



University of Maryland University College

# GRADUATE SCHOOL OF MANAGEMENT AND TECHNOLOGY

2007–2008

# CATALOG



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



# UMUC IN MARYLAND AND AROUND THE WORLD

At University of Maryland University College (UMUC), a high-quality education is always within reach. UMUC is dedicated to offering on-site and online courses and resources to adult students in Maryland and around the world. The leading education provider for the U.S. military, UMUC serves nearly 54,000 servicemembers worldwide. With more than 150 global course locations and more than 90 undergraduate and graduate degree and certificate programs offered entirely online, UMUC makes it possible to earn a widely respected degree from just about anywhere.

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

This catalog provides the degree and certificate program requirements and recommended curriculum for students who begin continuous study on or after August 1, 2007. Students should keep their catalog available for easy reference throughout their program. If you began study prior to August 1, 2007, refer to the graduate catalog of the year you began, available online at [www.umuc.edu/catalog](http://www.umuc.edu/catalog).



## POLICY STATEMENT

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*See additional policies and procedures on inside back cover.*

## FROM THE DEAN



Welcome to UMUC's Graduate School of Management and Technology. The start of the 2007–2008 academic year marks UMUC's 60<sup>th</sup> year of providing quality educational programs to career-focused students. It also heralds some very exciting new developments in the programs we offer.

As you go through this catalog, you'll find that UMUC graduate degree and certificate programs are highly focused on specific career fields. A new career-mapping feature (p. 168) makes it easier than ever for you select a program that is directly relevant to your own career objectives. Course requirements have been streamlined across all disciplines, and specializations within each degree program now share core course requirements, making it possible to seamlessly switch specializations should your career objectives change. Each program's curriculum has been carefully evaluated and redesigned to ensure that you are equipped with the critical knowledge and skills you need in today's competitive workforce.

One thing that will never change is the way UMUC respects and understands your time constraints. Our programs are still geared toward students who balance a full schedule of work and family responsibilities along with their educational pursuits. We offer class schedules that fit into your busy life, both online and at on-site locations throughout the Washington, D.C., metropolitan area.

In short, UMUC is doing everything possible to offer you the best selection of degree and certificate programs and to ensure that you reach your highest career and lifetime goals. You can also count on our graduate advisors and a host of other valuable services available to help you every step of the way, from the day you apply for admission to graduation day.

On behalf of our faculty and staff, thank you for choosing the UMUC Graduate School of Management and Technology. Please accept our best wishes for success in your graduate program and throughout your career.

Sincerely,

Michael S. Frank, PhD  
Vice Provost and Dean  
Graduate School of Management and Technology  
E-mail: [graddean@umuc.edu](mailto:graddean@umuc.edu)

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# WELCOME TO UMUC

## 60 Years One Mission 1947–2007

University of Maryland University College (UMUC) was established in 1947 to help meet the educational needs of adult students returning to civilian life—and a competitive job market—in the aftermath of World War II. Those men and women turned to higher education as a stepping-stone on the path to brighter futures and broader horizons for themselves and their loved ones. And UMUC delivered.

Today, that focus remains unchanged. UMUC stands alone as both a pioneer and leader in the field of higher education for students whose busy lives dictate that they fit their studies around the competing demands of work, family, and military or community service. The university's ongoing commitment to quality, coupled with its convenient course-delivery formats and practical, cost-effective undergraduate and graduate degree and certificate programs, uniquely position UMUC to serve men and women today who dream of success in the increasingly competitive, global, and technical workplace of the 21st century.

## CARRYING OUT THE MISSION

As it seeks to serve adult students, UMUC focuses on three areas: quality, access, and affordability.

### Quality

An accredited university, UMUC is dedicated to providing the highest quality programs and services to its students and ensuring excellence in its online and on-site courses. In providing these programs, UMUC relies on a renowned faculty of scholar-practitioners—teachers who bring real-world experience to courses—and the use of the latest technologies. UMUC also is able to provide a wealth of resources to its students because of its place within the University System of Maryland.

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

### Access

UMUC is committed to eliminating any barriers that stand between the student and his or her educational goals. That includes admission—UMUC requires no standardized exams. Most students can apply and register for their first class at the same time, before presenting transcripts.

As a global university, UMUC also ensures that students can take classes any time, any place, by offering the largest selection of online programs available—in addition to classes at sites throughout Maryland and the metropolitan Washington area and at military sites in Europe and Asia. Services can also be accessed online and by phone, as well as on-site.

## Affordability

UMUC prides itself on making education affordable. While universities throughout the country have experienced massive increases year after year, UMUC has kept its tuition increases to a minimum. At the same time, UMUC has worked to expand its range of financial aid opportunities—from scholarships and grants, to a monthly payment plan, to special rates for active-duty service personnel.

## FACILITIES AND PROGRAMS

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

Headquarters for these programs are located in Adelphi, Maryland, and also serve as home to a prestigious art collection and a conference facility, the Inn and Conference Center, operated by Marriott.

Most classes and services, however, are provided at more than 150 sites worldwide. UMUC also delivers education and services to students all over the world through cutting-edge technology—via the university Web site, its online course delivery system WebTycho, its online service portal MyUMUC, and its telephone service system IRIS.

## FOR ASSISTANCE

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

# ABOUT THE GRADUATE SCHOOL

## MISSION STATEMENT

UMUC's Graduate School of Management and Technology prepares students for effective leadership and citizenship in a global environment characterized by workforce diversity, increasing competition, and technological innovation. Programs are offered at the doctoral and master's levels and are designed to extend educational access to adult students through multiple formats.

The Graduate School strives for excellence in the quality of programs offered and innovative delivery formats. The curriculum encompasses a knowledge of the disciplines with emphasis on leadership, communication, technology, globalization, diversity, systems thinking, critical thinking, information literacy, research competency, and ethical practices. The Graduate School challenges students and faculty to continuously demonstrate effective leadership as they apply what they study to their professions and their daily lives. Its goal is to become one of the premiere worldwide graduate institutions of choice among students and faculty.

## ACADEMIC PROGRAMS

Many of UMUC's graduate degree and certificate programs have been redesigned and streamlined to offer career-focused curriculum. In most graduate degree programs, each specialization shares the same five core course requirements, so you can easily transition to another related specialization even after completing your core courses.

The Graduate School of Management and Technology currently has 15 graduate degree programs, including a doctor of management program, more than 30 specializations, and more than 30 certificates. Students can also enroll in one of 12 dual degree programs, which enable students to acquire two graduate degrees for substantially fewer credits than would be required if the two degrees were earned separately. Most of these programs are available online, so students can pursue their degrees from anywhere in the world.

The Graduate School also offers an executive degree and a certificate program. An accelerated route to teacher certification in Maryland is offered for students with a bachelor's degree who wish to teach in the Maryland public school system.

A complete list of graduate programs can be found on pp. 8–9. UMUC offers courses both on-site at Maryland area locations and online. To find a location near you, see p. 122; for information about online study, see p. 132. For more information, students should call 800-888-UMUC or e-mail [gradinfo@umuc.edu](mailto:gradinfo@umuc.edu).

## SPECIAL PROGRAMS

### Institute for Environmental Management

The Institute for Environmental Management provides educational services in the field of environmental management to individuals and corporations, and to federal, state, and local governments. The institute contributes to the exchange of knowledge in this field by conducting workshops and short courses. Further information may be obtained by contacting the director of the Institute for Environmental Management at 800-888-UMUC, ext. 7875, or [rbeauchamp@umuc.edu](mailto:rbeauchamp@umuc.edu).

### Institute for Global Management

The Institute for Global Management conducts research and provides educational and training services on topics central to the management of international enterprises. The institute offers customized seminars and consulting services and engages in applied research on topics that prepare managers for the effective conduct of international business. Further information may be obtained by contacting the director of the Institute for Global Management at 800-888-UMUC, ext. 7200, or [cmann@umuc.edu](mailto:cmann@umuc.edu).

### National Leadership Institute Programs

The National Leadership Institute (NLI) offers a wide range of noncredit programs and services designed to help managers, executives, and organizations enhance their overall leadership effectiveness. For more information, students should visit the Web site at [www.umuc.edu/nli](http://www.umuc.edu/nli), call 877-999-7195, or e-mail [nli@umuc.edu](mailto:nli@umuc.edu).

## ACADEMIC RELATIONSHIPS

The Graduate School of Management and Technology has established partnerships with the following academic and government institutions:

### Military Relationships

UMUC also has established special relationships with a number of the military's institutions of higher education: Air War College; Army Signal Center; Army Management Staff College; Defense Acquisition University; Naval War College; and the National Defense University's Joint Forces Staff College, Information Resources Management College, and School of National Security Executive Education. More information on these partnerships is available online at [www.umuc.edu/military](http://www.umuc.edu/military).

### Oldenburg University

The Master of Distance Education degree is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading institution with extensive experience in distance education. Oldenburg University is contributing two certificates and several courses to this program, all of which earn full credit in the master's degree program. Oldenburg's participation helps to ensure that the program has a broad global perspective that is critical for distance educators today.

*(continued on next page)*



## PREPARING FOR GRADUATE STUDY

As most students know, more is expected at the graduate level than what is normally required on the undergraduate level. During graduate study, more effort is required on an academic level, and there are usually special requirements that must be completed at the end of the student's program. UMUC requires students to complete comprehensive exams and a dissertation *only at the doctoral level*. Master's degree students culminate their studies in a number of ways. For most other students, an integrative end-of-program course is required.

Students should refer to the catalog of the year in which they began graduate study for the specific requirements related to their program of study. See information about end-of-program options at the end of this page.

All graduate students must maintain a cumulative GPA of 3.0 and receive no grade of "F" to remain in good academic standing. Academic progress is assessed at the end of each term. For details, see p. 129.

