP 615 Networking and Communication Technologies

An in-depth exploration of the concepts, techniques, and tools required to design, secure, and manage complex networks and cloud infrastructures. The objective is to evaluate how networks function at the infrastructure, network, and application layers. Unique security considerations, such as vulnerabilities, encryption, and cloud workload deployment, are examined across multiple network environments. Topics include the protocols that enable communication and data transfer, networking, cellular and mobile technologies, wireless security, cloud security, and cloud computing. Students may receive credit for only one of the following courses: COP 610 or CYOP 615.

CYOP 625 Legal, Ethical, and Forensic Foundations (3)

A hands-on, project-based exploration of the legal and ethical frameworks for conducting all aspects of cyber operations. The objective is to demonstrate a deep understanding of the legal frameworks and ethical guardrails governing cyber activities and participate in ethical hacking activities and digital forensics and cyber investigation. Discussion covers the processes for identifying and recovering forensic artifacts left by cyberattacks and the ways systems and applications can be subverted. Topics also include the legal and ethical foundations of cyber operations and digital forensics. Students may receive credit for only one of the following courses: COP 620 or CYOP 625.

CYOP 635 Computing and Mathematics for Cyber Operations (3)

A hands-on, practical study of the computing and mathematical concepts that support the technical aspects of cybersecurity. The objective is to demonstrate the practical skills and abilities needed to solve difficult problems in cybersecurity and systems programming, address advanced cybersecurity challenges, and contribute to the secure development and maintenance of complex computing environments. Topics include low-level programming languages, operating system theory, discrete math and algorithms, and applied cryptography. Students may receive credit for only one of the following courses: COP 620 or CYOP 635.

CYOP 645 Software Exploitation and Resiliency (3)

Prerequisite: CYOP 635. A hands-on, project-based exploration of the techniques, tools, and industry best practices associated with designing, developing, and testing software. The objective is to write and analyze software, using processes that maintain the confidentiality, integrity, and availability of an application or system. Focus is on creating resilient software that withstands modern cyberattacks and threats and analyzing malware. Topics include software security analysis, software secure development, and software reverse engineering. Students may receive credit for only one of the following courses: COP 630 or CYOP 645.

CYOP 655 AI-Enabled Cyber Operations (3)

A hands-on introduction to the integration of artificial intelligence (AI) in cyber operations to enhance both defensive and offensive cybersecurity processes. The aim is to demonstrate expertise in using AI tools and techniques to identify vulnerabilities, analyze threats, and mitigate risks. Discussion covers the technical, ethical, and legal dimensions of AI-driven cybersecurity, including the automation of threat detection, response, and anomaly analysis within a security operations center (SOC) environment. Emphasis is on the development of practical skills in implementing secure network protocols; conducting compliance checks; and utilizing AI to automate tasks, such as log analysis, threat intelligence, and risk management. Topics also include the impact of AI on cyber threat intelligence; vulnerability identification; and the development of offensive and defensive tactics, techniques, and procedures (TTPs), as well as the implications of cloud computing environments on AI-enabled cyber operations. Students may receive credit for only one of the following courses: COP 630 or CYOP 655.

CYOP 660 Cyber Threat Hunting (3)

A hands-on, project-based study of best practices in cyber threat hunting, including processes and automation, and their implementation. Emphasis is on using industry-leading tools and techniques to detect, analyze, and mitigate cyber threats in real time. The objective is to proactively seek out and identify, analyze, and respond to cybersecurity threats. Topics include threat hunting identification and detection, endpoint detection and response (EDR), live system analysis, cloud environment threat hunting, behavioral analytics and anomaly detection, threat intelligence, and advanced persistent threats. Students may receive credit for only one of the following courses: COP 640 or CYOP 660.

CYOP 665 Advanced Penetration Testing (3)

A hands-on, comprehensive study of penetration testing, focusing on red team tools and techniques to identify and exploit application and network vulnerabilities. Emphasis is on developing advanced skills in bypassing modern security controls and evading detection mechanisms used by sophisticated defensive tools. The objective is to demonstrate offensive abilities across multiple computing environments through a variety of attack techniques and strategies. Topics include adversary tactics and techniques, adversary emulation, red team planning and reporting, web application attacks, cloud services and attacks, containers and CI/CD pipelines, and password attacks. Students may receive credit for only one of the following courses: COP 640 or CYOP 665.

CYOP 685 Industrial Control Systems and Devices (3)
An intensive hands-on exploration of industrial control systems (ICS) security, focusing on the unique challenges and requirements for safeguarding key U.S. critical infrastructure sectors. The goal is to detect, respond to, and mitigate cyber incidents in ICS environments using appropriate tools and methodologies. Discussion covers the architecture, components, and functionalities of ICS—including supervisory control and data acquisition (SCADA) systems and distributed control systems (DCS)—and how to protect these systems from cyberattacks. Topics also include network discovery, asset identification, risk assessment and mitigation, vulnerability analysis, telemetry and feedback control data, forensics analysis, and red team/blue team capture-the-flag exercises.

CYOP 686 Workplace Learning in Cyber Operations (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CYOP 690 Cyber Operations Capstone (3)
Prerequisite: 24 credits of program coursework, including all core courses. A comprehensive, hands-on capstone exploration of the principles and practices of cyberspace operations, focusing on offensive and defensive strategies. Emphasis is on refining the skills necessary to design, evaluate, and defend modern cyber environments and complex systems in the ever-evolving landscape of cybersecurity. Topics include offensive cyber operations, virtualization, industrial control systems, and user experience (UX)/human computer interface (HCI) security. Students may receive credit for only one of the following courses: COP 670 or CYOP 690.

Cybersecurity Management and Policy

CMAP 605 Foundations of Cybersecurity Management (3)
A foundation in the skills necessary to effectively lead and manage cybersecurity initiatives within an organization and an exploration of essential cybersecurity principles and industry best practices. Topics include assessing risk, using security controls, creating and enforcing cybersecurity policies, developing contingency plans (such as disaster recovery plans and incident response plans), and ensuring business continuity in the face of security incidents. The latest cybersecurity threats, emerging trends, and the legal considerations surrounding cybersecurity management are reviewed. Students may receive credit for only one of the following courses: CMAP 605 or CMP 610.

CMAP 615 Cybersecurity Defense Strategies (3)
An overview of effective cybersecurity strategies to defend against a wide range of cyber threats, vulnerabilities, and attack vectors. Activities include hands-on exercises and review of case studies by subject matter experts. The development of policies for cybersecurity defense is introduced. Discussion covers theoretical concepts for cybersecurity defense and the skills needed to safeguard data, systems, privacy, and networks in today's dynamic digital landscape. Students may receive credit for only one of the following courses: CMAP 615 or CMP 610.

CMAP 625 Cybersecurity Risk Management (3)
An in-depth exploration and application of the skills needed to implement the NIST Risk Management Framework (RMF) in an organization. The major steps of the RMF—prepare, categorize, select, implement, assess, authorize, and monitor—are studied and applied. Hands-on, project-based case studies are used to simulate scenarios for each RMF step. Discussion covers how to conduct a mock risk assessment of a fictitious organization and create a Plan of Action and Milestones (POA&M) for the organization. Students may receive credit for only one of the following courses: CMAP 625 or CMP 630.

CMAP 635 Cybersecurity Governance (3)
A comprehensive study of the essential principles and practices needed for building and leading a robust cybersecurity organization. Discussion covers the development of proactive strategies to safeguard critical assets of an organization and ensure the overall security of an organization. The skills needed for cybersecurity governance, including risk assessment, policy development, compliance management, and contingency planning, are examined in depth. Activities include a hands-on, project-based exploration of different cybersecurity governance scenarios for an organization. Students may receive credit for only one of the following courses: CMAP 635 or CMP 620.

CMAP 645 Law Regulation and Compliance (3)
An overview of laws, regulations, and compliance requirements related to cybersecurity. Discussion covers data protection, laws, regulations, privacy, intellectual property, and compliance. Activities include hands-on, project-based case studies related to laws, regulations, and compliance requirements for organizations in various industries. Students may receive credit for only one of the following courses: CMAP 645 or CMP 620.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

CMAP 655 Human Factors in Cybersecurity (3)
An overview of the impact of human behavior, cognition, and psychology on cybersecurity. Discussion covers how human errors, social engineering, and biases can affect cybersecurity measures. Topics also include review of user-centric design, security awareness, and training to create a robust cybersecurity posture that considers human factors for organizations. Activities include hands-on, project-based case studies related to human-factor scenarios and designed to develop strategies and policies to combat cybersecurity breaches. Students may receive credit for only one of the following courses: CMAP 655 or CMP 640.

CMAP 660 Organizational Resilience (3)
An in-depth exploration and application of cybersecurity contingency planning in an organization. The business impact of cybersecurity events on an organization is analyzed. Activities include hands-on, project-based case studies for the development of incident response plans, disaster recovery plans, and business continuity plans for an organization. Discussion covers various methods to back up data and the utilization of various tools for organizational cybersecurity resilience. Students may receive credit for only one of the following courses: CMAP 660 or CMP 630.

CMAP 665 Cybersecurity Policy Management (3)
A comprehensive study of the development, implementation, and enforcement of effective cybersecurity policies to safeguard organizations from evolving cyber threats. Hands-on projects are used to examine the development of policies related to risk assessment, data protection, incident response, and policy enforcement to create a secure digital environment. Discussion also covers the design and management of cybersecurity policies that safeguard organizations from cybersecurity threats and that foster a secure digital environment. Students may receive credit for only one of the following courses: CMAP 665 or CMP 640.

CMAP 685 Enterprise Cybersecurity (3)
A comprehensive project-based examination of cybersecurity on an enterprise level. Topics include information technology cybersecurity; operational technology cybersecurity; physical security; global operations; and legal, regulatory, and compliance issues related to an organization. Strategic initiatives for enterprise-level security are also explored and applied. Hands-on group and individual projects that simulate enterprise-level security issues are used to explore the knowledge and skills needed to safeguard an enterprise from evolving cyber threats. Students may receive credit for only one of the following courses: CMAP 685 or CYB 670.

CMAP 686 Workplace Learning in Cybersecurity Management and Policy (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CMAP 690 Cyber Management and Policy Capstone (3)
Prerequisite: Completion of 24 credits of program coursework, including all core courses. An advanced comprehensive study of the design, development, and implementation of simulated real-world cybersecurity projects. Cybersecurity skills are demonstrated through case studies and simulations that require resolving complex cybersecurity challenges, conducting risk assessments, devising cybersecurity strategies, and presenting findings. Students may receive credit for only one of the following courses: CMAP 690 or CYB 670.

Cybersecurity Technology

CTCH 605 Introduction to Cybersecurity (3)
A study of the basics of cybersecurity and the application of cyber methodologies to cyber architectures, services, protocols, algorithms, software components, and programming languages. Focus is on becoming familiar with the important roles that security management, security architecture, operations security, and physical security play in cybersecurity. Discussion covers the impact of cyberterrorism and national security on cybersecurity. Activities include hands-on, real-world experience with state-of-the-art tools and technologies in a lab-intensive environment. Students may receive credit for only one of the following courses: CST 610 or CTCH 605.

CTCH 615 Cybersecurity Threats and Analysis (3)
An introduction to tools and tactics used to manage cybersecurity threats, identify various types of common threats, analyze organizational exposure to threats, and collect and analyze cybersecurity intelligence. The goal is to analyze common security failures and identify specific design principles that have been violated. Emphasis is on the interaction between security and system usability and the importance of minimizing the potential for harm by modern threats, attacks, and usability challenges. Students may receive credit for only one of the following courses: CST 610 or CTCH 615.

TABLE OF CONTENTS
INDEX

CTCH 625 Cybersecurity for Systems and Networks (3)
A study of key security issues and procedures in systems and networks. The objective is to identify security issues within LANs, WANs, and network operating systems; identify system threats and network infrastructure design weaknesses; determine security flaws in the network infrastructure protocols; and explain the security of data at rest in systems. Topics include modern systems and network hardening tools, techniques, and practices. Students may receive credit for only one of the following courses: CST 620 or CTCH 625.

CTCH 635 Cybersecurity Attack Prevention Strategies (3)
A comprehensive study of targeted cyberattacks, including advanced persistent threats. The aim is to plan and prepare for, respond to, and recover from targeted cyberattacks. Focus is on the phases of targeted cyberattacks and methods used by attackers during each phase. Topics include cyberattack prevention, mitigation, and response. Students may receive credit for only one of the following courses: CST 620 or CTCH 635.

CTCH 645 Cybersecurity Exploitation Methodologies (3)
A comprehensive study of cyber exploitation methodologies. The objective is to identify the latest tools, techniques, and ethical hacking practices. Emphasis is on applying state-of-the-art tools and technologies in a lab-intensive environment that provides hands-on, real-world experience. Students may receive credit for only one of the following courses: CST 630 or CTCH 645.

CTCH 655 Cybersecurity Auditing and Monitoring Systems (3)
A study and application of technological solutions that identify, catalog, and triage cyberattacks. Topics include host-based monitoring, auditing, network intrusion detection and prevention, and report generation tools. Focus is on using state-of-the-art tools and technologies in a lab-intensive environment that provides hands-on, real-world experience. Students may receive credit for only one of the following courses: CST 630 or CTCH 655.

CTCH 660 Cybersecurity Attack Incident and Artifact Gathering (3)
The development of the skills needed to conduct incident response investigations. The objective is to apply a dynamic incident response process to evolving cyber threats and develop threat intelligence to mount effective defense strategies. Ways that attackers scan, exploit, pivot, and establish persistence in the cloud and conventional systems are evaluated. Emphasis is on understanding how to respond to incidents at a high level and on building important technical skills through hands-on labs and projects. Topics include what happens at each phase of incident response, as well as memory, networks, host analysis, and forensics. Students may receive credit for only one of the following courses: CST 640 or CTCH 660.

CTCH 665 Digital Forensics and Incident Response (3)
A detailed exploration of the tools and technologies commonly used in forensic examinations best practices. Topics include procedures for securing and validating evidence, including digital media and physical memory, and for recovering artifacts and analyzing, reporting, and presenting results in both criminal and civil situations. Experience with mobile forensic analysis is provided. Students may receive credit for only one of the following courses: CST 640 or CTCH 665.

CTCH 675 Cybersecurity Pedagogy (3)
Prerequisites: CTCH 605, CTCH 615, CTCH 625, and CTCH 645. A comprehensive study of pedagogical methods for teaching cybersecurity, with an emphasis on addressing workforce shortages. Discussion covers cybersecurity education frameworks, learning theories, instructional technologies, and assessment strategies. Topics also include cybersecurity curricula, risk management, trust, data security, and system security. Hands-on teaching methods, such as cyber ranges, competitions, and unplugged activities, are explored to enhance engagement and learning outcomes.

CTCH 685 Software Security (3)
A comprehensive evaluation of software security vulnerabilities and threats in software exploitations. Topics include buffer overflows, SQL injection, and session hijacking. Focus is on developing defensive methodologies, including the use of advanced testing and program analysis techniques, to prevent or mitigate these attacks.

CTCH 686 Workplace Learning in Cybersecurity Technology (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

CTCH 690 Cybersecurity Technology Capstone (3)
Prerequisite: Completion of 24 credits of program coursework, including all core courses. A comprehensive evaluation of issues in cybersecurity technology. Topics include enterprise risk management, vulnerability assessment, threat analysis, crisis management, security architecture, security models, security policy development and implementation, security compliance, information privacy, identity management, incident response, disaster recovery, and business continuity planning, particularly in the health, banking, and finance sectors. Students may receive credit for only one of the following courses: CTCH 690 or CYB 670.

Data Analytics

DATA 605 Decision Analytics (3)

A project-driven study of the processes and technology designed to enhance data-driven decision-making, integrating artificial intelligence with human decision-making. The goal is to apply creative methods to ask better questions, identify core problems, develop models, interpret results, and convey findings to various audiences. Topics include the use of commercial software to manage, analyze, and report on data and create actionable insights across a range of contexts, including societal, business, political, intelligence, healthcare, and media/entertainment. Discussions explore best practices for the long-term success of an analytics project in terms of project management and communications, with an emphasis on the analytics life cycle.

DATA 615 AI Ethics (3)

An overview of current ethical issues in artificial intelligence (AI) and data science arising throughout the analytics life cycle. The goal is to create ethically driven and responsible AI solutions that enhance human problem-solving and decision-making, identify the sources of bias and discrimination in machine learning, and build models that promote trust in data. Topics include established and emerging guiding principles for AI ethics, such as explainability, fairness, robustness, transparency, accountability, inclusiveness, and privacy.

DATA 625 Data Visualization (3)

A project-based exploration of the concepts and techniques used in data manipulation, organization, and visualization. The goal is to create informative visualizations depending on the nature of the data and the objectives of analysis. Topics include data types; data dimensionalities, such as time-series and geospatial data; and best practices in scripting and data visualization for formatting and presenting usable, consumable, and actionable data that ensure data integrity standards. Industry standards software tools are followed for project development. Students may receive credit for only one of the following courses: DATA 620 or DATA 625.

DATA 635 Data Management (3)

A project-based study of the concepts, principles, and techniques of managing data throughout its life cycle for effective data-driven decision-making. The aim is to apply best practices for data design, data integrity, data quality, and data governance. Topics include SQL and NoSQL; distributed and cloud databases; data lakes and data warehousing; extract, transform, and load (ETL) processing; and metadata management. Students may receive credit for only one of the following courses: DATA 620 or DATA 635.

DATA 645 Machine Learning (3)

A project-based study of the fundamental concepts and algorithms of machine learning. The aim is to evaluate different algorithms and methods and build models that learn from past data to find underlying patterns useful for prediction, classification, and exploratory data analysis and that can be applied to make informed business decisions. Topics include supervised and unsupervised machine-learning techniques, Naïve Bayes classifiers, regression, decision trees, and cluster analysis. Discussion explores significant tasks in real-world applications, including handling missing data, evaluating classifiers, and measuring precision. Major software tools are used to apply machine-learning methods in a wide range of domains, such as healthcare, finance, marketing, and government. Students may receive credit for only one of the following courses: DATA 630 or DATA 645.

DATA 655 Deep Learning and Neural Networks (3)

Prerequisite: DATA 645. A practical exploration of the fundamental concepts, architectures, and applications of deep learning in the field of artificial intelligence. The goal is to develop deep learning models and apply them to solve real-world problems in a wide range of domains, such as healthcare, finance, marketing, and cybersecurity. Topics include backpropagation, convolutional networks, recurrent networks, and generative adversarial networks, and their applications.

DATA 660 Advanced Topics in Machine Learning (3)

Prerequisite: DATA 645. A project-based study of advanced concepts in predictive modeling and techniques to discover patterns in data. The aim is to identify variables with the most predictive power and to develop, assess, compare, and explain complex predictive models. Topics include advanced statistical and machine learning algorithms, support vector machines (SVMs), ensemble models, and reinforcement learning. Discussion explores high-performance modeling and best practices for selecting methods and tools to explore large data sets using industry-standard software and cloud applications, such as Apache Spark ML, Amazon Kinesis, and Google BigQuery.

DATA 665 AI Applications (3)

Prerequisite or corequisite: DATA 655. A comprehensive overview of artificial intelligence with a specific focus on natural language processing (NLP), computer vision, recommender systems, and anomaly detection. The aim is to develop AI applications relevant to real-world scenarios in multiple disciplines and domains. Topics include text and image classification, sentiment analysis, natural language and image generation, and content-based filtering. Discussions explore fraud detection, network intrusion detection, and system health monitoring.

TABLE OF CONTENTS
INDEX

DATA 675 Specialization Project (3)
Prerequisite: DATA 645. An in-depth exploration and application of data science techniques and methodologies to solve complex problems and answer research questions within a specialization. The objective is to conduct a detailed research analysis of the nature and types of data within a selected domain, identify a problem addressing specific challenges or opportunities related to data science, and develop the main stages of a data project. Topics include AutoML, model evaluation, results interpretation, and recommendations. Projects are sourced from various sectors, including finance, marketing, supply chain management, cybersecurity, healthcare, medicine, pharmaceuticals, environmental management, and government, as well as any other domain that aligns with the chosen specialization and research interests.

DATA 686 Workplace Learning in Data Analytics (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

DATA 690 Data Analytics Capstone (3)
Prerequisites: 24 credits of program coursework, including all core courses. Completion of a major analytics project designed to integrate knowledge and skills gained from previous coursework and provide a complete analytics experience, including problem scoping (framing), data set preparation, comprehensive data analysis and visualization, and predictive model development. Activities include several peer-reviewed presentations to enhance the ability to "tell the story" and explain project approach and results. Projects are selected from student organizations, special government agency requests, or other faculty-approved sources and culminate in a complete analytics report and presentation.

Database Systems Technology

DBST 651 Relational Database Systems (3)
An introduction to relational databases, one of the most pervasive technologies today. Presentation covers fundamental concepts necessary for the design, use, and implementation of relational database systems. Focus is on basic concepts of database modeling and design, the languages and facilities provided by database management systems, and techniques for implementing relational database systems. Topics include implementation concepts and techniques for database design, query optimization, concurrency control, recovery, and integrity. A foundation for managing databases in important environments is provided. Assignments require use of a remote access laboratory.

DBST 652 Advanced Relational/Object-Relational Database Systems (3)
Prerequisite: DBST 651. A continuation of the study of relational database systems, exploring advanced concepts. Topics include logical design, physical design, performance, architecture, data distribution, and data sharing in relational databases. The concepts of object-relational design and implementation are introduced and developed. Assignments require the use of a remote access laboratory.

DBST 660 Advanced Data Modeling (3)
Prerequisite: DBST 651. An introduction to fundamental concepts and techniques for successfully designing databases for structured and unstructured data. Topics include database quality techniques and relational, dimensional, and NoSQL modeling, as well as best practices for selecting methods and modeling tools to design the database models (relational, dimensional, wide column, document, and graph/RDF). Assignments require the use of a remote access laboratory.

DBST 663 Distributed Database Management Systems (3)
Prerequisite: DBST 651. An introduction to the development of distributed database management, focusing on concepts and technical issues. Survey covers distributed database management systems, including architecture, distributed database design, query processing and optimization, distributed transaction management and concurrency control, distributed and heterogeneous object management systems, and database inoperability.

TABLE OF CONTENTS
INDEX

DBST 665 Data Warehouse Technologies (3)
Prerequisite: DBST 651. An introduction to the technology approaches for successfully designing and implementing a data warehouse for structured and unstructured data. Topics include data modeling techniques; extraction, transformation, and loading of data; performance challenges; and system tradeoffs in the development of the warehouse environment. Assignments require use of a remote access laboratory.

DBST 667 Data Mining (3)
Prerequisite: DBST 651. An overview of the data mining component of the knowledge discovery process. Data mining applications are introduced, and algorithms and techniques useful for solving different problems are identified. Topics include the application of well-known statistical, machine learning, and database algorithms, including decision trees, similarity measures, regression, Bayes theorem, nearest neighbor, neural networks, and genetic algorithms. Discussion also covers researching data mining applications and integrating data mining with data warehouses.

DBST 668 Database Security (3)
Prerequisite: DBST 651. An overview of both the theory of and applications for providing effective security in database management systems. Topics include conceptual frameworks for discretionary and mandatory access control, data integrity, availability and performance, secure database design, data aggregation, data inference, secure concurrency control, and secure transactions processing. Models for multilevel secure databases for both relational and object-relational databases are analyzed. Assignments focus on database security concepts and require use of a remote access laboratory.

DBST 670 Database Systems Technology Capstone (3)
Prerequisites: 30 credits of program coursework, including all core courses. An introduction to the knowledge, skills, and tools needed to successfully administer operational database systems. The conceptual and operational tools for analysis and resolution of problems such as performance, recovery, design, and technical issues are provided. Tools used to assist in the administration process are also included.

Decisive Communication and Leadership

DCL 600M Decisive Thinking, Communicating, and Leading in Multidisciplinary Fields (6)
(Applicable to the Acquisition and Contract Management and Transformational Leadership programs.) Prepare for academic and professional success by developing skills that employers want in their employees. Explore your area of study to learn how it connects with your career aspirations, create a professional social network presence, and use critical thinking to inform decisions. Improve and refine your skills in communication, critical thinking, quantitative reasoning, and team leadership. Hone your professional writing and oral communication skills to produce effective presentations, and become proficient with spreadsheets, collaboration tools, and other professional software. Students may receive credit for only one of the following courses: CBR 600, DCL 600M, DCL 600T, or PRO 600.

Digital Forensics and Cyber Investigation

Courses in digital forensics and cyber investigation (designated DFCS) have higher computing requirements than the minimum technical requirements stated on p. 26. They require an Intel Core i7 processor or higher, with speeds of 2GHz or faster, at least 6GB of available disk space, and at least 16GB RAM (32GB recommended). Display devices should have a resolution of 1920 X 1080 or better (PCs) or 1440 X 900 retina display (Mac).

DFCS 605 Digital Forensics and Cyber Investigation Foundations (3)
A project-based introduction to digital forensics and cyber investigation supporting the collection, examination, analysis, and reporting of incidents and cybercrimes. The objective is to participate in data and evidence processing while preserving the integrity of the information and maintaining a strict chain of custody. Topics include online evidence collection, incident response, legal frameworks, cyberattack investigation, and specialized tools and methodologies used in cyber investigations. Students may receive credit for only one of the following courses: DFC 610 or DFCS 605.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

DFCS 615 Collection and Examination of Digital Evidence (3)
A hands-on introduction to the data collection and examination phases associated with digital evidence processing. The objective is to identify data, create and analyze forensic images, and use appropriate tools and techniques to support a cybercrime investigation. Topics include data extraction from computer and file systems, mobile phones, storage media, and electronic documents; securing digital evidence; and root cause analysis. Students may receive credit for only one of the following courses: DFC 610 or DFCS 615.

DFCS 625 Windows Forensics and Security (3)
A hands-on examination of the tools, procedures, techniques, and data associated with an incident response or cyber investigation on a Windows system. The objective is to use appropriate forensic tools to recover, preserve, and analyze data while identifying threats and improving the security posture and policies of an organization. Topics include Windows operating systems; Windows file systems; forensic tools and techniques; registry, email, and browser forensics; Windows logs; and anti-forensics techniques. Students may receive credit for only one of the following courses: DFC 620 or DFCS 625.

DFCS 635 Linux Forensics and Security (3)
A project-based study on how to identify, analyze, and respond to attacks on Linux-based operating systems. The objective is to build forensic analysis and incident response skills through the use of tools to discover evidence of advanced persistent threats and other attacks. Topics include intrusion detection/intrusion prevention, log aggregation and analysis, virtualization, O/S hardening, penetration testing, and Linux file systems. Students may receive credit for only one of the following courses: DFC 620 or DFCS 635.

DFCS 645 Cloud and Network Forensics (3)
A hands-on examination of the tools and procedures associated with conducting a forensic analysis of network or cloud network incidents. The objective is to collect, examine, and preserve digital evidence and artifacts associated with a network-based cyberattack or incident. Topics include forensic tools and techniques, network monitoring and defense, incident response, intrusion detection/prevention systems, log analysis, cloud computing, and cryptography. Students may receive credit for only one of the following courses: DFC 630 or DFCS 645.

DFCS 655 Advanced Log Analysis (3)
A lab-based, hands-on study of the tools and processes used to efficiently extract, arrange, analyze, and manage log files from a variety of applications, devices, and systems. The goal is to process and examine log files to identify tactics, techniques, and procedures used by an adversary as part of a cyberattack or incident. Topics include log analysis, log management, threat detection, auditing, cybersecurity artifacts, security incidents and intrusions, and security information and event management (SIEM) systems and tools. Students may receive credit for only one of the following courses: DFC 630 or DFCS 655.

DFCS 660 Network Intrusions (3)
A hands-on evaluation of the tools and processes used to defend a cloud-based or traditional network against evolving and persistent threats. The objective is to examine network traffic and logs to correlate events while supporting threat hunting and defense against network attacks. Topics include secure network architecture, network protocols, packet analysis, network intrusion detection and prevention, log analysis, network scanning tools, attack vectors, threat hunting, and network forensics. Students may receive credit for only one of the following courses: DFC 640 or DFCS 660.

DFCS 665 Digital Forensics Case Management and Reporting (3)
A hands-on study of case management and reporting processes, tools, and best practices associated with digital forensics and cyber investigations. The aim is to create and efficiently manage, update, and report on digital forensic cases while sharing results and collaborating with other investigators. Topics include digital forensics case and report management, malware information sharing platforms (MISP), case management tools, digital forensics knowledge base, notification and alert management, and case management statistics. Students may receive credit for only one of the following courses: DFC 640 or DFCS 665.

DFCS 685 Legal, Ethical, and Regulatory Requirements for Digital Forensics (3)
A study of the legal, ethical, and regulatory requirements associated with conducting digital forensics and cyber investigations. The objective is to apply appropriate legal and ethical frameworks and processes while reporting cybercrimes and collecting and using digital evidence. Topics include digital forensics relevant to federal, state, and international regulations and statutes on expert witnesses, digital search warrants, digital evidence policies and procedures, codes of ethics, breach notification requirements, and emerging legal issues and policies.

DFCS 686 Workplace Learning in Digital Forensics and Cyber Investigation (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

DFCS 690 Digital Forensics and Cyber Investigation Capstone (3)
Prerequisites: 24 credits of program coursework, including all core courses. A project-based examination of advanced digital forensics and incident response techniques using appropriate tools applied to real-world scenarios. The goal is to identify forensic evidence and artifacts resulting from a cyberattack or incident. Topics include software reverse engineering, malware and malicious code analysis, use of binary analysis tools, memory forensics, ethical hacking, and secure programming practices. Students may receive credit for only one of the following courses: CYB 670 or DFCS 690.

Distance Education

OMDE 601 Foundations of Distance Education and E-Learning (3)
A study of the history and evolution of distance education. Social and political/economic factors, theories, learning and teaching models, technology and media innovations, institutions and systems, and major writers that have shaped the development of the field are critically examined. A variety of technologies are used to support the development of foundational skills that are integral to current practice.

OMDE 603 Technology in Distance Education and E-Learning (3)
Prerequisites: OMDE 601 and OMDE 610. A review of the history and terminology of the technology used in distance education. The basic technology building blocks of hardware, networks, and software are identified. Analysis covers the characteristics of asynchronous and synchronous technologies and tools used in the teaching, learning, and administration of distance education. The relationship between technology and the goals of the educational/training organization are critically examined. The relationship between information technology (especially online technology) and distance education is explored. Topics include the criteria and guidelines for selecting technologies for distance education and the future directions of technology in distance education.

OMDE 606 Costs and Economics of Distance Education and E-Learning (3)
Prerequisites: OMDE 603 and OMDE 608. A study of the economics of distance education in the larger context of the economics of education. A variety of methodological approaches (including cost/benefit and cost-effectiveness analyses) are applied to the distance education context. A variety of costing techniques and economic models are explored and applied to different institutional forms and levels of distance education.

OMDE 608 Learner Support in Distance Education and Training (3)
An introduction to the theories and concepts of support for learners in distance education and training. Various types of learner support, including tutoring and teaching; advising and counseling; and library, registrar, and other administrative services, are examined. Discussion addresses management issues, such as planning, organizational models, staffing and staff development, designing services to meet learner needs, serving special groups, and evaluation and applied research.

OMDE 610 Teaching and Learning in Online Distance Education (3)
An exploration of the online teaching and learning dynamic, including its theoretical foundation and best practices. The themes that shape the online teaching/learning relationship are addressed through individual and collaborative projects. Topics include philosophical frameworks; instructional, social, and cognitive presence; interaction, collaboration, and participation; community and engagement; and administration and management.

OMDE 670 Distance Education Capstone (3)
Prerequisites: DEPM 604 and DETT 621. A capstone study of distance education and training designed to demonstrate cumulative knowledge and skills through two major projects: an electronic portfolio and a case study. The personal e-portfolio documents credentials and accomplishments to date and serves as an ongoing resource and record of continuing professional development. The case study, which focuses on a distance education/training program or organization, involves in-depth analysis of the setting and application of concepts and strategies to enhance practice and performance in distance education and training.

TABLE OF CONTENTS
INDEX

Distance Education Policy and Management

DEPM 604 Management and Leadership in Distance Education and E-Learning (3)

Prerequisites: DETT 607 and DETC 620. An introduction to the organization, management, and administration of distance education and e-learning training programs and systems. Topics include management theory and practice, organizational behavior and change, leadership roles and styles, and planning and policy. Discussion covers education and training in academic and corporate settings and the knowledge and skills necessary for a distance education practitioner to function effectively in either type of organizational environment. Assignments include individual and group case-study analyses, brief essays, and literature searches related to distance education and e-learning leadership.

DEPM 609 Distance Education and E-Learning Systems (3)

Prerequisites: OMDE 601, OMDE 603, and OMDE 608. An introduction to frameworks for analyzing the nature of distance education from a functionalist, interpretive, or emancipatory systems approach. Appropriate diagramming techniques are used as a means to examine the organization and management of distance education systems.

DEPM 622 The Business of Distance Education and E-Learning (3)

Prerequisites: DEPM 604 and DETT 621. An examination of the highly competitive global business environment for distance education and training. Topics include the supply and demand of education services in emerging and existing markets, the competitive positioning of organizations, and increasing reliance on collaborations. Emphasis is on the skills distance education managers need in planning and developing programs, products, and services that are targeted to specific markets and cost-effective.

DEPM 625 Global Strategies, Perspectives, and Practices for Open and Distance Education (3)

A study of the development and current landscape of global, open, and distance education across developed and developing countries. Topics include cross-border partnerships, emerging business models, academic quality, cultural and linguistic opportunities and challenges, and innovative packaging of content (including MOOCs and open educational resources). Global professional and international associations (UNESCO, ICDE, AAOU, OECD, EDEN, USDLA, the World Bank); resources offered by these organizations; and their diverse roles in promoting internationalism, global trade, and quality assurance and management of global educational services are compared and contrasted. Examples and case studies are provided for comparative analyses among a variety of open and distance learning providers, representing single- and dual-mode institutions and open and distance learning universities and organizations from developed and developing countries, as well as private-sector providers and government agencies.

DEPM 650 Practitioner Research in Distance Education and E-Learning (3)

Prerequisites: OMDE 601, OMDE 603, and OMDE 608. An introduction to a variety of quantitative and qualitative research methods used in the social sciences as applied in distance education and e-learning. Emphasis is on planning and designing research and evaluation projects, including choosing appropriate methods of investigation and learning the practical aspects of quantitative and qualitative data collection and analysis. Major research paradigms are explored, and an overview of the various research fields in distance education and e-learning is provided. The Statistical Package for the Social Sciences (SPSS) is used to manage and analyze data. Skills in collecting quantitative and qualitative data and in analyzing, interpreting, and reporting the results of empirical investigations are developed.

TABLE OF CONTENTS
INDEX

Distance Education Teaching and Training

DETT 607 Instructional Design and Course Development in Distance Education and E-Learning (3)
Prerequisites: OMDE 606 and DETT 611. An examination of the instructional design process, its history and place in today's course development efforts, and the use of instructional design components in practice. Emphasis is on the nature of learning and the requirements for effective instructional design in online and blended environments. The theoretical underpinnings of learning are explored and applied to the design of a prototype classroom. Management issues surrounding course and curriculum development efforts are discussed, and a comprehensive project plan is developed for design implementation.

DETT 611 Library and Intellectual Property Issues in Distance Education and E-Learning (3)
Prerequisites: OMDE 603 and OMDE 608. An overview of the development and delivery of digital resources for distance education. Discussion covers the intellectual property issues affecting the use of copyrighted works in distance education, developing and delivering library resources online to a faculty and student population, and the future of digital information delivery and the impact of digital rights management (DRM) technologies and social networking.

DETT 621 Online Learning and Development in the Workplace (3)
Prerequisites: DETT 607 and DETC 620. An examination of distance learning and professional development in the business sector. Discussion covers various issues, problems, and solutions related to distance learning and professional development in the workplace. Topics include knowledge management, performance improvement, delivery of learning and development, and evaluating learning and development.

Distance Education Technology

DETC 620 Training and Learning with Multimedia (3)
Prerequisites: OMDE 606 and DETT 611. An overview of the use of digital media in a variety of educational settings, designed to identify properties, strengths, and weaknesses of multimedia in different learning contexts. The basic psychological processes of perception, understanding, and learning with multimedia are introduced. Focus is on multimedia and instructional design for online learning systems, such as learning management systems or stand-alone learning objects. Hands-on experience with several multimedia applications is provided. Topics include collaborative learning technologies, open educational resources, the impact of multimedia on learning outcomes, methods of multimedia evaluation, quality assurance, and project management of e-learning initiatives.

DETC 630 Emerging Technology Trends and Issues in Distance Education and E-Learning (3)
An examination of emerging and advanced technologies that affect teaching and learning, as well as areas of support and management, in the field of distance education. Topics include emerging synchronous and asynchronous technology functions, mobile technologies, and social media tools for development and delivery, as well as technologies used in providing learner, faculty, and managerial support to distance education. Technologies are explored critically in both theoretical and applied contexts. Analysis covers trends and critical issues associated with the adoption of such technologies.

Emergency Management

EMAN 600 Comprehensive Crisis and Emergency Management (3)
An analysis of all hazards, phases (mitigation, preparedness, response, and recovery), and actors involved in crisis and emergency management. Discussion covers the definition of crises, emergencies, and disasters and concepts and issues in crisis and emergency management. Focus is on developing crisis, contingency, and incident management plans. Current frameworks, management systems, and command systems for organizing a response, deploying resources, managing the response organization, supporting crisis communication, and making decisions in a turbulent environment are examined. Topics are discussed from U.S. and international perspectives.

TABLE OF CONTENTS
INDEX

EMAN 610 Hazard Risk and Vulnerability Assessment (3)
An examination of risk, hazard, and vulnerability. Topics include systematic hazard risk assessment, risk mitigation (reduction), risk transfer, and risk analysis. Discussion covers contemporary approaches to risk assessment and management of naturally or technologically induced hazards. Environmental hazard assessment is also examined. Seminal works published in the area are reviewed.

EMAN 620 Information Technology in Emergency Management (3)
An overview of the role of information in crisis and response management. Discussion covers disaster and crisis information requirements; information technologies and decision support tools applied to crisis, disaster, and emergency management; and information problems encountered during emergencies. Tools used include the global positioning system (GPS), geographical information systems (GIS), UAS (drones), and hazard and emergency management-related software packages, as well as decision analysis methods. Assignments include practical case studies.

EMAN 630 Crisis Communication for Emergency Managers (3)
An exploration of current strategies and tactics for managing the range of communication responsibilities and issues that arise during a variety of crisis situations. Traditional and new media methods for analyzing crisis and communications management issues (including the use of current technologies) are applied using relevant public relations research, theory, and case examples. A strategic approach is used to better identify issues, goals, stakeholders, messaging, and other aspects involved in developing community-specific public responses to crisis situations.

EMAN 670 Seminar in Emergency Management Leadership (3)
An examination of the role, mission, and functional skills of the emergency manager that compares and contrasts current aspects with evolving trends. Factors that affect successful leadership in emergency management such as managing crises, disasters, and emergencies through discussion of key issues and analysis of selected case studies are explored. Discussion covers the evolving multidisciplinary nature of the emergency manager's job and characteristics and leadership styles most effective in emergency management. Summary reviews of various theories, models, historical examples, and practical applications are used to reflect the central activities of emergency managers and gain a better perspective on the emergency manager's job. Topics include planning, risk assessment, crisis communications, organizational and operational issues, problem-solving, overcoming bureaucratic barriers to effective performance, promoting a culture of disaster prevention and preparedness, advising on business continuity strategies, acquiring resources, staff training, and emergency exercises. Ethics and legal issues in emergency management, the procurement of facilities, staff management, and controversies are also examined.

Environmental Management

ENVM 600 Fundamentals of Environmental Systems (3)
An introduction to the basics of natural environmental systems and human disruptions to and their influences on environmental systems. The aim is to explore Earth's systems, including the biosphere, hydrosphere, atmosphere, and lithosphere, and how the processes of these systems interact to support life in the Anthropocene. Topics include basic scientific principles in chemistry, physics, geology, and ecology and concepts related to the environmental field, including risk.

ENVM 610 Environmental/Energy Law and Policy (3)
Prerequisite or corequisite: ENVM 600. An introduction to environmental/energy law and policy. The goal is to gain a deeper understanding of the current environmental landscape and provide a pathway for continual improvement with critical use of available environmental/energy law and policy resources. A critical systems-thinking approach to environmental/energy law and policy is used. Discussion explores how legislation and policies form society and examines changes that can be implemented for a more sustainable future with the use of models. Topics include the history of U.S. environmental/energy law and policy, the legislative process, the administrative process, use of policy memos, modeling, and key pieces of energy and environmental legislation.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

ENVM 615 Community-Based Environmental Management (3)
Prerequisite or corequisite: ENVM 610. An introduction to community-based environmental management (CBEM) as a theory and management practice that integrates local people, places, and contexts as an integral part of multilevel governance. The goal is to prepare to implement ethical CBEM at multiple governance levels and to engage with diverse stakeholder groups and communities. Topics include environmental history, ethics, and justice; indigenous and local knowledge; and participatory governance models. Develop professional skills in communication, community engagement, and designing CBEM approaches for complex systems. Students may receive credit for only one of the following courses: ENVM 615 or ENVM 644.

ENVM 641 Environmental Auditing (3)
Prerequisite or corequisite: ENVM 615. An examination of methods for attaining statutory, regulatory, and permitting compliance. The protection of workers and other stakeholders is also examined in the context of organizational, budgetary, and other constraints. Emphasis is on methods of defining auditing objectives to meet organizational goals and of designing auditing programs for effective compliance under each of the 12 major environmental statutes, including air, water, solid, and hazardous waste management laws and pollution prevention initiatives.

ENVM 643 Environmental Communications and Reporting (3)
Prerequisite or corequisite: ENVM 615. An intensive examination of environmental communications and reporting, focusing on building the communication skills needed by environmental managers. The goal is to communicate ethically, effectively, and with cultural competence with diverse environmental stakeholders. Discussion covers how history, ethics, justice, diverse perspectives, and reflexivity relate to environmental communication; environmental reporting; and science, public health, risk, and climate communications. Emphasis is on developing key professional skills, including scientific literacy and numeracy, power and reflexivity, public speaking, data design and visualization, meeting hosting and facilitation, and writing and editing technical products.

ENVM 647 Environmental Risk Assessment (3)
Prerequisite or corequisite: ENVM 615. An examination of the general concepts of risk assessment as applied to human and environmental health. The goal is to incorporate environmental justice considerations, regulatory compliance, and best practices into risk assessment and mitigation recommendations for sustainable and ethical environmental management. Topics include ecological and human risk assessment; risk perception and communication; regulatory requirements; and the application of databases, models, and tools to characterize risk. Discussions support the development of skill sets in performing human health and ecological risk assessments.

ENVM 649 Principles and Practices of Waste Management (3)
Prerequisite: ENVM 615. An examination of the principles and practices of waste management, especially as they apply to the United States. The goal is to incorporate environmental justice considerations, regulatory compliance, and best practices toward integrative waste management. Topics include history of waste management, options, and hierarchy for municipal waste management in the United States, basics of technological options for waste management, and U.S. policies that oversee municipal waste and hazardous waste. Focus is on applying waste management principles to viable integrated waste management solutions and applying the skills and knowledge needed for a career in environmental management.

ENVM 650 Environmental and Natural Resources Economics (3)
Prerequisite: ENVM 615. An introduction to environmental and resource economics. The goal is to grasp the basics of microeconomics and apply the subfields of environmental economics and natural resource economics to an integrative approach to environmental issues today. Topics include microeconomics and the subfields of environmental economics and natural resource economics, their evaluation tools and techniques, and policy approaches and considerations to their applications. Activities incorporate team building and project management skills to work on projects based on these topics.

TABLE OF CONTENTS
INDEX

ENVM 651 Water Resources Management (3)
Prerequisite: ENVM 615. A comprehensive examination of integrated water resource management in the 21st century. Focus is on how to manage watersheds, such as the Chesapeake Bay, Colorado River, or Mississippi River Basins, holistically. The objective is to build practical skills and dispositions, including developing viable management solutions to water quality, quantity, use, and access challenges; integrating multidisciplinary data; communicating with stakeholders and policymakers; and applying environmental justice practices. Topics include water governance, policy, markets, and institutions; history of water and land use decisions; indigenous and local community engagement; and the impact of global climate change on water resources.

ENVM 652 Principles of Air Quality Management (3)
Prerequisite: ENVM 615. A comprehensive examination of the dynamics and challenges of air quality management in the 21st century. Focus is on applying criteria and hazardous air pollutants regulations in your locality, analyzing the identified differences in local air quality issues, and examining global and local air quality, especially for regulated air pollutants. The goals are to explore the disparities resulting from differing criteria pollutants and hazardous air pollutants and to design and implement viable indoor and outdoor air quality management solutions. Topics include global CO_2 emissions, global climate change, and viable air quality management solutions.

ENVM 653 Land Use Management (3)
Prerequisite: ENVM 615. An overview of land use management and its application to specific locations. The goal is to apply a foundational understanding of ecosystems and environmental/energy law and policy to land use concepts and management authorities on land use. Discussions explore land use concepts and encourage the sharing of local issues in a global context. Topics include the history of land use management, decision-making processes related to land use, and climate adaptation and mitigation plans. Land use issues are explored using geographic information system (GIS) software and other tools.

ENVM 670 Capstone Study in Environmental Management (3)
Prerequisite: Completion of 27 credits of program coursework. The goals are to demonstrate knowledge, skills, abilities, and dispositions gained from previous coursework through an intensive, hands-on study of an environmental management issue in partnership with an environmental organization. Topics vary from semester to semester, depending on the sponsor environmental organization. Activities involve group participation in a real-life practicum with the sponsor organization and focus on solving a part of a larger environmental issue. Discussions support content learning, project management, and team building, using reflexivity exercises.

Financial Management

FIN 605 Fintech and Decision-Making (3)
An examination of financial decision-making, core finance principles, and objectives of financial management. Discussion covers prerequisites for making effective financial decisions, including financial reporting systems (balance sheets, profit and loss statements, and cash flow statements), costing and budgeting, and cost-volume-profit (CVP) analysis. Topics also include techniques for and approaches to new technologies (AI, deep learning, blockchain technology, open APIs) that are disrupting the financial services industry, supply chain management, and costing practices. Financial sectors are examined for specific opportunities, such as payments, credit, and risk management.

FIN 610 Financial Management in Organizations (3)
An investigation of financial management theory and applications in organizations. Discounted cash flow and rate-of-return analyses are used to evaluate projects and financial instruments. Discussion covers the role of the cost of capital and the Capital Asset Pricing Model (CAPM) in capital investment analysis and selection. Capital budgeting, stock and bond valuation, break-even analysis, and capital market efficiency are introduced.

FIN 615 Financial Analysis and Modeling (3)
Prerequisite: FIN 610. An exploration of how financial managers use financial modeling, analysis, and research to build forecasts and projections, evaluate financial alternatives, and support financial decision-making in both operational and strategic contexts. Models are developed using Microsoft Excel; exercises and extended case studies are utilized to interpret and employ results. Topics include financial statements and ratio analysis, cash flow forecasting, operations budgeting, break-even and leverage analysis, time value of money applications, and capital budgeting and risk assessment.

FIN 620 Long-Term Financial Management (3)
Prerequisite: FIN 610. An exploration of the long-term financial needs of an organization and the roles of the capital markets. Topics include the financial environment of organizations, options and futures instruments, long-term financing, the capital budgeting decision process, capital structure management, dividend and share repurchase policy, and investment banking and restructuring. Various types of long-term funding sources—including term loans, derivatives, debt and equity securities, and leasing—are analyzed. Alternate policies on financial leverage, capital structure, dividends, and the issuance of preferred stock are evaluated. Mergers, leveraged buyouts, and divestitures are examined as special situations to create value.

FIN 630 Investment Valuation (3)
Prerequisite: FIN 610. An in-depth exploration and application of valuation models to support managerial decision-making in a strategic framework. The theory, concepts, and principles underlying the valuation of firms, business/product lines, and mergers and acquisitions are addressed using extended exercises and applications. The discounted cash flow model is used as a tool. Discussion covers the financial drivers of value, including assessing and determining risk, competitive advantage period, and sales and earnings growth estimates. Other valuation techniques using earnings, revenues, and price/earnings multiples are also discussed and applied in selected examples.

FIN 640 International Financial Management (3)
Prerequisite: FIN 610. A study of financial management issues in international organizations. Topics include the environment of international financial management, foreign exchange markets risk management, international working capital management, and foreign investment analysis. The financing of foreign operations, international banking, and the role of financial management in maintaining global competitiveness are also considered.

FIN 645 Behavioral Finance (3)
Prerequisite: FIN 610. A study of the key psychological obstacles to value-maximizing behavior and steps that managers can take to mitigate their effects, using the traditional tools of corporate finance. Focus is on understanding the underlying factors and processes that result in nonoptimal decision-making by financial managers. Topics include perceptions about risk and reward and financial decision-making in the areas of investing, trading, valuation, capital budgeting, capital structure, dividend policy, agency conflicts, corporate governance, and mergers and acquisitions. The key role played by emotions and recent findings from neuroscience are explored.

FIN 660 Strategic Financial Management (3)
Prerequisite: FIN 610. An integrative study of financial management through applied problems and case studies. Topics reflect the changing environment of financial management in organizations and include capital investment decision-making, the role of intangibles in value creation, financial performance metrics, strategic financial planning and control, strategic valuation decisions, growth strategies for increasing value, the restructuring of financial processes, corporate governance and ethics, value-based management, strategic cost management, and the impact of information technology on the organization's financial systems. A finance simulation is used as an integrating mechanism.

FIN 686 Workplace Learning in Financial Management (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

Global Health Management

GHMT 620 National and International Approaches to Healthcare Delivery (3)
(For students in the Global Health Management certificate program.) A project-based application of the concepts, theories, and principles of global health to the practical challenges facing global health professionals. Assignments focus on a specific global health priority for a given national or geopolitically defined population. Needs assessment methodologies, including epidemiological methods; mapping local, national, and global policy processes; identifying strategies for building infrastructure and workforce capacity; analyzing financial opportunities and limitations; and assessing the impact of macro changes in the global economy, political environment, and human rights and legal systems, are applied. Findings regarding the scope, options, and outcomes of these assessments, as well as a recommended action plan for improving the health status of the population group of interest, are summarized in the final project.

GHMT 640 Strategic Management of Global Health Services (6)
(For students in the Global Health Management certificate program.) The development of strategic management skills for growing and operating health organizations and health systems in low- and middle-resourced countries. Focus is on building strategies for organizing global health prevention, treatment, care, and capacity building initiatives. Strategic management skills are applied to create global health missions and goals, core functions and organizational structures, clinical and administrative workforces, budgets and financing, and communication messages.

TABLE OF CONTENTS
INDEX

Health Care Administration

HCAD 600 Introduction to Healthcare Administration (3)

An introduction to the principles of management and leadership as the foundations for the administration of healthcare products and service delivery. A comprehensive examination of the complex, dynamic, rapidly changing healthcare system in the United States is provided. Topics include the healthcare system's major components and their characteristics. Emphasis is on current problems in healthcare financing and delivery. Social, economic, and political forces that have shaped and continue to influence the system are traced. The healthcare system in the United States is compared with systems in industrialized and developing nations. Analysis covers current trends in healthcare and prospects for the future.

HCAD 610 Information Technology for Healthcare Administration (3)

An overview of information technology (IT) from a managerial perspective and how healthcare administrators can use IT to maximize organizational performance. Fundamental principles of IT and data management and their implications for healthcare administrators are reviewed. Discussion explores the use of technology, databases, and other analytical tools to structure, analyze, and present information related to healthcare management and problem-solving. Current applications, such as patient care, administrative and strategic decision support, managed health, health information networks, and the internet, are examined to determine how they may be used to meet the challenges facing healthcare administrators today and in the future.

HCAD 620 The U.S. Healthcare System (3)

A comprehensive examination of the complex, dynamic, rapidly changing healthcare system in the United States. The healthcare system in the United States is compared with systems in industrialized and developing nations. Analysis covers current trends in healthcare and prospects for the future. Ethics, beliefs, and values related to healthcare are discussed. Managerial functions and their effectiveness for health outcomes and organizational performance are investigated and evaluated. Marketing, quality of care, and effective decision-making are explored.

HCAD 625 The Business of Healthcare (3)

Prerequisite: HCAD 620. A detailed exploration of operational issues unique to the dynamic and highly regulated realm of healthcare. Discussion covers challenges presented by regulatory mandates, market forces, and multiple interconnected matrix organizations, as well as defining and meeting the needs of the community.

HCAD 630 Public Health Administration (3)

An in-depth study of the field of public health, emphasizing leadership and management. Current U.S. and global public health systems are analyzed, focusing on public health entities and their management issues. Topics include the history and current status of public health, core functions, legislation, ethics, accountability (including assessment and evaluation), and the politics and financing of public health, particularly in light of the increased utilization of evidence-based budgeting. Global health security, governance, and diplomacy are discussed in detail as they apply to public health issues and global community collaboration. Structural determinants of health are examined in terms of their influence on healthcare delivery and public health issues.

HCAD 635 Long-Term Care Administration (3)

A study of the different components of the long-term care service delivery system. Topics include residential settings (such as skilled nursing facilities, assisted living facilities, and continuing care retirement communities) as well as home care services, community-based service programs, and hospice care. The goal is to apply contemporary management theory, concepts, and models to the entities that make up the long-term care service delivery system. The specifics of long-term care management and leadership are discussed. Societal trends in attitudes and approaches to long-term care are defined and evaluated.

HCAD 640 Financial Management for Healthcare Organizations (3)

An in-depth study of healthcare economics and the financial management of healthcare organizations. The economic principles underlying the American healthcare market and the financial management of health services organizations within that market are examined. Analysis covers healthcare industry regulation, licensure, and certification and various coverage and healthcare payment mechanisms. Topics also include reimbursement mechanisms and their effect on healthcare provider organizations, managed care, capitation, and per case or per diagnosis payment, as well as how these financial strategies are utilized by third-party payers. Focus is on financial challenges, such as uncompensated care, cost increases, increased competition, and increased regulation, and how healthcare providers should respond to them. Ratio analysis, cost analysis, and other financial management techniques are also explored.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

HCAD 645 Strategic Financial Management in Healthcare (3)
Prerequisite: HCAD 640. An in-depth study of the concepts and competencies needed to plan the usage and management of enterprise financial resources to achieve long-term organizational objectives and return maximum value in a volatile healthcare finance environment. Emphasis is on identifying and quantifying available or potential resources, devising a plan for utilizing finances and other capital resources to achieve goals, and capital budgeting and management. Topics also include risk analysis, multiple financing methods, supply chain costs, valuation, and mergers and acquisitions. Current accounts and working capital management are explored, as are strategic planning and financial forecasting. Macroeconomic principles are investigated as they relate to the healthcare system. Analysis covers free market and mixed market economies, barriers to free market economies, and the application of macroeconomics as an analytical tool to craft economic and fiscal policy.

HCAD 650 Legal Aspects of Healthcare Administration (3)
A comprehensive overview of the intersection of law, ethics, health information technology, and bioethics in various contexts. The principles of healthcare law are examined in the areas of privacy, information security, contracts, torts, the liability of healthcare providers, the rights of patients, employment law and labor relations, and administrative law for healthcare organizations, among others. The managerial function of compliance is explored as it applies to the law and ethics, and specific tools and strategies are defined and discussed.

HCAD 660 Healthcare Institutional Organization and Management (3)
A study of the nature of management and how it is applied in various healthcare settings. Contemporary theories, critical perspectives, models, and best practices designed to foster performance excellence in the highly competitive healthcare environment are examined. Discussion covers principles of organizational behavior and culture development and adaptation. Consumer behavior and its influence on institutional sustainability are evaluated. Strategies for quality assurance and institutional change are explored.

HCAD 665 Strategic Issues in Healthcare Leadership (3)
Prerequisite: HCAD 660. An examination of strategic issues driving the future of healthcare. Focus is on identifying trends and preparing competent leaders to meet the needs of changing communities, integrating rapid technological and scientific advances, and ensuring health care institutional viability. Topics include development and dissemination of strategic goals and shaping organizational values, the effect of ethics and power on leadership decision-making, shared governance and collaboration, and change and performance management.

HCAD 690 Healthcare Administration Capstone (3)
(Formerly HCAD 670.) Prerequisite: Completion of 36 credits of program coursework. A capstone study of healthcare administration that integrates knowledge and skills gained from previous study in the development of a systems approach to healthcare administration. Focus is on public and private healthcare delivery systems, alliances with internal and external environments, and strategic decision-making and implementation in the rapidly evolving global arena of healthcare administration. Students may receive credit for only one of the following courses: HCAD 690 or HCAD 670.

Health Informatics Administration

HIMS 645 Healthcare Databases and Medical Technology Integration (3)
An introduction to various forms of healthcare data and data collection techniques, as well as different types of databases and development methods for using databases in small- to medium-sized healthcare facilities. The objective is to develop flat file and relational databases using Microsoft Access and Microsoft Excel, demonstrate familiarity with SQL (Structured Query Language), Python language, and the RStudio program; and design queries applicable for the decision-making process. Topics include principles of integrating medical and biomedical engineering equipment within healthcare facilities for automatic and secure data collection.

HIMS 650 Health Informatics and Data Analytics (3)
The application of basic statistics and research methods in health information management. Focus is on the analysis of clinical and administrative data to assist in healthcare decision-making, planning, policy development, and state and national level reporting. Topics include compilation and analysis of healthcare data; identification of data sources, data collection methods, analytical and visualization techniques; data mining; clinical and biomedical research and its implications for healthcare quality. Students may receive credit for only one of the following courses: HAIN 650 or HIMS 650.

TABLE OF CONTENTS
INDEX

HIMS 655 Health Data Management (3)
A foundational overview of health informatics/information management as a profession and as a subset of the healthcare delivery system. Health informatics/information principles and practices are explored as they relate to the application, analysis, management, and architecture of health data. Topics include data mapping, data structures, clinical terminology, and classification systems. Discussion also covers ICD-10, health record content, documentation standards, data management policies and procedures, meaningful use, data sources, and information governance.

HIMS 661 The Application of Information Technology in Healthcare Administration (3)
Prerequisites: HCAD 610 and HIMS 655. An overview of historical, current, and emerging health information systems and technologies. Focus is on applying a system life-cycle process to the adoption of an electronic health record system. Discussion covers various ways that information technology can aid in operations management and the strategic decision-making process. Topics include project management, clinical and decision support systems, report generation, data analytics, workflow processes, health information exchange, enterprise information management, training and development, data quality, user interfaces, data capturing technologies, personal health records, population health, data safeguards, business intelligence, and artificial intelligence.

HIMS 690 Health Information Management and Technology Capstone (3)
(Formerly HIMS 670.) Prerequisite: Completion of 30 credits of program coursework, including HIMS 650, HIMS 655, and HIMS 661. A study of health information management and technology that focuses on the application of skills acquired through previous coursework. The aim is to examine effective and efficient management of healthcare organizations, health information usage compliance, and health information technology. Topics include the U.S. healthcare delivery systems, health information management, health technology, privacy and security of data collection and utilization, and project management. Activities include participating in a health information technology–relevant project. Students may receive credit for only one of the following courses: HIMS 690 or HIMS 670.

Human Resource Management

HRMD 610 Issues and Practices in Human Resource Management (3)
(Strongly recommended as the first course in the human resources management concentration.) An overview of the human resource management profession, including the theories, research, and issues related to human resource management within modern organizations. The roles, responsibilities, relationships, functions, and processes of human resource management are discussed from a systems perspective. Expectations of various stakeholders, such as government, employees, labor organizations, staff/line management, and executive management, are explored. Emphasis is on the general legal principles and provisions that govern human resource activities. The specialty areas of employee relations, staffing, human resource development, compensation, and organizational development are described. Current topics, such as human resource information systems and globalization, are addressed.

HRMD 620 Employee and Labor Relations (3)
An investigation of the rights and responsibilities of employees and organizations in union and nonunion environments in the United States. The federal legal framework for collective bargaining is reviewed. Topics include common employment contract trends, topics, and issues, as well as all phases of unionization, from organizing through contract maintenance. Emphasis is on conflict management, negotiation, and alternate dispute resolution.

HRMD 630 Recruitment and Selection (3)
An examination of the initial phases of staffing, focusing on the hiring process. The contemporary roles, relationships, and processes of recruitment and selection in the human resource management system are investigated. Emphasis is on productivity factors (such as the use of technology) and quality factors (such as legal, ethical, and validity issues). Topics include international as well as domestic concerns and consideration of multiple staffing levels (such as executive managers and temporary employees). Current issues in private, not-for-profit, and/or public sectors are discussed.

HRMD 640 Job Analysis, Assessment, and Compensation (3)
A study of the interrelated aspects of human resource management, including job design, job analysis, job evaluation, employee compensation, incentives to productivity, employee motivation, and performance appraisal. A variety of approaches for analyzing, weighing, and specifying the detailed elements of positions within modern organizations are presented. Discussion covers techniques for identifying and classifying the critical components of a job, defining the observable standards and measures, preparing and determining the job description and job worth, establishing equitable compensation for job performance, and developing an executive compensation program. The interaction of compensation, worker motivation, performance appraisal, and level of worker performance within the organization is examined.

HRMD 650 Organizational Development and Change (3)
A study of the issues, theories, and methodologies associated with organizational development and the management of change, with a major emphasis on organizational culture and organizational change processes. Topics include the diagnostic process, intervention strategies, and overcoming resistance to change. Techniques such as goal setting, team-development procedures, productivity and strategy interventions, and interpersonal-change models are examined.

HRMD 651 Current Perspectives in Training and Development (3)
An examination of the theories, research, skills, and issues related to one major aspect of human resource development, the management of organizational training services. The role of training in the workplace and adult learning models are investigated. Topics include curriculum management, program development, and operation management with an emphasis on design and delivery issues. The impact of technology, the global environment, and modern organizational structures are considered. Ethical issues are also discussed. Assignments include the development of training proposals or programs.

HRMD 665 Managing Virtual and Global Teams (3)
(Not open to students who have completed HRMD 621, HRMD 652, or HRMD 660.) An investigation of the foundations of team development and performance from a human resource management and organizational behavior perspective. Focus is on maximizing the effectiveness and efficiency of global and virtual teams in organizations. Topics include the impact of global diversity and use of technology on intergroup development, communication, and outcomes. Scholarly research and field literature are examined and the implications of the findings for applied management are discussed.

HRMD 670 Human Resource Management Capstone (3)
Prerequisite: Completion of 30 credits of program coursework, including all concentration courses. A culminating study of human resource management topics that integrates concepts learned to formulate strategies and skills, positioning learners as strategic HR business partners. Discussion addresses workforce issues such as relationship management, strategic workforce planning, ethical practices, and effective leadership, as well as performance management, organizational effectiveness, and ethical practices. Issues related to diversity, equity, and inclusion are also examined. Focus is on completing an ePortfolio that can be used to demonstrate one's mastery of knowledge, skills, and abilities to address business challenges.

Homeland Security Management

HSMN 610 Concepts in Homeland Security (3)
An overview of the basic concepts of homeland security, including infrastructure protection, jurisdiction, and issues in technical areas such as interconnectivity and interoperability. The nation's telecommunications and information technology networks are examined as both vulnerable assets and critical solutions.

HSMN 625 Critical Infrastructures (3)
Prerequisite: HSMN 610. An introduction to critical infrastructure assurance as a policy field. Review covers the concept of critical infrastructures and their interdependencies. Topics include the development of modern critical infrastructures, the reasons they have become central elements of 21st-century societies, efforts being made to safeguard them, and potential threats to their continued effective operation.