All Graduate School of Management and Technology on-site courses use WebTycho,

UMUC's Web-based course management system, as an enhancement to provide on-site students with online educational opportunities. Faculty members may elect to use some or all of WebTycho's online features in conjunction with face-to-face classroom activity. More information about WebTycho is available in the Online Study section on p. 132.

UMUC offers many courses in a hybrid format, with a combination of on-site and online class sessions. Classes meet on-site at a UMUC location for about half the class sessions; the remainder of course material is covered online in the WebTycho classroom. The schedule of on-site sessions is provided by the instructor at the beginning of the term. Hybrid courses are identified in the most current graduate *Schedule of Classes*.

On-site students who do not have access to the Internet may make use of computer labs at various UMUC locations to connect to WebTycho. More information about the availability of these labs can be found in the Computer Facilities and Services section on p. 135.

Other administrative and general academic requirements (e.g., time limits, academic progress) for the doctoral and master's degrees are described on pp. 127–31.

## REQUIRED COURSE: UCSP 611 INTRODUCTION TO GRADUATE LIBRARY RESEARCH SKILLS

UCSP 611 Introduction to Graduate Library Research Skills is designed to familiarize students with online library and information resources—material that is critical for 21<sup>st</sup>-century managers.

This noncredit course is required for all new graduate students and all inactive students who reapply for admission. The grading method is pass/fail. UCSP 611 must be completed within the first six credits of graduate study. The full course description appears on p. 113.



## ELECTIVE COURSE: COMM 600

Students who have been out of academia for a period of time or who do not write often in their professions are encouraged to enroll in COMM 600 in their first semester.

COMM 600 Academic Writing for Graduate Students is a 3-credit graduate-level writing course specially designed to reinforce and strengthen the writing skills necessary for success in UMUC's graduate degree programs. The full course description appears on p. 86. (See individual program descriptions for specifics regarding inclusion of COMM 600 into each degree plan.)

## NONCREDIT COURSES

The Graduate School of Management and Technology offers a complement of online noncredit courses designed to provide students with the skills and knowledge they need to complete their academic programs successfully. Noncredit courses last eight weeks, except UCSP 611, which lasts five weeks.

Although these courses carry no UMUC credit, they appear on the students' official academic transcript. At the successful conclusion of the course, a grade of P (Pass) is posted.

UMUC graduate students must be admitted or have an application on file before registering for noncredit courses.

Noncredit courses are designated UCSP and listed in the course descriptions (pp. 81–114). Current information about fees and scheduling for noncredit courses is available at [www.umuc.edu/grad/noncred.html](http://www.umuc.edu/grad/noncred.html).

*Note:* No refunds are given for noncredit courses. Financial aid, the Golden ID program, and USM remission of fees may not be applied to noncredit courses.

## TIME LIMITS

Certificate and degree programs must be completed within a specific timeframe. For most graduate degree and dual degree programs, you must complete all coursework within seven years. If you are in the Master of Business Administration (MBA) program, you must complete your coursework within five years of beginning AMBA (or XMBA) 601. Certificate programs must be completed in five or seven years, depending upon the degree with which they are associated. Contact a graduate advisor at 800-888-UMUC or send an e-mail to [gradinfo@umuc.edu](mailto:gradinfo@umuc.edu) for more information.

You must apply for your diploma or certificate in a timely fashion upon completion of all coursework. See p. 129 for deadlines and p. 134 for details on graduation services.

## STUDENT PROFILE

UMUC's graduate students are from diverse industry and educational backgrounds. Approximately 75 percent of graduate students have completed nonbusiness-related studies such as engineering, computer science, biological and medical science, or social science. Most of the Graduate School's students are midcareer professionals who have made steady progress in their chosen fields and are now seeking additional preparation in anticipation of a new managerial assignment. The average student age is 36 years. Approximately 4 percent of all applicants hold prior graduate degrees, and slightly more than 50 percent of the students are women.

# PROGRAM OVERVIEW

## DOCTORAL PROGRAM

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**Doctor of Management\***

## MASTER'S DEGREE PROGRAMS

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**Master of Business Administration**

**Master of Distance Education**

- Distance education technology
- Distance education teaching and training
- Distance education policy and management

**Master of Education in instructional technology**

**Master of International Management**

**Master of Science in accounting and financial management**

**Master of Science in accounting and information technology**

**Master of Science in biotechnology**

- Bioinformatics
- Biotechnology management
- Biosecurity and biodefense

**Master of Science in environmental management**

**Master of Science in financial management and information systems**

**Master of Science in health administration informatics**

**Master of Science in health care administration**

**Master of Science in information technology**

- Database systems technology
- Electronic business (E-business)
- Homeland security management
- Informatics
- Information assurance
- Project management
- Software engineering
- Telecommunications management

**Master of Science in management**

- Accounting
- Financial management
- Health care administration
- Homeland security management
- Human resource management
- Information systems and services
- Interdisciplinary studies in management
- Marketing
- Nonprofit and association management
- Procurement and contract management
- Project management
- Public relations

**Master of Science in technology management**

- Distance education technology
- Electronic business (E-business)
- Homeland security management
- Information systems and services
- Project management

## EXECUTIVE DEGREE PROGRAM

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**Executive Master of Business Administration\***

## DUAL DEGREE PROGRAMS

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**MASTER OF BUSINESS ADMINISTRATION OR EXECUTIVE MBA WITH:**

**Master of Distance Education \*\***

**Master of International Management \*\***

**Master of Science in environmental management \*\***

**Master of Science in financial management and information systems \*\***

**Master of Science in health care administration \*\***

**Master of Science in information technology \*\***

**Master of Science in management \*\***

**Master of Science in technology management \*\***

## OTHER DUAL DEGREE COMBINATIONS

**Master of Distance Education/Master of Science in management \*\***

**Master of Education in instructional technology/ Master of Distance Education \*\***

**Master of Science in accounting and information technology/Master of Science in accounting and financial management \*\***

**Master of Science in financial management and information systems/Master of Science in accounting and financial management \*\***

## TEACHER EDUCATION NONDEGREE PROGRAMS

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**Alternative Teacher Preparation: Resident Teacher Certification**

**Teacher Education Reading Strand: Reading Courses in Elementary and Secondary Education**

## CERTIFICATE PROGRAMS

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**Accounting**

**Accounting and Information Technology**

**Bioinformatics**

**Biotechnology Management**

**Database Systems Technology**

**Distance Education, Globalization, and Development**

**Distance Education Leadership**

**E-business**

**Environmental Management**

**Financial Management in Organizations**

**Foundations of Distance Education**

**Foundations of Human Resource Management**

**Foundations of Information Technology**

**Health Care Administration**

**Homeland Security Management**

**Integrated Direct Marketing**

**Integrative Supply Chain Management**

**Informatics**

**Information Assurance**

**International Marketing**

**International Trade**

**Nonprofit and Association Financial Management**

**Policy and Management in Distance Education**

**Procurement and Contract Management**

**Project Management**

**Public Relations**

**Software Engineering**

**Systems Analysis**

**Teaching and Training at a Distance**

**Technology in Distance Education**

**Telecommunications Management**

## EXECUTIVE CERTIFICATE PROGRAM

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**Chief Information Officer**

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

*\*\* After successful completion of the first degree program, students may earn a dual degree by completing an additional 18 credits in the second program. For most dual degrees, either degree program may be completed first. See individual program pages for more information.*

# DOCTORAL DEGREE PROGRAM

## DOCTOR OF MANAGEMENT

### Program Description

The Doctor of Management (DM) degree prepares individuals to assume leadership positions in public and private organizations anywhere in the world. The program prepares experienced professionals to identify new opportunities that add value to their organizations by sustaining their long-term competitiveness. Today's leaders require a more sophisticated level of knowledge and analysis to successfully maneuver their organizations through the complexities of a rapidly changing global environment. The Doctor of Management program achieves this goal by offering a doctoral-level curriculum that builds executive-level competencies in seasoned managers in both public- and private-sector organizations.

### Program Objectives

Graduates of this program will be able to

- Function effectively as leaders in an organization
- Understand management theory and practice
- Formulate and execute business strategies and operational plans
- Develop knowledge base and solid understanding of technology acquisition, organizational and behavioral processes, assessment, and global operations

### Program Overview

The Doctor of Management program focuses on the critical importance of an interdisciplinary and global perspective necessary for effective executive leadership in public and private organizations. The following are key features of the Doctor of Management program:

- Organizational management issues are integrated with technological considerations and the global environment
- The comprehensive examination is designed into each of the first six courses
- The critical role of information and telecommunications technologies in all aspects of work is covered, with emphasis on the practical application of concepts, research, and knowledge to real-world management issues
- All courses are taught by faculty with significant academic achievements and substantial professional expertise

- Special support is offered through a unique series of courses that focus on completing the dissertation, stakeholder input on the dissertation, and a cohort structure that provides peer support and assistance
- A hybrid instructional format—mandatory on-site residencies and Web-enhanced instruction—fosters a community of learners engaged in projects, communication, and teamwork and allows for national and global diversity of perspectives and experiences
- Substantial library services support learners anywhere, anytime: more than 140 electronic databases, plus e-books; library chat, e-mail, and telephone service with a librarian 24 hours a day, seven days a week; and book delivery in the United States

### Student Profile

This program is designed for part-time adult students with significant professional experience, fostering an interchange of ideas and critical thinking.