HSMN 630 Resilience Planning and Preparedness for Disaster Response and Recovery (3)
An in-depth examination of managerial strategies for developing and maintaining resilience in communities, the private sector, and the nation in the face of man-made, natural, and technological disruptions or catastrophes. Emphasis is on the importance of advanced planning. Techniques for performing risk assessments and potential impact analyses and for selecting appropriate risk treatments are explored. Discussion covers preparing to handle adverse events, responding to them, and recovering from them. Resilience management is explored within the context of a life cycle that includes programmatic review and continuous improvement planning. Actual and hypothetical cases are analyzed.

TABLE OF CONTENTS
INDEX

HSMN 640 Energy Infrastructure Security (3)
Prerequisite: HSMN 610. An in-depth exploration of the energy sector and homeland security, including resources, critical infrastructure protection, and vulnerabilities. The goal is to understand risk methodologies as applied to the energy industry. Topics include pipeline security, security of the electrical grid, cyber-dependence, and SCADA systems. Energy is evaluated as a national security issue.

HSMN 670 Seminar in Homeland Security (3)
Prerequisite: Completion of 24 credits of program coursework, including HSMN 610, HSMN 625, HSMN 630, EMAN 620, INFA 660, and BSBD 641. An up-to-date evaluation of vulnerabilities and protective countermeasures regarding various aspects of the nation's critical infrastructure, with emphasis on the food and water supply. Topics include various threat profiles and actions by government, industry, independent institutions, and private citizens that might prevent attack from domestic or foreign sources and mitigate harmful consequences should such an attack occur. Discussion reviews the federal government's organization and management of food and water security and explores what further efforts might be made, building on the nation's health system and engaging government at all levels. The singularly important roles of first responders are also analyzed.

Informatics

IMAT 637 IT Acquisitions Management (3)
A study of management practices related to the acquisition of IT systems, components, and services. Emphasis is on the importance of enterprise strategic planning and the concomitant IT strategic planning. Issues related to the development of the IT acquisition plan, financial planning and budgeting, integration of the proposed acquisition within the overall goals of the enterprise, and related IT program management are examined in the context of overarching management challenges. Federal IT systems, contract and procurement policies, and procedures provide examples for analysis of concepts with wider relevance.

IMAT 639 Internet Multimedia Applications (3)
A study of multimedia presentations as essential, strategic components of an organization's competitive web presence. Established principles of software development, aesthetics of typography and layout, benchmarking, and usability engineering are used to analyze websites and write successful site development plans. Emphasis is on basic web page design techniques. Topics include standards for representing common media formats, compression algorithms, file format translation tools, hardware requirements and standards, system constraints, Java, CGI scripts, and virtual reality. Assignments require building a portfolio of rich media content.

IMAT 670 Informatics Capstone (3)
Prerequisite: 30 credits in program coursework. A capstone study of emerging and current technologies, as well as some eternal verities in IT management, that integrates and augments concepts previously studied. Topics vary and may include aligning IT with the strategic goals of the enterprise, leadership in IT, software psychology in the design of user interfaces, geographical information systems, building and managing internet communities, technology to ameliorate the digital divide, managing an enterprise's IT portfolio, and the social impact of information policy decisions.

Information Assurance

INFA 610 Foundations of Information Security and Assurance (3)
An overview of techniques for ensuring and managing information security. Topics include administrative and technical security controls to prevent, detect, respond to, and recover from cyberattacks; risk and vulnerability analysis to select security controls; security planning; security architecture; security evaluation and assessment; and legal, ethical, and privacy aspects of information assurance. Discussion also covers information security fundamentals, such as cryptography, authentication, and access control techniques, and their use in network, operating system, database, and application layers. Emphasis is on security issues of current importance.

INFA 660 The Law, Regulation, and Ethics of Information Assurance (3)
An overview of the legal, regulatory, and ethical issues related to cyberspace. Emphasis is on developing skills in spotting ethical and legal issues and navigating through the complex and changing legal and regulatory environment as it applies to behavior in cyberspace. Various resources and materials about the ethical and legal operation of modern computer systems, applications, and networks are presented.

TABLE OF CONTENTS
INDEX

Information Systems and Services

ISAS 610 Information Systems Management and Integration (3)
A study of the life cycle of the information system, from inception, through systems development and integration, to system operation and maintenance. Emphasis is on the integration of information systems with management systems of an organization. Major phases, procedures, policies, and techniques in the information system life cycle are discussed in detail.

ISAS 620 Information Systems Sourcing Management (3)
A study of how best to make and implement appropriate decisions in providing information systems to an organization, as well as how to manage the outcomes of such decisions. Focus is on the frameworks, tools, and techniques for making sourcing decisions. Topics include "make or buy" decisions, the use of off-the-shelf package software (including enterprise resource planning software), various models of outsourcing, and the outsourcing of entire business processes. The implications of whether to source domestically or offshore are evaluated. Discussion also covers contemporary issues related to cloud computing and the options it offers.

ISAS 640 Decision Support Systems and Artificial Intelligence Systems (3)
An investigation of computer applications for management support. The technologies of decision support systems and artificial intelligence systems and the organizational factors leading to the success or failure of such systems are introduced. Topics also include group decision support systems, integration and implementation issues, and related advanced technologies such as neural networks.

ISAS 650 Information Technology, the CIO, and Organizational Transformation (3)
An examination of how information technology can affect the strategic direction of an organization, how IT enables new ways of operating, and how the chief information officer can serve as a trusted member of the organization's top management team to help it exploit information technology effectively.

Information Technology

ITEC 610 Information Technology Foundations (3)
A fundamental study of technology and its applications, as well as the economic and social issues they have raised. Topics include computers, peripherals, databases, and networks; operations (of business, government, and other enterprises), decision support systems, and acquisition of information technology resources; and information security, productivity, equitable access by users, intellectual property rights, and global reach. Discussion also covers current and future developments in the field and their implications.

ITEC 625 Computer Systems Architecture (3)
An introduction to the evolution of computer systems design and hardware and software architectures. Focus is on computer organization (classical and advanced architectures), operating systems, and applications development. Emerging developments in computer systems architecture are also examined.

ITEC 626 Information Systems Infrastructure (3)
An introduction to information systems infrastructure. Focus is on data communications and networks. Discussion covers layered network architectures and communication hardware. Emerging technologies such as social media, mobile computing, cloud computing, big data, and the Internet of Things are also examined.

ITEC 630 Information Systems Analysis, Modeling, and Design (3)
(Formerly CSMN 635.) A study of systems analysis and design, using selected engineering and management science techniques and practices. Topics include requirements determination, modeling, decision-making, and proposal development. The System Development Life Cycle Model, including system implementation and postimplementation activities, is examined. Emphasis is on the specification of the information system's logical and physical analysis and design from a management perspective. Research and project assignments related to information systems analysis, design, implementation, and/or project planning and control, require individual and group work.

TABLE OF CONTENTS
INDEX

ITEC 640 Information Technology Project Management (3)
An examination of the fundamental principles and practice of managing programs and projects in an information processing and high-tech environment. The dynamic nature of IT and the effect of life cycles are explored. The fundamental building blocks of high-tech management styles (including project planning, organizational structure, team building, and effective control mechanisms) are addressed. Discussion covers the effect of product and project life cycles in delivering a successful IT project, considering the obsolescence factors in procurement/stakeholder contracts. The goal is to gain a solid foundation to successfully manage each phase of the project life cycle, work within organizational and cost constraints, set goals linked directly to stakeholder needs, and utilize proven management tools to execute a dynamic project on time and within budget. Emphasis is on how to apply the essential concepts, processes, and techniques in the management of large-scale governmental or commercial programs. Topics also include the need for global vision, strong planning techniques, appropriate training before introducing any IT product into the market, and discipline in executing tasks.

Instructional Technology

INST 600 Technology Integration in the Contemporary Classroom (3)
An introductory study of current trends in educational technology. The objective is to use International Society for Technology in Education (ISTE) standards to explore current trends in educational technology, study learning theory, and apply instructional technology integration models to the design of standards-based lesson plans. Discussion covers technology-infused lesson plans and digital tools and resources. Activities include development of a professional portfolio, and creation of a professional growth plan. Students may receive credit for only one of the following courses: EDTC 600 or INST 600.

INST 605 Designing Learner-Centered Environments (3)
Prerequisite or corequisite: INST 600. A study of contemporary learning models that facilitate authentic, technology-rich learning experiences to promote student autonomy. The objective is to use learning science to investigate contemporary learning models and frameworks in depth. Topics include the design of lessons and learning activities that facilitate collaboration, critical thinking, creativity, and communication and the design of flexible, accessible, active learning spaces.

INST 610 Digital Identity and Critical Media Analysis (3)
Prerequisite or corequisite: INST 605. A comprehensive examination of the educator's responsibility to protect learners from cyber threats. The objective is to apply best practices for protecting student privacy; promoting safe, ethical, and legal behavior online; and teaching critical analysis and design of media. Activities include designing instructional materials to support students, parents, and other educators in making informed decisions to safeguard personal privacy and digital identity and to apply critical media analysis in the development of online content. Students may receive credit for only one of the following courses: EDTC 605 or INST 610.

INST 615 Learning Analytics and Adaptation (3)
Prerequisite or corequisite: INST 610. An exploration of learning analytics. The objective is to better target students, individual learning needs through deeper insight into their performance. Topics include data literacy, differentiation, ADA compliance, and personalized learning, as well as designing a rich variety of formative and summative assessments, using student data, and learning analytics to inform the design of technology-enhanced lessons, and selecting assistive technologies. Students may receive credit for only one of the following courses: EDTC 615 or INST 615.

INST 620 Transforming Education Online (3)
Prerequisite or corequisite: INST 615. An exploration of online learning. The objective is to apply instructional design theories, models, and frameworks to develop learning experiences for digital platforms. Topics include developing a needs assessment, writing learning objectives, consulting digital rights and ADA guidelines in the development of interactive instructional materials and OERs, creating supporting materials and assessments, and evaluating the success of design projects. Students may receive credit for only one of the following courses: EDTC 610 or INST 620.

INST 625 Leading Change and Innovation in Educational Environments (3)
Prerequisite or corequisite: INST 620. A comprehensive study of change management. The objective is to lead change efforts by investigating issues that affect technology adoption in schools, exploring notable change management theories, and developing strategies to mitigate fear and resistance. Topics include developing a change management plan for school or district improvement that is informed by mission, vision, goals, and culture and establishing oneself as a thought leader in the field by creating a professional online presence.

TABLE OF CONTENTS
INDEX

INST 630 Coaching for Instructional Innovation (3)
Prerequisite or corequisites: INST 625. A detailed exploration of coaching about instructional technology. The objective is to demonstrate coaching skills, such as facilitating learning and growth, encouraging risk-taking, facilitating deep reflection, and providing meaningful feedback. Topics include relationship building with other educators to create a supportive and productive culture conducive to the coaching process.

INST 640 Designing for Professional Development and Growth (3)
Prerequisite or corequisite: INST 630. A comprehensive study of effective professional development planning efforts that support the development and growth of teachers across the entire professional continuum. The objective is to apply research-based adult learning principles to support the specific learning, cultural, and social-emotional needs of educators to increase their ability to effectively integrate technology in the classroom. Topics include emerging trends, best practices, and contemporary professional development models. Students may receive credit for only one of the following courses: EDTC 640 or INST 640.

INST 645 Strategic Technology Planning (3)
Prerequisite or corequisite: INST 640. An investigation of strategic planning efforts in modern school districts. The objective is to engage in a strategic planning process to implement new technology by collaborating with stakeholders to develop a shared vision, writing goals and objectives, creating an action plan with communication strategies and criteria for evaluation, and mobilizing resources. Topics include developing a strategic plan for a technology integration initiative, developing funding proposals, and writing professional recommendations for new digital resources and technology tools. Students may receive credit for only one of the following courses: EDTC 630 or INST 645.

INST 650 Integrative Capstone I (3)
Prerequisite or corequisite: INST 645. A thorough review of the instructional technology concepts and skills acquired through previous coursework. The objective is to work collaboratively with a teacher or group of teachers to identify instructional challenges, select a technology-based solution, set goals, engage in collaborative learning, provide coaching and feedback, collect data, and reflect on success. Activities include identifying a teacher or group of teachers to work with, analyzing available data, identifying an instructional challenge, and developing a coaching plan.

INST 670 Integrative Capstone II (3)
Prerequisite: INST 650. Continued review of the instructional technology concepts and skills acquired through previous coursework. The objective is to work collaboratively with a teacher or group of teachers to identify instructional challenges, select a technology-based solution, set goals, engage in collaborative learning, provide coaching and feedback, collect data, and reflect on your success. Activities include implementing the coaching plan, collecting data, and analyzing it.

Intelligence Management

INMS 600 Managing Intelligence Activities (3)
An introduction to management issues associated with the national intelligence community and activities in national and homeland security, law enforcement, and the private sector. Intelligence is evaluated from the perspectives of its consumers in government and business. Topics include the historical issues that led to extensive oversight of intelligence agencies and laws restricting their activities. Discussion also covers recent changes in national intelligence and current issues, such as the debate over security versus civil liberties and how to protect America from foreign espionage and exploitation.

INMS 610 Intelligence Collection: Sources and Challenges (3)
A study of the management challenges related to collecting all-source intelligence for national security, counterterrorism, and business purposes through case-study analysis and planning exercises. The fundamentals of multisource intelligence—human source intelligence; open source intelligence; signals intelligence; geospatial intelligence; technical intelligence; cyber intelligence and persistent intelligence, surveillance, and reconnaissance (ISR) collection—are assessed. Discussion covers innovative collection methods, access to denied environments, agile architectures, the impact of artificial intelligence and machine learning, sensor data fusion and the integration of multisource intelligence. Topics include how requirements drive collection efforts, the relationship between collection and analysis, and the costs associated with collection of intelligence.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

INMS 620 Intelligence Analysis: Consumers, Uses, and Issues (3)

Prerequisites: INMS 600 and INMS 610. An examination of the intelligence requirements of various clients in government and the private sector. The various purposes of analysis, such as warning, policy planning, research and development, systems or product planning, support for law enforcement and correctional agencies, support for operational activities, and investment, are examined. Discussion covers managing analytical methodologies and techniques and dissent in analyses, adapting cutting-edge machine learning techniques, and understanding the reasons for failures. Case studies illustrate issues in analysis management and critical thinking. The conflict between intelligence analysts and decision makers at national and local levels is explored.

INMS 630 Counterintelligence (3)

Prerequisites: INMS 600 and INMS 610. An examination of the vulnerabilities of the United States, allied countries, and private businesses to espionage and how counterintelligence can reduce the threat. Discussion covers case studies of espionage against America, including insider threats and cyber and economic espionage against U.S. technology and business. Topics include the roles, missions, and espionage activities of foreign intelligence services. Major threat groups are assessed, and management issues related to countering these threats are evaluated. U.S. policy issues and the management challenges of interagency cooperation among local, state, and international sources and public/private partnerships are explored.

INMS 640 Intelligence-Led Enforcement (3)

An evaluation of management approaches and assessment of issues associated with intelligence support for crime prevention and law and regulation enforcement. Topics include the issue of public/private cooperation, domestic counterterrorism, drug law enforcement, and actions to counter financial crimes. Interagency cooperation and intelligence sharing with state, local, and tribal agencies and laws and executive orders related to intelligence promulgated since 9/11 are examined. The roles of intelligence in fighting transnational crime and cybercrime are also covered. Assignments include case-study analysis and original research.

INMS 650 Intelligence Management and Oversight (3)

Prerequisites: INMS 600 and INMS 610. An examination of the relationships among intelligence organizations at federal, state, and local levels, as well as with private corporations. Strategies for the management and control of intelligence activities, including establishing policies, setting budgets, and conducting reviews, are examined. Discussion covers how intelligence oversight (including the roles and responsibilities of the executive, legislative, and judicial branches of government) works and how business intelligence activities are managed and overseen in the private sector.

INMS 660 Leadership Seminar (3)

Prerequisite: Completion of 30 credits of program coursework, including all core and concentration courses (except MGMT 670). An analysis and assessment of leadership challenges within intelligence environments. Key leadership and management principles in dealing with intelligence situations, scenarios, and issues are applied to real-world intelligence situations, such as handling insider threats; augmenting intelligence collection; planning intelligence, surveillance, and reconnaissance (ISR) operations; establishing and expanding foreign intelligence partnerships; prioritizing budgets; responding to intelligence oversight inquiries; infusing advanced technologies; coordinating intelligence and cyber operations; or assessing counterintelligence, counterterrorism, and nation-state security threats.

Learning Design and Technology

LDTC 600 Learning Theories and Learner Analysis in Learning Design (3)

An exploration of foundational learning theories and learner analysis and their practical application in instructional design. The goal is to demonstrate how learner analysis, learner motivation, and learning theory can be applied to the design of online learning experiences. Topics include learner profiles; foundational learning theories; the application of diversity, equity, and inclusion in the design process; adult learning; learner motivation; and the development of learning networks.

LDTC 605 Instructional Design Models to Inform Learning Design (3)

Prerequisite or corequisite: LDTC 600. An examination of traditional and contemporary instructional design (ID) models. The goal is to articulate the fundamental principles of selected ID models, analyze the strengths and limitations of each, and apply the models to learning design. Topics include ID models such as ADDIE, Dick and Carey, Understanding by Design, Rapid Instructional Design, and SAM. Focus is on creating a design document that encapsulates all aspects of the instructional design process, from planning to implementation.

LDTC 610 Instructional Media in Learning Design (3)

Prerequisite or corequisite: LDTC 605. An applied study of the design, development, and integration of digital media to enhance learning experiences. The aim is to demonstrate how media, including images, audio, video, animations, and interactive elements, can enhance and aid learning. Topics include visual literacy, graphic design and multimedia principles, digital rights and intellectual property, and accessibility.

LDTC 615 UX and UI Design in Course Development (3)
Prerequisite or corequisite: LDTC 610. A hands-on introduction to the principles of user experience (UX) and user interface (UI) design as applied to online learning. The objective is to design intuitive and visually appealing interfaces, using industry-recognized tools that enhance overall learner experience in digital learning environments. Topics include user-centered and inclusive design, information architecture, wireframing and prototyping, visual design principles, responsive and mobile design, accessibility, usability testing, and design tools and software.

LDTC 620 Next Generation Design: Emerging Technology, Gamification, and AI in Learning Design (3)
Prerequisite or corequisite: LDTC 615. An exploration of the rapid transformation of learning design with the integration of cutting-edge technologies. The objective is to identify and evaluate emerging technologies and their implications for learning and learning design. Topics include artificial intelligence (AI), spatial computing/extended reality, simulations, web tools, and gamification.

LDTC 625 Analytics and Evaluation in Learning Design (3)
Prerequisite or corequisite: LDTC 620. A study of data-driven approaches for enhancing educational outcomes. The goal is to effectively leverage analytics and generative artificial intelligence (AI) for continuous improvement in education and training settings, ensuring that learning experiences are both effective and engaging. Topics include data collection methods, analysis of learning metrics, interpretation of data to inform instructional decisions, evaluation models, common course quality measures and rubrics, and adaptive learning.

LDTC 630 Collaboration and Design Thinking in Learning Design (3)
Prerequisite or corequisite: LDTC 625. A project-driven study of collaboration and design thinking in the context of learning design. The aim is to engage stakeholders effectively, foster innovation, and use a human-centered approach to solve complex educational challenges. Topics include application of the design-thinking process to a real-world instructional challenge.

LDTC 640 Project Management for Learning Design (3)
Prerequisite or corequisite: LDTC 630. A study of essential project management skills for overseeing complex learning design projects. The goal is to plan, execute, and manage projects efficiently, ensuring they meet objectives, stay on schedule, and stay within budget. Topics include project management principles, needs analysis and scope, resource management and budgeting, technology integration, quality assurance, risk management, and communication with stakeholders.

LDTC 650 Instructional Strategy and Practice in Online Learning Environments (3)
Prerequisite or corequisite: LDTC 640. A detailed exploration of instructional practices tailored to online learning. The objective is to employ strategies for facilitating interactive and engaging virtual classrooms while addressing the unique challenges of remote instruction. Topics include engagement and interaction strategies, feedback in online learning, inclusive learning environments, digital literacy and online etiquette, and challenges such as low engagement and technical difficulties.

LDTC 690 Learning Design Capstone (3)
Prerequisite or corequisite: LDTC 650. An examination of learning design that synthesizes and applies learning design knowledge, skills, and dispositions to create a learning design project for a client. Assignments include the design, implementation, and analysis of a learning design project and completion of a professional portfolio that reflects on learning.

Management

MGMT 610 Management and Leadership in Sustainable Organizations (3)
An exploration of managing and leading sustainable organizations through integration of traditional management theories with contemporary sustainability practices. The goal is to develop core competencies and competitive strategies, build organizational capacity, and foster sustainable operations. Topics include management science tools, leadership styles, internal communication strategies, and social capital. Hands-on projects and organizational audits are used to design actionable one-year improvement plans for real-world sustainable organizations. Emphasis is on addressing technological advancements and global, social, and environmental challenges with a sustainability-focused mindset.

MGMT 615 Cultivating Organizational Behavior and Culture for Sustainability (3)
A study of organizational behavior with a focus on developing sustainable organizational cultures. The goal is to develop ethical leadership skills, foster inclusive and high-performing teams, and address biases to create respectful and innovative workplaces. Topics include humanistic management practices, emotional and cultural intelligence, and the ethical use of technologies like artificial intelligence. Activities include hands-on projects and collaborative assignments to design strategies to enhance employee engagement, innovation, and resilience while addressing risk management, sustainability, and long-term growth.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

MGMT 640 Financial Decision-Making for Managers (3)
An applied study of managerial processes and data-driven financial decision-making in business, government, and nonprofit organizations. The objective is to develop skills to calculate opportunity costs; assess time value of money; perform financial analysis; and evaluate budgeting, product pricing, project performance, and organizational efficiency. Topics include decision-making tools such as risk management, internal control, break-even analysis, activity-based costing, and discounted cash flow techniques. Discussion explores the use of artificial intelligence for research and analysis, with a focus on creating deliverables tailored to diverse audiences using effective communication strategies.

MGMT 650 Statistical Analysis for Managers (3)
A study of statistical analysis techniques to support managerial decision-making and resource allocation. The goal is to develop skills in applying quantitative methods and analytical tools. Topics include decision theory, probability distributions, data visualization, regression, variance analysis, and forecasting. Emphasis is on practical applications to address challenges in accounting, finance, human resources, marketing, and operations to analyze data and make informed decisions that drive organizational success.

MGMT 670 Strategic Management Capstone (3)
Prerequisite: Completion of 24 credits of program coursework, including all core courses. A capstone investigation of how strategy interacts with and guides an organization within its internal and external environments. Focus is on corporate- and business unit-level strategy, strategy development, strategy implementation, and the overall strategic management process. Topics include organizational mission, vision, goal setting, environmental assessment, and strategic decision-making. Techniques such as industry analysis, competitive analysis, and portfolio analysis are presented. Discussion covers strategic implementation as it relates to organizational structure, policy, leadership, and evaluation issues. The ability to think strategically and to weigh things from the perspective of the total enterprise operating in an increasingly global market environment is emphasized. Case analyses and text material are used to integrate knowledge and skills gained through previous study.

MGMT 686 Workplace Learning in Management (3)
Prerequisites: 12 credits in program coursework and prior program approval (requirements detailed online at *umgc.edu/wkpl*). 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.

Marketing

MRKT 600 Marketing Management (3)
An introduction to marketing management techniques and tools for creating, communicating, and delivering value for customers. Emphasis is on the various stages in the customer journey and marketing funnel, as well as internal and external environments, competition, market segmentation, target market selection, and competitive positioning. Discussion covers planning, decision-making, marketing goals, and metrics. Topics include designing a marketing plan with a digital strategy to create and deliver value to consumers in a digital world.

MRKT 602 Consumer Behavior and Customer Relationship Management (3)
Prerequisite: MRKT 600. A study of the consumer decision-making process, including problem identification, information research, evaluation of alternatives, purchase, and post-purchase assessment. Discussion covers the ways perception, motivation, and learning shape consumer choices and the role of digital media and technology in shaping contemporary consumer behavior. Topics include the fundamental concepts and principles of customer relationship management (CRM) and ways to measure and improve customer satisfaction and loyalty through various CRM strategies and techniques. Focus is on how to build customer relationships and business processes through effective CRM strategy development and execution.

MRKT 603 Brand Management and Integrated Marketing Communication (3)
Prerequisite: MRKT 600. A study of the role and importance of brands in marketing strategy. Discussion covers the fundamentals of developing a comprehensive brand strategy that aligns with the organization's goals and target audience. Topics include strategies to enhance, protect, and measure brand equity and the role of digital marketing and social media in brand management. The integration of marketing communication strategies to coordinate the marketing mix's components and achieve harmony in messages to customers and other stakeholders is also covered, as are ways to build, maintain, and enhance brand identity and equity through integrated communications efforts.

MRKT 604 Marketing Research and Analytics (3)
Prerequisite: MRKT 600. A study of the principles and methods used in marketing research. Focus is on identifying marketing problems and opportunities and developing data-based approaches to generate, refine, and evaluate marketing actions. Topics include designing market research strategies, understanding customer data analysis techniques and their application to real-world marketing problems, and evaluating the managerial implications of analytical results.

MRKT 605 International Marketing Management (3)
Prerequisite: MRKT 600. An in-depth study of marketing principles as they relate to the global marketplace. Topics include risks and opportunities in the global market, marketing mix in a global context, global supply chain and logistics, and the use of digital and social media marketing. Focus is on developing optimal marketing communications and global marketing strategies that are sensitive to sociocultural aspects that affect consumer behavior. Emphasis is on compliance with international business regulations and adherence to local ethics and social responsibility mandates.

MRKT 606 Digital and Social Media Marketing (3)
Prerequisite: MRKT 600. A study of various methods and techniques used in digital and social media marketing. Discussion covers digital analytics concepts and their role in developing optimized digital insight-driven marketing strategies. Topics include search engine marketing, digital content marketing, mobile marketing, database marketing, and email marketing. Focus is on the ways social media marketing promotes consumer engagement as part of a dynamic marketing strategy. Projects involve developing social media posts, using best practices for target markets, and evaluating successful campaigns.

MRKT 608 Product and Sales Management (3)
Prerequisite: MRKT 600. A study of how new products are developed and successfully launched in the marketplace. Emphasis is on sustainability practices in product development and subsequent sales and marketing. Topics include product road mapping, Agile and lean production processes, product launch, and product life cycle management. Sales management topics cover sales strategy, sales metrics and analytics, and effective use of customer relationship management (CRM) tools in the sales processes. Communication and negotiation skills are developed, and compliance with legal and ethical standards is examined.

MRKT 670 Marketing Strategy and Planning Capstone (3)
Prerequisites: MRKT 602, MRKT 603, MRKT 604, and MRKT 608. A comprehensive study of marketing that focuses on long-term planning, goal setting, and the alignment of marketing efforts with an organization's overall business objectives. Topics include the development and implementation of strategies to effectively position a company, its products, or its services in the marketplace to achieve a competitive advantage in a legal and ethical manner. Focus is on developing strategic marketing plans that are adaptable and flexible to respond to shifts in consumer behavior, technology, and the competitive landscape.

Nonprofit Management

NPMN 601 Fundamentals of Nonprofit Management (3)
A general introduction to the essential concepts and tools of nonprofit management. Discussion covers the unique characteristics of nonprofit organizations as they relate to incorporation, legal standing, tax-exempt status, and governance. The challenges, opportunities, and common issues facing managers of nonprofit organizations in preserving the organization's legal status and revenue base, staffing, and organizing in response to client needs are analyzed. Topics also include ethical and legal issues specific to nonprofit organizations, including transparency, accountability, and compliance with nonprofit regulations.

NPMN 602 Fundraising and Integrated Marketing Communication in Nonprofits (3)
Prerequisite: NPMN 601. A comprehensive study of effective fundraising for nonprofit organizations. Topics include developing a fundraising strategy, building a donor base, and writing grant proposals. Discussion covers integrated marketing communication (IMC) strategies to achieve harmony in messages to stakeholders and a variety of communication modalities, such as digital media (including search, display, and social media), traditional advertising and event promotions, and other tools that nonprofits utilize to advance their mission objectives.

NPMN 603 Grants and Financial Management in Nonprofits (3)
Prerequisite: NPMN 601. An examination of the financial landscape of nonprofit organizations and grant and financial management. The aim is to align financial decisions with a nonprofit organization's overarching strategic goals. Activities include designing a comprehensive monitoring and evaluation process that promotes effective grant management practices.

NPMN 604 Strategic Leadership and Management in Nonprofit Organizations (3)
Prerequisites: NPMN 601 and NPMN 602 (or NPMN 603). An advanced study of management strategies, designed to provide the knowledge and skills needed to navigate complex challenges, enhance organizational effectiveness, and drive long-term impact. The aim is to leverage diverse communication channels to amplify an organization's reach and enhance donor relations. Activities include using data-driven decision-making to develop and present a compelling strategic plan.

TABLE OF CONTENTS
INDEX

Project Management

PMAN 634 Foundations of Project Management (3)
An overview of the theory and practice of managing projects in any organization or industry using traditional, agile, and hybrid methodologies. All three skill sets of the Project Management Institute talent triangle—technical project management, leadership, and strategic and business management—are addressed and provide a foundational project management knowledge and skill base that is highly relevant to workplace project challenges. Emphasis is on blending hard and soft skills to realize superior project outcomes. Skills associated with harnessing diversity; building, leading, and motivating project teams; communications; conflict management; and emotional intelligence are intertwined with tools and techniques drawn from all ten of the project management knowledge areas (integration, scope, schedule, cost, quality, resource, communication, risk, procurement, and stakeholder management), with emphasis on integration management and scope management. These skills and techniques are contextualized to predictive (traditional) and adaptive (agile) life cycles and to the initiation, planning, executing, monitoring/control, and closure of a project. Focus is on the need to constantly align projects with value creation using practices and approaches that are tailored to mission, vision, and strategy of an organization, to the needs and priorities of stakeholders, and to organizational culture and mores.

PMAN 635 Project Schedule, Cost, and Resource Management (3)
Prerequisite: PMAN 634. An in-depth coverage of the logical and conceptual progression of a project from scope to schedule and budget, developed in the context of traditional project management, and then adapted to the agile and hybrid approaches. Aspects of resource management that relate to schedule and cost are also addressed. Emphasis is on cultivating practical and workplace-relevant skills, tools, and techniques essential for effectively estimating, modeling, and managing schedule and budget, and for addressing the associated uncertainties, imperatives, and challenges encountered in real-life projects. Project management software is used to develop actionable reports and dashboards that provide a realistic and well-informed depiction of the schedule and budget, so that stakeholders can effectively engage with and support the project, make informed decisions, and assist in narrowing the gap between plan and actual performance. Focus is on extending learning from projects to programs and portfolios and developing the leadership skills and insights required to ensure their alignment with organizational mission, strategy, and goals.

PMAN 637 Project Uncertainty: Risks, Ambiguity, and Complexity (3)
Prerequisite: PMAN 635. An in-depth exploration of project uncertainty and its manifestations in project risks/opportunities, ambiguity, and complexity. Discussion covers risk/opportunity in both the traditional and agile contexts and includes identification, qualitative and quantitative analysis, responses, and monitoring. Ways to navigate and reduce ambiguity are addressed. Modeling and simulation techniques are leveraged to gauge the impact of complexity and project risks/opportunities on project schedule, cost, quality, and team motivation/morale; these impacts are in turn used to derive meaningful and informed forecasts that facilitate ongoing project planning and execution leading to successful project outcomes. Emphasis is on leveraging data visualization techniques to communicate project uncertainty and performance effectively and expeditiously.

PMAN 638 Project Stakeholder and Communication Management (3)
Prerequisite: PMAN 634. A study of essential soft skills for managing and leading projects to create value and align with organizational goals. The focus is on driving innovation, fostering motivated teams, engaging stakeholders, resolving conflicts, and managing remote and virtual teams. Topics include emotional intelligence; cultural awareness; diversity, equity, and inclusion (DEI); and environmental, social, and governance (ESG) issues. Applications include traditional, agile, and hybrid project environments with globally dispersed teams.