# DOCTORAL DEGREE PROGRAM

## PROGRAM: DOCTOR OF MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Admission Requirements</b>	<ol style="list-style-type: none"> <li>1. Minimum 7 years management experience</li> <li>2. Personal Statement</li> <li>3. Two references</li> <li>4. Résumé</li> <li>5. Master's degree with a minimum GPA of 3.2 or by permission of the Department. Prospective students may take the GMAT or GRE to enhance their candidacy. <b>See <a href="http://www.umuc.edu/doctor">www.umuc.edu/doctor</a> for additional information.</b></li> </ol>	
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. Students must complete a minimum of 48 credits of coursework, a dissertation, and required comprehensive exams.</li> <li>2. No transfer credits are accepted.</li> </ol>	
<b>Required Courses</b>	DMGT 800	Foundations of Management Theory and Strategic Thinking (6)
	DMGT 810	Leadership, Enterprise Change, and Virtual Management (6)
	DMGT 890	Dissertation Theory Paper (4)
	DMGT 820	International Finance and Global Operations (6)
	DMGT 830	Research Methods (6)
	DMGT 891	Dissertation Empirical Paper (4)
	DMGT 840	Enterprise Continuity and Information Assurance (6)
	DMGT 850	Innovation and Sustainable Development (6)
	DMGT 892	Dissertation Futurist Paper (4)
<b>Optional Course</b>	DMGT 860	Post-Doctoral Teaching Practicum (6)

Course descriptions are found on pp. 81–114.

# MASTER'S DEGREE PROGRAMS

## MASTER OF BUSINESS ADMINISTRATION

DUAL DEGREE  
MBA

+

- Master of Distance Education
- Master of Science in Management
- Master of Science in Health Care Administration
- Master of International Management
- Master of Science in Technology Management
- Master of Science in Financial Management and Information Systems
- Master of Science in Information Technology
- Master of Science in Environmental Management

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The Master of Business Administration (MBA) is designed for mid-career professionals whose careers and management responsibilities transcend a single functional specialty and require a broad array of management knowledge and skills. Emphasis is on developing key managerial competencies—critical thinking, systems thinking, team building, decision making, and ethical leadership—that are necessary to manage complex enterprises competing in global markets.

This interdisciplinary, integrated, and applied degree program incorporates organizational and management processes in the context of the global business environment.

### Program Objectives

Graduates of this program will be able to

- Understand the evolving nature of corporations
- Blend leadership with change management
- Measure an organization's intellectual assets
- Examine how product development merges with entrepreneurship
- Foster new approaches to measuring the economic performance of organizations

### Program Overview

The 42-credit online MBA program consists of seven 6-credit seminars, each of which is 13 weeks long with three weeks off between seminars. The program includes a 3-credit prerequisite course that may be waived if the applicant has scored at least 600 on the GMAT or has already completed a graduate degree. Each student is assigned to a cohort of approximately 25 students who continue together through completion of their MBA program.

### Student Profile

The MBA program is designed for working, midcareer professionals from a wide range of academic and organizational backgrounds.

### CAREER PATHS

Depending on a student's background and employer criteria, graduates of the MBA program may qualify for careers in

- Consulting
- Finance
- Marketing
- Corporate Planning
- General Management
- Mid-level Corporate Management

### Partnerships

The University of Maryland University College has established academic partnerships with universities in Argentina, Belgium, Hungary, India, and China. MBA students may participate with students from these universities in company-sponsored projects, which are arranged through a series of business partnerships in these countries.

# MASTER'S DEGREE PROGRAMS

## Dual Degrees

Graduates of the MBA program can elect to pursue dual degrees in the following areas:

- Master of Distance Education
- Master of International Management
- Master of Science in financial management and information systems
- Master of Science in environmental management
- Master of Science in health care administration
- Master of Science in information technology
- Master of Science in management
- Master of Science in technology management

### PROGRAM: MASTER OF BUSINESS ADMINISTRATION

<b>Initial Requirements</b>	AMBA 600 UCSP 611	MBA Fundamentals (3) Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. AMBA 600 must be completed within the first semester.</li> <li>2. A student may transfer 3 credits from another university and complete a 3-credit AMBA 617 course instead of the 6-credit AMBA 607 course.</li> <li>3. All seminars must be taken in the order listed.</li> </ol>	
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).	
<b>Prerequisite Courses</b>	AMBA 600	MBA Fundamentals (3)
<b>Required Courses</b>	AMBA 601 AMBA 602 AMBA 603 AMBA 604 AMBA 605 AMBA 606 AMBA 607	The Role of Managers and Organizations in Society (6) The Dynamics of Individuals and Groups at Work (6) The Marketing of New Ideas (6) Technology and Operations Management (6) Economics of Management Decisions (6) Organizations and the External Environment (6) Strategic Management (6)

## MASTER OF DISTANCE EDUCATION

MDE

ALL SPECIALIZATIONS  
SHARE CORE REQUIREMENTS

**Distance Education Technology**

**Distance Education Teaching and Training**

**Distance Education Policy and Management**

DUAL DEGREE  
MDE

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

+

Master of Science  
in Management

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Master of Business  
Administration

### Program Description

The Master of Distance Education seeks to qualify current and future managers of distance education. It is designed to produce individuals who are capable of managing the distance education enterprise within educational, business, government, and nonprofit

### Program Objectives

Graduates of the program will be able to

- Develop and communicate a mission and vision for the implementation of distance education within an organization

Course descriptions are found on pp. 81–114.

# MASTER'S DEGREE PROGRAMS

- Function effectively as leader, manager, and team member within a distance education or training organization
- Develop strategic goals and business plans for distance education within an organization
- Analyze and recommend an organizational distance education technology plan and manage the implementation of that technology in distance delivery
- Design, implement, and assess the necessary support services for a distance education program

Graduates will develop competencies in the following areas within the distance education field:

- Organizational and management processes
- Leadership and change management
- Information technology
- Business development, strategic action planning, problem solving, ethics, and social responsibility

## Program Overview

The curriculum requires 36 credits of coursework and is divided into 15 credits of core coursework and 21 credits of coursework, including a 3-credit capstone course, from one of the program specializations.

## Student Profile

The Master of Distance Education program is designed for working adults who want to complete their degree without interrupting their careers and who seek to enhance their professional skills and competencies in the distance education field or develop the skills and competencies to move into the field. Students must have a basic level of computer literacy and be fluent in English.

## SPECIALIZATIONS

The Master of Distance Education offers three specializations, each covering subject areas relevant to today's career fields. Each specialization prepares students for one of several possible career paths, depending on the student's background and employer criteria.

### Distance Education Technology

This specialization builds on the core course OMDE 603 Technology in Distance Education, which gives grounding in the relevant history pertaining to media and technology in distance education. The course sets a framework guiding the appropriate technology choice. The specialization builds on that with two further specialized courses providing an in-depth understanding of both asynchronous and synchronous technologies.

The Master of Distance Education program is designed to educate managers and leaders in the field of distance education, not specialists in technology. The objective of the technology specialization is to train managers who manage technology-related aspects of distance education

program development, including setting up appropriate technology configurations, selecting tools, and managing the technology-related aspects of media integration and course design and development. However, managers should also be critically aware of the intricate relationship of globalization and information and communication technologies, which exert a considerable influence in reshaping distance education.

## CAREER PATHS

- **Technical Director**  
(for example, involved in setting up the appropriate technology configuration; has a profound understanding of the technology options combined with an awareness of pedagogical objectives)
- **Production Manager**  
(for example, supervises and guides course development processes and media integration; has awareness of what is technically feasible and what is pedagogically intended, is necessary, and bears on the management of the development and production process)
- **Technical Expert/Advisor/Consultant**  
(for example, advises setting up distance education centers or courses; evaluates the efficiency and appropriateness of technology configurations; works as a consultant for international organizations on aspects of technology/media choice)
- **Coordinator of Online Instruction**  
(for example, advises on the instructional design, the functionalities of the learning and content management systems, and the setting up of the faculty and student support systems)
- **Online Course Support Specialist**  
(for example, creates shells for online course development; provides faculty support; maintains critical data and course information)

## Distance Education Teaching and Training

Emerging information and communication technologies confront teaching personnel and trainers with new demands. This specialization is grounded in the core course OMDE 610 Teaching and Learning in Online Education. Managing online teaching requires some mastery of the instructional design process as well as the integration of the appropriate selection of media.

Note that the goal of the Master of Distance Education program is to educate managers and leaders in the field of distance education, not teachers and trainers in specific content areas. The objective of the teaching and training specialization is to educate managers to deal with the specific teaching-related aspects of distance education in the traditional teaching setting as well as in the corporate training sector. While the specialization focuses on teaching and training, there are close linkages to technology-related aspects (such as instructional design) as well as specific management-related aspects (such as intellectual property, accreditation, and quality assurance).



## CAREER PATHS

- Online Teacher/Tutor/Trainer in a Management or Supervisory Function  
(for example, sets up online courses or programs, including the selection of appropriate technology [asynchronous vs. synchronous; type of learning management system; selection of appropriate learning scenarios])
- Pedagogical Expert (Online Learning); Coordinator of Online Instruction  
(for example, advises content experts to redesign content for specific use in an online course format; retrains teacher or tutor successfully in an online environment)
- Online Librarian/Resource Manager  
(for example, sets up resource centers for distance teaching institution; advises on copyright and intellectual property issues)
- Program Evaluator/Educational Consultant  
(for example, prepares programs for accreditation by evaluating program components; often works as a consultant for international organizations)
- Subject Matter Expert for Distance Education  
(for example, teaches/tutors courses on various aspects of distance education)

## Distance Education Policy and Management

The core of this specialization is especially linked to the course OMDE 606 Costs and Economics of Distance Education. The course discusses the reason why investment in education is valued by governments and individuals and how distance education programs are budgeted and costs evaluated.

Note that the goal of the Master of Distance Education program is to educate managers and leaders in the field of distance education, not technologists or teachers. All specializations present substantial aspects of management competencies.