PMAN 639 Project Management Quality (3)
Prerequisite: PMAN 634. An applied study of the quality management policies, processes, and procedures required to ensure that projects satisfy customers and stakeholders. Emphasis is on process improvement and quality planning, assurance, and control to effectively manage customer satisfaction, promote prevention over inspection, and facilitate continuous improvement. Activities associated with determining quality objectives, policies, and responsibilities are evaluated and implemented in the context of quality management principles, practices, and standards. Contemporary project quality management processes, tools, and applications, including the most widely used metrics and measurements, such as benchmarking, cost of quality analysis, trend charts, control charts, cause and effect diagrams, and Six Sigma, are appraised for potential application to a project. The need to mold the quality management approach to resonate with organizational priorities, objectives, and challenges is discussed.

TABLE OF CONTENTS
INDEX

TABLE OF CONTENTS
INDEX

PMAN 641 Project Procurement Management (3)
Prerequisite: PMAN 634. A comprehensive examination of the procurement processes found throughout project management. The goal is to examine and apply project management (PM) tools and techniques through initiating, planning, executing, monitoring, and controlling projects; implement contracting strategies; analyze required documentation; apply contract laws; and practice ethical considerations in PM work. Topics include contracting efforts, selection process for sellers, administering and closing contracts, and tools such as AI used in PM. All procurement processes are viewed ethically and legally through the Federal Acquisition Regulations.

PMAN 650 Strategic Project Management (3)
Prerequisite: PMAN 635. An in-depth examination of the strategies available in project management (PM), addressing interactions and synergies between PM and other business functions. The aim is to apply traditional and agile PM techniques; align projects, programs, and portfolios with organizational strategy; realize project and organizational performance improvement; make data-informed decisions to facilitate project planning, monitoring and control, and execution; and design communication and engagement plans. Topics are designed to enable project managers to grow into effective leaders who can blend tactical and strategic skills to create high-performing teams and influence transformation at all levels.

Software Engineering

SWEN 603 Modern Software Methodologies (3)
An in-depth overview of widely used modern software development methodologies. Historical software development methods are introduced. Topics include rapid application development and Agile development, Scrum, Extreme Programming (XP), Unified Process, EVO (Evolutionary Project Management), lean software development, test-driven development, feature-driven development, Crystal solutions, Rational Unified Process, and other Unified Process methods. Discussion also covers advantages and drawbacks of using each method.

SWEN 645 Software Requirements (3)
An examination of major models of software requirements and specifications, existing software standards and practices, and formal methods of software development. Topics include writing system and software requirements, formal specification analysis, formal description reasoning, models of "standard" paradigms, and translations of such models into formal notations.

SWEN 646 Software Design and Implementation (3)
An exploration of modern software development techniques, tools, and technologies for building large, complex systems. Topics include software development processes and the role of design in those processes. Discussion also covers major design methods, available computer-aided software engineering (CASE) tools, the proper application of design methods, and techniques for estimating the magnitude of the development effort. Object-oriented programming is presented. Focus is on building software products using these technologies.

SWEN 647 Software Verification and Validation (3)
A study of methods for evaluating software for correctness, efficiency, performance, and reliability. Skills covered include program proving, code inspection, unit-level testing, and system-level analysis. The difficulty and cost of some types of analysis and the need for automation of tedious tasks are examined. Emphasis is on problem-solving skills, especially in analyzing code.

SWEN 651 Usability Engineering (3)
A study of the theory and practice of designing user interfaces for interactive systems. Topics include the principles of usability engineering and basic rules for usable design. User interfaces are evaluated using techniques such as contextual inquiry, task analysis, and usability testing. Discussion also covers when these techniques are most appropriate.

SWEN 656 Advanced Software Design and Implementation (3)
Prerequisite: SWEN 646. An exploration of software design and implementation for reducing complexity of systems. Topics include software design patterns, object-oriented programming, and aspect-oriented programming design. Focus is on building software products using these technologies.

SWEN 661 User Interface Implementation (3)
Prerequisite: SWEN 651. An examination of all types of user interfaces. Topics include developing user interfaces using mobile, desktop, and web technologies. Focus is on building user interfaces using these technologies.

SWEN 670 Software Engineering Capstone (3)
Prerequisite: 30 credits of program coursework, including all core courses. A comprehensive examination of the tools, skills, and techniques of software engineering and their application. Completion of a major team project is designed to integrate knowledge and skills gained through previous study and provide experience of the constraints commonly experienced in industry (scheduling, vagueness of clients). Project requires forming teams (organization) and scheduling work to meet the deadlines imposed by the contract (syllabus).

Special Topics

UCSP 615 Orientation to Graduate Studies at UMGC (0)
An overview of the skills needed for academic and professional success. Focus is on enhancing communication and critical thinking skills. Assignments provide familiarity with tools such as library and information resources. APA style and resources are also addressed.

Strategic Communications

MSCP 600 Introduction to Strategic Communications (3)
An introduction to the field of strategic communications. Discussion covers how the convergence of advertising, marketing, and public relations, and the huge impact of technology on media production and platforms, have given rise to the field. Topics include the history of strategic communications, its ethical code, and the role of research. Extensive practice in writing news and feature stories using the *Associated Press (AP) Stylebook* is provided.

MSCP 605 Strategic Communications Theory (3)
An examination of the major concepts, principles, and theories that govern the modern practice of strategic communications. Activities include creating products to persuade a potential client that the field of strategic communications is based in science and can enhance the client's ability to meet the organization's goals and objectives in an ethical manner.

MSCP 610 Planning for Strategic Communications (3)
Prerequisite: MSCP 605. A study of the communications planning process. Topics include the importance of planning, planning frameworks, and planning best practices. Practice in creating a communications plan that meets ethical and legal standards while delivering value for a client or organization on time and on budget is provided.

MSCP 620 Communications Techniques and Tactics I (3)
Prerequisites: MSCP 600 and MSCP 605. An exploration of how a communications plan is transformed into actual products that are delivered to targeted publics. Focus is on creating communications products for traditional media. Digital media products are surveyed.

MSCP 625 Communications Techniques and Tactics II (3)
Prerequisite: MSCP 620. A study of communications products that execute a communications plans strategy. Focus is on creating communications products for digital media, including social media platforms, and mass media. Practice in creating traditional media products is also provided.

MSCP 630 ROI, Measurement, and Analysis (3)
An examination of how to design a measurement plan to ascertain progress during a campaign and evaluate the effort after the campaign is over. Practice in communicating findings to your staff and executives is provided.

MSCP 635 Strategic Leadership and Management of Communications Organizations (3)
An investigation of advanced strategic communications decision-making in a national context. Discussion covers ways to coordinate public relations efforts internally, particularly between marketing and advertising departments, and align communications campaigns with organizational objectives. Topics include the fundamental financial accounting and budgeting concepts required for many communications campaigns in business, government, and the nonprofit sectors; organizing a communications department and developing a management plan; following strategic communications trends; and legal and ethical issues.

MSCP 640 International/Intercultural Communications (3)
An investigation of advanced strategic communications decision-making in an international context. Discussion covers how to align communications campaigns with organizational objectives based on an understanding of how messages and visual information are understood in diverse cultures and contexts. Topics also include global strategic communications trends, and legal and ethical issues.

MSCP 650 Crisis Communications (3)
Prerequisite: MSCP 610. A study of how to develop strategic responses, including crisis definition, issue management, and crisis communications management, to crisis situations and plan for them. Topics include crisis definition, issue management, and crisis communications management and messaging. Crisis communication theory is applied to inform a crisis communications plan.

TABLE OF CONTENTS
INDEX

MSCP 690 Communications Campaigns Capstone (3)
Prerequisites: MSCP 600, MSCP 605, MSCP 610, MSCP 620, MSCP 625, and MSCP 630. A study of how to create a communications plan that supports an organizational strategy for an existing organization. Practice is provided in completing all the steps of creating such a plan: conducting research; developing a problem statement; and identifying campaign goals and objectives, audience segments, and messaging targeted to those segments. Assignments include creating a communications strategy with tactics and timelines, evaluation plans, and a realistic budget.

Systems Engineering

SYSE 610 Systems Engineering Overview (3)
An introduction to systems engineering using examples of manufacturing, information, and mechanical systems that involve the integration of different technologies. Emphasis is on the role of the systems engineer. Systems-thinking principles and complex systems and system-of-systems theory are reviewed. Discussion covers various approaches to system dynamics modeling. An overview of the system life cycle through conception, design and development, integration and testing, and deployment and support is provided.

SYSE 620 Requirements Engineering (3)
An in-depth examination of the various techniques used in establishing and specifying system requirements, both physical and functional. Topics include system decomposition, requirements traceability, configuration management, and requirements validation. Several U.S. and international standards are examined as examples of requirements specification.

SYSE 625 Model-Based Systems Engineering (3)
Prerequisite: SYSE 610. An introduction to formal system modeling and simulation methods using software-based approaches, which are replacing more traditional document-based descriptive modeling methods. Discussion covers the trend in industry toward standardized modeling techniques using software, especially SysML (Systems Modeling Language) computer packages, allowing greater consistency in system model representations between technologies, across industries, and even across language barriers. Topics include ways that computers can represent system models in detail and provide complex system simulations with minimum effort using several different system modeling and simulation software platforms. The objective is to determine when and how model-based systems engineering (MBSE) approaches are useful, which tools to use, and which data to use as input to the MBSE tools and how to use the results from the tools in decision-making.

SYSE 630 System Design and Development (3)
Prerequisites: SYSE 610 and SYSE 620. A detailed exploration of the design and development phases of the system life cycle. Discussion covers several tools used for systems simulation and computer-aided design. Topics also include methods and policies for change control and the principles of quality assurance as an underlying concept in systems design.

SYSE 640 System Integration and Test (3)
Prerequisites: SYSE 610 and SYSE 620. A review of various strategies used to integrate system components and verify satisfaction of requirements at both subsystem and overall system levels. The concept of formal verification, validation, and accreditation (VV&A) is discussed. Examples of automated software testing tools are also examined.

SYSE 650 Design Considerations (3)
Prerequisites: SYSE 610 and SYSE 620. An introduction to system engineering subdisciplines that are critical in system design and deployment. Discussion covers reliability, availability, and maintainability (RAM) factors. Concepts in human factors engineering, system safety, and quality assurance are also reviewed.

SYSE 660 Systems Engineering Management (3)
Prerequisites: SYSE 630 and SYSE 640. An examination of the role played by the systems engineer as liaison between technical specialists, business managers, and internal users or external customers. Discussion covers the traditional systems development life cycle, domestic and international standards, and the evolving emphasis on agile methods and adaptive processes. Topics also include risk management and organizational considerations in outsourcing.

SYSE 670 Systems Engineering Capstone (3)
Prerequisites: SYSE 640 and SYSE 650. A project-based capstone study of systems engineering designed to integrate knowledge and skills gained in previous study. Both individual projects and a group project focus on demonstrating the ability to construct a system design and develop a plan for a system's development and support.

TABLE OF CONTENTS
INDEX

Transformational Leadership

TLP 610 Repositioning Your Leadership Skills (6)
Prerequisite: DCL 600M. Master the ways in which leadership takes place within organizations and the most effective leadership styles for directing individuals, projects, and groups to success. Demonstrate the differences between managing and leading, focusing on motivating and inspiring individuals in preparation for future challenges and opportunities. Explore the various roles that leaders take on in domestic and global markets and the ways leaders influence events that can drive success through individual and collaborative efforts. Create your own personal brand as you begin a journey to becoming a transformational leader.

TLP 620 Leading in the Organization (6)
Prerequisite: TLP 610. Analyze the dynamics involved in leading a high-performing workforce. Develop strategies for facilitating a productive and collaborative work environment while maximizing the varied skill sets and experiences of employees. Weigh the impact of workforce change on organizations and consider the potential challenges that run counter to respectful, civil, and ethical work environments. Create retention and succession planning strategies and techniques for coaching and mentoring emerging leaders.

TLP 630 Leading with Strategy and Performance Measures (6)
Prerequisite: TLP 620. Gain the tools to assess the organization's bottom line and action steps for growth and sustainability. Apply strategic management theories and practice to measure and motivate organizational performance, identify trends, and direct the different stages of the organization's life cycle. Become proficient using tools to review and interpret analytics, market research, and financial data that can drive short- and long-range strategic decisions and identify potential deficiencies that run counter to the organization's mission and goals.

TLP 640 Leading Through Change and Uncertainty (6)
Prerequisite: TLP 630. Apply change management techniques for leading and maintaining stability during unplanned, turbulent events within the organization. Analyze and implement strategic planning and decision-making approaches to diagnose the symptoms and predictors of organizational challenges and obstacles to change. Use change management models to assess organizational performance and process reengineering and to forecast outcomes and resistance to change at the individual, group, and organization levels.

TLP 670 Leadership Capstone (6)
Prerequisite: TLP 640. Lead a real-world consulting project. Apply the techniques of project management as you collaborate with a partnering organization to develop a strategic and financial plan to address an organizational issue. Use client-relationship management, organizational diagnosis models, and coaching and presentation skills to complete your consulting project and showcase your solutions and plans to your partner organization.

TABLE OF CONTENTS
INDEX

Academic Standards

UMGC standards for academic rigor assess the degree to which you demonstrate content mastery, application of critical-thinking skills, and adherence to UMGC's Academic Integrity Policy.

Grading Methods

There are five grading methods at UMGC: standard, pass/fail, satisfactory/unsatisfactory, satisfactory/D/fail, and audit. The most commonly used is the standard method. Any course may be audited.

Some grading options and methods are limited to undergraduate or graduate courses, as follows:

- The pass/fail grading method is available only at the undergraduate level and under limited conditions. The satisfactory/D/fail method is restricted to certain specified undergraduate courses. Both methods are described in the next section.
- The satisfactory/unsatisfactory method is available only for EXCL X001, UCSP 615, and doctoral dissertation courses and is the only option available for those courses.

The table at right defines the grades and marks; regulations and usage for each grading method are provided in the paragraphs that follow.

Grade or Mark	Interpretation	Quality Points
A	**Exceeds standards** Performance excels far above established standards and demonstrates high proficiency in the course subject matter.	4
B	**Proficient** Performance consistently meets standards and demonstrates proficiency in the course subject matter.	3
C	**UNDERGRADUATE** **Meets standards** Performance generally demonstrates proficiency in most course subject matter. **GRADUATE** **Below standards** Performance is insufficient to meet established standards.	2
D	**UNDERGRADUATE** **Below standards** Performance is insufficient to meet established standards. **GRADUATE** Not available.	1
F	**Failure** Performance does not meet minimum standards.	0
FN	**Failure for nonattendance**	0
G	**Grade pending**	0
P	**Passing** (D or higher)	0
S	**Satisfactory** (C or higher)	0
I	**Incomplete**	0
AU	**Audit**	0
U	**Unsatisfactory**	0
W	**Withdrawal**	0

TABLE OF CONTENTS
INDEX

Standard

Unless you choose the pass/fail (for undergraduate courses only) or audit option for a particular course at the time of registration, you will be graded according to the standard grading method. Under the standard grading method, you earn a grade of A, B, C (for courses in which the grade of C is available), D (for undergraduate courses only), F, or FN on the basis of your performance in meeting the requirements of the course. All grades received under the standard grading method are included in calculating the grade point average (GPA).

Pass/Fail

If you are a degree-seeking undergraduate student, have earned 30 credits (including at least 15 credits at UMGC), and have a cumulative grade point average of 2.0, you may take one elective course each standard term (fall, spring, or summer) by the pass/fail method, up to a maximum of 18 credits.

This grading method is allowed only for electives. Courses that fulfill general education requirements, major requirements, related requirements for the major, or certificate requirements may not be taken pass/fail, nor may pass/fail grading be used in retaking a course for which a letter grade was earned previously.

You must elect pass/fail grading at the time you register. This status may not be changed after the first week of classes.

If you register for pass/fail grading, you must still complete all the regular requirements of the course. The faculty member evaluates your work under the normal procedure for letter grades and submits a regular grade. Grades of A, B, C, or D are then converted to the grade of P, which is entered into the permanent record. A grade of F or FN remains unchanged.

Although a grade of P earns credit toward graduation, it is not included in calculating a grade point average. A grade of F or FN carries no credit toward graduation and is included in computing grade point averages.

This option is not available for graduate courses.

Satisfactory/Unsatisfactory

EXCL X001, UCSP 615, and doctoral dissertation courses are graded on a satisfactory/unsatisfactory basis. You may not choose to take other courses on a satisfactory/unsatisfactory basis. This grading method does not include an option for requesting a mark of Incomplete.

Satisfactory/D/Fail

This grading method is available only at the undergraduate level and on a limited basis, primarily for experiential learning courses. Although a grade of satisfactory (S) earns credit toward graduation, it is not included in calculating grade point averages. The grade of D earns credit and is included in computing grade point averages. While a grade of F or FN earns no credit toward graduation, it is included in computing grade point averages.

Grades and Marks

The Grade of F: Failure

The grade of F means you failed to satisfy the minimum requirements of a course. Although it carries no credit, it is included in calculating the GPA. If you earn a grade of F, you must register again for the course, pay all applicable tuition and fees again, repeat the course, and earn a passing grade to receive credit for that course.

The Grade of FN: Failure for Nonattendance

The grade of FN is assigned if you register for a course and never attend or participate or if you cease to attend or participate within the first 60 percent of the course and do not officially drop or withdraw from the course. An FN grade results in zero quality points and no credit earned. It is included in calculating your GPA and may affect your academic standing and financial assistance, such as federal financial aid, military tuition assistance, or veterans benefits. If you receive a grade of FN, you must register again for the course, pay all applicable tuition and fees, repeat the course, and earn a passing grade to receive credit for that course.

The Mark of G: Grade Pending

The mark of G is an exceptional and temporary administrative mark given only when the final grade in the course is under review. It is not the same as a mark of Incomplete.

The Grade of P: Passing

The grade of P is available only at the undergraduate level. It is conferred after a faculty member has evaluated coursework under the normal procedure for letter grades and has submitted a standard grade (A, B, C, or D). The Office of the Registrar then converts that standard grade into the grade of P.

A passing grade is recorded on the permanent record and confers credit toward graduation. However, courses graded P are not included in calculating grade point averages.

TABLE OF CONTENTS
INDEX

The Grade of S: Satisfactory

The grade of S is awarded only for select courses. Although the grade of S confers credit and appears on the permanent record, courses graded S are not included in calculating the GPA.

At the undergraduate level, the grade of S is equivalent to a grade of C or higher and is used to denote performance that meets standards in an experiential setting or practicum, such as EXCL 301.

At the graduate level, the grade of S is equivalent to a grade of B or better and is used to denote performance that meets standards in noncredit and doctoral dissertation courses.

The Grade of U: Unsatisfactory

The grade of U indicates that work for the course was not completed at a satisfactory level. Although it appears on the permanent record, it carries no credit and is not included in calculating the GPA.

The Mark of I: Incomplete

The mark of I (Incomplete) is an exceptional mark, given only if your completed coursework has been qualitatively satisfactory, but you have been unable to complete all course requirements because of extenuating academic or personal circumstances beyond your control.

To be eligible for an I, you must have completed 60 percent or more of the course requirements with an overall grade of C or better for undergraduate courses or B or better for graduate courses.

You must request an I from your faculty member before the class ends. Faculty, however, are not required to approve the request. If your request for a mark of I is approved, you must arrange fulfillment of course responsibilities with your teacher by the assigned deadline to receive credit.

The mark of I is not available for courses graded on a satisfactory/unsatisfactory basis. Master's degree programs requiring DCL 600M and the doctoral program have additional parameters for the mark of I. Consult your course syllabus for detailed information.

The mark of I cannot be removed by means of credit by examination, nor can it be replaced by a mark of W (defined at right). If you elect to repeat an incomplete course, you must register again for the course and pay all applicable tuition and fees. For purposes of academic progress, the course grade is counted as an F. The mark of I is not used in determining grade point averages.

You should be aware that a mark of I in your final term may delay graduation.

Refer to UMGC's Grade of Incomplete Policy at *umgc.edu/incomplete* and your course syllabus for more information, particularly on deadlines.

The Mark of W: Withdrawal

The mark of W is assigned when you officially withdraw from a course. This mark will appear on your transcript but will not be included in calculating your GPA. For purposes of financial aid, the mark of W is counted as attempted hours. The mark of W can be posted only when you officially withdraw from the course through MyUMGC by the deadline for withdrawal according to the withdrawal process described on p. 15.

Audit

If you do not wish to receive credit, you may register for courses as an auditor once you are admitted. You may choose the audit method when you register or request a change from credit to audit status any time before the end of the first week of classes. As an auditing student, you do not have to complete course assignments, but you may choose to do so to receive faculty feedback on your work. Audited courses are listed on the permanent record, with the notation AU. No letter grade is given for audited courses, nor are credits earned.

Grade Point Average

Your cumulative grade point average (GPA) is computed at the end of every term (fall, winter, spring, or summer), based on all your graded coursework at UMGC, using the quality points assigned to each grade or mark (detailed on the chart on p. 334). First, the quality-point value of each grade or mark is multiplied by the number of credits; then the sum of these quality points is divided by the total number of credits attempted for which a grade of A, B, C (for courses in which the grade of C is available), D (for undergraduate courses only), F, or FN was received.

Only courses applied toward a second bachelor's degree are computed in the GPA for that degree, even if you earned a first degree at UMGC.

Only courses applied toward a master's degree are computed in the GPA for that degree, even if you earned an undergraduate degree at UMGC.

TABLE OF CONTENTS
INDEX

ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

Changes in Grade

Faculty members may revise a grade previously assigned only if your grade was miscalculated or a mark of I or G was submitted and must be changed. Any revision must be made no later than four months after the original grade was awarded.

Repeated Courses

Grading Repeated Courses

If you failed or withdrew from a course, you must repeat the course to establish credit in it. In such a case, you must register, pay the full tuition and fees, and repeat the entire course successfully.

When you repeat a course, only the higher grade earned is included in the calculation of your GPA. For purposes of financial aid and satisfactory academic progress, both attempts are counted toward your completion rate. Both grades are entered on the permanent record, with a notation indicating that the course was repeated. You cannot increase the total hours earned toward a degree by repeating a course for which you already earned a passing grade.

If you are enrolled in a second master's degree program, you may not repeat coursework from your first program, even if your second program requires one or more of the courses required in your first program. See p. 110 for more information on earning a second master's degree.

If you are a doctoral student, special rules on repeating courses apply. More information is provided at right.

Limits on Repeating Courses

UNDERGRADUATE

If you are an undergraduate student, you may not register for the same course more than three times without first speaking to an advisor or a success coach and submitting a course repeat petition form, which must be on file before the start of the term in which you wish to repeat the course. Your advisor or success coach can also explain how repeating the course affects your GPA, transcript notations, and progress toward degree completion. Note that the limit on repeating courses applies only to courses in which you have received a grade. Officially withdrawing from a class and receiving a mark of W is not counted as an attempt for repeat limits.

GRADUATE

If you are a graduate student and your term or cumulative GPA drops below 3.0, you will be placed on academic probation, and you must successfully (i.e., with a grade of B or better) repeat the course that caused the GPA to fall below 3.0 and earn no further grades of C, F, or FN during the probation period. For more information, see Graduate Academic Standing on p. 338.

If you are a doctoral student, you must repeat any course in which you earned a grade below B and may exercise the option to repeat a course only once. If you receive a second grade below B, you will be dismissed from the doctoral program, regardless of your GPA. See p. 339 for more information on doctoral program standards.

Institutional Credit

A course that may not be applied toward graduation may be assigned a credit value for purposes of course load per session and tuition. This institutional credit is included in your GPA and in determining your eligibility for financial aid, tuition assistance, and veterans educational benefits. However, if you are required to take these courses, you do so in addition to the credit required for the degree.

Academic Standing and Levels of Progress

UMGC assesses your academic standing at the end of every term. Your GPA is computed for all UMGC graded coursework to make a determination of academic standing according to your level of progress as described below.

For details, see *umgc.edu/policies* for UMGC's Academic Standing Status for Undergraduate Students Policy and Academic Standing Status for Graduate Students Policy.

Undergraduate Students

UNDERGRADUATE LEVELS OF PROGRESS

At the undergraduate level, there are four levels of academic progress: satisfactory, warning, probation, and dismissal.

Satisfactory

If your cumulative GPA is 2.0 or higher, you are considered to be making satisfactory progress.

Warning

If your cumulative GPA is less than 2.0, you will be placed on academic warning. You will remain on academic warning as long as your cumulative GPA is less than 2.0 but your GPA for the term is 2.0 or higher.

ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

Probation

If you are on academic warning and your GPA for the term is less than 2.0, you will be placed on academic probation.

If your GPA for the term is 2.0 or higher while you are on probation, but your cumulative GPA is less than 2.0, you will return to academic warning or provisional admission status.

While on academic probation, you are limited to a maximum enrollment of 7 credits per standard term until your academic progress status returns to warning.

Dismissal

If you are on academic probation and your GPA for the term is less than 2.0, you will be dismissed. Once dismissed, you must apply for reinstatement if you wish to continue studies with UMGC. Your application for reinstatement must be approved before you are eligible to register again for UMGC courses.

If you are on probation and your GPA for the term is 2.0 or higher, you will not be dismissed, regardless of your cumulative GPA.

REINSTATEMENT AFTER DISMISSAL FROM AN UNDERGRADUATE PROGRAM

If you were academically dismissed from an undergraduate program at UMGC, you may submit a request to be reinstated. You must explain the changes you have made in your academic preparation and the strategies you have adopted that will improve your potential for successfully completing your program. You are not eligible to register again for UMGC courses until you are reinstated.

If you attended another college or university since you were academically dismissed, you must ensure that transcripts from any such college or university are sent to UMGC.

Staff know that these petitions for reinstatement are important and that you are eager to get back on track, so petitions will be reviewed as quickly as possible. Student Affairs will notify you of decisions on such petitions.

If you are approved for reinstatement, you will be admitted and placed on academic warning. You may also be required to meet additional conditions, such as working with an advisor, success coach, or tutor or enrolling in specific courses. You must earn a term GPA of 2.0 or higher to avoid academic probation.

If you have questions about the reinstatement process, speak with an advisor or a success coach or email *reinstatements @umgc.edu.*

Master's Degree Students

GRADUATE ACADEMIC STANDING

At the graduate level, there are three levels of academic standing: good academic standing, academic probation, and academic dismissal.

As a graduate student, you must maintain a cumulative GPA of 3.0 or higher at all times to remain in good academic standing.

Good Academic Standing

If you have a cumulative GPA of 3.0 or higher, you are in good academic standing.

Academic Probation

If you have a cumulative GPA below 3.0, you will be placed on academic probation in your next term of enrollment. Academic probation is a temporary status. If you are placed on academic probation, you have up to two terms of enrollment in which to restore your cumulative GPA to 3.0. While on academic probation, you must only enroll in the course(s) for which you received a grade that caused your cumulative GPA to drop below 3.0. You may not attempt any other coursework until you earn a grade of B or better in the repeated course(s), unless an exception is granted under one of the following circumstances:

- If you are required to enroll in one 3-credit course that caused your cumulative GPA to drop below 3.0, you may be permitted to enroll in a second 3-credit class in the same term. To be eligible, you must meet with an advisor or success coach and submit an exception request for a review of your specific academic circumstances.
- If you are considering switching graduate programs while you are on academic probation, you may be permitted to enroll in coursework in the new program rather than repeating the course(s) that caused your cumulative GPA to drop below 3.0. To be eligible, you must meet with an advisor or success coach and submit an exception request for a review of your specific academic circumstances.

If you achieve a term GPA of 3.0 while on probation but fail to raise your cumulative GPA to 3.0, you will remain on probation for another term.

In all circumstances, failing to restore your term GPA to 3.0 or higher or earning any grade below B while on probation will result in academic dismissal. If you restore your cumulative GPA to 3.0 or higher, you will be returned to good academic standing. You should seek guidance and advice from an advisor or a success coach if you are placed on academic probation.

ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

Academic Dismissal

If you are on academic probation and you fail to raise your GPA to 3.0 or higher or if you earn a grade below B during the probationary period, you will be dismissed. Once dismissed, you are ineligible to enroll in UMGC graduate courses and may be readmitted to UMGC only under the conditions for reinstatement or restart described in the following paragraphs.

REINSTATEMENT AFTER DISMISSAL FROM A GRADUATE PROGRAM

If you were academically dismissed from a graduate program at UMGC, you may submit one request for reinstatement. You must explain the changes you have made in your academic preparation and the strategies you have adopted that will improve your potential for successfully completing your program. You may direct inquiries to Student Affairs at *reinstatements@umgc.edu.* Staff know that these petitions are important and that you are eager to get back on track, so petitions will be reviewed as quickly as possible. Student Affairs will notify you of decisions.

If you are approved for reinstatement, you will be admitted for one term and placed on academic probation. You may also be required to meet additional conditions, such as working with an advisor, a success coach, or a tutor or enrolling in specific courses. By the conclusion of this term, you must be in good academic standing to remain enrolled.

If you are reinstated to the same program in which you were last enrolled, you must immediately repeat the course(s) for which you received the grade(s) that caused your cumulative GPA to drop below 3.0. If you are reinstated to a different program, your previous coursework and credits will not apply.

If you fail to attain a cumulative GPA of 3.0 or higher, you will be academically dismissed, and you will not be eligible to apply for reinstatement or a restart again.

If you have questions about the reinstatement process, speak with an advisor or a success coach or email *reinstatements@umgc.edu.*

RESTART AFTER DISMISSAL FROM OR ACADEMIC PROBATION IN A GRADUATE PROGRAM

If you were academically dismissed from a graduate program, have not been approved for reinstatement (as described in the preceding section), and have not attended graduate classes for a period of at least five consecutive years, you may request a one-time restart. You may also request a one-time restart if you were on academic probation when you last attended and have not attended graduate classes for a period of at least five consecutive years. Grades and credits previously earned will not apply toward any program you pursue upon your return, and you must fulfill the program requirements in effect at the time you restart.

Doctoral Students

ACADEMIC STANDING

The doctoral program requires more than maintaining a GPA of 3.0 to remain in good standing. If you receive a grade below B in a course, including a dissertation course, you must repeat that course in the next term of enrollment and earn a grade of B or better. The option to repeat a course may be exercised only once. If you receive a second grade below B, you will be dismissed from the doctoral program, regardless of your GPA.

You may also be in academic jeopardy as a result of poor performance on the comprehensive examinations.

Further information is available in section IV of UMGC's Academic Standing Status for Graduate Students Policy (available online at *umgc.edu/policies*).

Program Completion Requirements

The award of degrees and certificates is conditional upon satisfactory completion of all program requirements, compliance with all UMGC policies, and satisfactory or good academic standing (described on pp. 337–339). Graduation clearance will not be granted if you are not in good academic standing, have outstanding debt to UMGC, or have any outstanding misconduct charges or unsatisfied sanction restrictions. Individual programs may have additional requirements that must be met before graduation clearance can be granted.

Scholastic Recognition

Honor Societies

Honor societies are national organizations that celebrate the scholarship and leadership of students in specific fields of study. The honor societies represented at UMGC meet our high academic standards, and membership is a privilege that can enhance your academic and professional stature. Contact information for each honor society chapter can be found online at *umgc.edu/honor-societies.* Many honor societies process new membership applications only once or twice a year. If you receive an invitation to an honor society, you should first check that it is listed on the UMGC website or in this catalog before joining. The descriptions that follow indicate whether an honor society is open to undergraduate students, graduate students, or both.

Alpha Mu Alpha

Alpha Mu Alpha is the national marketing honor society for qualified undergraduate and graduate marketing students and marketing faculty. Alpha Mu Alpha is affiliated with the American Marketing Association and aims to acknowledge outstanding scholastic achievement on a highly competitive basis. To be eligible as an undergraduate student, you must be majoring in marketing; have completed at least 90 credits toward your bachelor's degree, with at least 9 credits in marketing coursework and 12 credits at UMGC; and have a cumulative UMGC GPA of 3.25 or higher. To be eligible as a graduate student, you must be enrolled in the Master of Science in Management program with a marketing concentration, have completed at least 6 credits of graduate marketing courses at UMGC, and have a UMGC GPA of 3.8.

Alpha Sigma Lambda

Alpha Sigma Lambda is a nationally recognized honor society that celebrates the scholarship and leadership of adult undergraduate students in higher education. Members of Alpha Sigma Lambda are highly motivated adult students who are pursuing their undergraduate education and managing the responsibilities of work and family while studying. To qualify for membership, you must be pursuing an associate or bachelor's degree; have completed at least 24 credits at UMGC in courses graded A, B, C, D, or F; and have maintained a GPA of 3.7 or higher in all UMGC courses.

Lambda Epsilon Chi

Lambda Epsilon Chi (LEX) is the national honor society founded by the American Association for Paralegal Education (AAfPE), which recognizes the scholarship and leadership of legal studies students in higher education. There are more than 150 chapters throughout the United States and thousands of inductees who have been honored for their outstanding academic achievements.

Membership is open to legal studies majors by invitation only. To be eligible for membership, you must complete a minimum of 24 credits (semester hours) of legal studies coursework and demonstrate superior academic performance, as evidenced by a GPA of at least 3.5 in UMGC legal studies classes and an overall UMGC GPA of at least 3.25.

National Society of Collegiate Scholars

The National Society of Collegiate Scholars (NSCS) is an honor society recognizing students who have completed fewer than 60 credits toward an associate or a bachelor's degree and have shown academic excellence. NSCS encourages members to participate in honor society, university, and community events and provides resources to enable members to focus on their professional and leadership development. To be eligible, you must be seeking a first associate or bachelor's degree. You must have completed at least 12 credits at UMGC in courses graded A, B, C, D, or F and have a cumulative GPA of 3.4 or higher. In addition, you must have completed between 12 and 59 credits toward your degree.

Phi Kappa Phi

The Honor Society of Phi Kappa Phi promotes the pursuit of excellence in all fields of higher education and recognizes outstanding achievement by students, faculty, and others through election to membership and through various awards for distinguished achievement. Admission is by invitation only. If you are an undergraduate student and have completed at least 72 credits toward your degree (including at least 24 credits at UMGC) and rank academically in the upper 10 percent of your class, you may be eligible. As a graduate student, you must have completed at least 18 credits in your program and be in the top 10 percent of all graduate students. Invitations are sent out to students who meet these eligibility requirements.

TABLE OF CONTENTS
INDEX

Pi Gamma Mu

Pi Gamma Mu is the international honor society for the social sciences and recognizes outstanding scholarship in that area at UMGC. Membership is offered to qualified undergraduate students interested in anthropology; criminology; economics; gerontology; history; legal studies; political science; social psychology; sociology; and women, gender, and sexuality studies. You must have completed at least 45 credits toward your degree to be eligible. If you have earned at least 20 credits in social science coursework (including at least 9 credits at UMGC) and have a GPA in the top 35 percent of your class, you may be invited to join in the spring of each academic year. For inquiries about membership, contact *marylandtheta@umgc.org.* For more information about this honor society, visit *pigammamu.org*.

SALUTE

SALUTE (which stands for Service, Academics, Leadership, Unity, Tribute, Excellence) is the first national honor society established for student veterans and military servicemembers in two-year and four-year institutions of higher education. Members include retirees, disabled veterans, active-duty military, National Guard members, and reservists who are returning to higher education, starting second careers, or helping fund their college careers with military service.

To be eligible for SALUTE, you must be currently enrolled at UMGC; be currently serving in or have been honorably discharged from the military (including the National Guard and reserves); have completed at least 12 credits (or equivalent) with UMGC; have served as a mentor in the One2One mentoring program for at least one term, posted feedback on Vessey Virtual Student Union articles or to the social wall at least twice per month, or served as a volunteer consistently over the past six months; display the highest ethical standards; and maintain a GPA of at least 3.0 as an undergraduate student or 3.5 as a graduate student. Documentation of volunteer activity is required.

If you meet the minimum standards stated above, you are encouraged to apply for membership. To learn more, visit *umgc.edu/salute*.

Sigma Phi Omega

Sigma Phi Omega is a national academic honor and professional society in gerontology that seeks to promote scholarship, professionalism, friendship, and services to older persons and to recognize exemplary attainment in gerontology and aging studies and related fields. Student membership is open to undergraduate students majoring in gerontology and aging services, social science (with a focus on gerontology), and related fields. You must be in at least your second term of enrollment, have completed a minimum of 12 credits at UMGC, and have a GPA of at least 3.3. You may apply for membership at *sigmaphiomega.org.* Your eligibility will be confirmed through the chapter sponsor before membership is conferred.

Sigma Tau Delta

Membership in Sigma Tau Delta, the international English honor society, is open to qualified undergraduate UMGC students with a major in English. To be eligible, you must have earned at least 45 credits toward the bachelor's degree with an overall GPA of 3.5 or higher. At least 18 credits must have been earned through UMGC and must include 9 credits of English, at least 6 credits of which must be upper level. You must also have earned a GPA of 3.6 or higher in English major coursework at UMGC.

Upsilon Phi Delta

Upsilon Phi Delta is a national academic honor society founded by the Association of University Programs in Health Administration for undergraduate and graduate students in healthcare management and policy and designed to recognize, reward, and encourage academic excellence in the study of healthcare administration. To be eligible as an undergraduate student, you must have a cumulative GPA of 3.25 or higher and at least 18 credits of coursework in health services management with a GPA of 3.25 or higher in those courses. If you are a graduate student, you must have a cumulative GPA of 3.5 or higher and at least 18 credits of graduate coursework.

Upsilon Pi Epsilon

The Kappa Chapter of Maryland of Upsilon Pi Epsilon, the international honor society for the computing and information technology disciplines, is open to undergraduate and graduate students. To be eligible as an undergraduate student, you must be pursuing a bachelor's degree with a major in the computing and information technology disciplines and must have completed at least 45 credits. You should have completed at least 30 credits at UMGC in courses graded A, B, C, D, or F, including at least 15 credits in the computing and information technology disciplines, and must have a GPA of at least 3.5 overall and in all computing and information technology coursework. If you transferred to UMGC in your senior year or are pursuing a second undergraduate degree, then you may be eligible after completing 15 credits of information technology and computer science courses at UMGC; in such a case, you need not have completed 30 credits at UMGC.

If you are a graduate student, you may be considered for membership if you are pursuing one of the following degrees: MS in Cloud Computing Systems, Cyber Operations, Cybersecurity Management and Policy, Cybersecurity Technology, Data Analytics, Digital

TABLE OF CONTENTS
INDEX

Forensics and Cyber Investigation, or Information Technology (with a concentration in database systems technology, informatics, software engineering, or systems engineering). To qualify for graduate-level membership, you must have completed at least 18 credits at UMGC toward your degree, with a cumulative GPA of 3.5 or higher.

Academic Honors and Awards

Latin Honors

Latin honors for excellence in scholarship are determined by cumulative GPA at UMGC for undergraduate students and conferred at graduation. The distinction of *summa cum laude* is conferred on those undergraduate students with a cumulative GPA of 4.000; *magna cum laude* honors are conferred on those with a cumulative GPA of 3.901 to 3.999; *cum laude* honors are conferred on those with a cumulative GPA of 3.800 to 3.900. To be eligible for any of these categories of recognition, you must have earned at least 30 credits at UMGC in courses for which a letter grade and quality points were assigned. For honors to be conferred with a second bachelor's degree, you are required to have a total of at least 30 new UMGC credits and the requisite GPA. (See p. 35 for more information on attaining a second bachelor's degree.)

Dean's List

The dean's list is calculated at the end of each term for undergraduate students. To be eligible for the dean's list, you must have completed at least 6 credits (in courses graded A, B, C, D, or F) during the term, earned a GPA of at least 3.5 for the term, and maintained a cumulative GPA of 3.5 at UMGC.

All courses taken during the term are used in computing the GPA, even though the total number of credits may exceed 6. A term is designated as fall, spring, or summer.

If you make the dean's list, you will be notified via email of your achievement by the Office of the Dean of your school.

President's List

If you are graduating from either an undergraduate or graduate program with a cumulative GPA of 4.0 and have completed at least 30 credits at UMGC in courses for which a letter grade and quality points were assigned, you are placed on the president's list at graduation.

If you make the president's list, you will be notified via email of your achievement by the Office of the President.

Responsibilities of the Student

Attendance and Participation

You are responsible for attending all on-site and online classes and any related activities regularly and punctually. Faculty members may base part of the final grade on class participation.

You are expected to achieve the same intended learning outcomes and do the same amount of work in an online course as you would in an on-site course. Active participation is required in all courses, whether they are online or on-site with an online component, and you should expect to log in to your courses several times a week.

Absence from class does not excuse you from missed coursework. You are responsible for completing any missed coursework, as indicated in the course syllabus, and obtaining detailed information about missed class sessions, including content, activities covered, and any announcements or assignments. Failure to complete any required coursework may adversely affect your grade. Faculty members are not expected to repeat material that you missed because of your absence from class.

You may not give permission to another person to accompany you to an on-site class meeting, to attend an on-site class meeting in your place, or to access or attend your online class, except as part of reasonable accommodations arranged in advance through Accessibility Services.

Academic Integrity

Integrity in teaching and learning is a fundamental principle of a university. As a member of the International Center for Academic Integrity (*academicintegrity.org*), UMGC subscribes to the center's definition of academic integrity as "a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage." UMGC believes that all members of the university community share the responsibility for academic integrity.

As a UMGC student, you are expected to conduct yourself in a manner that will contribute to the maintenance of academic integrity in accordance with the university's philosophy of academic integrity (*umgc.edu/integrityphil*). All forms of academic misconduct, defined generally as actions that create an unfair academic advantage, are a violation of the principles of academic integrity and are not permitted. Attempts to engage in academic misconduct or to assist others in doing so are prohibited and may result in disciplinary actions that range from lower assignment grades to expulsion. Candor, the acknowledgement of error,

and willingness to learn from mistakes are valued in the misconduct review process. Resources to help you uphold the highest standards of academic integrity (including a link to UMGC's Academic Integrity Policy) are available online at *umgc.edu/academicintegrity*. UMGC strongly encourages you to review the complete policy and to make use of available resources and support services.

Intellectual Property

The primary mission of universities is to create, preserve, and disseminate knowledge. When that knowledge takes the form of intellectual property, a university must establish a clear and explicit policy that will protect the interests of the creators and the university while ensuring that society benefits from the fair and full dissemination of that knowledge. UMGC's Intellectual Property Policy is available online at *umgc.edu/intellectual-property*.

Expected Time Commitment

According to the university's definition of a unit of credit (described in UMGC's Credit Hour Definition Policy), you should expect to spend 42 to 45 hours on coursework (online or on-site class discussions and activities, additional study, readings, and preparation of assignments) for each credit you earn. Typically, you should expect to spend at least three hours each week on completing outside academic work and study for every credit in which you are enrolled during a standard session. For example, you would need to devote at least nine hours per week to outside study for a 3-credit course held in an eight-week session.

Course Load

See UMGC's Student Academic Load and Enrollment Status Policy at *umgc.edu/policies* for more information. See above for information on the amount of time you can expect to spend each week on outside academic work and study.

Undergraduate

For undergraduate students, full-time enrollment is defined as 12 or more credits per term and half-time as 6 to 11 credits per term (fall, spring, or summer). Decisions on the number of courses you can successfully complete in any one session are normally left to your discretion.

Most UMGC students register for between 3 and 7 credits per term, and you are strongly advised not to exceed this limit. Carefully and realistically assess your other commitments before you register for more than 7 credits. You may not register for more than 18 credits in a 17-week period without written permission from the Office of the Dean of your school.

To initiate the permission process, contact your advisor or success coach. Permission to register for more than 18 credits is at the university's discretion and is based on demonstrated academic excellence at UMGC. A minimum GPA of 3.5 and an enrollment history indicating success in carrying a heavier-than-average course load at UMGC are required.

You may not register for on-site or hybrid courses whose scheduled meeting times overlap.

Graduate

FOR MASTER'S DEGREE PROGRAMS

If you are enrolled in a program that operates on a three-term calendar (fall, spring, summer) for the academic year, you are considered a full-time graduate student if you are registered for at least 9 credits of graduate coursework per term and half-time if you are enrolled for 6 credits per term.

If you are enrolled in a program that operates on a four-term calendar (fall, winter, spring, summer) for the academic year, you are considered a full-time graduate student if you are registered for 6 credits per term.

Given the time commitment required for graduate study, the normal academic load is 6 credits per term. UMGC strongly recommends that you limit your academic load to conform with the demands of your employment and the time you have to prepare for class.

Taking more than 6 credits per term is not allowed in any program that operates on a four-term calendar.

If you have a compelling need to take more than 6 credits per term (and are enrolled in a program that allows course overloads), you may submit to your advisor or success coach a written request to take 6 additional credits of coursework (i.e., two additional courses) for a maximum total of 12 credits. You must have fulfilled the prerequisites for any additional courses you wish to take. In the request, you must indicate your acceptance of the academic risk entailed in adopting the course overload.

To be considered for a course overload, you must

- Be a degree- or certificate-seeking student in a program that operates on a three-term calendar
- Be in good academic standing
- Have completed the prerequisites for all requested courses

TABLE OF CONTENTS
INDEX

ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

FOR THE DOCTORAL PROGRAM

If you are enrolled in the doctoral program, you are considered full-time if you are registered for 6 credits.

Given the time commitment required for doctoral study, the maximum course load for the doctoral program is 6 credits per term.

Because courses in the doctoral program follow a defined sequence and build on competencies developed in previous coursework, course overloads are not allowed in the program.

Appealing a Grade

The established performance standards for a course grade are communicated in the syllabus and other course materials. If you reasonably believe that your grade was not based on such standards but was arbitrary and capricious, you may pursue the appeal process for arbitrary and capricious grading. Procedures for appealing a grade are detailed in UMGC's Procedures for Review of Alleged Arbitrary and Capricious Grading Policy, which is available online at *umgc.edu/policies*.

There is a time limit for appealing a grade; if you want to appeal a grade, you must initiate the process by requesting a conference with the faculty member to discuss how the grade was calculated within 30 calendar days of the posting of the grade. If you have conferenced with a faculty member with no resolution, contact *resolution.management@umgc.edu* with a detailed explanation of how you believe that your grade situation fits the definition of arbitrary and capricious grading as provided in the policy.

Grievance and Appeal Procedures

If you have an academic issue involving faculty or academic departments, contact the Office of the Dean of your school. Email addresses are provided on p. 7. Most academic issues about specific problems that have arisen can be resolved by contacting the faculty member teaching your class before they escalate further.

To file a formal complaint concerning the actions of members of the UMGC faculty or staff, you must follow the procedures detailed in UMGC's Student Grievance Procedures Policy, which is available at *umgc.edu/policies* as well as from Student Affairs. If you wish to seek redress for the acts or omissions of a faculty or staff member, you must first request a conference with that person by telephone, in writing, through videoconferencing, or in person and attempt to resolve the complaint informally within 14 calendar days of the alleged act or omission. If you have attempted resolution within the academic program or department without a satisfactory outcome, email *resolution.management@umgc.edu* and include information required by the grievance policy.

If you are not satisfied with the outcome of your student grievance, you may submit your complaint to an applicable accreditor, state higher education agency, or other external entity. Contact information for external entities is available at *umgc.edu/external-complaint*.

If you wish to file a complaint about discrimination or harassment, you must follow the procedures detailed in UMGC's Non-Discrimination and Anti-Harassment Policy, available at *umgc.edu/policies*. You can file a complaint regarding discrimination or harassment at *fairpractices@umgc.edu*. You may file a complaint regarding sexual misconduct at *titleixcoordinator@umgc.edu*.

Connectivity and Technical Fluency

UMGC is committed to ensuring that you have access to up-to-date resources and acquire the level of fluency in information technology you need to participate actively in contemporary society.

As a UMGC student, you must own or have access to a personal computer, have access to the internet, and have a current email address. You must be prepared to participate in asynchronous, computer-based class discussions, study groups, online database searches, course evaluations, and other online activities whether your course is held online or on-site. Although a mobile device is useful for keeping up with reading course materials and posting to discussion boards, a computer provides all the functionality needed for an online classroom.

You must also be able to reach fellow students, faculty, and the university via email. You will be assigned a UMGC account, which includes email, as soon as you register. While you are not required to use the UMGC email address, you must provide and maintain a current email address through MyUMGC (*my.umgc.edu*).

In addition, you are expected to have a working knowledge of and access to a basic word processing program, such as Microsoft Word; a spreadsheet program, such as Microsoft Excel; internet email services; Microsoft Windows; and the World Wide Web. As a UMGC student, you may use Microsoft Office 365, including Word, Excel, and PowerPoint, plus additional classroom tools at no cost. Office 365 can be accessed either via the web or by downloading applications to home or work computers.

Information on technology requirements for computing and IT courses is provided on p. 26. The most current technical requirements are available online at *umgc.edu/techreqs*.

ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

World Language Placement Testing

Proper placement in language courses helps ensure your success and allows you to advance more quickly toward your degree goals. If you have prior experience of a world language, you should take a complimentary placement test before enrolling in a language course. Placement testing will help determine the most appropriate course for which you should register in certain foreign languages.

Contact *languages@umgc.edu* for more information and to set up a placement exam.

Change of Address

If you move while enrolled at UMGC, you must notify UMGC promptly by updating your personal information in MyUMGC.

Transfer of Credits from UMGC

To have credits earned through UMGC transferred to another institution, you must obtain authoritative guidance from the institution to which you intend to transfer—even if it is another institution in the University System of Maryland. The transferability of credits earned is always at the discretion of the receiving institution. Only that institution can answer specific questions about whether it will accept transfer credit, as well as whether any credits may satisfy its admission, residency, and degree requirements or apply to its curricula.

Code of Civility

To encourage the development and growth of a supportive and respectful academic environment for all students, faculty, and staff, UMGC has created the Code of Civility, which is available at *umgc.edu/civility*.

Code of Student Conduct

UMGC's Code of Student Conduct Policy outlines prohibited conduct and the procedures by which such conduct is addressed. The university reserves the right to take all appropriate action to protect the safety and well-being of the UMGC community.

You may be accountable to both outside civil authorities and to UMGC for acts that constitute violations of law and of this code.

Disciplinary action at UMGC normally will go forward despite pending criminal proceedings and will not be subject to challenge on the grounds that criminal charges involving the same incident have been dismissed or reduced.

In every case of alleged Code of Student Conduct violation, the burden of proof rests with the complainant, who must establish the responsibility of the person accused by a preponderance of evidence. In cases where the complainant wishes to remain anonymous, the burden of proof rests with the administrator.

See *umgc.edu/studentconduct* for additional information about the UMGC Code of Student Conduct.

Payment of Tuition and Fees

UMGC requires that you pay your tuition and fees on time. Due dates are provided at the time of registration and depend on how early you register for courses.

Current Tuition and Fees

Tuition rates and fees are available online at *umgc.edu/tuition.* Information on student classification and residency is provided at *www.usmd.edu/regents/bylaws/SectionVIII.*

Review the fee schedule carefully to see which ones apply to you. Fees are commonly charged for admission and graduation applications, laboratory use (science and computer courses), technology, transcripts, and various options for earning credit (such as Workplace Learning, Prior Learning Portfolio Assessment, and credit by examination). Site-specific fees may apply for courses taken at certain locations. A service charge is assessed for dishonored checks.

Determination of Residency for Tuition Purposes

An initial determination of in-state or out-of-state status for tuition purposes is made when you apply for admission. The determination made at that time remains in effect unless it is successfully challenged. You are responsible for providing the information necessary to establish eligibility for in-state status. Official criteria for determining residency are detailed in USM Policy VIII-2.70 Policy on Student Classification for Admission and Tuition Purposes at *www.usmd.edu/regents/bylaws/SectionVIII* and UMGC's Student Residency Classification for Admission, Tuition, and Charge-Differential Purposes Policy at *umgc.edu/policies.*

Determination of Eligibility for Military Tuition Rate

UMGC's undergraduate military tuition rate applies to

- Full-time active-duty military servicemembers
- Members of the Selected Reserves
- Members of National Guard units
- Members of the Commissioned Corps of the U.S. Public Health Service (USPHS)
- Members of the Commissioned Corps of the National Oceanic and Atmospheric Administration (NOAA)
- The spouses and dependent children of the servicemembers listed above

UMGC's graduate military tuition rate applies to

- Full-time active-duty military servicemembers
- Members of the Selected Reserves
- Members of National Guard units
- Members of the Commissioned Corps of the USPHS
- Members of the Commissioned Corps of NOAA
- Spouses of full-time active-duty members of the U.S. Armed Forces, members of the Commissioned Corps of the USPHS, and members of the Commissioned Corps of NOAA
- Dependent children of full-time active-duty members of the U.S. Armed Forces, the Commissioned Corps of the USPHS, and the Commissioned Corps of NOAA whose sponsor resides in Maryland, is stationed in Maryland, or claims Maryland as the sponsor's state of residency
- Dependent children of full-time active-duty members of the U.S. Armed Forces, the Commissioned Corps of the USPHS, and the Commissioned Corps of NOAA if the dependent child resides in Maryland and is using the sponsor's transferred Post-9/11 GI Bill® benefits

To secure the military tuition rate, you must provide documentation of your service (or that of your qualifying spouse or parent) no later than 30 days after the date you submit the application for admission. For more information, contact Admissions or check the To Do list in MyUMGC.

If you do not submit sufficient documentation by the deadline, your tuition rate will be charged at the out-of-state rate—unless you have submitted the Residency Questionnaire in MyUMGC and qualify for in-state tuition, in which case your tuition rate will be changed to the in-state rate.

More information about securing the military tuition rate is available at *umgc.edu/milrate-procedures.* If you have questions about your eligibility or documentation, email *residency@umgc.edu.*

Payment Deadlines

UMGC requires that you pay your tuition and fees on time. Your payment due dates depend on how early you register for courses. Due dates are provided at the time of registration and are visible in the Account Balance panel in your Student Account Center in MyUMGC.

If you register any time from the beginning of registration through seven days before the class start date, your payment will be due seven days before the class start date. If you register within seven days of the class start date, your payment will be

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by the VA is available at the official U.S. government website at *benefits.va.gov/gibill.*

TABLE OF CONTENTS
INDEX

due the day before class starts. If you register on or after the class start date, your payment is due at the time of registration.

Note: All other charges, including application and diploma fees, are due the same day the charges are incurred.

All tuition and applicable fees must be paid by the deadline, unless you

- Applied for financial aid to cover tuition and fees for the session
- Confirmed your status as active-duty military or submitted your military tuition assistance documents
- Requested certification for your veterans education benefits
- Enrolled in UMGC's interest-free monthly payment plan
- Provided confirmation that you will receive employer-provided tuition assistance

UMGC offers a variety of payment options. Payments can be made via

- Credit card (American Express, Discover, MasterCard, or Visa)
- Money order
- Check (made payable to University of Maryland Global Campus)
- Electronic debit from a checking or savings account

You are encouraged to make payments via your secured student portal.

Consult the appropriate sections of this chapter for further information about tuition assistance, financial aid, or veterans benefits. More information about different payment options, including the monthly payment plan, is available at *umgc.edu/payoptions*.

Refunds for Dropping or Withdrawing from a Course

Registering for a course obligates you to pay for it; however, if for any reason you are unable to take a course, you must officially drop or withdraw from the course. See p. 15 for procedures on how to drop or withdraw from a course.

If you drop a course during the drop period, you will qualify for a full refund of tuition and fees, except for the admission application fee.

If you withdraw during the withdrawal period, you may be refunded a portion of the tuition as determined by the date of withdrawal and the refund schedule posted online at *umgc.edu/refunds*. All refunds are computed from the date the withdrawal is formally initiated, not from the date of the last class you attended or the last participation date. Refunds are applicable for tuition only. Fees are not refundable.

If your tuition was paid directly through employer tuition assistance, the refund is returned to the employer. If the tuition assistance was only a partial payment, it is returned to the employer, and excess payment is refunded to you.

More information about refunds can be found on the UMGC website.

See the following sections for information on return of military tuition assistance and veterans benefits and the federal return of funds policy for financial aid students.

Dishonored Checks

For each paper or electronic check returned to UMGC by the payer's bank (whether because of insufficient funds, stopped payment, postdating, or drawing against uncollected items), UMGC assesses a service charge of $30 (over and above any service charges levied by the financial institution).

If you stop payment on a check for tuition, you will be neither disenrolled nor relieved of responsibility for paying tuition and fees. Anyone whose checks for tuition or fees remain dishonored may be barred from classes.

Indebtedness to the University

If you incur debts to UMGC, you must clear them to be permitted to register. Requests for diplomas may be denied until all debts have been paid. Outstanding debts are collected against refunds due to you. After a reasonable period, uncollected debts are forwarded to the Central Collection Unit of the Maryland Department of Budget and Management.

The Board of Regents has authorized UMGC to charge students' delinquent accounts for all collection costs incurred by UMGC. The normal collection fee is 17 percent plus attorney and/or court costs. Delinquent accounts are reported to a credit bureau.

FINANCIAL INFORMATION

Ways to Finance Your Education

Monthly Tuition Payment Plan

UMGC offers a cost-effective alternative for students who are budgeting for college tuition: an interest-free, monthly tuition payment plan. This plan allows you to spread all or part of your tuition bills into monthly installments on an academic session basis. All UMGC students are eligible to participate in the payment plan, regardless of financial need. If you are interested in the monthly payment plan, visit *umgc.edu/payoptions* or call 800-888-8682.

Employer-Provided Tuition Assistance

If an employer is going to pay for part or all of your tuition, at the time of registration you must submit two copies of a document (purchase order, tuition assistance form, or contract on company letterhead) containing the following information:

- A specific description of types of fees and charges (such as tuition, application fee, or books) and the amount to be assumed by the employer
- Your full name and student identification number or the last four digits of your Social Security number
- The session covered by the document
- The billing address
- The signature and phone number of the authorizing official

If you do not have an authorizing document at the time of registration, you must pay the bill in full and arrange for direct reimbursement from your employer. UMGC cannot issue refunds for authorizing documents submitted after registration.

Documents that restrict payment or are in any way conditional will not be accepted. If the employer does not pay UMGC, you are responsible for payment.

Financial Aid

UMGC's Financial Aid Office administers a variety of financial assistance programs—including grants, scholarships, and loans—to help you meet the costs of your educational goals. Aid may be available for students who demonstrate financial need, academic merit, or both.

General Eligibility Requirements

To be eligible for federal financial aid and most UMGC need-based assistance, you must

- Complete and submit a Free Application for Student Aid (FAFSA) each year and have an official Student Aid Index number
- Be admitted to UMGC as a degree-seeking or eligible certificate-seeking student
- Be a U.S. citizen or an eligible noncitizen
- Possess a valid Social Security number
- Have a high school diploma or General Education Development (GED) certificate
- Be enrolled in courses that are required for your degree or certificate program

  Note: Courses not applicable to your degree or certificate program, audited courses, some repeated courses, credit by examination, and credits earned through portfolio assessment will not be included in determining eligibility for financial aid. See Program Applicability on p. 351.
- Be enrolled at least half-time for most federal programs
- Meet requirements for satisfactory academic progress toward a degree or certificate according to UMGC policy
- Not be in default on any federal student loans, nor have borrowed in excess of loan limits, nor owe a refund on any grant under Title IV federal financial aid programs

The Financial Aid Application Process

You must complete the FAFSA to be considered for federal, most state, and institutional financial aid at UMGC. The FAFSA (which is available online at *studentaid.gov*) must also be completed if you wish to be considered for need-based Maryland state grants and scholarships. UMGC's school code is 011644. The FAFSA form must be submitted by the federal deadline each year; many states also set priority deadlines by which you must submit the form to be considered for aid programs they administer. UMGC encourages you to complete the FAFSA as soon as you have decided on your academic career. For more information, visit *umgc.edu/apply-for-aid*.

Financial Aid Programs

Financial aid programs are available to both full- and part-time students. UMGC may offer the following types of financial aid: grants, scholarships, and loans. In most cases, at least half-time enrollment is required. (Full- and part-time status is explained on pp. 343–344.)

Eligibility for federal financial aid is determined each year based on data submitted on the FAFSA. The following is a description of programs currently available at UMGC.

FINANCIAL INFORMATION

GRANTS AND SCHOLARSHIPS

UMGC offers and administers many different types of grants and scholarship programs from various funding sources. UMGC aims to offer scholarship funding to as many eligible students as possible each year based on available funding. For this reason, it is not common for students to receive more than one donor-funded or institutional scholarship in an aid year. The standard combined annual maximum award amount for most donor-funded and institutional awards is $2,000. Additional annual maximum award limits and restrictions other than those listed below may apply. Contact the Financial Aid Office for details. Information on the main categories of scholarships and grants that are available to eligible UMGC students is provided below.

Note: This list is not exhaustive and is subject to change.

Federal Grants

The federal government provides grants for eligible students attending college. Most types of grants are sources of money that generally do not have to be repaid.

The **Federal Pell Grant** is a grant program for high-need students who are seeking their first undergraduate degree. Award amounts vary by need level and number of credits of enrollment.

The **Federal Supplemental Educational Opportunity Grant** offers need-based awards for high-need students who are seeking their first undergraduate degree. The amount and number of awards vary depending on the availability of funds allocated by the U.S. Department of Education.

More information is available at *umgc.edu/grants*.

UMGC Institutional Scholarships and Grants

UMGC allocates a portion of its operating funds each year to help eligible students with demonstrated financial need afford their coursework. Most institutional funds are awarded as part of the regular award packaging process, which requires submission of the FAFSA but no additional application. The most common institutional scholarships are described below.

Note: Annual funding for institutional scholarships and grants is limited. Meeting eligibility criteria for a scholarship or grant does not guarantee that you will receive an award.

The **UMGC President's Grant** offers up to $1,400 per year to select students with demonstrated need who are enrolled in at least 3 credits of program-applicable coursework per term.

The **UMGC President's Scholarship** offers up to $2,000 per year (fall and spring semesters only) to select students who have demonstrated financial need, have a cumulative GPA of 3.0 or higher, meet the standards for satisfactory academic progress, have completed a minimum number of credits at UMGC, are enrolled in program-applicable courses, and maintain at least half-time enrollment status each award term.

Note: You may not receive both the President's Grant and the President's Scholarship in the same term.

The **UMGC Maryland Resident Success Grant** offers up to $1,500 to students who are Maryland residents and students who meet the following criteria. You must

- Have a completed FAFSA on file, demonstrating financial need (verification must be completed, if applicable)
- Be a Maryland resident eligible for the in-state tuition rate
- Be enrolled in an undergraduate or graduate program
- Maintain enrollment of at least 3 credits in program-applicable coursework for each term the grant is awarded
- Meet the requirements for satisfactory academic progress (described in a following section)

You may not receive the Maryland Resident Success Grant if you are eligible for the Federal Pell Grant or Supplemental Educational Opportunity Grant; you may not or receive the UMGC President's Grant and the Maryland Resident Success Grant in the same term.

Note: Annual funding for the Maryland Resident Success Grant is limited. Meeting the eligibility criteria does not guarantee that you will receive an award.

The **Maryland Completion Scholarship** is offered to UMGC undergraduate students who meet the following criteria. You must

- Be a current Maryland resident receiving the in-state tuition rate or an active-duty servicemember
- Have earned an associate degree from a Maryland community college
- Be pursuing a first bachelor's degree with UMGC
- Maintain a term and cumulative GPA of 2.0 and meet the university's requirements for satisfactory academic progress
- Be enrolled in courses that are required for your degree program
- Successfully complete at least 3 credits every fall and spring semester (Enrollment for the summer term and winter intersession is optional. However, if you choose to enroll during those sessions, you must meet all regular criteria, including completing at least 3 program-applicable credits with a GPA of 2.0 or higher.)

FINANCIAL INFORMATION

If you qualify, you can receive the Maryland Completion Scholarship for up to 60 credits at UMGC or for up to five calendar years, whichever occurs first, starting in the semester of the first award. You must provide an official transcript showing completion of a conferred associate degree from a Maryland community college before the end of your second semester of enrollment at UMGC.