## CAREER PATHS

- Director of Distance Learning; Director of Extended Education; Access Director; Director of Continuing Education  
(for example, has responsibility for the overall planning and management of a distance teaching institution or its distance education department/unit)
- Project/Program Manager/Director  
(for example, has responsibility for the overall planning and management of a distance teaching project or program)
- Project Management Assistant  
(for example, assists with aspects of the planning and management of distance teaching projects or programs)
- Coordinator of Online Instruction  
(for example, has responsibility for designing, developing, and marketing of online courses)

- Financial Advisor/Account Manager; Financial Analyst/Financial Manager  
(for example, draws up project or program budgets)
- Distance Learning Librarian  
(for example, sets up resource centers for distance teaching institution; advises on copyright and intellectual property issues)

## Partnerships

The Master of Distance Education program is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading German institution with extensive experience in distance education. Oldenburg is contributing a certificate and several courses to the program, all of which earn full credit in the master's program. This helps to ensure that the program has a broad, global perspective that is critical for distance educators in today's world.

Oldenburg produced a series of books used as course literature that includes important reflective research of the program (including historical analysis of the program development and detailed cost analysis). Oldenburg has held Master of Distance Education faculty meetings, contributing to the development of a globally distributed faculty for this degree program.

## Dual Degrees

Graduates of the Master of Distance Education program can elect to pursue dual degrees in the following areas:

- Master of Science in management
- Master of Business Administration

# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF DISTANCE EDUCATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).	
<b>CORE</b>		
<b>Required Courses</b>	OMDE 601 OMDE 603 OMDE 610 OMDE 606 OMDE 608	Foundations of Distance Education (3) Technology in Distance Education (3) Teaching and Learning in Online Distance Education (3) Costs and Economics of Distance Education (3) Learner Support in Distance Education and Training (3)
<b>Core Rules</b>	OMDE 601 must be taken as the first course.	
<b>SPECIALIZATIONS</b>	<b>Distance Education Technology</b>	
	<b>Required Courses</b>	DETT 607 Instructional Design and Course Development in Distance Education (3) DETC 630 Synchronous and Asynchronous Learning Systems in Distance Education (3) DETC 620 Training and Learning with Multimedia (3) DEPM 604 Leadership in Distance Education (3) DEPM 625 Distance Education, Globalization, and Development (3) IMAT 639 Internet Multimedia Applications (3)
	<b>Capstone Course</b>	OMDE 670 Portfolio and Project in Distance Education (3)
	<b>Distance Education Teaching and Training</b>	
	<b>Required Courses</b>	DETT 607 Instructional Design and Course Development in Distance Education (3) DETC 620 Training and Learning with Multimedia (3) DETT 611 Library and Intellectual Property Issues in Distance Education (3) EDTC 650 Special Topics in Instructional Technology (3) DETT 621 Training at a Distance (3) DETT 615 Assessment and Quality Assurance in Distance Education (3)
	<b>Capstone Course</b>	OMDE 670 Portfolio and Project in Distance Education (3)
	<b>Specialization Rules</b>	1. DETC 620 is a prerequisite to EDTC 650.
	<b>Distance Education Policy and Management</b>	
	<b>Required Courses</b>	DEPM 604 Leadership in Distance Education (3) DEPM 609 Distance Education Systems (3) DETT 611 Library and Intellectual Property Issues in Distance Education (3) DETT 615 Assessment and Quality Assurance in Distance Education (3) DEPM 622 The Business of Distance Education (3) DEPM 625 Distance Education, Globalization, and Development (3)
	<b>Capstone Course</b>	OMDE 670 Portfolio and Project in Distance Education (3)

Course descriptions are found on pp. 81–114.

## MASTER OF EDUCATION IN INSTRUCTIONAL TECHNOLOGY

DUAL DEGREE  
MEd IN  
INSTRUCTIONAL  
TECHNOLOGY



Master of Distance Education

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The Master of Education (MEd) in instructional technology is an advanced degree program that focuses on integrating technology in pre-K–12 schools to strengthen teaching and learning. The program provides the knowledge and skills needed to incorporate technology effectively into pre-K–12 curricula, instruction, and assessment; to develop expertise in current and emerging instructional technologies; to gain a broad understanding of the role of technology in the contemporary school; and to lead change efforts at the classroom, school, and district levels.

The program combines three areas of study related to pre-K–12 schools:

- Instruction
- Technology
- Leadership and management

### Program Objectives

Graduates of the program will be able to

- Integrate technology in the schools to strengthen and transform teaching and student learning
- Use a range of technologies to communicate and collaborate with students, colleagues, parents, and other audiences
- Create multimedia and Web-based products that advance student learning
- Apply technology to meet the needs of a diverse school population
- Implement professional development for teachers and administrators related to technology integration
- Apply leadership skills to establish a vision for technology integration, ensure access, design technology plans and budgets, and acquire resources
- Use reflection, critical thinking, and research to make sound decisions regarding technology and student learning, advocate for change, and build program support

### Program Overview

The Master of Education degree program requires 33 credits of coursework, including 30 credits of core courses and a 3-credit integrative capstone project.

### Student Profile

The MEd program is designed for two broad groups of students: pre-K–12 teachers, administrators, technology integration specialists, and staff developers seeking to develop expertise in instructional technology for teaching and learning; and other educators and potential career changers interested in technology integration in pre-K–12 schools.

Note: Applicants do not need to possess a state teaching license to enter the MEd program in order to benefit from the program. However, the MEd is not an initial teacher certification or licensure program. See UMUC's Alternative Teacher Preparation (Resident Teacher Certification) program and Reading Strand for programs related to certification.

### CAREER PATHS

Career opportunities in instructional technology and pre-K–12 education are constantly evolving. All graduates of the Master of Education program will have strengthened their teaching and leadership skills, particularly in relation to technology integration. In addition, depending on their backgrounds, graduates may find positions such as

- Teacher Leader in a School, Related to Technology Integration (Such leadership could either be informal, as in an expert teacher who assists others, or formal, as in a position of technology integration specialist or staff developer.)
- Staff Developer or Technology Integration Specialist at the District or State Level
- Member of a Technology Planning Committee, Curriculum Committee, or Grant Writing Team at the School or District Level
- Developer of Multimedia for Education and Training
- Online Distance Education Teacher for Virtual K–12 Schools

Graduates who wish to become K–12 teachers in the public schools and who do not yet have state licensure to teach may need to pursue an initial teacher certification program, based on state or national requirements.

# MASTER'S DEGREE PROGRAMS

## Partnerships

UMUC currently offers cohort programs in collaboration with public school districts, including Montgomery County Public Schools in Maryland.

Note: If you are a school or district administrator and would be interested in developing a cohort program for your school(s), please contact the Teacher Education Department at 301-985-7056.

## Dual Degrees

Graduates of the MEd program can elect to pursue a dual degree in the following area:

- Master of Distance Education

### PROGRAM: MASTER OF EDUCATION IN INSTRUCTIONAL TECHNOLOGY

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>		<ol style="list-style-type: none"> <li>1. EDTC 605 must be taken within the first six credits.</li> <li>2. EDTC 610 is a prerequisite to EDTC 620.</li> <li>3. Either EDTC 620 or DETT 620 is a prerequisite to EDTC 650.</li> <li>4. Students must have 27 credits before taking the capstone course, EDTC 670.</li> </ol>
<b>Recommendations</b>		<ol style="list-style-type: none"> <li>1. Courses should be taken in the order listed.</li> <li>2. Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).</li> <li>3. It is recommended that the capstone course be the final course.</li> </ol>
<b>Required Courses</b>	EDTC 600 EDTC 605 EDTC 610 EDTC 615 EDTC 620 EDTC 625 EDTC 630 EDTC 640 EDTC 645 EDTC 650	Foundations of Technology in Teaching and Learning (3) Digital Information Literacy for K–12 Educators (3) Web-Based Learning and Teaching: Design and Pedagogy (3) Using Technology for Instructional Improvement (3) Technology in K–12 Education: Synchronous, Asynchronous, and Multimedia Technologies (3) Hardware and Software in Instructional Development (3) Administration of Technology Initiatives: Planning, Budgeting, and Evaluation (3) Technology Change Management in Schools (3) Integration of Technology: Global Perspectives (3) Special Topics in Instructional Technology (3)
<b>Capstone Course</b>	EDTC 670	Integrative Capstone Project (3)

Course descriptions are found on pp. 81–114.

## MASTER OF INTERNATIONAL MANAGEMENT

DUAL DEGREE  
MIM



Master of Business  
Administration

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The Master of International Management (MIM) is an innovative, graduate-level management degree program designed to help mid-career professionals meet challenges and successfully pursue careers in international business and commerce. The program provides managers with a working knowledge of transnational business operations, their organization and management, and the global environment.

Emphasis is on developing skills for assessing the international competitive structure of industries, building marketing and business plans, formulating market-entry strategies, and managing country and global business risk.

### Program Objectives

Graduates of the program will be able to

- Fill a void in traditional business education
- Increase the competitiveness of their organizations

### Program Overview

The curriculum requires 36 credits of coursework, which includes a 3-credit capstone course.

### Student Profile

The Master of International Management program is designed for midcareer professionals who would like to pursue careers in international business and commerce.

### CAREER PATH

The Master of International Management program is appropriate for students who currently are serving in, or who aspire to, a senior-level management role in a global business enterprise.

### Dual Degrees

Graduates of this program can elect to pursue a dual degree in the following area:

- Master of Business Administration

### PROGRAM: MASTER OF INTERNATIONAL MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	All courses must be taken in the order listed.	
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).	
<b>Required Courses</b>	IMAN 601	Strategic Management in a Global Environment (3)
	MGMT 615	Intercultural Communication and Leadership (3)
	IMAN 610	Economics for Global Managers (3)
	IMAN 615	Strategic Investment and Partnering (3)
	IMAN 625	International Trade and Trade Policy (3)
	IMAN 631	Financial Management for Global Managers (6)
	MRKT 605	International Marketing Management (3)
	IMAN 635	Managing Country Risk (3)
	IMAN 645	The International Legal and Tax Environment (3)
	ISAS 600	Information Systems for Managers (3)
<b>Capstone Course</b>	IMAN 670	Managing Overseas Operations (3)

Course descriptions are found on pp. 81–114.