Donor Scholarships

Generous donors to UMGC have provided many different scholarship funds, each with its own specific criteria. If you meet the general eligibility requirements for donor-funded scholarships, you will receive an invitation by email (and in the student portal) each spring semester. This application is the only one needed for consideration for nearly all donor-funded scholarships. An invitation to apply for these scholarships does not guarantee that you will receive a scholarship award, as funds are limited.

In general, to be eligible for these scholarships you must

- Be enrolled as a degree-seeking student
- Have a current FAFSA on file before invitations are sent in early spring
- Have demonstrated financial need
- Have successfully completed at least 15 credits (if you are an undergraduate student) or 9 credits (if you are a graduate student) in courses taken at UMGC
- Meet satisfactory academic progress standards (described in a following section)
- Be enrolled in courses that are required for your degree program
- Maintain a cumulative GPA of 3.0
- Maintain at least half-time registration each fall and spring semester

Maryland Higher Education Commission (MHEC) Programs

The state of Maryland offers many different grant and scholarship programs to eligible students. The MHEC website (*mhec.maryland.gov*) is the best source for current information about different state-funded scholarship and grant programs available to UMGC students. For best consideration, you are encouraged to file the FAFSA or MHEC OneApp by March 15 each year. For more information, contact the MHEC Office of Student Financial Assistance via the website or call 410-767-3300 or 800-974-0203.

Private and Third-Party Scholarships

Outside agencies, such as social clubs or volunteer organizations, may offer scholarship funds to UMGC students to assist with education costs. These agencies provide funding either directly to you (the student) or directly to UMGC for processing and administration. The Financial Aid Office ensures that students receiving these funds maintain eligibility per the requirements of the individual agencies.

For more information on scholarships, visit *umgc.edu/scholarships*.

LOANS

Loan programs are available to students enrolled in at least half-time status each semester. If you borrow funds to pay for college expenses, you must repay the principal and interest in accordance with the terms of the promissory note.

The **Federal Direct Loan program** offers two types of loans: subsidized and unsubsidized. Loan amounts vary based on your degree level (i.e., undergraduate or graduate), grade level, and dependency status. Repayment begins six months after you leave school or your attendance drops below half-time. For annual eligibility amounts and general repayment terms, visit *umgc.edu/direct-loan*.

- Federal Direct Subsidized Loans are available to eligible undergraduate students who demonstrate financial need. The U.S. Department of Education pays the interest on Federal Direct Subsidized Loans while you are in school at least half-time and for the first six months after you leave school.
- Federal Direct Unsubsidized Loans are available to eligible undergraduate and graduate students. There is no requirement to demonstrate financial need. Interest on an unsubsidized loan begins on the day the loan is disbursed and continues until the day that you repay the loan in full. You can pay the accumulating interest while you are in school, during the grace period, or during deferment, or you may capitalize the interest (i.e., add unpaid accumulated interest to the total unsubsidized amount borrowed) when you begin repayment.

The **Federal Direct PLUS Loan Programs** are loans for graduate students and parents of dependent undergraduate students to help pay for education expenses not covered by other financial aid. Eligibility is not based on financial need, but a credit check is required. Borrowers who have an adverse credit history must meet additional requirements to qualify. Repayment begins as soon as the loan is fully disbursed; however, there is an option to defer payments while you meet certain enrollment criteria.

For more information on federal loan repayment obligations, visit *umgc.edu/loan-repayment*.

FINANCIAL INFORMATION

Private student loans are made by private organizations—such as banks, credit unions, and state-based or state-affiliated organizations—and have terms and conditions that are set by the lender. If your financial aid does not meet your financial need, you may be able to borrow up to your cost of attendance through a private student loan program. These education loans are not federal loans; you borrow directly from and make payments to the lender. Private student loans usually have higher interest rates than federal loans. UMGC encourages you to apply for federal student aid before seeking alternative private loan options. If you are interested in a private student loan, contact the lender of your choice.

For more information on federal financial aid programs, visit *umgc.edu/financial-aid.* More information on loan repayment is available at *umgc.edu/loan-repayment*.

Program Applicability

Federal and state regulations mandate that financial aid can be disbursed only for courses that are required for your degree or certificate program. If you enroll in courses that are not required for your degree or certificate, those courses will not be used to determine your financial aid eligibility. If you choose to remain in courses that are not applicable to your degree or certificate program, your financial aid may be negatively affected as a result. For more information, see *umgc.edu/course-applicability.*

UMGC Financial Aid Standards for Satisfactory Academic Progress

If you receive financial aid, federal regulations require you to maintain satisfactory academic progress toward your degree or certificate. If you fail to meet the minimum requirements, you are not eligible to receive financial aid. Review the complete Satisfactory Academic Progress policy for financial aid students, including details of the appeal process, at *umgc.edu/sap.*

Federal Return of Funds Policy

Federal financial aid is offered under the assumption that you will attend and participate in classes for the entire period for which the aid has been offered. If you receive Title IV funds and do not attend or participate for the entire period for which you have been given aid, the university is required by federal regulation 34 CFR 668.22 to perform a Return of Title IV Funds calculation. The requirement to perform such a calculation may be triggered by any of the following actions occurring during your enrollment period:

- Course cancellation
- Disenrollment
- Never participating in a class
- Ceasing to participate in a class
- Dropping a course
- Withdrawing from a course
- Ceasing enrollment for 45 calendar days or more between modules

You are not considered to have withdrawn

- If you certify your intent to return later within the same term in which you dropped or withdrew from class, unless you do not return as scheduled
- If you fulfill all the requirements for graduation from the program before completing the required number of days in the period for which you have received funds
- If you complete one or more modules that together cover at least 49 percent of the days in the payment period
- If you successfully complete credits equal to or greater than the credits required for half-time enrollment
- If you never attend your courses in the term; all of your Title IV aid for the term, including any financial aid refunds, is returned; all of your tuition and fees are returned; and any institutional balance has been written off or cancelled

When the Financial Aid Office performs a return of funds calculation, unearned funds are returned to the Department of Education. This can result in a balance owed to UMGC. You are then responsible for repaying the outstanding debt. If you do not pay the outstanding debt, it will be transferred to the state Central Collection Unit.

If you are using federal financial aid, you are strongly encouraged to contact the Financial Aid Office before dropping or withdrawing to fully understand the impact on your current and future financial aid.

Visit *umgc.edu/enrollmentchanges* for further information.

For More Information

If you need additional information, visit the Financial Aid Online Support Center at *umgc.edu/help* to view the extensive list of frequently asked questions in the Knowledge Base or email, chat, or request a call with an advisor.

Note: If you are a resident of Washington state and are interested in information and resources about student loan repayment or wish to submit a complaint to the Washington Student Achievement Council regarding your student loans or student loan servicer, visit *wsac.wa.gov/loan-advocacy* or contact the student loan advocate at *loanadvocate@wsac.wa.gov*.

FINANCIAL INFORMATION

Military Tuition Assistance

If you are serving in the Navy, Marine Corps, or Coast Guard, you must contact your education center to request a tuition assistance form. A tuition assistance form signed by the education coordinator must be submitted at the time of registration using one of the methods listed at *umgc.edu/milta*.

If you are serving on active duty in the U.S. Army or are a member of the Army National Guard or Army Selected Reserves and intend to use military tuition assistance benefits, the funds will be approved in the ArmyIgnitED portal (*armyignited.army.mil*). Approval should be received before you register for class with UMGC.

If you are serving in the Air Force, you may submit your tuition assistance forms via the Air Force Virtual Education Center (AFVEC) portal. If you are the spouse of a servicemember eligible to utilize MyCAA (My Career Advancement Account) benefits, you may also submit your tuition assistance forms via the AFVEC portal.

Return of Unearned Military Tuition Assistance Funds

Military tuition assistance funds are awarded under the presumption that you will attend and participate in classes over the entire period for which the funds have been awarded. If you receive military tuition assistance funds and do not attend or participate for the entire period for which funds were provided, the university is required by the Department of Defense to perform a Return of Unearned Military Tuition Assistance funds calculation. The requirement to perform such a calculation is triggered by any of the following actions occurring on or before the 60 percent point of your enrollment period:

- Course cancellation
- Disenrollment
- Never participating in a class
- Ceasing to participate in a class
- Dropping a course
- Withdrawing from a course

A return of funds calculation is based on the last documented date of attendance or participation in the class or the date the drop, withdrawal, cancellation, or disenrollment is initiated. When a return of funds calculation occurs, unearned funds are returned to the Department of Defense. This can result in you owing a balance, which is your responsibility to repay to UMGC. To learn more about course withdrawal and return of military tuition assistance, see UMGC's Course Withdrawal Policy at *umgc.edu/policies*.

If you are seeking an exception to the drop or withdrawal refund deadlines because of military service obligations, you should contact Student Resolution and Judicial Affairs at *exception.request@umgc.edu*. For more information, see UMGC's Course Withdrawal Policy and Readmission for Military Servicemembers Policy at *umgc.edu/policies*.

If you are using military tuition assistance, you must contact your military education counselor or education services officer for guidance on drops or withdrawals related to emergencies or official duty requirements before dropping or withdrawing from a class to fully understand the impact of such an action on your current and future military tuition assistance benefits.

For more information about the return of military tuition assistance funds, visit *umgc.edu/return-milta*.

Veterans Benefits

You may apply for the following educational assistance programs administered by the U.S. Department of Veterans Affairs (VA):

- The Montgomery GI Bill–Active Duty Increased Educational Benefits (MGIB, Chapter 30)
- Veteran Readiness and Employment (Chapter 31)
- The Post–Vietnam Era Educational Assistance Program (Chapter 32)
- The Post-9/11 GI Bill (Chapter 33)
  - Yellow Ribbon Program
  - Transfer of Post-9/11 GI Bill Benefits to Dependents
  - Marine Gunnery Sergeant John David Fry Scholarship
- The Survivors' and Dependents' Educational Assistance Program (Chapter 35)
- The Montgomery GI Bill–Selected Reserve Educational Assistance Program (Chapter 1606)

Detailed information on all assistance programs is available on the UMGC website at *umgc.edu/vabenefits* or on the VA website at *gibill.va.gov*.

Application Procedures

If you are eligible for educational benefits from the VA, you should review the online information and application procedures at *umgc.edu/vabenefits*. Every educational assistance program requires different paperwork and documentation to process a claim. Initial applications for benefits should be submitted online directly to the VA. You must also complete a UMGC request for certification form each session you wish to receive benefits.

FINANCIAL INFORMATION

The VA processes claims and issues payment six to eight weeks after the add/drop period of each enrollment session. VA claims may be submitted no earlier than 180 days before class starts for Chapter 33 enrollments and 120 days before class starts for Chapter 30, 35, and 1606 enrollments.

Amounts and Methods of Payment

The amount of money you may receive from the VA depends on the educational assistance program for which you are eligible, the number of credits for which you are registered, the length of the session, and (for certain programs) the number of dependents you have. The current monthly payment for each educational assistance program is available online at *gibill.va.gov.*

Benefit Provisions Related to Pending Payments

In accordance with Title 38 US Code 3679 subsection (e), UMGC adopts the following additional provisions for any students using VA Post-9/11 GI Bill (Ch. 33) or Veteran Readiness and Employment (Ch. 31) benefits. While payment to the university is pending from the VA, UMGC will not

- Prevent your enrollment
- Assess a late penalty fee
- Require you to secure alternative or additional funding
- Deny you access to any resources (classes, libraries, or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution

However, to qualify for this provision, you may be required to

- Produce the VA Certificate of Eligibility by the first day of class
- Provide a written request to be certified
- Provide additional information needed to properly certify the enrollment as described in other institutional policies

Evaluation of Prior Training

When you file a claim for educational benefits, the VA requires your previous training and coursework to be evaluated so that you receive correct transfer credit.

If you are an undergraduate student, you must have an academic advisement report completed during your first session of enrollment. If you do not comply, you may find future benefits delayed. After your first registration, you are provided with information on the necessary procedure. (Information about sources of credit, including types of training that qualify for undergraduate credit, begins on p. 16; these include military training and service schools, postsecondary education, certain correspondence courses, and credit by examination.)

If you have earned graduate credit from a UMGC-approved accredited college or university, you must have an evaluation completed during the first session of enrollment. (Equivalent credit from other accredited institutions may be considered on a case-by-case basis. If you were educated abroad, see *umgc.edu /internationalstudent* for additional requirements.) Not complying with this evaluation may delay future benefits. For information on evaluation procedures for study abroad, visit *umgc.edu /internationalcredit.*

Students' Responsibilities

If you are receiving benefits, you are expected to follow all regulations and procedures of the VA while attending UMGC.

At UMGC, all regulations of the VA are enforced. You should be aware of the following requirements and consequences:

- You are expected to make satisfactory progress toward a degree or certificate; you must comply with the academic standards of UMGC.
- You must report all changes in enrollment—including drops, adds, withdrawals, changes to audit, and changes in degree objective.
- Registering for a course and then not attending, or ceasing to attend without officially withdrawing, is a misuse of federal funds that is punishable by law.
- Payment of benefits will be disallowed for any course in which a nonpunitive grade (i.e., a grade of I, W, or AU) is assigned.
- Payment of benefits will be disallowed for repeating a course for which transfer credit has been granted or for which a passing grade of A, B, C, D, P, or S was assigned.
- Payment of benefits will be disallowed for any course in which a grade of FN is assigned.
- Payment of benefits will be disallowed for any course that is not a requirement in your degree or certificate program.
- Payment of benefits will be disallowed for noncredit graduate courses.
- Payment of tuition and fees is required at time of registration, unless you are applying for Chapter 31 Veteran Readiness and Employment or Chapter 33 Post-9/11 GI Bill benefits.
- You will be responsible for debts caused by overpayment of benefits resulting from reductions of your course load.
- If you are in a program that involves any internship, practicum, or work study, you are required to provide documentation to the Veterans Certification Office verifying the physical location and zip code where the work takes place.

Grievance Information for Virginia Students Using Veterans Educational Benefits

The Virginia State Approving Agency (SAA) is the approving authority of education and training programs for Virginia. The SAA investigates complaints of GI Bill beneficiaries residing in Virginia. While beneficiaries should initially follow UMGC's Student Grievance Procedures Policy to address complaints, they should contact the SAA office via email at *saa@dvs.virginia.gov* if the situation cannot be resolved at UMGC.

Tutorial Assistance

You may qualify for tutorial assistance if you are a veteran, active-duty military servicemember, or reservist receiving funding assistance from the VA and you are enrolled at least half-time. Payments are allowed when you demonstrate deficiency in courses that are required for your degree program.

Work-Study Allowance

If you are registered at least three-quarters time (9 credits) and need money to attend school, you may participate in work-study. Recipients of benefits under the provisions of Chapters 30, 31, 32, 33, 35, and 1606 may be eligible. You may work up to 400 hours during a session and receive either the federal minimum wage or the state minimum wage, whichever is greater.

For Further Information

Information and applications are available from your advisor or success coach at *umgc.edu/vabenefits*. For information on qualifying for the in-state tuition rate as a veteran or eligible dependent, see Determination of Residency for Tuition Purposes on p. 346.

TABLE OF CONTENTS
INDEX

Availability of Services

General Information

UMGC representatives are available at 800-888-8682 to answer general questions and help you navigate UMGC's website. Representatives also can make sure you are signed up to receive important announcements.

UMGC provides numerous services and resources to help you complete your educational program from anywhere in the world—through systems and resources available online; by phone, email, chat, and virtual meetings; and in person at sites throughout the Maryland area, as well as at many military sites stateside and worldwide. A number of offices are responsible for the delivery of these services, including Accessibility Services, Admissions, Advising Operations, Career Services, Global Military Operations, the Office of the Registrar, Office of Tuition Funding, and the library.

Among these, the offices of the Registrar, Advising Operations, and Global Military Operations respond to most of your academic needs throughout your college career, providing general information; admission assistance; academic advising; success coaching, registration, graduation, and transcript services; and veterans benefits assistance.

In the Maryland/Virginia/national capital area, services are available at the following locations. A complete list of stateside class and service locations is available online at *umgc.edu/locations*.

Service Locations

Aberdeen Proving Ground
baseadvisor@umgc.edu
240-244-6561

Andrews (Joint Base Andrews)
baseadvisor@umgc.edu
240-244-6524

Anne Arundel Community College at Arundel Mills
regional.advisor@umgc.edu
888-335-8682

Bethesda (Walter Reed National Military Medical Center)
baseadvisor@umgc.edu
301-232-3694

College Park (University of Maryland, College Park)
regional.advisor@umgc.edu
888-335-8682

Dorsey Station
regional.advisor@umgc.edu
888-335-8682

Fort Belvoir
baseadvisor@umgc.edu
240-224-3520

Fort Detrick
baseadvisor@umgc.edu
240-244-6673

Fort Gregg-Adams (formerly Fort Lee)
baseadvisor@umgc.edu
757-231-5680

Fort Meade
baseadvisor@umgc.edu
301-621-9882

Langley–Fort Eustis (Joint Base Langley-Eustis)
baseadvisor@umgc.edu
757-231-5584 (Langley AFB)
757-231-5680 (Fort Eustis)

La Plata (Universities at La Plata)
regional.advisor@umgc.edu
888-335-8682

Laurel College Center
regional.advisor@umgc.edu
888-335-8682

Little Creek–Fort Story (Joint Expeditionary Base Little Creek–Fort Story)
baseadvisor@umgc.edu
757-231-5666

Myer–Henderson Hall (Joint Base Myer–Henderson Hall)
baseadvisor@umgc.edu
240-224-3662 (Fort Myer)
240-224-3731 (Henderson Hall)

National Business Park
baseadvisor@umgc.edu
301-621-9882

Quantico (Marine Corps Base Quantico)
baseadvisor@umgc.edu
240-224-3674

Shady Grove
regional.advisor@umgc.edu
888-335-8682

TABLE OF CONTENTS
INDEX

SERVICES AND RESOURCES

USM at Hagerstown
regional.advisor@umgc.edu
888-335-8682

USM at Southern Maryland
regional.advisor@umgc.edu
888-335-8682

MyUMGC

You may access many of your personal UMGC records online through MyUMGC (available online at *my.umgc.edu*). MyUMGC enables you to change personal information (such as home address, email address, or phone numbers); register and pay for courses; pay bills; check grades, financial aid, and student account status; apply for graduation; request certification for VA educational benefits and check the status of the request; and view and print reports (such as your class schedule, grade report, statement of account, and unofficial transcript). To access these services, you must enter your UMGC login credentials.

A glossary of terms frequently used in MyUMGC may be found in the appendices.

Accessibility Services

Reasonable accommodations are available to help you if you have a documented disability and are enrolled in any program offered at UMGC. Review our Reasonable Accommodation Policy at *umgc.edu/policies* for more information.

You can request disability-related accommodations by submitting a request to Accessibility Services.

You should make your request for accommodations as early as possible to allow sufficient time for staff to process your request, develop your accommodation plan, and coordinate your classroom accommodations. Once your request and accompanying documentation have been received and reviewed, Accessibility Services will notify you of the status of your request and schedule an intake appointment, which may be held over video conference, by phone, or via email. During the appointment, Accessibility Services will discuss with you your specific request for accommodations, your academic needs, available resources, and Accessibility Services' policies and procedures. Decisions regarding accommodations are based on an individualized assessment of program requirements and the need for accommodations. Once an accommodation plan is finalized, Accessibility Services will provide the plan to faculty members teaching your classes upon your written request.

You are under no obligation to disclose a disability unless an accommodation is being requested. A decision not to disclose is understood and respected; however, faculty members cannot provide individual accommodations if a formal accommodation plan is not received. All disability information provided to Accessibility Services is maintained separately from your academic information and is not considered part of your permanent academic record. Disability-related information is used solely for the purpose of establishing the existence of your disability and enabling UMGC to facilitate academic and supportive services related to your disability.

Visit *umgc.edu/as* or contact Accessibility Services by phone at 240-684-2287 or by email at *accessibilityservices@umgc.edu* for more information.

Admission Assistance

If you are inquiring about becoming a UMGC student or are admitted but have not yet registered, admissions advisors can help you select the right program, apply for admission, identify the right payment option, plan your curriculum, and register for your first term of classes.

Contact an admissions advisor by phone at 800-888-8682, chat via the website (*umgc.edu/advising*), or email at *studentsfirst@umgc.edu.* See pp. 8–11 for information on admission.

Advising

Success coaches and advisors help you develop the behaviors, skills, and habits you need to successfully navigate your academic program—from admission to degree completion. Their assistance can include reviewing potential transfer credit and helping you clarify education and career goals, develop learning strategies, and select appropriate courses. Advising services are available by phone, email, chat, or virtual meetings at times that are convenient for you. If you are near one of UMGC's regional sites (listed online at *umgc.edu/locations*), you may schedule an advising appointment by contacting that location.

Coaches and advisors will check in with you throughout the term, but you are also encouraged to keep track of your program requirements and seek advising. You should retain and refer to the catalog of the year you entered your program, as it contains all the degree requirements for which you will be held accountable as long as you maintain continuous enrollment. Archived catalogs are also available online at *umgc.edu/catalogs*.

TABLE OF CONTENTS
INDEX

If you have not attended UMGC for a year or more, call an advisor or a success coach at 800-888-8682 or email *studentsfirst@umgc.edu* for assistance in getting back on track. If it has been more than two years since your last enrollment, you must first reapply for admission. Once readmitted, you are required to fulfill the degree requirements detailed in the catalog of the year in which you resume study. More information on continuous enrollment is provided on the introductory pages describing each type of degree and certificate.

Whenever possible, you should get advising information in writing to help with future degree planning. You must meet all degree requirements to be cleared for graduation.

Academic Advisement Report (Degree Plan)

An academic advisement report

- Includes all transfer credits applicable to your degree or certificate program
- Lists all courses you completed at UMGC
- Incorporates other types of academic credit
- Remains in effect only while you remain continuously enrolled

In the academic advisement report, courses (or other sources of credit) are applied to the most appropriate requirement remaining to be filled. Undergraduate courses that could apply to multiple requirements are assigned to the first relevant category in the following order: requirements for your academic major, general education requirements, and electives. Verification of other degree-wide requirements (such as minimum number of upper-level credits) follows and may affect the remaining credits needed for the degree.

Evaluated Military Degree Plans

UMGC will provide the necessary evaluated military degree plan as required by your military branch. When complete, your evaluated military degree plan is emailed to you so that you can upload it to your military portal.

Undergraduate

If you are an active-duty servicemember pursuing an associate or bachelor's degree, UMGC provides you with an evaluated military degree plan, as required by your military branch. UMGC also provides you with an evaluated military program plan if you are an Army or Air Force servicemember pursuing an undergraduate certificate. The evaluated military degree plan documents any credit you have been awarded from all sources and lists your remaining degree requirements, including those required to fulfill general education, major, and elective requirements.

To be eligible to receive an evaluated military degree plan, you must be an active-duty military servicemember and have a completed academic advisement report. You must submit all documentation for your academic advisement report as soon as possible so that it can be completed in a timely fashion.

Graduate

If you are an Army or Air Force servicemember pursuing a graduate certificate or degree, UMGC provides you with an evaluated military degree plan. If you are a Coast Guard, Marine Corps, or Navy servicemember pursuing a graduate certificate or degree, an evaluated military degree plan is not required for tuition assistance eligibility. The academic advisement report is sufficient documentation for that purpose.

Transfer Credit

To access information about progress in your chosen program, you need to submit official transcripts from all the colleges and universities you previously attended, including other institutions of the University System of Maryland, and any other potential source of credit, whether or not transfer credit will be requested or granted. Sources of transfer credit (described on pp. 16–18) not listed at the time of admission or approved by an advisor or a success coach after admission may not be applied toward your UMGC program.

You are responsible for submitting all pertinent academic documents (such as academic transcripts, confirmation of credit conferred by examination, or records of credit from military service schools or sources) in a timely fashion to facilitate completion of your academic advisement report. To be considered official, documents must be sent directly from the issuer in either a sealed, unopened envelope or via an accepted secure electronic method. UMGC cannot accept official transcripts via fax or email, regardless of the source. For more information, visit *umgc.edu/transcripts*.

Official documents should be mailed to the following address:

Attn: Student Records
University of Maryland Global Campus
3501 University Boulevard East
Adelphi, MD 20783-8070

TABLE OF CONTENTS
INDEX

SERVICES AND RESOURCES

Alumni Association

The UMGC Alumni Association, founded in 1990, fosters and perpetuates lifelong relationships between alumni and their alma mater. Its mission is to support, enhance, and promote UMGC and its community of students, faculty, and alumni worldwide.

Membership in the Alumni Association is free for UMGC graduates. The association invites graduates to stay connected through volunteer service, social events, career networking, and other opportunities. Benefit programs and resources include career services, networking opportunities, affinity partner discounts, a virtual alumni book club, and special alumni events—held both online and on-site.

Membership in the UMGC Alumni Association offers an exceptional opportunity to expand personal and professional networks. UMGC currently has more than 307,000 graduates in 47 states and 24 countries. UMGC alumni work in nearly all major international and Fortune 500 organizations, federal agencies, branches of the military, and private industry.

For more information on the Alumni Association and on how to activate your free membership, visit *alumni.umgc.edu.* You can also follow the Alumni Association on Facebook, LinkedIn, and X (formerly known as Twitter).

Career Services

Career Services provides resources and services for UMGC students and alumni worldwide to inform them about and prepare them for their careers, connect them with people and opportunities, and fulfill their job-search needs. To access Career Services, activate your account on CareerQuest, UMGC's online career portal, at *careerquest.umgc.edu* using your UMGC login credentials.

Tools and Resources

Career Services offers a variety of tools and resources, available online 24 hours a day, that can be useful in the career planning and job-search process. Resources include résumé and LinkedIn profile optimization, online mock interviews, video job-search tips, occupational information, and access to a network of alumni career mentors.

Job-Search Services

UMGC offers several services designed to support UMGC students and alumni who are seeking employment. Services include employer recruitment sessions and career fairs (held online), employability and job-seeking skills webinars on topics such as résumé writing and interview preparation, and job searches. CareerQuest enables you to register for recruiting events, search job listings and set job alerts, and post résumés for prospective employers.

Career Development and Planning

Career Services staff are available to provide personalized attention to help you clarify your skills, interests, and work-related values; make career/life-related decisions; research career options; plan for further study; and search for employment, whether you are new to your career field, making a career transition, or looking for guidance on how to climb the corporate ladder as an experienced professional.

Career advising services are available by appointment (by phone, virtual meetings, and email) and can be scheduled via CareerQuest. Call 800-888-8682, ext. 2-2720, or visit *umgc.edu/careerservices* for more information.

Computer Labs and Services

Computer labs are available at many UMGC sites (including Dorsey Station and Shady Grove). You can check *umgc.edu /locations* to see if a site near you has computing services. At some sites, use may be restricted to students taking classes at that site.

These labs are available primarily for you to complete coursework but are also open to faculty members, staff, and alumni with current single sign-on credentials on a first-come, first-served basis on presentation of a valid UMGC or site-specific ID. You must bring your own media to save required data or documents. Acceptable media include flash drives or thumb drives.

Note: Printing services typically are not available in the computer labs.

Technical support for MyUMGC, the learning management system, and other learning applications is available 24 hours a day, seven days a week, at *umgc.edu/help* or 888-360-8682. For the most current information on technical requirements for online and hybrid courses, visit *umgc.edu/techreqs.*

Course Materials

You can complete most UMGC degrees with electronic resources that are free, up to date, and available in your online classroom. These learning resources may include electronic textbooks, lectures, links to websites, and other selected documents and media.

Some courses do require the use of specific software or content that cannot be accessed for free. When you register for a course, check the required course materials listed in the interactive schedule of classes or the course syllabus to determine whether you will need to buy any course materials. These materials are not included on your student account or added with your tuition and fees and must be paid for out-of-pocket.

For those few courses that require additional resources, you may order textbooks and software either through the vendor listed on the interactive schedule, from Barnes and Noble College (formerly MBS Direct) through the UMGC online bookstore (*umgc.edu/bookstore*), or by mail. In rare cases, your faculty member will provide information on special resources to purchase.

Graduation Clearance and Services

Application Deadlines

If you expect to complete the requirements for your program, you are responsible for making sure you have reviewed your academic advisement report with an advisor or a success coach (details on pp. 356–357), filed an application for graduation (available online through MyUMGC at *my.umgc.edu*) with Graduation Services, and paid the appropriate fee (currently $50). For all undergraduate programs and most graduate programs, this may be done at the time you register for your final term or by the following deadlines:

December (fall term) graduation	October 15
May (spring term) graduation	February 15
August (summer term) graduation	June 15

If you are enrolled in the doctoral program or a program that requires DCL 600M, you may submit your application for graduation at the time you register for your final term or up to the following deadlines:

December graduation	October 15
March graduation	February 15
June graduation	April 1
September graduation	July 15

The same deadlines apply if you are completing a certificate program. The application form must be completed via MyUMGC at *my.umgc.edu.* Follow the links from the Student Center, to MyAcademics, and Apply for Graduation.

Clearance Process for Graduation

Once you have applied for graduation, Graduation Services will review your academic requirements and determine whether you are cleared for graduation. If you do not complete the degree requirements in the term in which you first applied for graduation, your graduation application will automatically be moved to the next term. You will not be required to reapply, and you do not need to pay the application fee again.

If you are taking courses or exams outside UMGC in your final term, make certain the credit is transferrable and fulfills your remaining requirement(s). Your transcript must reflect completion of such coursework or exams before the term's degree conferral date to be accepted for transfer toward that term's conferral. The Graduation Services team then certifies degree completion, awards the degrees or certificates, and orders the diploma(s). You will be issued a digital diploma after your degree or certificate has been awarded. Graduation Services also processes letters of completion and embassy letters.

Transcripts are not updated to show program completion, nor are diplomas and certificates ordered, until the degree has been awarded.

For more information on the clearance process for graduation, visit *umgc.edu/graduationservices.*

Commencement

Stateside commencement is held annually in May and December in Adelphi, Maryland. You will be invited to participate in commencement if you apply to graduate in the same term as the ceremony (or have graduated since the last commencement). Visit *umgc.edu/commencement* for more information about eligibility and details about the stateside commencements.

If you invite guests from outside the United States, you may request up to 10 embassy letters up to five months in advance.

TABLE OF CONTENTS
INDEX

SERVICES AND RESOURCES

Library and Archives

The library (*umgc.edu/library*) provides online access to scholarly and other materials on topics related to UMGC's academic programs. You can access full-text articles, electronic books, and subject- or course-specific resource guides that serve as starting points for your research.

Research assistance is available online 24/7 via the library's online chat service. Additionally, research and technical help is available via email and telephone and by appointment during posted hours. The library also offers how-to videos, web pages, and other guides to help you conduct research for your assignments, as well as live webinars that can help you to learn more about academic research. Visit *umgc.edu/library* for more information.

The archives collects both physical and digital historical resources related to the history of UMGC. For information about how to use these resources, contact the archives via the online form at *libguides.umgc.edu/contact-archives*.

Student Advisory Council

The Student Advisory Council provides input and feedback to the university administration on institutional initiatives. The council consists of 12 members, elected by the student body, who act in an advisory capacity to the university leadership on behalf of all students. The council does not have the authority to act on behalf of individual students but instead provides recommendations for the improvement of UMGC for the benefit of all.

If you would like to see certain issues addressed or have questions, you should contact your council representative by email at *stac@umgc.edu*.

More information on student governance is available online at *umgc.edu/stac*.

Student Organizations

Student organizations provide professional growth, leadership development, and a sense of community. They include academic-focused groups where you can engage with career-related topics and opportunities and interest-based groups that provide you with ways to support and connect with other students through a shared purpose. UMGC's student organizations have virtual communities and enable you to participate regardless of your location. Visit *umgc.edu/clubs* for a list of active student organizations and instructions on becoming a member.

Transcript Services

Official academic records are maintained by the Office of the Registrar at UMGC and show all graded coursework taken through UMGC. A summary of your transfer credit from other institutions (including other institutions in the University System of Maryland) is also listed on your official transcript, if an official evaluation has been completed.

Your education records are considered confidential. Therefore, UMGC releases transcripts only upon receiving an online transcript request from you and payment of the appropriate fee. Online requests are authenticated through your login credentials. An electronic release form is provided during the request process and serves as your official signature.

Various procedures for requesting transcripts are available online at *umgc.edu/transcripts*. A fee is charged for each UMGC transcript that is issued; additional fees are charged for rush overnight processing. You should allow at least three business days for transcript requests to be processed.

Tutoring and Writing Resources

Free online tutoring via Tutor.com or in group tutoring sessions offered via Zoom is available in select courses in accounting, biology, computer programming and information technology, economics, finance, statistics, mathematics, experiential learning, and other select general education study areas. Tutoring is not yet available for all subjects offered at UMGC. You are encouraged to first seek guidance from your faculty member, who is eager to help you master the material and concepts of the course. More information about tutoring services is available at *umgc.edu/tutoring*. If you need additional information or have any questions, email *tutoring@umgc.edu*.

Writing tutoring is available for all classes through various means. You can access Tutor.com through the online classroom and upload a draft of a paper or schedule a live online session to receive targeted assistance. You can also access writing-related services and resources through the Effective Writing Center, which is available online 24 hours a day, seven days a week. The center's experienced, trained tutors can help you develop key writing skills by providing specialized individual online tutoring, self-study modules, and other writing resources. There are also a number of additional resources hosted by the center, such as the "Online Guide to Writing and Research" and

other multimedia materials. The center's goal is to help you become a more skilled and confident writer who understands the tasks before you, so that you are better prepared for your next assignment, whether that is in the classroom or in your career. More information is available at *umgc.edu/ewc*.

Verification Services

Enrollment Verification

UMGC participates in the National Student Clearinghouse, which in turn supplies verification of enrollment to lending agencies. UMGC reports student enrollment data to the clearinghouse two times each month. Enrollment data are provided for all students who are enrolled in classes, whether they are attending full-time, half-time, or less than half-time, as well as for students who are considered to have withdrawn from the university. UMGC also reports degree information, including graduation date, for students who have completed an academic program.

If you are a current student, you may request enrollment verification through MyUMGC free of charge. If you are no longer enrolled at UMGC, you may request a transcript of your academic record to verify past enrollment.

All enrollment verifications requested via MyUMGC are processed in real time and available to print on the same day. An enrollment verification will not be processed until all financial obligations to the university have been satisfied.

Loan Deferment Form Certification

UMGC does not grant or deny deferment requests; any deferments are at the sole discretion of the lender. UMGC processes deferment forms, certifying your official dates of enrollment. If you are not enrolled in the current term, you are reported as having withdrawn, regardless of whether you plan to enroll or have already enrolled in a future term.

If you have a William D. Ford Federal Direct Loan and wish to apply for a deferment, you must complete the In-School Deferment Request (available at *umgc.edu/finaidforms*) and submit it to Academic Services and Quality by fax or email for certification. Forms should be faxed to 240-684-2005 or emailed to *studentrecords@umgc.edu*.

You should be aware both of your lender's deadlines for receiving deferment requests and UMGC's reporting schedule to avoid having deferment forms processed and forwarded to lenders before enrollment data have been reported.

Degree Verification

UMGC has authorized the National Student Clearinghouse to provide degree verification. A degree verification will not be released until all financial obligations to the university have been satisfied.

Employers and background screening firms must contact the clearinghouse directly for this information, for which a fee is charged. For more information about this service, visit *studentclearinghouse.org*.

Veterans Resources

UMGC offers dedicated military and veterans advisors or success coaches and a range of resources targeted specifically for veterans. These include VetSuccess on Campus and the Vessey Virtual Student Union, a one-stop shop designed to give you the support you need to succeed in school and in your career. Learn more at *umgc.edu/vetresources*.

See p. 352 for information on using veterans benefits to pay for your education.

Wellness Resources

UMGC provides support through the UMGC Wellness Line at 888-371-9355 and provides a comprehensive list of mental health and wellness resources to all UMGC students. Explore available mental health and wellness resources online at *umgc.edu/wellness*.

TABLE OF CONTENTS
INDEX

LEADERSHIP

University System of Maryland

Board of Regents

A 21-member Board of Regents, including two student members, governs the University System of Maryland. The full list of the Board of Regents members and their bios are available online at *www.usmd.edu/regents/members*.

Officers

Jay A. Perman, MD, *Chancellor*

Alison Wrynn, *Senior Vice Chancellor for Academic and Student Affairs*

David Mosca, *Vice Chancellor for Accountability*

Ellen Herbst, *Vice Chancellor for Administration and Finance*

Leonard Raley, *Vice Chancellor for Advancement/ President and Chief Executive Officer of the USM Foundation*

Michael Sandler, *Vice Chancellor for Communications and Marketing*

Fernando Miralles-Wilhelm, *Vice Chancellor for Environmental Sustainability*

Susan Lawrence, *Vice Chancellor for Government Relations*

Michele Masucci, *Vice Chancellor for Research and Economic Development*

UMGC

Executive Leadership

Gregory W. Fowler, *President*

Matthew Belanger, *Vice President, Student Engagement and Achievement*

M. J. Bishop, *Vice President, Integrative Learning Design*

Stephen Boyer, *Vice President, Analytics*

Pam Carter, *Portfolio Vice President and Dean, School of Business*

Patricia A. Coopersmith, *Vice President and Director, UMGC Europe*

James Cronin, *Vice President and Director, UMGC Asia*

Heather Date, *Vice President, Communications and Engagement*

Christopher M. Davis, *Vice President, Academic Services and Quality*

JulieAnn Garcia, *Vice President and Chief Human Resources Officer*

Martina Hansen, *Senior Vice President and Chief Student Affairs Officer*

Keith Hauk, *Vice President, Stateside Military Operations*

Susan Hawkins-Wilding, *Vice President, Student Success*

Donna Itzoe, *Senior Vice President and Chief Communications and Events Officer*

Jamie Jaynes, *Vice President, Admissions*

Eugene D. Lockett Jr., *Vice President and Chief Financial Officer*

Kristophyre McCall, *Chief Transformation Officer*

Chris Motz, *Chief Partnerships Officer*

Calvin Nobles, *Portfolio Vice President and Dean, School of Cybersecurity and Information Technology*

Frank J. Principe Jr., *Senior Vice President and Chief Government Affairs and External Relations Officer*

Sherri Sampson, *Senior Vice President, General Counsel, and Chief People Officer*

Joseph Sergi, *Senior Vice President and Chief Operating Officer*

Cathy Sweet, *Vice President, Institutional Advancement*

Chuck Trierweiler, *Chief Marketing Officer and Senior Vice President, Admission*

Kimberly D. Whitehead, *Acting Senior Vice President and Chief Academic Officer*

Marcus Whitehurst, *Vice President and Chief Community Engagement and Opportunity Officer*

Academic Affairs

Kimberly D. Whitehead, *Acting Senior Vice President and Chief Academic Officer*

Pam Carter, *Portfolio Vice President and Dean, School of Business*

Calvin Nobles, *Portfolio Vice President and Dean, School of Cybersecurity and Information Technology*

M. J. Bishop, *Vice President, Integrative Learning Design*

Christopher M. Davis, *Vice President, Academic Services and Quality*

Insiya Bream, *Registrar*

LEADERSHIP

School of Business

Office of the Dean

Pam Carter, *Portfolio Vice President and Dean*

Anna V. Seferian, *Associate Dean*

Marina Caminis, *Manager, School Communications and Programming*

Gia'Donna Nichols-Holmes, *Manager, School Administration*

Department of Finance and Operations

James Falter, *Department Chair*

Peter Bush, *Acting Portfolio Director, Finance and Economics*

Camellia Fawzy, *Acting Portfolio Director, Doctor of Business Administration*

Kathleen Sobieralski, *Portfolio Director, Accounting*

Department of Management and Administration

Rudy Watson, *Department Chair*

Kimberly Holiday, *Portfolio Director, Undergraduate Business Administration*

Tara Konya, Portfolio Director, *Transformational Leadership and Master of Business Administration*

Sandeep Patnaik, *Portfolio Director, Marketing*

Freda Powell-Bell, *Portfolio Director, Human Resources*

Liliya Roberts, *Portfolio Director, Global Health Services and Administration*

School of Cybersecurity and Information Technology

Office of the Dean

Calvin Nobles, *Portfolio Vice President and Dean*

S. K. Bhaskar, *Associate Dean*

Loyce Pailen, *Senior Director, Center for Security Studies*

Chad Whistle, *Senior Director, Academic Projects*

Department of Cybersecurity

Helen Barker, *Department Chair*

Patrick Appiah-Kubi, *Portfolio Director, Cloud Computing and Computer Networking*

James Robertson, *Portfolio Director, Cyber DevOps*

Rony Thakur, *Portfolio Director, Cybersecurity Management and Policy and Cybersecurity Technology*

Department of Information Technology

Chandra Bajracharya, *Portfolio Director, Computer Science*

Barry Douglass, *Portfolio Director, Management Information Systems*

Elena Gortcheva, *Portfolio Director, Data Analytics*

Michelle Pittman, *Acting Portfolio Director, Web and Digital Design*

School of Integrative and Professional Studies

Office of the Dean

Rand Hansen, *Associate Dean*

Liz Enriquez, *Manager, School Administration*

Department of Applied Sciences

Jennifer Thompson, *Department Chair*

Emma Bate, *Portfolio Director, Social Sciences, Behavioral Science, and Gerontology*

John Beyers, *Portfolio Director, Mathematics and Statistics*

Patrick Bradley, *Portfolio Director, Legal Studies and Political Science*

Sabrina Fu, *Portfolio Director, Environmental Science and Management*

Hannah Hughes, *Portfolio Director, Nursing*

Debra McLaughlin, *Portfolio Director, Natural Sciences*

Phyllis Medina, *Portfolio Director, Psychology*

Robin Searles-Adenegan, *Portfolio Director, Biological Sciences and Biotechnology*

LEADERSHIP

Department of Education and Professional Studies

Alison Goodrich, *Department Chair*

Sarah Felber, *Portfolio Director, Writing Across the Curriculum*

Damon Freeman, *Portfolio Director, History*

Reynaldo Garcia, *Portfolio Director, Community College Policy and Administration*

Steve Killings, *Portfolio Director, English, Humanities, Philosophy, and General Studies*

Hyomi Kim, *Portfolio Director, World Languages and Cultures*

Kristin Kubik, *Director, MAT Student Support*

Mitchell Marovitz, *Portfolio Director, Communications, Journalism, and Speech*

Brian Powers, *Portfolio Director, Homeland Security, Intelligence Management, and Emergency Management*

Brandie Shatto, *Portfolio Director, Education and Educational Technology*

Chris Swain, *Portfolio Director, Criminal Justice, Investigative Forensics, and Public Safety Administration*

Richard Vosseller, *Portfolio Director, Art and Graphic Communications*

Faculty

UMGC has a large and distinguished faculty. UMGC faculty consistently win awards, publish scholarly works, and contribute to the intellectual understanding of their fields. They are well respected by both practitioner and academic peers. In keeping with UMGC's mission, UMGC faculty are as nontraditional as their students, bringing practical as well as academic experience in their fields of expertise. Because of this, they are uniquely qualified to teach and guide you toward a richer and more robust understanding of how your academic learning translates into practice.

The full list of faculty members, with their academic credentials, is available online at *umgc.edu/facultylist*.

TABLE OF CONTENTS
INDEX

GLOBAL HEADQUARTERS

UMGC Stateside

Adelphi Headquarters

Address

University of Maryland Global Campus
3501 University Boulevard East
Adelphi, MD 20783-8085

Telephone

800-888-8682

Email

studentsfirst@umgc.edu

Web

umgc.edu

UMGC Europe

Headquarters

Address

From overseas U.S. military installations or from the United States

University of Maryland Global Campus Europe
Unit 29216
APO, AE 09004

International (civilian from outside the United States)

University of Maryland Global Campus Europe
Hertelsbrunnenring 10
67657 Kaiserslautern
Germany

Telephone

+49-(0)631-56000-90000

Email

studentservices-europe@umgc.edu

Web

europe.umgc.edu

Germany I Region

Address

From overseas U.S. military installations or from the United States

Ramstein Education Center
Attn: UMGC Europe
86 FSS/FSDE
Unit 3221
APO AE 09094-3221

International (civilian from outside the United States)

Ramstein Education Center
Attn: UMGC Europe
Building 2120
66877 Ramstein-Flugplatz
Germany

Telephone

Military

DSN: 314-480-5611

Civilian

+49-(0)6371-47-5611
+49-(0)631-5600-1730

Germany II and Poland Region

Address

From overseas U.S. military installations or from the United States

Rose Barracks Education Center
Attn: UMGC Europe
Unit 28038
APO AE 09112

International (civilian from outside the United States)

Rose Barracks Education Center
Attn: UMGC Europe
Building 223, Room 211
92249 Vilseck, Germany

Telephone

+49-(0)9662-3302799

GLOBAL HEADQUARTERS

Germany III, Belgium, the Netherlands, and United Kingdom Region

Address

From overseas U.S. military installations or from the United States

UMGC Europe
52 FSS/FSDE
Unit 3670
APO AE 09126

International (civilian from outside the United States)

UMGC Europe
Spangdahlem Education Center
Building 129, Room 208
54529 Spangdahlem-Flugplatz
Germany

Telephone

Military

DSN: 314-452-7556

Civilian

+49-(0)9662-83-2462

Mediterranean, Italy, Portugal, Spain, Turkey, and Romania Region

Address

From overseas U.S. military installations or from the United States

UMGC Europe
PSC 817, Box 79
FPO AE 09622-0001

International (civilian from outside the United States)

UMGC Europe
Viale Fulco Ruffo di Calabria
Base U.S. Navy
Napoli 80144
Italy

Telephone

Military

DSN: 314-626-6675

Civilian

+39-081-568-6675

Middle East and North Africa Region (Downrange)

Address

From overseas U.S. military installations or from the United States

UMGC Europe
PSC 851, Box 570
FPO AE 09834-2800

International (civilian from outside the United States)

UMGC Europe
NSA Bahrain
Building 100, Room 29
Manama
Bahrain

Telephone

Military

DSN: 318-439-9094

Civilian

+973-1785-9094

Catalogs

Requests for undergraduate and graduate catalogs for UMGC Europe should be sent to University of Maryland Global Campus Europe, Unit 29216, APO AE 09004. Catalogs may also be obtained from University of Maryland Global Campus, 3501 University Boulevard East, Adelphi, MD 20783-8067. Catalogs are also available online at *europe.umgc.edu/catalogs*.

GLOBAL HEADQUARTERS

UMGC Asia

Asia Headquarters

Address

From overseas U.S. military installations or from the United States

University of Maryland Global Campus Asia
Unit 5060, Box 0100
APO AP 96328-0100

International (civilian from outside the United States)

University of Maryland Global Campus
Building 445, Yokota Air Base
Fussa, Fussa-shi
Tokyo (197-0001) Japan

Telephone

Military

Within Asia
DSN: 225-3680

Outside Asia
DSN: 315-225-3680

Civilian

+81-42-552-2510, ext. 5-3680

Email

studentservices-asia@umgc.edu

Web

asia.umgc.edu

Japan Office

Address

From overseas U.S. military installations or from the United States

University of Maryland Global Campus
Attn: Japan Area Office
Unit 5060, Box 0100
APO AP 96328-0100

International (civilian from outside the United States)

University of Maryland Global Campus
Attn: Japan Area Office
Building 316, Yokota Air Base
Fussa, Fussa-shi
Tokyo (197-0001) Japan

Telephone

Military

Within Asia
DSN: 225-8922

Outside Asia
DSN: 315-225-8922

Civilian

+81-46-896-4217

Email

japan-asia@umgc.edu

Korea Office

Address

From overseas U.S. military installations or from the United States

University of Maryland Global Campus
Camp Humphreys Education Center
Unit 15592
APO AP 96271-5592

International (civilian from outside the United States)

UMGC Asia
USAG Camp Humphreys
Building 657, Room 208
Gyeonggi-do, Pyeongtaek-si
Korea 17798

Telephone

Military

Within Asia
DSN: 755-3530

Outside Asia
DSN: 315-755-3530

Civilian

+82-503-355-3601

Email

humphreys-asia@umgc.edu

GLOBAL HEADQUARTERS

Okinawa Office

Address

From overseas U.S. military installations or from the United States

University of Maryland Global Campus
718th FSS/FSDE
Unit 5134, Box 40
APO AP 96368-5134

International (civilian from outside the United States)

University of Maryland Global Campus
Education Center
Kadena Air Base
Building 59, Room 223
Kadena-cho
Okinawa-ken (904-0204) Japan

Telephone

Military

Within Asia
DSN: 634-2206

Outside Asia
DSN: 315-634-2206

Civilian

+81-6117-34-2206

Email

kadena-asia@umgc.edu

Guam Office

Address

From overseas U.S. military installations or from the United States

University of Maryland Global Campus Asia
36 FSDE
Unit 14064
APO AP 96543

Telephone

Military

Within Asia
DSN: 366-7132/7136/1425

Outside Asia
DSN: 315-366-7132/7136/1425

Civilian

1-671-366-7132

Email

andersen-asia@umgc.edu

Catalogs

Catalogs may be obtained by writing to UMGC Asia, Unit 5060, Box 0100, APO AP 96328-0100 or to University of Maryland Global Campus, 3501 University Boulevard East, Adelphi, MD 20783-8067. The catalog is also available online at *asia.umgc.edu*.

SUMMARY OF KEY POLICIES

The information contained in this catalog reflects select policies of both UMGC and the University System of Maryland (USM). The complete list and text of UMGC's policies can be found at *umgc.edu/policies*. USM policies can be found at *www.usmd.edu/regents/bylaws*.

Annual Security Report and Consumer Disclosures

In accordance with the Clery Act and U.S. Department of Education regulations, University of Maryland Global Campus distributes an Annual Safety and Security Report to all current students, staff, and faculty. In addition, this report is available to prospective students, staff, and faculty upon request.

The Annual Safety and Security Report provides important information about rights and responsibilities related to UMGC's

- Campus safety and security policies and services
- Sexual misconduct policy
- Emergency procedures
- Alcohol and other drugs prevention program
- Crime statistics by location for the previous three calendar years

You can read the Annual Safety and Security Report for 2024 at *umgc.edu/current-students/student-life-and-support/safety-and-security/annual-report*.

If you have questions or wish to receive a paper copy of the Annual Safety and Security Report, contact the UMGC senior emergency manager at 301-985-7139 or email Security at *security@umgc.edu*.

In addition, the following annual notices and consumer disclosures are available on the Consumer Disclosures and Policies page on the UMGC website at *umgc.edu/terms-conditions/disclosures*.

- Family Educational Rights and Privacy Act (FERPA) Notification: UMGC's annual notice regarding student rights under FERPA
- Peer-to-Peer File Sharing Notification: Information on the unauthorized use of copyrighted materials, including associated criminal and civil penalties
- Consumer Disclosures:
  - Institutional information including, but not limited to, cost of attendance, refunds, withdrawal procedures, academic programs, transfer credit, complaint procedures, and accessibility services
  - Financial assistance available to students
  - Student outcomes including, but not limited to, retention and completion rates
  - Types of graduate and professional education in which UMGC undergraduate alumni enroll

Disclosure of Student Records

UMGC complies with the Family Educational Rights and Privacy Act (FERPA), a federal law that protects the privacy of students' education records. In accordance with FERPA, you have the right to inspect and review your education records; seek an amendment of your education records, where appropriate; limit disclosure to third parties of directory information (student information that may be released without your prior written consent); and file formal complaints alleging a violation of FERPA with the Department of Education Family Policy Compliance Office. In addition, FERPA provides that most of your student information may not be released to third parties without your prior consent.

UMGC's FERPA and Disclosure of Student Records Policy (available at *umgc.edu/administration/policies-and-reporting/policies/academic-affairs/ferpa-and-disclosure-of-student-records)* contains an explanation of information that may be disclosed with and without prior consent, as well as procedures for requesting amendments to records, requests for nondisclosure, and filing of complaints. Requests for inspection of your student records may be sent to the UMGC Registrar's Office at *studentrecords@umgc.edu*. For another person to act on your behalf, a power of attorney is required. More information on FERPA, including disclosures to third parties, can be found at *umgc.edu/terms-conditions/disclosures/ferpa*.

SUMMARY OF KEY POLICIES

Nondiscrimination Statement

UMGC is committed to ensuring that all individuals have equal access to programs, facilities, admission, and employment and that no person shall be excluded from participation in, be denied the benefit of, or otherwise be subjected to unlawful discrimination in this institution's programs and activities. In accordance with federal, state, and local laws and regulations, UMGC does not discriminate against any person on the basis of race, religion, color, creed, sex, gender, gender identity or expression, marital status, sexual orientation, age, national origin, ancestry, political affiliation, mental or physical disability, genetic information, military status (i.e., as a member of uniformed services, member of reserves, or dependent of any of the aforementioned members, under federal law), veteran status (including Vietnam-era veterans), or any other legally protected characteristic. Specifically, under Title IX of the Education Amendments of 1972, UMGC prohibits discrimination on the basis of sex in its programs and activities. UMGC will take steps to eliminate prohibited conduct, prevent its recurrence, and remedy its effects.

All inquiries regarding UMGC's Nondiscrimination Statement or compliance with applicable statutes and regulations regarding equal opportunity should be directed to the fair practices officer, Office of Community Engagement and Opportunity, 3501 University Boulevard East, Adelphi, MD 20783-8000 (phone 301-985-7955 or email *fairpractices@umgc.edu*).

For UMGC's Non-Discrimination and Anti-Harassment Policy, see *umgc.edu/administration/policies-and-reporting/policies/administration-policies/non-discrimination-and-anti-harassment*.

Inquiries regarding Title IX/sexual misconduct may be directed to the Title IX coordinator, Office of Community Engagement and Opportunity, 3501 University Boulevard East, Adelphi, MD 20783-8000 (phone 301-985-7930 or email *titleixcoordinator@umgc.edu*).

For UMGC's Sexual Misconduct Policy, see *umgc.edu/administration/policies-and-reporting/policies/administration-policies/sexual-misconduct*.

For external inquiries regarding the notice of nondiscrimination, including Title IX information, contact the Office for Civil Rights, U.S. Department of Education, Wanamaker Building, Suite 515, 100 Penn Square East, Philadelphia, PA 19107, or call 800-421-3481.

Peer-to-Peer File Sharing

Unauthorized use of copyrighted materials may bring civil and criminal penalties to the user. UMGC is committed to combating the unauthorized use of copyrighted materials on UMGC's network (including the online classroom) and therefore has established a written plan to achieve this goal. The intent of this plan is to inform UMGC students, faculty, and staff members of the appropriate use of copyrighted material on the network and to deter, detect, and discipline prohibited use, while reasonably maintaining the educational use of UMGC's network. More information on UMGC's Intellectual Property Policy is available online at *umgc.edu/administration/policies-and-reporting/policies/research/intellectual-property*.

Summary of Civil and Criminal Penalties for Violation of Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or statutory damages affixed at not less than $750 and not more than $30,000 per work infringed. For willful infringement, a court may award up to $150,000 per work infringed. A court can, at its discretion, also assess costs and attorneys' fees. For details, see Title 17, United States Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to $250,000 per offense.

More information is available on the U.S. Copyright Office website at *copyright.gov*.

SUMMARY OF KEY POLICIES

UMGC Procedures for Handling Unauthorized Distribution

UMGC implements an active protocol to respond to copyright infringement allegations. In accordance with the Digital Millennium Copyright Act (DMCA), UMGC has designated the following individual to receive and respond to reports of alleged copyright infringement on UMGC's website:

Sherri Sampson
Senior Vice President, General Counsel, and Chief People Officer
Office of Legal Affairs
University of Maryland Global Campus
3501 University Boulevard East
Adelphi, MD 20783

301-985-7080
legal-affairs@umgc.edu

To be effective under the DMCA, a notification of claimed infringement must be in writing and include the following information:

1. A physical or electronic signature of a person authorized to act on behalf of the owner of an exclusive right that is allegedly infringed;
2. Identification of the copyrighted work claimed to have been infringed, or, if multiple copyrighted works at a single online site are covered by a single notification, a representative list of such works at that site;
3. Identification of the material that is claimed to be infringing or to be the subject of infringing activity and that is to be removed or access to which is to be disabled, and information reasonably sufficient to permit the service provider to locate the material;
4. Information reasonably sufficient to permit the service provider to contact the complaining party, such as an address, telephone number, and, if available, an electronic mail address at which the complaining party may be contacted;
5. A statement that the complaining party has a good faith belief that use of the material in the manner complained of is not authorized by the copyright owner, its agent, or the law; and
6. A statement that the information in the notification is accurate, and under penalty of perjury, that the complaining party is authorized to act on behalf of the owner of an exclusive right that is allegedly infringed.

Once an effective DMCA takedown request is submitted, UMGC will act expeditiously to remove or block access to the infringing material.

Religious Observance

So that academic programs and services of UMGC shall be available to all qualified students who have been admitted to its programs, regardless of their religious beliefs, students shall not be penalized because of observances of their religious holidays. More information on UMGC's Religious Observances Policy may be found at *umgc.edu/administration/policies-and-reporting/policies/academic-affairs/religious-observances.*

Retention of Student Records

UMGC maintains records of students' admission, enrollment, grades, transfer of credits, transcripts, graduation, and degree(s) while the student is enrolled and after graduation in compliance with UMGC's Records Retention Schedule. For information regarding UMGC's Records and Information Management Policy, visit *umgc.edu/administration/policies-and-reporting/policies/info-governance-security-technology/records-and-information-management.*

Sexual Misconduct

UMGC is committed to creating and maintaining an environment in which all persons who participate in university programs and activities, perform work, and provide services can learn and work together in an atmosphere free from sexual misconduct, a form of sex-based discrimination. UMGC provides training, education, prevention programs, and policies and procedures that promote prompt reporting; prohibit retaliation; and promote timely, fair, and impartial investigation and resolution of sexual misconduct cases.

Inquiries concerning the application of Title IX may be referred to UMGC's Title IX coordinator or the U.S. Department of Education, Office for Civil Rights. If you have any questions regarding sexual misconduct or need to report a complaint, contact Jamie Thayer, Title IX coordinator, by phone at 301-985-7934 (voice and text) or via email at *titleixcoordinator@umgc.edu.* For details on UMGC's Sexual Misconduct Policy, see UMGC's Sexual Misconduct Policy at *umgc.edu/administration/policies-and-reporting/policies/administration-policies/sexual-misconduct.*

SUMMARY OF KEY POLICIES

Smoking

In accordance with USM policy, UMGC seeks to promote a healthy, smoke-free environment for the UMGC community. More information on UMGC's Smoking Policy may be found at *umgc.edu/administration/policies-and-reporting/policies/administration-policies/smoking*.

Student Classification for Admission and Tuition

For information on student classification and residency, see USM Policy VIII-2.70 at *www.usmd.edu/regents/bylaws/SectionVIII*. Also see UMGC's Student Residency Classification for Admission, Tuition, and Charge-Differential Purposes Policy at *umgc.edu/administration/policies-and-reporting/policies/fiscal-and-business-affairs/student-residency-classification-for-admission-tuition-and-charge-differential-purposes*.

Student Drug and Alcohol Awareness

UMGC complies with all federal, state, and local laws that regulate or prohibit the possession, use, or distribution of alcohol or illicit drugs. Violations of such laws that come to the attention of UMGC officials will be addressed through UMGC procedures, through prosecution in the courts, or both.

All UMGC students are prohibited by UMGC from unlawfully possessing, using, manufacturing, distributing, or dispensing alcohol or any controlled substance on UMGC premises or at UMGC-sponsored activities. UMGC expects all students to comply with applicable federal, state, and local laws and regulations pertaining to possession, use, manufacture, distribution, or dispensation of alcohol and/or controlled substances.

Any student who violates any of the applicable standards of conduct is subject to corrective disciplinary actions and penalties up to and including expulsion from UMGC academic programs and referral to the appropriate federal, state, and/or local authorities for prosecution in the courts. Students should see the alcohol and other drug prevention program section of the most current UMGC Annual Safety and Security Report at *umgc.edu/current-students/student-life-and-support/safety-and-security/annual-report* for additional information.

Transfer of General Education Requirements

UMGC conforms with the general education requirements as laid out by the Code of Maryland Regulations (COMAR) 13B.06.032 regulation. Up to 36 general education credits earned at another Maryland public institution will transfer to UMGC as general education credits. UMGC's general education requirements may be found on pp. 29 and 33 of this catalog.

A student who has satisfactorily completed a course identified as a general education requirement at a Maryland community college will receive credit toward UMGC's general education requirements, as stated in COMAR Title 13B, Subtitle 06, Chapters 1–10. For other students, courses are evaluated on a case-by-case basis. UMGC has included its evaluation of many Maryland community college courses in its section of the University System of Maryland's computerized articulation system (ARTSYS). This software is available at all two- and four-year Maryland public institutions and online at *artsys.usmd.edu*. Consult an advisor or a success coach for details.

APPENDICES

Community College Alliances

Maryland

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

Out-of-State

A complete list of community college alliances is available at *umgc.edu/alliances*.

MyUMGC Terminology

The following is an explanation of terms you may encounter when using MyUMGC.

Academic Advisement Report (Degree Plan): A review of the academic progress that you have made within your UMGC program.

Admission: The process of being admitted to the university, which includes completing an application and paying the fees required for entrance.

Campus: The UMGC division to which you are assigned. UMGC has three major divisions—UMGC Asia, UMGC Europe, and UMGC Stateside. Within those "campuses" are additional locations where classes are held or staff and advisors or success coaches may be reached.

Class Number: The unique five-digit number assigned to each class at UMGC.

Drop: To cancel your enrollment in a class before the end of the drop period posted on the UMGC website for your division.

eApp: An abbreviation for the electronic admissions application, which is an application to the university that is filled out and submitted online.

Lower-Level (LL) Courses: Courses that are numbered 100–299.

Official Evaluation (or Academic Advisement Report): A review of the academic progress you have made within your UMGC program.

Portal: A website that integrates online applications, such as email, databases, references to other websites, and proprietary applications, under one unique URL, often allowing secure access with one unique login and password.

Real-Time: This means that transactions are implemented at the moment a user makes them, regardless of time zone. There is no time delay; all information is current up to the moment users access it.

Semester: Also known as a term, divided into individual sessions.

Session: Usually an eight-week period within a term (number of weeks may vary), during which classes are offered.

Student ID (or EmplID): A system-generated identification number for student use. You should record your student ID in a safe, secure place, as it will be needed to access various services.

Subject and Course Number: The four-letter abbreviation and three-digit number for UMGC classes. For example, in COMM 300, COMM stands for communication studies and 300 is the catalog number.

Term: A full semester, which may be subdivided into sessions. Student finance and financial aid offices use this time period for instructional accounting.

Units: The credit value the university assigns to a course.

Upper-Level (UL) Courses: Courses that are numbered 300–499.

Withdraw: To cancel your enrollment in a class after the end of the drop period posted on the UMGC website for your division.

APPENDICES

State Authorizations

As an online university, UMGC offers online courses and services throughout the United States. UMGC is also authorized to offer hybrid courses and/or provide on-site student support services, such as enrollment or academic advising, through approval or exemption by various state higher education regulatory authorities. For information regarding UMGC's current state authorizations, visit *umgc.edu/stateauthorizations*.

The following disclosures are required by certain state higher education regulatory authorities.

Colorado

University of Maryland Global Campus is fully authorized to operate on Fort Carson Army Base and Schriever Space Force Base in the state of Colorado.

Hawaii

University of Maryland Global Campus is authorized to operate as a postsecondary degree–granting institution in the state of Hawaii. For information on filing internal complaints, visit *umgc.edu/complaint*. You can also find information about submitting complaints to the state of Hawaii or UMGC's accreditor at *umgc.edu/terms-conditions/disclosures/external-complaint-processes*.