## MASTER OF SCIENCE IN ACCOUNTING AND FINANCIAL MANAGEMENT

DUAL DEGREE  
MS IN  
ACCOUNTING  
AND FINANCIAL  
MANAGEMENT

+

Master of Science in  
Accounting and Information  
Technology

Master of Science in  
Financial Management and  
Information Systems

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The Master of Science in accounting and financial management is designed for individuals who want to concentrate their graduate studies on finance and accounting as an alternative to a general management or general business-related degree. There is substantial demand in the workforce for professionals and managers who possess specialized skills, knowledge, and abilities in both the accounting and financial management disciplines.

The program emphasizes understanding the financial reporting process and its effect on financial markets, as well as using and analyzing financial information, to prepare students to assume positions of increasing responsibility within the financial operations of an organization.

### Program Objectives

Graduates of this program will be able to

- Successfully apply accounting and financial management concepts, principles, and applications in the analysis and resolution of strategic and operational problems
- Utilize technology in the accounting and financial management of their organizations to share access to information for the purpose of improving the quality of decision making enterprise-wide
- Apply finance and accounting principles in evaluating the costs and benefits of strategic investments
- Evaluate issues and innovations in accounting and financial management and their effects on managerial decision making
- Evaluate the effects of international standards and international diversification on accounting and financial management decision making
- Understand the ethical problems facing accounting and financial management
- Assess and evaluate the state of corporate governance and internal controls

### Program Overview

The curriculum requires 36 credits and consists of five accounting courses, six financial management courses, and one program capstone.

Note: Successful completion of the program may satisfy the educational requirement for candidacy for the Certified Public Accountant (CPA) exam. Educational requirements to sit for the CPA exam or to practice as a CPA vary among states. Students are responsible for staying abreast of the current requirements of the state in which they will sit for the exam or practice professionally.

### Student Profile

The program will assist students who are

- Currently in an accounting or finance position and want to raise their knowledge base to move into a position in the chief financial officer (CFO) career path
- Currently not in an accounting or finance position but want to increase their knowledge base to enable a move into one or the other career fields without becoming so specialized that they lose flexibility

### CAREER PATHS

The MS in accounting and financial management degree program prepares graduates for a number of entry-, mid-, and high-level positions, as determined by a student's work experience. Depending on a student's background and an employer's criteria, graduates of the MS in accounting and financial management program may qualify for positions such as

- CFO or CIO
- Accounting or Financial Manager
- Fraud Examiner
- Financial, Budget, or Management Analyst
- Government Accountant or Auditor
- Internal Auditor
- Financial Liaison with Business Units
- Financial Consultant or Advisor

## Partnerships

The Articulation Agreement between the Graduate School of Management and Technology and UMUC's School of Undergraduate Studies allows students who completed their undergraduate degree at UMUC with a major in accounting to reduce their total coursework by 6 credits (two courses).

## Dual Degrees

Graduates of the MS in accounting and financial management degree program can elect to pursue dual degrees in the following areas:

- Master of Science in accounting and information technology
- Master of Science in financial management and information systems

### PROGRAM: MASTER OF SCIENCE IN ACCOUNTING AND FINANCIAL MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>		<ol style="list-style-type: none"> <li>1. Students must have completed 15 credits of undergraduate accounting courses with a grade of C or better in each course before enrolling in any graduate accounting course.</li> <li>2. Students without recent coursework in accounting or economics are strongly advised to complete UCSP 620 and UCSP 621 before enrolling in MGMT 640.</li> <li>3. ACCT 610 must be taken prior to any other graduate accounting courses.</li> <li>4. Students must complete MGMT 640 before enrolling in FIN 610, and FIN 610 must be completed before any other financial management course.</li> <li>5. FIN 610, FIN 620, and FIN 630 are prerequisite to FIN 660.</li> <li>6. Students must complete all courses except either FIN 645 or ACCT 665 before enrolling in MSAF 670.</li> </ol>
<b>Recommendations</b>		<ol style="list-style-type: none"> <li>1. It is strongly recommended that ACCT 612 be taken before ACCT 608.</li> <li>2. Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).</li> </ol>
<b>Required Accounting Courses</b>	ACCT 610 ACCT 608 ACCT 612 ACCT 613 ACCT 665	Financial Accounting (3) Fraud Examination and Accounting Ethics (3) Auditing Process (3) Federal Income Taxation (3) Special Topics in Accounting (3)
<b>Required Financial Management Courses</b>	MGMT 640 FIN 610 FIN 620 FIN 630 FIN 645 FIN 660	Financial Decision Making for Managers (3) Financial Management in Organizations (3) Capital Markets, Institutions, and Long-Term Financing (3) Investment Valuation (3) Behavioral Finance (3) Strategic Financial Management (3)
<b>Capstone Course</b>	MSAF 670	Accounting and Financial Management Capstone (3)

## MASTER OF SCIENCE IN ACCOUNTING AND INFORMATION TECHNOLOGY

DUAL DEGREE  
MS IN  
ACCOUNTING AND  
INFORMATION  
TECHNOLOGY



Master of Science in  
Accounting and Financial  
Management

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The Master of Science in accounting and information technology is designed for individuals who want to concentrate their graduate studies on accounting with an information technology emphasis. The program emphasizes business processes, a broad business outlook, and professional expertise and prepares students to assume positions of increasing responsibility that require integrated knowledge of accounting and information technology.

### Program Objectives

Graduates of this program will be able to

- Successfully apply accounting and information technology concepts, principles, and techniques in the analysis and resolution of accounting systems problems and opportunities within their organizations
- Effectively communicate accounting and information technology ideas, concepts, and solutions
- Evaluate the effects of technology on an organization's accounting system
- Evaluate issues and innovations in accounting and in information technology and their effects on managerial decision making
- Evaluate and design accounting and information systems to meet organizational goals
- Develop and evaluate alternative solutions to organizational problems

### Program Overview

The curriculum requires 36 credits and consists of six accounting courses, five information technology courses, and one program capstone.

Note: Successful completion of the program may satisfy the educational requirement for candidacy for the Certified Public Accountant (CPA) exam. Educational requirements to sit for the CPA exam or to practice as a CPA vary among states. Students are responsible for staying abreast of the current requirements of the state in which they will sit for the exam or practice professionally.

### Student Profile

The program will assist students who are

- Currently in an accounting or information technology position and want to raise their knowledge base to move into a position focused on accounting information systems or accounting information technology or to serve as a liaison between the information technology department and organization executives
- Currently in an accounting or information technology position and want to raise their knowledge base to move into a position for either the chief financial officer (CFO) or the chief information officer (CIO) career path
- Currently not in an accounting or information technology position and want to increase their knowledge base to enable a move into one or the other without becoming so specialized that they lose flexibility

### CAREER PATHS

The MS in accounting and information technology degree program prepares graduates for a number of entry-, mid-, and high-level positions, as determined by a student's work experience. Depending on a student's background and an employer's criteria, graduates of the MS in accounting and information technology program may qualify for positions such as

- CIO Liaison with the CFO Office
- CFO Liaison with the CIO Office
- Public Accountant or Auditor
- Government Accountant or Auditor
- Management or Systems Analyst
- Fraud Examiner or Internal Auditor

### Partnerships

The Articulation Agreement between the Graduate School of Management and Technology and UMUC's School of Undergraduate Studies allows students who completed their undergraduate degree at UMUC with a major in accounting to reduce their total coursework by 6 credits (two courses).

### Dual Degrees

Graduates of the MS in accounting and information technology degree program can elect to pursue a dual degree in the following area:

- Master of Science in accounting and financial management

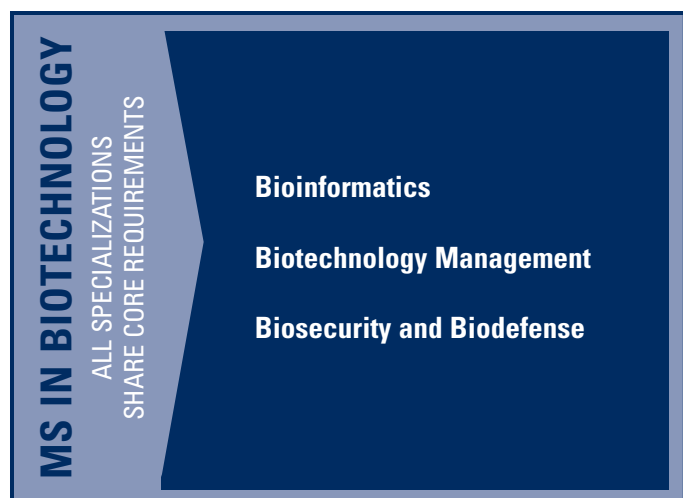


# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF SCIENCE IN ACCOUNTING AND INFORMATION TECHNOLOGY

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. Students must have completed 15 credits of undergraduate accounting courses with a grade of C or better in each class before enrolling in any graduate accounting course.</li> <li>2. ACCT 610 must be taken prior to any other accounting courses.</li> <li>3. Students must complete all courses except either ACCT 665 or INFA 610 before enrolling in MSAT 670.</li> </ol>	
<b>Recommendations</b>	<ol style="list-style-type: none"> <li>1. It is strongly recommended that ACCT 612 be taken before ACCT 608.</li> <li>2. Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).</li> </ol>	
<b>Required Accounting Courses</b>	ACCT 610 ACCT 608 ACCT 614 ACCT 612 ACCT 613 ACCT 665	Financial Accounting (3) Fraud Examination and Accounting Ethics (3) Accounting Information Systems (3) Auditing Process (3) Federal Income Taxation (3) Special Topics in Accounting (3)
<b>Required Information Technology Courses</b>	ISAS 610 ISAS 630 ISAS 650 INFA 610 IMAT 637	Information Systems Management and Integration (3) Systems Analysis and Design (3) Information Technology, the CIO, and Organizational Transformation (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) IT Acquisitions Management (3)
<b>Capstone Course</b>	MSAT 670	Accounting and Information Technology Capstone (3)

## MASTER OF SCIENCE IN BIOTECHNOLOGY



### Program Description

The Master of Science in biotechnology degree program is designed to provide a thorough grounding in science, business, and technology issues unique to the biotechnology industry through its program core courses. Each specialization provides its own in-depth understanding of the management of biotechnology, biodefense and biosecurity, or bioinformatics.