Virginia

The University System of Maryland and the Maryland Higher Education Commission have approved all programs offered by UMGC, including those programs offered at Virginia sites. Any credit earned for coursework at UMGC in Virginia shall be applied in the same manner as if the credit was earned online or at any other UMGC location. UMGC is certified to operate in Virginia by the State Council of Higher Education for Virginia (SCHEV).

The university offers courses and/or provides services at the following locations:

Fort Belvoir
Barden Education Center
9625 Belvoir Road
Building 1017, Room 128
Fort Belvoir, VA 22060

Fort Eustis
1500 Madison Ave
Fort Eustis, VA 23604

Fort Gregg-Adams
700 Quarters Road
Room 159
Fort Lee, VA 23801

Fort Myer
Education Center
239 Sheridan Avenue
Building 417, Room 215
Fort Myer, VA 22211

Joint Base Langley-Eustis
Education Center
450 Weyland Road
Hampton, VA 23655

Joint Expeditionary Base Little Creek–Fort Story
1481 D Street
Building 3016
Virginia Beach, VA 23459

Marine Corps Base Quantico
3089 Roan Street
Wing D
Quantico, VA 22134

If you are taking classes at one of UMGC's Virginia locations, check the class syllabus for information on how to contact your faculty member and the times during which your faculty member will be available for consultation outside the regularly scheduled class time.

Washington

University of Maryland Global Campus is authorized by the Washington Student Achievement Council and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes University of Maryland Global Campus to offer specific degree programs. The Council may be contacted for a list of currently authorized programs. Authorization by the Council does not carry with it an endorsement by the Council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the Council at P.O. Box 43430, Olympia, WA 98504-3430 or by email at *degreeauthorization@wsac.wa.gov*.

The transferability of credits earned at University of Maryland Global Campus is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits

APPENDICES

earned in any program of study at University of Maryland Global Campus will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at University of Maryland Global Campus to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee that credentials or credits earned at University of Maryland Global Campus will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, students should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned.

The Washington Student Achievement Council (WSAC) has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit *wsac.wa.gov/student-complaints* for information regarding the WSAC complaint process.

Stateside Classroom Locations with Zip Codes

The following locations offer either undergraduate or both undergraduate and graduate courses.

Name of Location	Zip Code
Aberdeen Proving Ground	21005
Anne Arundel Community College	21012
Anne Arundel Community College at Arundel Mills	21076
Dorsey Station	21075
Eglin Air Force Base	32542
Fayetteville	28303
Fort Belvoir	22060
Fort Bliss	79916
Fort Carson	80913
Fort Cavazos	76544
Fort Detrick	21702
Fort Drum	13602
Fort Eisenhower	30905
Hickam Air Force Base	96818
Holloman Air Force Base	88330
Jacksonville Naval Air Station	32212
Joint Base Andrews	20762
Joint Base Langley-Eustis	23665
Joint Base Lewis-McChord	98433
Joint Base Myer–Henderson Hall	22211
Joint Base San Antonio	
Fort Sam Houston	78234
Lackland Air Force Base	78236
Randolph Air Force Base	78150
Joint Expeditionary Base Little Creek–Fort Story	23459
Killeen	76549
La Plata	20646
Laurel College Center	20707
Marine Corps Base Quantico	22134
Minot Air Force Base	58705
National Business Park	20701
Naval Station Mayport	32233
Odenton	21113
Pearl City	96782
Prince George's Community College	20774
San Antonio	78238
San Diego	92108
Schofield Barracks	96857
Schriever Space Force Base	80912
Shady Grove	20850
Shaw Air Force Base	29152
Travis Air Force Base	94535
Tripler Army Medical Center	96859
University of Maryland, College Park	20742
U.S. Coast Guard Base Honolulu	96819
USM at Hagerstown	21740
USM at Southern Maryland	20619
Vandenberg Space Force Base	93437
Walter Reed National Military Medical Center (Bethesda)	20889

A complete list of stateside class and service locations and contact information is available online at *umgc.edu/locations*.

INDEX

A

About study at UMGC, 8
  admission, 8
  educational relationships, 25
  enrollment information, 14
  helping you get started, 26
Academic advisement report, 357
Academic advising. *See* Advising
Academic and administrative requirements
  academic standards, 334
  responsibilities of the student, 342
  scholastic recognition, 340
Academic honors and awards, 342
Academic integrity, 342
Academic schools overview, 7
Academic standards, 334
  changes in grade, 337
  grade point average, 336
  grading methods, 334
  repeated courses, 337
Academic standing and levels of progress, 337
  for doctoral programs, 339
  graduate academic standing, 338
  undergraduate levels of progress, 337
Accelerated pathways between UMGC's undergraduate and graduate programs, 21
  accounting, 21
  artificial intelligence, 21
  criminal justice, 21
  cyber operations, 21
  cybersecurity management and policy, 22
  cybersecurity technology, 22
  data science, 22
  environmental health and safety, 22
  finance, 22
  health services management, 23
  homeland security, 23
  human resource management, 23
  management information systems, 23
  marketing, 23
Accessibility Services, 356
Accounting. *See also* Cyberaccounting
  accelerated pathway between UMGC undergraduate and graduate degree programs, 21
  bachelor's degree program, 36
Accounting, continued
  graduate certificate program, 187
  graduate courses, 285
  master's degree concentration, 151
  undergraduate certificate program, 171
  undergraduate courses, 202
Accounting and financial management
  accelerated pathway between UMGC's undergraduate and graduate programs, 21
  course, 287
  master's degree program, 111
Accounting information security graduate certificate program, 187
Accreditation,
  digital health leader certificate, 192
  digital marketing certificate, 178
  health information management and data analytics certificate, 179
  MBA program, 120
  MEd program, 149
  MS in health information management and technology, 141
  Nursing (RN to BSN) program, 95
  project management certificate, 196
  project management concentration, 145, 163
  UMGC, inside back cover
Acquisition and contract management
  courses, 287
  graduate certificate program, 188
  master's degree program, 113
Address change, 345
Adelphi headquarters, 6, 365
Admission, 8
  applicants educated outside the United States, 10
    graduate, 11
    undergraduate, 11
  applicants expelled or suspended from another institution, 11
  assistance, 356
  general information, 8
  high school students, 11
  military-affiliated students, 13
  procedures, 12
    doctoral, 13
    graduate, 12
    graduate program-specific, 13
    military-affiliated students, 13
    undergraduate, 12
  program-specific requirements
    graduate, 10
    undergraduate, 9

INDEX

Admission, continued
readmission, 13
requirements
associate degree program, 8
doctoral degree program, 10
master's degree and graduate certificate programs, 9
undergraduate degree and certificate programs, 8
special situations, 10
Advanced management undergraduate certificate program, 171
Advising, 356
academic advisement report, 357
military degree plans, 357
transfer credit, 357
African American studies course, 202
Alpha Mu Alpha, 340
Alpha Sigma Lambda, 340
Alumni Association, 358
American government and political processes undergraduate certificate program, 172
Annual security report and consumer disclosures, 369
Appeal and grievance procedures, 344
Appealing a grade, 344
Appendices, 373
community college alliances, 373
MyUMGC terminology, 373
state authorizations, 374
stateside classroom locations with zip codes, 375
Applicants educated outside the United States, 10
graduate, 11
undergraduate, 11
Application procedures
admission, 12
financial aid, 348
veterans benefits, 352
Applied social sciences undergraduate certificate program, 172
Applied technology
bachelor's degree program in, 38
course, 205
Arabic courses, 206
Art courses, 206
Art history courses, 207
Artificial intelligence
accelerated pathway between UMGC's undergraduate and graduate programs, 21
bachelor's degree program, 39
courses, 207
related undergraduate certificate program, 173
Arts and humanities, general education requirement
associate degree, 29
bachelor's degree, 33
Asia division, 367
Asian studies courses, 209. *See also* East Asian studies
Associate degree program, 28
admission requirements, 8
continuous enrollment, 28
degree requirements, 28
elective requirements, 30
expectations, 28
focused elective options, 30
general education requirements, 29
overall requirements, 28
second associate degree, 31
Astronomy course, 210
Attendance and participation, 342
Audit, 336
Augmented and virtual reality design undergraduate certificate program, 173
Availability of services, 355

B

Bachelor's degree programs
continuous enrollment, 32
curricula, 35
expectations, 32
general education requirements, 33
overall requirements, 32
second degree, 35
Behavioral and social sciences. *See also* Social sciences
courses, 210
general education requirement
associate degree, 29
bachelor's degree, 34
Bioinformatics
courses, 288
graduate certificate program, 188
master's degree concentration, 114
Biological and physical sciences, general education requirement
associate degree, 29
bachelor's degree, 34
Biology courses, 211
Biosecurity and biodefense
courses, 288
master's degree concentration, 115

INDEX

Biotechnology
  bachelor's degree program, 42
  master's degree program, 114
  undergraduate program-specific admission requirements, 9
Biotechnology management
  courses, 289
  master's degree concentration, 116
Biotechnology regulatory affairs
  courses, 289
  master's degree concentration, 117
Biotechnology studies courses, 290
Board of Regents, 362
Bookstore, 359
Business administration. *See also* Business and management
  accelerated pathways between UMGC's undergraduate and graduate programs, 21, 22, 23
  master's degree program, 119
Business administration and management bachelor's degree program, 44
Business analytics graduate certificate program, 189
Business and management. *See also* Business administration and management
  graduate courses, 291
  undergraduate courses, 215
Business core requirements, 33

C

Career planning courses, 218
Career Services, 358
Certificate programs
  expectations, 169
  graduate, 187
  overall requirements, 169
  requirements and curricula, 169
  second certificate, 170
  time limits for graduate certificates, 169
  undergraduate, 171
Change of address, 345
Changes in grade, 337
Changing degree programs, 14
Checks, dishonored, 347
Chemistry courses, 218
Chinese courses, 219
Classroom locations with zip codes, 375
Clearance process for graduation, 359
Clinical mental health care undergraduate certificate program, 174
Clinical professional counseling
  courses, 291
  master's degree program, 121
  program-specific admission procedures, 13
  program-specific admission requirements, 10
Cloud computing and networking
  graduate certificate program, 189
  undergraduate certificate program, 174
Cloud computing systems
  accelerated pathway between UMGC's undergraduate and graduate programs, 21, 22
  courses, 296
  master's degree program, 123
Code of Civility, 345
Code of Student Conduct, 345
Colorado state authorization, 374
Commencement, 359
Communications, general education requirement
  associate degree, 29
  bachelor's degree, 33
Communication studies
  bachelor's degree program, 46
  courses, 219
Community college alliances, 25, 373
Community College of the Air Force, 17
Community college policy and administration
  courses, 298
  doctoral degree concentration, 167
Computer information technology courses, 221
Computer labs and services, 358
Computer networking undergraduate certificate program, 175
Computer science
  bachelor's degree program, 48
  courses, 224
Computer studies courses, 227
Computing literacy, general education requirement
  associate degree, 29
  bachelor's degree, 34
Connectivity and technical fluency, 344
Consumer disclosures, 369
Continuous enrollment
  associate degree program, 28
  bachelor's degree programs, 32
  certificate programs, 169
  doctoral programs, 166
  master's degree programs, 110
Corporate alliances, 25

INDEX

Course Challenge, 18
Course descriptions
  graduate, 284
  key to, 200
  undergraduate, 201
Course formats and expectations, 26
Course information
  graduate course descriptions, 284
  key to course descriptions, 200
  numbering system, 199
  prerequisites, 200
  undergraduate course descriptions, 201
  unit of credit, 199
Course load, 343
  graduate, 343
    for doctoral programs, 344
    for master's degree programs, 343
  undergraduate, 343
Course materials, 359
Courses
  introductory, 27
    graduate, 27
    undergraduate, 27
  preparatory, 27
  repeated, 337
Credit
  by examination and industry certification, 19
  for prior or current experiential learning, 18
  institutional, 337
  through linked programs, 21
  transfer from external sources, 16
  transfer from UMGC, 345
  ways of earning, 16
Credit by examination, 19
Crime scene investigation undergraduate certificate program, 175
Criminal justice
  accelerated pathway between UMGC undergraduate and graduate degree programs, 21
  bachelor's degree program, 50
Criminal justice management
  courses, 301
  master's degree concentration, 152
Criminology/Criminal justice courses, 230
Cross-enrollment between programs, 14
Curricula
  associate degree, 31
  bachelor's degree, 35
  certificate, 170
  doctoral degree, 167
  master's degree, 111
Cyberaccounting
  accelerated pathway UMGC's undergraduate and graduate programs, 21
  graduate degree program, 125
Cyber operations
  accelerated pathway between UMGC's undergraduate and graduate programs, 21, 22
  bachelor's degree program, 52
  graduate certificate program, 190
  graduate courses, 301
  master's degree program, 126
  undergraduate courses, 233
Cybersecurity and information assurance courses, 235
Cybersecurity management and policy
  accelerated pathway between UMGC's undergraduate and graduate programs, 21, 22
  bachelor's degree program, 54
  dual master's degree program, 24
  graduate certificate program, 190
  graduate courses, 303
  master's degree program, 128
Cybersecurity technology
  accelerated pathway between UMGC's undergraduate and graduate programs, 21, 22
  bachelor's degree program, 57
  dual master's degree program, 24
  graduate certificate program, 191
  graduate courses, 304
  master's degree program, 130
Cyber threat hunting undergraduate certificate program, 176

D

Data analytics. *See also* Data science
  accelerated pathway between UMGC's undergraduate and graduate programs, 21, 22
  dual master's degree program, 24
  graduate courses, 306
  master's degree program, 132
  undergraduate certificate program, 176
  undergraduate courses, 236
Database systems technology
  courses, 307
  master's degree concentration, 141

INDEX

Data science. *See also* Data analytics
  accelerated pathway between UMGC's undergraduate and graduate programs, 22
  bachelor's degree program, 59
Dean's list, undergraduate, 342
Decision support for business undergraduate certificate program, 177
Decisive communication and leadership course, 308
Degree requirements. *See also* individual programs
  associate degree program, 28
  bachelor's degree programs, 32
  doctoral degree program, 166
  master's degree programs, 110
Degree verification, 361
Determination of eligibility for military tuition rate, 346
Determination of residency for tuition purposes, 346
Digital design undergraduate certificate program, 177
Digital forensics and cyber investigation
  accelerated pathway between UMGC's undergraduate and graduate programs, 21, 22
  courses, 308
  graduate certificate program, 191
  master's degree program, 134
Digital health leader graduate certificate program, 192
Digital marketing undergraduate certificate program, 178
Disclosure of student records, 369
Dishonored checks, 347
Dismissal
  graduate, 339
  undergraduate, 338
Distance education and e-learning master's degree program, 136
Distance education courses, 310
Distance education policy and management courses, 311
Distance education teaching and training courses, 312
Distance education technology courses, 312
Doctoral degree program
  academic standing, 339
  degree requirements, 166
  expectations, 166
  overall requirements, 166
Drones and autonomous systems
  courses, 237
  undergraduate certificate program, 178
Dropping classes, 15
  effect on student aid, 15
  refunds, 347
Dual master's degree programs, 24

E

East Asian studies. *See also* Asian studies courses
  bachelor's degree program, 62
Economics courses, 238
Educational relationships, 25
  community college and other higher education alliances, 25
  corporate alliances, 25
  military relationships, 25
Education programs
  Master of Education in Instructional Technology, 148
  Master of Science in Distance Education and E-Learning, 136
  Master of Science in Learning Design and Technology, 150
Emergency management
  graduate courses, 312
  master's degree concentration, 153
  undergraduate courses, 239
Employer-provided tuition assistance, 348
English
  bachelor's degree program, 64
  courses, 239
Enrollment information, 14
  dropping or withdrawing from classes, 15
  priority enrollment for veterans, 15
  schedule adjustments, 14
  waiting list, 15
  ways to register, 14
Enrollment verification, 361
Environmental health and safety
  bachelor's degree program, 66
  courses, 242
  related certificate program, 179
Environmental management
  accelerated pathway between UMGC's undergraduate and graduate programs, 22
  courses, 313
  master's degree program, 137
Europe division, 365
Evaluated military degree plans, 357
Examinations. *See* Credit by examination; Placement testing for world languages
Expected time commitment, 343
Expenses. *See* Tuition and fees
Experiential learning
  courses, 244
  programs, 18

INDEX

F

Facilities, 6
Faculty, 364
FAFSA, 348
Failure, 335
Failure for nonattendance, 335
Family Educational Rights and Privacy Act (FERPA), 369
Federal return of funds policy, 351
Field experience, clinical professional counseling, 121
Finance
  accelerated pathway between UMGC's undergraduate and graduate pathways, 22
  bachelor's degree program, 68
  courses, 244
Financial aid, 348
  application process, 348
  federal return of funds policy, 351
  general eligibility requirements, 348
  grants and scholarships, 349
  loans, 350
  programs, 348
  scholarships, 349
  standards for satisfactory academic progress, 351
Financial information, 346
  payment of tuition and fees, 346
  ways to finance your education, 348
Financial management. *See also* Accounting and financial management
  accelerated pathway between UMGC's undergraduate and graduate programs, 22
  courses, 315
  master's degree concentration, 154
Financing your education, 348
  employer-provided tuition assistance, 348
  financial aid, 348
  military tuition assistance, 352
  monthly tuition payment plan, 348
  veterans benefits, 352
Fire science courses, 246
First-year courses, 27
Free Application for Federal Student Aid (FAFSA), 348
French courses, 247
Fundamentals of workplace health and safety undergraduate certificate program, 179

G

General education requirements
  associate degree, 29
  bachelor's degree, 33
  transfer policy, 372
General information, 8, 355
General studies
  associate degree program, 28
  bachelor's degree program, 70
Geography course, 247
Geology course, 247
German courses, 247
Gerontology and aging services
  bachelor's degree program, 71
  courses, 248
Global headquarters, 365
  UMGC Asia, 367
  UMGC Europe, 365
  UMGC Stateside, 365
Global health management
  courses, 316
  graduate certificate program, 192
Golden Identification Program, 14
Good academic standing, master's degree students, 338
Government and politics courses, 250. *See also* Political science
Grade pending mark, 335
Grade point average, 336
Grades and marks, 335
  audit, 336
  failure, 335
  failure for nonattendance, 335
  grade pending, 335
  incomplete, 336
  passing, 335
  satisfactory, 336
  unsatisfactory, 336
  withdrawal, 336
Grading, 334
  changes in, 337
  methods, 334
  repeated courses, 337
Grading methods, 334
  pass/fail, 335
  satisfactory/D/fail, 335
  satisfactory/unsatisfactory, 335
  standard, 335

INDEX

Graduation clearance and services, 359
  application deadlines, 359
  clearance process, 359
  commencement, 359
Grants and scholarships, 349
Graphic communication
  bachelor's degree program, 73
  courses, 252
Grievance and appeal procedures, 344
Grievance information for Virginia students using veterans educational benefits, 354
Guam office, 368

H

Hawaii state authorization, 374
Headquarters, 6, 365
Healthcare administration. *See also* Global health management
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  courses, 317
  dual master's degree program, 24
  graduate certificate program, 195
  master's degree program, 138
Health informatics administration courses, 318. *See also* Health information management and technology
Health information management and data analytics undergraduate certificate program, 179
Health information management and technology
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  dual master's degree program, 24
  master's degree program, 140
Health services management
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  bachelor's degree program, 75
  courses, 253
Helping you get started, 26
  course formats and expectations, 26
  first-year courses, 27
Higher education alliances, 25
History
  bachelor's degree program, 77
  undergraduate courses, 255
Homeland security
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  bachelor's degree program, 79
  courses, 257
Homeland security management
  courses, 320
  graduate certificate program, 193
  master's degree concentration, 142, 156
Honor societies, 340
  Alpha Mu Alpha, 340
  Alpha Sigma Lambda, 340
  Lambda Epsilon Chi, 340
  National Society of Collegiate Scholars, 340
  Phi Kappa Phi, 340
  Pi Gamma Mu, 341
  SALUTE, 341
  Sigma Phi Omega, 341
  Sigma Tau Delta, 341
  Upsilon Phi Delta, 341
  Upsilon Pi Epsilon, 341
HR people analytics undergraduate certificate program, 180
Humanities
  bachelor's degree program, 81
  courses, 258
  general education requirement
    associate degree, 29
    bachelor's degree, 33
Human resource management
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  bachelor's degree program, 83
  graduate certificate program, 197
  graduate courses, 319
  master's degree concentration, 157
  undergraduate certificate program, 180
  undergraduate courses, 259

I

Incomplete mark, 336
Indebtedness to the university, 347
Industry certification, 19
Informatics
  courses, 321
  graduate certificate program, 193
  master's degree concentration, 143
Information assurance courses, 321
Information systems and services courses, 322
Information systems management courses, 261. *See also* Management information systems

INDEX

Information technology
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  courses, 322
  master's degree program, 141
Institutional credit, 337
Instructional technology
  courses, 323
  graduate certificate program, 194
  master's degree program, 148
Intellectual property, 343
Intelligence management
  courses, 324
  master's degree concentration, 158
Interdisciplinary studies in management
  accelerated pathway between UMGC's undergraduate and graduate programs, 22, 23
  master's degree concentration, 159
International students. *See* Students educated outside the United States

J

Japanese courses, 262
Japan office, 367
Job-search services, 358
Journalism courses, 263

K

Key to course descriptions, 200
Korean course, 264
Korea office, 367

L

Laboratory management
  bachelor's degree program, 86
  program-specific admission requirements, 9
Lambda Epsilon Chi, 340
Latin honors, 342
Leadership
  UMGC, 362
    Faculty, 363
    School of Business, 363
    School of Cybersecurity and Information Technology, 363
    School of Integrative and Professional Studies, 363
  University System of Maryland, 362
Leadership and ethics undergraduate certificate program, 181
Leadership and management graduate certificate program, 194
Learning design and technology
  courses, 325
  graduate certificate program, 195
  master's degree program, 150
Legal studies
  bachelor's degree program, 87
  courses, 264
Library and archives, 360
Library skills and information literacy course, 266
Loan deferment form certification, 361
Loans, 350
Locations
  service, 355
  stateside classroom, 375
Long-term care administration graduate certificate program, 195

M

Machine learning undergraduate certificate program, 181
Major
  double major, 34
  requirements, 33, 34
Management
  courses, 326
  doctoral degree program, 167
  master's degree program, 151
  undergraduate certificate program, 182
Management information systems
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  bachelor's degree program, 89
  undergraduate certificate program, 182
Marketing
  accelerated pathway between UMGC's undergraduate and graduate programs, 23
  bachelor's degree program, 92
  graduate certificate program, 196
  graduate courses, 327
  master's degree concentration, 161
  undergraduate certificate program, 178
  undergraduate courses, 266
Master's degree programs
  continuous enrollment, 110
  curricula, 111
  degree requirements, 110
  expectations, 110
  overall requirements, 110
  second degree, 110
  time limits, 110

INDEX

Mathematics
  courses, 267
  general education requirement in
    associate degree, 29
    bachelor's degree, 33
Military-affiliated students
  admission, 13
  determination of eligibility for military tuition rate, 346
  military degree plans, 357
  priority enrollment for veterans, 15
  readmission, 13
  transfer credit, 17
  tuition assistance, 352
Military degree plans, 357
Military relationships, 25
Military tuition assistance, 352
Military tuition rate, 346
Mission, inside front cover, 6
Monthly tuition payment plan, 348
Multicultural marketing graduate certificate program, 196
Music course, 269
MyUMGC, 356
MyUMGC terminology, 373

N

National Society of Collegiate Scholars, 340
Natural science courses, 269
Nondiscrimination, 370
Nonprofit management courses, 328
Nursing (RN to BSN)
  courses, 270
  major, 94
  program-specific admission requirements, 9
Nutrition courses, 272

O

Okinawa office, 368
Operations management courses, 272
Overview of academic schools
  The School of Business, 7
  The School of Cybersecurity and Information Technology, 7
  The School of Integrative and Professional Studies, 7

P

Pass/fail grading, 335
Passing grade, 335
Payment deadlines, 346
Payment of tuition and fees, 346
Peer-to-peer file sharing, 370
Phi Kappa Phi, 340
Philosophy courses, 274
Physics courses, 275
Pi Gamma Mu, 341
Placement testing for world languages, 345
Policies
  annual security report and consumer disclosures, 369
  disclosure of student records, 369
  nondiscrimination, 370
  peer-to-peer file sharing, 370
  religious observance, 371
  retention of student records, 371
  sexual misconduct, 371
  smoking, 372
  student classification for admission and tuition, 372
  student drug and alcohol awareness, 372
  summary, 369
  transfer of general education requirements, 372
Political science, bachelor's degree program, 96
Portfolio Assessment
  graduate, 19
  undergraduate, 18
Preparatory courses, undergraduate, 27
Prerequisites, 200
President's List, 342
Prior learning assessment, 18
  Course Challenge, 18
  Portfolio Assessment, 18
    graduate, 19
    undergraduate, 18
Privacy. *See* Disclosure of student records
Probation
  graduate academic, 338
  undergraduate, 338
Procedures
  admission, 12
  drop/withdrawal, 15
Professional certification
  clinical professional counseling, 122
  nursing, 94
Professional exploration courses, 273
Program applicability for financial aid, 351
Program completion requirements, 339
Programs and facilities, 6

INDEX

Project management
  courses, 329
  graduate certificate program, 196
  master's degree concentration, 144, 162
  undergraduate certificate program, 183
Psychology
  bachelor's degree program, 98
  courses, 275
  undergraduate certificate program, 174
Public safety administration
  bachelor's degree program, 100
  courses, 277
Public safety executive leadership undergraduate certificate program, 183

R

Readmission, 13
  military servicemembers, 13
Refunds for dropping or withdrawing from a course, 347
Registration, 14
Reinstatement, 338
  after dismissal from a graduate program, 339
  after dismissal from an undergraduate program, 338
Related requirements for the major, 33
Religious observance, 371
Relocating between UMGC divisions, 13
Repeated courses, 337
  grading of, 337
  limits, 337
Research and computing literacy, general education requirement in
  associate degree, 29
  bachelor's degree, 34
Residency determination for tuition purposes, 346
Responsibilities of the student, 342
  academic integrity, 342
  appealing a grade, 344
  attendance and participation, 342
  change of address, 345
  Code of Civility, 345
  Code of Student Conduct, 345
  connectivity and technical fluency, 344
  course load, 343
  expected time commitment, 343
  grievance and appeal procedures, 344
  intellectual property, 343
  transfer of credits from UMGC, 345
  world language placement testing, 345
Restart after dismissal from or academic probation in a graduate program, 339
Retention of student records, 371
Return of funds
  federal, 351
  military tuition assistance, 352

S

SALUTE, 341
Satisfactory academic progress, 337
  financial aid, 351
Satisfactory/D/fail grading, 335
Satisfactory grade, 336
Satisfactory/unsatisfactory grading, 335
Schedule adjustments, 14
Scholastic recognition, 340
  academic honors and awards, 342
  honor societies, 340
School of Business, 7
  leadership, 363
School of Cybersecurity and Information Technology, 7
  leadership, 363
School of Integrative and Professional Studies, 7
  leadership, 363
Second degree
  associate degree, 31
  bachelor's degree, 35
  master's degree, 110
Service locations, 355
Services and resources
  Accessibility Services, 356
  admission assistance, 356
  advising, 356
  Alumni Association, 358
  availability of services, 355
  Career Services, 358
  computer labs and services, 358
  course materials, 359
  graduation clearance and services, 359
  library and archives, 360
  Student Advisory Council, 360
  student organizations, 360
  transcript services, 360
  tutoring and writing resources, 360
  verification services, 361
  veterans resources, 361
  wellness resources, 361

INDEX

Sexual misconduct, 371
Sigma Phi Omega, 341
Sigma Tau Delta, 341
Smoking, 372
Social science. *See also* Behavioral and social science
  bachelor's degree program, 102
  undergraduate certificate program, 172
Sociology courses, 278
Software engineering
  courses, 330
  master's degree concentration, 146
Spanish courses, 280
Spanish for business and the professions undergraduate certificate program, 184
Special topics course, 331
State authorizations, 374
  Colorado, 374
  Hawaii, 374
  Virginia, 374
  Washington, 374
Statistics and probability courses, 282
Strategic communications
  courses, 331
  graduate certificate program, 197
  master's degree program, 163
Strategic human resource management graduate certificate program, 197
Student Advisory Council, 360
Student classification for admission and tuition, 346, 372
Student drug and alcohol awareness, 372
Student organizations, 360
Student records, 371
Student status
  graduate regular, 10
  graduate visiting, 10
  undergraduate provisional, 9
  undergraduate regular, 8
  undergraduate visiting, 9
Summary of key policies. *See* Policies
Sustainable value chain bachelor's degree program, 104
Systems engineering
  courses, 332
  graduate certificate program, 198
  master's degree concentration, 147

T

Teaching cybersecurity graduate certificate program, 198
Technical fluency, 344
Technology requirements, 26
  discipline-specific, 26
  general, 26
Theatre course, 282
Time commitment, 343
Time limits
  doctoral program, 166
  graduate certificate programs, 169
  master's degree programs, 110
Transcript services, 360
Transfer credit, 16, 357
  from external sources, 16
    from community colleges, junior colleges, and vocational and technical colleges, 16
    from institutions outside the United States, 17
    from military institutions or military experience, 17
    from noncollegiate courses and training, 17
    from other colleges and universities, 17
  from UMGC, 345
  initial estimate, 18
Transfer of general education requirements, 372
Transformational leadership
  courses, 333
  master's degree program, 165
  program-specific admission requirements, 10
Tuition and fees
  current, 346
  determination of eligibility for military tuition rate, 346
  determination of residency for tuition purposes, 346
  dishonored checks, 347
  indebtedness to the university, 347
  payment, 346
  payment deadlines, 346
  refunds for dropping or withdrawing from a course, 347
Tuition assistance
  employer-provided, 348
  military, 352
Tutorial assistance for students using veterans educational benefits, 354
Tutoring and writing resources, 360

INDEX

U

Undergraduate academic progress
  dismissal, 338
  probation, 338
  satisfactory, 337
  warning, 337
Undergraduate admission requirements, 8
Undergraduate course descriptions, 201
Unit of credit, 199
University of Maryland Global Campus (UMGC)
  global headquarters, 365
  mission, 6
  programs and facilities, 6
  welcome to, 6
University System of Maryland
  Board of Regents, 362
  Officers, 362
Unsatisfactory grade, 336
Upsilon Phi Delta, 341
Upsilon Pi Epsilon, 341

V

Verification services, 361
  degree verification, 361
  enrollment verification, 361
  loan deferment form certification, 361
Veterans benefits, 352
  amounts and methods of payment, 353
  application procedures, 352
  evaluation of prior training, 353
  grievance information for Virginia students, 354
  pending payments, 353
  students' responsibilities, 353
  tutorial assistance, 354
  work-study allowance, 354
Veterans priority enrollment, 15
Veterans resources, 361
Virginia state authorization, 374
Vulnerability assessment undergraduate certificate program, 184

W

Waiting list, 15
Warning, 337
Watershed management undergraduate certificate program, 185
Ways of earning credit, 16
  Credit for prior or current experiential learning, 18
  credit through linked programs, 21
  limits on credit earned outside UMGC or outside the classroom, 24
  transfer credit from external sources, 16
Web and digital design
  bachelor's degree program, 107
  undergraduate certificate programs, 177, 185
Welcome to UMGC, 6
Wellness resources, 361
Withdrawal mark, 336
Withdrawing from classes, 15
  effect on student aid, 15
  refunds, 347
Women, gender, and sexuality studies
  course, 282
  undergraduate certificate program, 186
Workplace Learning, 19
  graduate, 20
  undergraduate, 20
Work-study allowance for students using veterans educational benefits, 354
World language placement testing, 345
Writing courses, 282
Writing resources, 360

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ABOUT UMGC

University of Maryland Global Campus was founded more than 75 years ago specifically to serve the higher education needs of working adults and military servicemembers. Today, UMGC is the largest provider of postsecondary education in Maryland and continues its global tradition with online and hybrid courses, more than 175 classroom and service locations worldwide, and more than 135 degrees and certificates backed by the reputation of a state university and the University System of Maryland. For more information, *visit umgc.edu*.

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25-MKT-001 (6/25)