### Program Objectives

The graduates of this program will be able to

- Have a greater grasp of the technologies currently in use in the biotechnology industry
- Gain an understanding of the regulatory role of federal and state governmental agencies as well as international bodies and professional groups
- Understand the “business of biotechnology,” including financial, strategic, and human resource management in the industry
- Have increased knowledge of bioinformatics

### Program Overview

The curriculum requires 36 credits of coursework and is divided into 15 credits of core coursework and 21 credits of coursework, including a 3-credit capstone course, from one of the program specializations.

### Student Profile

Students with any educational background can enter this program, but those without a molecular biology background are required to take a college-level molecular biology course prior to the required program core.

Course descriptions are found on pp. 81–114.

# MASTER'S DEGREE PROGRAMS

## SPECIALIZATIONS

This MS in biotechnology degree program offers three specializations, each covering subject areas relevant to today's career fields. Each specialization prepares students for one of several possible career paths, depending on the student's background and employer criteria.

## Bioinformatics

This specialization covers a broad range of subjects (for example, biostatistics, databases and data structures, algorithms, gene expression analysis, and PERL) at the interface of molecular biology and computational science.

PROGRAM: MASTER OF SCIENCE IN BIOTECHNOLOGY		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	BTMN 670 must be taken after completion of 27 credits of study.	
<b>Recommendations</b>	<ol style="list-style-type: none"> <li>1. Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).</li> <li>2. It is strongly recommended that BIOT 601, Molecular Biology for Business Managers (3), be taken by students without a background in molecular biology.</li> </ol>	
<b>CORE</b>		
<b>Required Courses</b>	BIOT 640 BIOT 630 BIOT 645 BIOT 643 PMAN 634	Societal Issues in Biotechnology (3) Introduction to Bioinformatics (3) The Business of Biotechnology (3) Techniques of Biotechnology (3) Foundations of Project Management (3)
<b>Core Rules</b>	<ol style="list-style-type: none"> <li>1. BIOT 640 must be taken as the first program course.</li> <li>2. All core courses with the BIOT designator must be completed before starting any specialization.</li> </ol>	
<b>SPECIALIZATIONS</b>	<b>Bioinformatics</b>	
	<b>Required Courses</b>	BIFS 613 BIFS 617 DBST 651 BIFS 618 BIFS 619 BIFS 614
	<b>Capstone Course</b>	BTMN 670
	<b>Specialization Rules</b>	BIFS 617 is a prerequisite to BIFS 619.
	<b>Recommendations</b>	It is strongly recommended that students without a background in statistics take STAT 200.
	<b>Biotechnology Management</b>	
	<b>Required Courses</b>	BTMN 632 BTMN 634 BTMN 636 TMAN 611 MRKT 600 FIN 610
	<b>Capstone Course</b>	BTMN 670
	<b>Biosecurity and Biodefense</b>	
	<b>Required Courses</b>	BSBD 640 BSBD 641 HSMN 610 HSMN 630 BSBD 642 BTMN 632
<b>Capstone Course</b>	BTMN 670	
<b>Specialization Rules</b>	Courses must be taken in the order listed, except that BTMN 632 can be taken at any time.	

Course descriptions are found on pp. 81–114.

## CAREER PATHS

- Bioinformatics Analyst
- Bioinformatics Specialist
- Computational Biologist
- Biological Database Specialist
- Instructor

## Biotechnology Management

This specialization covers a broad range of subjects in biotechnology (for example, commercialization, project selection and evaluation, technology management, and biomanufacturing) that provide a deep understanding of biotechnology as a commercial enterprise.

## CAREER PATHS

- Laboratory Supervisor
- Manufacturing and Production Manager

- Project Manager
- Instructor
- Regulatory Affairs Officer
- Public Relations Officer
- Sales Representative
- Bioethicist

## Biosecurity and Biodefense

This specialization covers a wide spectrum of subjects, including agents of bioterrorism, threat analysis and response, and biodefense and information technology.

## CAREER PATHS

- Biodefense Policy Writer
- Research Scientist

# MASTER OF SCIENCE IN ENVIRONMENTAL MANAGEMENT

DUAL DEGREE  
MS IN  
ENVIRONMENTAL  
MANAGEMENT



Master of Business  
Administration

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

## Program Description

The Master of Science in environmental management is designed to provide the skills, knowledge, and competencies that students need to function effectively in multiple environmental management settings. The courses are interrelated and provide a solid conceptual and applied foundation in environmental management.

This program provides the student with the skills to manage multidisciplinary programs and projects dealing with the management of waste materials; pollution prevention activities associated with water, air, and soil; and the development and implementation of effective environmental management systems. In addition, the program focuses on identifying options for effectively managing land and water resources for the benefit of all society.

## Program Objectives

Graduates of this program will be able to

- Describe the institutions and processes that impact upon development of environmental and energy laws and policy issues
- Analyze, monitor, and mitigate impacts from an organization's operations
- Analyze and communicate health, safety, and environmental risks
- Manage, plan, and conduct comprehensive environmental compliance, managerial, and liability audits for various industrial and commercial facilities
- Develop a team and manage an environmental project/program for an organization or government agency

## Program Overview

The degree program requires 36 credits and consists of 12 courses.

## Student Profile

Students in the program tend to have several years of professional experience in the environmental field. They work in diverse organizations, such as federal and state governments, various industries and businesses, nonprofits, and the military.

# MASTER'S DEGREE PROGRAMS

## CAREER PATHS

The professional career path for students completing the MS in environmental management focuses on assuming high-level management responsibilities for projects and programs. Position titles for these managers include, but are not limited, to

- Environmental Program/Project Specialist
- Environmental Program/Project Manager
- Industrial Compliance Manager
- Environmental Auditor
- Health and Safety Manager

These positions exist in federal and state governmental agencies and the private sector, including various industries, consulting firms, and nonprofit firms.

## Dual Degrees

Graduates of this program can elect to pursue a dual degree in the following area:

- Master of Business Administration

### PROGRAM: MASTER OF SCIENCE IN ENVIRONMENTAL MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	ENVM 648 and ENVM 646 must be taken within the first 9 credits of study.	
<b>Recommendations</b>	<ol style="list-style-type: none"> <li>1. Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).</li> <li>2. Students should have a minimum of one undergraduate course each in chemistry and biology from an accredited university or college.</li> </ol>	
<b>Required Courses</b>	ENVM 648	Fundamentals of Environmental Systems (3)
	ENVM 641	Environmental Auditing (3)
	ENVM 643	Environmental Communications and Reporting (3)
	ENVM 646	Environmental/Energy Law and Policy Development (3)
	ENVM 647	Environmental Risk Assessment (3)
	ENVM 649	Principles of Waste Management and Pollution Control (3)
	ENVM 644	New Technologies in Environmental Management (3)
	ENVM 650	Land and Water Resource Management (3)
	ENVM 651	Watershed Planning Management (3)
	ENVM 652	Principles of Air Quality Management (3)
	ENVM 653	Land Use Management (3)
<b>Capstone Course</b>	ENVM 670	Seminar in Environmental Management (3)

Course descriptions are found on pp. 81–114.

## MASTER OF SCIENCE IN FINANCIAL MANAGEMENT AND INFORMATION SYSTEMS

DUAL DEGREE  
MS IN  
FINANCIAL  
MANAGEMENT  
AND  
INFORMATION  
SYSTEMS

+

Master of Business  
Administration

Master of Science in  
Accounting and Financial  
Management

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The Master of Science in financial management and information systems is designed for midcareer professionals seeking a graduate degree that integrates a financial management curriculum with studies in the information systems field.

With the increased demand placed on financial managers to have specific knowledge of and skills in information systems, the program prepares financial managers to effectively deal with information systems within organizations and to play a leading advisory role in integrating and utilizing information systems to create value within their corporations. The curriculum equally benefits individuals in the information systems and CIO field who would like to expand their studies into the area of financial management.

### Program Objectives

Graduates of this program will be able to

- Successfully apply financial management and information systems concepts, principles, and analysis techniques in the strategic and operational decision-making processes within their organizations
- Effectively communicate financial management and information systems ideas, concepts, and solutions
- Evaluate the effects of technology on an organization's financial system
- Evaluate issues and innovations in financial management and information systems technology and their effects on managerial decision making
- Apply financial principles in evaluating the costs and benefits of information systems/technology investment
- Evaluate and design financial information systems to meet organizational needs and objectives
- Develop and evaluate alternative solutions to organizational problems

### Program Overview

The curriculum requires 36 credits and consists of six financial management courses, five information systems courses, and one program capstone.

### Student Profile

The program will assist students who are

- Currently in either a financial management or information systems/technology position and who want to become a project leader or integrator associated with the specification, design, and implementation of financial systems within the organization
- Currently working as CFOs or CIOs and who need to know more about these two disciplines that are becoming more closely integrated in modern organizations
- Currently not in a financial management or information systems/technology position, but who have some academic background in business and who want to transition into a position within an organization that focuses on being a project leader or integrator associated with the specification, design, and implementation of financial systems within the organization

### CAREER PATH

The MS in financial management and information systems degree program prepares graduates for a range of entry- to senior-level positions within the CFO/CIO area of public and private businesses. Depending on a student's background and an employer's criteria, graduates of the program may qualify for one of the following positions:

- CFO or CIO
- Financial Manager
- CFO Liaison with the CIO Office
- CIO Liaison with the CFO Office
- CIO or CFO Liaison with the Business Units
- Financial, Budget, or Management Analyst

### Dual Degrees

Graduates of the MS in financial management and information systems degree program can elect to pursue dual degrees in the following areas:

- Master of Business Administration
- Master of Science in accounting and financial management

# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF SCIENCE IN FINANCIAL MANAGEMENT AND INFORMATION SYSTEMS

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. Students must complete MGMT 640 before enrolling in FIN 610, and FIN 610 must be completed before any other financial management course.</li> <li>2. Students must complete all courses except either FIN 645 or INFA 610 before enrolling in MSFS 670.</li> </ol>	
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).	
<b>Required Financial Management Courses</b>	MGMT 640 FIN 610 FIN 620 FIN 630 FIN 645 FIN 615	Financial Decision Making for Managers (3) Financial Management in Organizations (3) Capital Markets, Institutions, and Long-Term Financing (3) Investment Valuation (3) Behavioral Finance (3) Financial Management of Current Operations (3)
<b>Required Information Technology Courses</b>	ISAS 610 ISAS 630 ISAS 650 INFA 610 IMAT 637	Information Systems Management and Integration (3) Systems Analysis and Design (3) Information Technology, the CIO and Organizational Transformation (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) IT Acquisitions Management (3)
<b>Capstone Course</b>	MSFS 670	Financial Management and Information Systems Capstone (3)

## MASTER OF SCIENCE IN HEALTH ADMINISTRATION INFORMATICS

### Program Description

The Master of Science in health administration informatics degree program has a dual emphasis: health care administration and informatics (information science) applied to the health care industry. It is geared toward health care professionals as well as information technology professionals who work in health care settings.

### Program Objectives

Graduates of this program will be able to

- Develop management and technical competencies that are critical for overseeing the complex coordination and planning necessary to meet health administration informatics needs
- Apply strategic planning, implementation, and evaluation of information systems as well as legal, ethical, and quality management aspects of information technology for the health care setting

### Program Overview

The curriculum requires 36 credits of coursework and consists of two integrative health care administration informatics courses (one of which is a capstone), five technology courses, four health care administration courses, a research methods course, and an integrative and general management course.

### Student Profile

In addition to the general admission requirements, candidates for this program are required to have at least three years of professional work experience in a health care setting or three years of professional work experience in information technology in a health care setting.

### CAREER PATHS

Depending on a student's background and an employer's criteria, graduates of the MS in health administration informatics program may qualify for these positions:

- Consultant in Health Administration Informatics
- Vendor of Health Administration Informatics Products
- Health Administration Informatics Employee for Health Insurance Companies
- Health Administration Informatics Employee in a Hospital, Primary Care, Long-Term Care, or Integrated Health Care Delivery System

Course descriptions are found on pp. 81–114.

# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF SCIENCE IN HEALTH ADMINISTRATION INFORMATICS

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must have successfully completed 30 credits prior to enrolling in HAIN 670.	
<b>Recommendations</b>	<ol style="list-style-type: none"> <li>1. Candidates for this program should have at least three years of professional work experience in a health care setting or in information technology in a health care setting</li> <li>2. The recommended first courses are HCAD 600 and ITEC 610.</li> <li>3. Students will benefit most by taking the courses in the order listed.</li> <li>4. Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).</li> <li>5. Prior to enrolling in HCAD 640, students pursuing this program should have successfully completed (minimum grade of B or better at the graduate level or C or better at the undergraduate level) a three credit course in financial decision making.</li> </ol>	
<b>Required Courses</b>	HCAD 600	Introduction to Health Care Administration (3)
	ITEC 610	Information Technology Foundations (3)
	MGMT 650	Research Methods for Managers (3)
	HCAD 620	The U.S. Health Care System (3)
	INFA 610	Computer Security, Software Assurance, Hardware Assurance, and Security Management (3)
	HCAD 640	Financial Management for Health Care Organizations (3)
	HCAD 650	Legal Aspects of Health Care Administration (3)
	HAIN 661	Health Administration Informatics (3)
	ITEC 640	Information Technology Project Management (3)
	DBST 651	Relational Database Systems (3)
	IMAT 637	IT Acquisitions Management (3)
<b>Capstone Course</b>	HAIN 670	Health Administration Informatics Capstone (3)

## MASTER OF SCIENCE IN HEALTH CARE ADMINISTRATION

DUAL DEGREE  
MS IN  
HEALTH CARE  
ADMINISTRATION

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

+

Master of Business  
Administration

- Produce effective health care industry outcomes
- Effect ethical decision making for managers in health care settings

### Program Overview

The curriculum requires 36 credits of coursework, which includes a 3-credit capstone course and 33 credits of required coursework.

### Student Profile

The MS in health care administration is designed for students with educational and/or professional work experience in the health care field. Students who do not have an undergraduate degree in health care administration or a health care–related degree or who do not have professional health care industry work experience should choose the MS in management, health care administration specialization.

### CAREER PATH

Successful completion of the MS in health care administration degree program should assist graduates who have relevant professional work experience in the health care industry to attain midlevel management positions in a variety of health care settings.

### Program Description

The Master of Science in health care administration degree program is designed for midcareer professionals who seek specialized and focused graduate studies in health care administration. Applicants will be able to increase their depth of knowledge in the administration of health care services and programs through a variety of courses in general management and health care administration.

### Program Objectives

Graduates of this program will be able to

- Solve health care industry management challenges

Course descriptions are found on pp. 81–114.

# MASTER'S DEGREE PROGRAMS

Depending on a student's background and an employer's criteria, graduates of the MS in health care administration program may qualify for positions as midlevel managers in health services organizations and other health care business enterprises.

## Dual Degree

Graduates of the MS in health care administration can elect to pursue a dual degree in the following area:

- Master of Business Administration

### PROGRAM: MASTER OF SCIENCE IN HEALTH CARE ADMINISTRATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>		<ol style="list-style-type: none"> <li>1. Students must complete 30 credits before enrolling in HCAD 670</li> <li>2. MGMT 640 is prerequisite to HCAD 640.</li> <li>3. MGMT 615 is prerequisite to HCAD 660.</li> </ol>
<b>Recommendations</b>		<ol style="list-style-type: none"> <li>1. Students are strongly encouraged to take HCAD 600 and MGMT 615 as the first courses in the program.</li> <li>2. Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).</li> <li>3. Students admitted to this program should have professional work experience and/or an educational background in the health care industry.</li> </ol>
<b>MGMT Foundation Courses</b>	MGMT 615 MGMT 640 MGMT 650	Intercultural Communication and Leadership (3) Financial Decision Making for Managers (3) Research Methods for Managers (3)
<b>HCAD Courses</b>	HCAD 600 HCAD 610 HCAD 620 HCAD 630 HCAD 635 HCAD 640 HCAD 650 HCAD 660	Introduction to Health Care Administration (3) Information Technology for Health Care Administration (3) The U.S. Health Care System (3) Public Health Administration (3) Long-Term Care Administration (3) Financial Management for Health Care Organizations (3) Legal Aspects of Health Care Administration (3) Health Care Institutional Organization and Management (3)
<b>Capstone Course</b>	HCAD 670	Health Care Administration Capstone (3)

Course descriptions are found on pp. 81–114.



## MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

**MS IN INFORMATION TECHNOLOGY**  
ALL SPECIALIZATIONS SHARE CORE REQUIREMENTS

- Database Systems Technology
- E-Business
- Homeland Security Management
- Informatics
- Information Assurance
- Project Management
- Software Engineering
- Telecommunications Management

DUAL DEGREE  
**MS IN INFORMATION TECHNOLOGY** + Master of Business Administration

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The Master of Science in information technology (IT) program provides a broad technical understanding of current and evolving technologies in the IT field with an emphasis on moving technology from the laboratory to the realm of business development.

### Program Objectives

Graduates of this program will be able to

- Grasp the principles and theories underlying applied information technology
- Gain an understanding of the technical and regulatory issues surrounding the Internet
- Apply IT best practices to productivity and competitive advantage
- Display an awareness of developments in the convergence of computer and telecommunications technologies
- Discuss the role of information awareness and literacy in organizational decision making
- Grasp the central role of software and hardware lifecycles

### Program Overview

The curriculum requires 36 credits of coursework and is divided into 15 credits of core coursework and 21 credits of coursework, including a 3-credit capstone course, from one of the program specializations.

### Student Profile

Students with a variety of educational backgrounds and work experiences can enter this program, but some specializations may require a background in mathematics, computer studies, or more specialized work experiences.

### SPECIALIZATIONS

The MS in information technology degree program offers eight specializations, each covering subject areas relevant to today's career fields. Each specialization prepares students for one of several possible career paths, depending on the student's background and employer criteria.

#### Database Systems Technology

Database technology is pervasive in our society and is considered a core component of most businesses. The database systems technology specialization focuses on the design, development, and management of database technology. The primary focus is on relational databases. In addition to basic courses, there is opportunity to study distributed databases, data warehousing, data mining, database administration, and database security. Laboratory experiences are included in most courses.

#### CAREER PATHS

- Technical Leader
- Manager of Data Management Systems
- Database Administrator

## E-Business

The e-business specialization provides courses on how managers can design and operate Web sites and generally conduct e-commerce and e-business effectively. The specialization is structured to accommodate the needs of students who are specialists in information technology as well as those with little or no experience with computers. In addition to receiving a solid technology foundation, students are exposed to relevant business aspects, such as strategic planning, marketing planning, security planning, financial and economic aspects of e-business, and social, legal, and regulatory issues.

### CAREER PATHS

- Web Site Designer
- E- Marketing Specialist
- E-Security Expert
- Web Site Operator
- E-Government Specialist

## Homeland Security Management

The homeland security management specialization provides managers and practitioners with the background to prepare for and deal with a wide range of man-made and natural threats and vulnerabilities at the community and organizational level. The curriculum prepares students to perform security risk assessments and to develop strategies to mitigate threats to people, physical facilities, and information-dependent critical infrastructure as well as to plan for and manage operational recovery. Courses also explore the evolving roles within various first responder communities regarding pre-event planning and post-event response.

### CAREER PATHS

- Chief Operation Officer
- Facility or Plant Manager
- Facility Security Officer
- Military Planner
- Federal, State, or Local Government Emergency Planner or Policy Maker
- Law Enforcement, Emergency, or Medical Practitioner or Administrator

## Informatics

The informatics specialization has a decidedly technical thrust and is oriented toward the student seeking a generalist's view of IT. It offers a broadly based and strongly quantitative grounding in the various facets of information theory and best practices for developing a variety of systems and program products. Students receive an introduction to the major categories of IT endeavor, including networking,

security, software development, databases, Web design, and IT acquisitions in order to be well prepared for the challenges of the workplace in the second millennium. The specialization also serves as a logical extension of coursework begun in programs offered at UMUC military sites.

### CAREER PATHS

Depending on their background, graduates can find positions in many areas, such as

- Programming and Applications Software Development and Acquisitions
- Software Testing
- Network Design and Fabrication
- Customer Service Training/Support
- Hardware Acquisition and Integration
- Interface Design
- Publications and Systems Documentation
- Software Quality Assurance
- Internet Site Design, Development, and Management

## Information Assurance

The information assurance specialization provides a thorough knowledge base for managers and technology professionals concerned with the design, development, implementation, operation, and management of secure information systems and with the protection of an organization's information assets. The specialization provides students with a practical understanding of the principles of data protection, network security, and computer forensics. The specialization also introduces students to the ethical, legal, and policy issues associated with information security. Laboratory exercises are included in some courses to enhance the learning experience.

### CAREER PATHS

- Chief Security Officer
- Network Administrator
- Network Professional
- Security Administrator
- Security Architect
- Security Manager
- Security Professional
- Security Officer
- System Administrator
- System Professional

## Project Management

The project management specialization provides a strong theoretical and practical foundation in project management. This specialization is designed to serve managers and other professionals who wish to acquire, enhance, and certify their knowledge and skills to successfully design, integrate, develop, and manage projects. Students gain hands-on experience using various project management tools and techniques to successfully manage real-world projects of varying sizes and degrees of complexity. Additionally, students apply emerging principles and methods in the project management field.

### CAREER PATHS

Depending on their background, graduates can find positions in many areas, such as

- Aerospace
- Construction
- Information Technology
- Government Contracting
- Project-based Organizations

## Telecommunications Management

The telecommunications management specialization is designed to provide the technical knowledge and management skills needed to plan, acquire, operate, and evaluate telecommunication systems. This specialization emphasizes critical management concepts, such as the structure and environment of the telecommunications industry, strategic planning, financial management, and quality improvement.

### CAREER PATHS

- Telecommunication System Development and Deployment Specialist
- Network Security Manager
- Network Manager and Designer for Local and Wide Area, Wired, and Wireless Systems
- Information Systems Development and Deployment Specialist
- Telecommunication System Business Manager
- Federal, State, or Local Government Telecommunication Manager or Contractor

## Software Engineering

The software engineering specialization provides a foundation in technical concepts and design techniques, as well as management and teamwork approaches, for building software systems. The emphasis of this specialization is on implementing software engineering projects within cost and schedule by applying proven and innovative practices that overcome the shortcomings of an undisciplined approach.

### CAREER PATHS

- Leader of a Software Development Team
- Head of a Development Department
- Chief Technical Officer

## Dual Degrees

Graduates of the program can elect to pursue a dual degree in the following area:

- Master of Business Administration

# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).	
<b>CORE</b>		
<b>Required Courses</b>	ITEC 610 ITEC 620 ITEC 630 ITEC 640 TMAN 625	Information Technology Foundations (3) Information Technology Infrastructure (3) Information Systems Analysis, Modeling, and Design (3) Information Technology Project Management (3) Economics and Financial Analysis for Technology Managers (3)
<b>Core Rules</b>	<ol style="list-style-type: none"> <li>ITEC 620 must be taken before taking first specialization course.</li> <li>Must complete 3 credits of core courses before taking first specialization course.</li> </ol>	
<b>Database Systems Technology</b>		
<b>Required Courses</b>	DBST 651 DBST 652 DBST 663 DBST 665 DBST 667 DBST 668	Relational Database Systems (3) Advanced Relational/Object-Relational Database Systems (3) Distributed Database Management Systems (3) Data Warehouse Technologies (3) Data Mining (3) Database Security (3)
<b>Capstone Course</b>	DBST 670	Database Systems Administration (3)
<b>Specialization Rules</b>	DBST 651 and DBST 652 must be taken in order, followed by any three other DBST courses before Capstone can be taken.	
<b>E-Business</b>		
<b>Required Courses</b>	EBUS 610 EBUS 620 EBUS 630 EBUS 640 EBUS 650 EBUS 660	Introduction to E-Business (3) E-Marketing (3) Social, Legal, Ethical and Regulatory Issues (3) E-Technology (3) E-Development and Management (3) E-Business Economics (3)
<b>Capstone Course</b>	EBUS 670	E-Business Capstone (3)
<b>Specialization Rule</b>	Courses must be taken in the order listed above.	
<b>Homeland Security Management</b>		
<b>Required Courses</b>	HSMN 610 HSMN 620 HSMN 630 INFA 660 BSBD 641 ENER 603	Concepts in Homeland Security (3) Physical Security (3) Business Continuity: Disaster Recovery, Planning, and Response (3) Security Policy, Ethics, and the Legal Environment (3) Biosecurity and Bioterrorism (3) Energy Infrastructure Management (3)
<b>Capstone Course</b>	HSMN 670	Seminar in Homeland Security (3)
<b>Specialization Rules</b>	HSMN 610 must be taken as one of the first two specialization courses.	
<b>Informatics</b>		
<b>Required Courses</b>	SWEN 603 DBST 651 SWEN 645 INFA 610 IMAT 639 IMAT 637	Systems Engineering (3) Relational Database Systems (3) System and Software Standards and Requirements (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) Internet Multimedia Applications (3) IT Acquisitions Management (3)
<b>Capstone Course</b>	IMAT 670	Contemporary Topics in Informatics (3)
<b>Specialization Rules</b>	Students must complete 6 hours of core courses before taking first specialization course.	

SPECIALIZATIONS

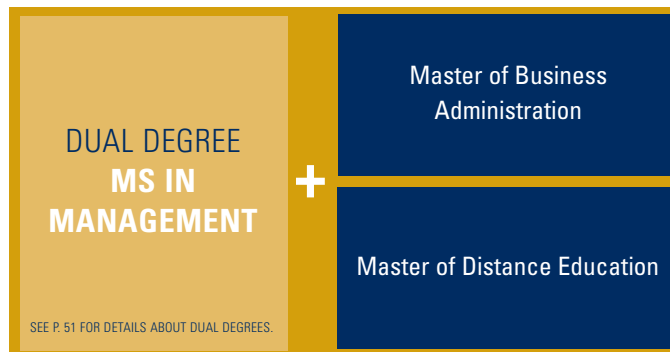
Course descriptions are found on pp. 81–114.

## PROGRAM: MASTER OF SCIENCE IN INFORMATION TECHNOLOGY (continued)

SPECIALIZATIONS

Information Assurance		
<b>Required Courses</b>	INFA 610 INFA 620 INFA 630 INFA 640 INFA 650 INFA 660	Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) Network and Internet Security (3) Intrusion Detection and Intrusion Prevention (3) Cryptology and Data Protection (3) Computer Forensics (3) Security Policy, Ethics, and the Legal Environment (3)
<b>Capstone Course</b>	INFA 670	Information Assurance Capstone
<b>Specialization Rules</b>	Courses must be taken in the order listed above.	
Project Management		
<b>Required Courses</b>	PMAN 634 PMAN 637 PMAN 638 PMAN 639 PCMS 627 PMAN 650	Foundations of Project Management (3) Risk Management: Tools and Techniques (3) Communication, Negotiation, and Conflict Resolution (3) Project Quality Management (3) Legal Aspects of Contracting (3) Financial Management of Projects (3)
<b>Capstone Course</b>	PMAN 670	Advanced Project Methods (3)
<b>Clustered Course Option</b>	PMAN 600	Project Management: Foundations and Advanced Methods (6) is a six-credit course. Students who receive credit for PMAN 600 may not receive credit for PMAN 634 or PMAN 670.
<b>Specialization Rules</b>	PMAN 634 or PMAN 600 must be taken as the first course.	
Software Engineering		
<b>Required Courses</b>	SWEN 603 SWEN 640 SWEN 645 SWEN 646 SWEN 647 SWEN 648	Systems Engineering (3) Software Project Management (3) System and Software Standards and Requirements (3) Software Design and Implementation (3) Software Verification and Validation (3) Software Maintenance (3)
<b>Capstone Course</b>	SWEN 670	Software Engineering Project (3)
<b>Specialization Rules</b>	Courses must be taken in the order listed above.	
Telecommunications Management		
<b>Required Courses</b>	TLMN 602 TLMN 623 TLMN 630 TLMN 641 TLMN 645 INFA 620	Telecommunications Industry: Structure and Environment (3) Telecommunications Networks (3) Satellite Communication Systems (3) Network Management and Design (3) Wireless Telecommunications Systems (3) Network and Internet Security (3)
<b>Capstone Course</b>	TLMN 670	Capstone Course Telecommunications Management (3)
<b>Specialization Rules</b>	<ol style="list-style-type: none"> <li>ITEC 620 is prerequisite to TLMN 623, TLMN 630, TLMN 645, and INFA 620.</li> <li>TLMN 670 requires completion of 27 credit hours.</li> </ol>	

## MASTER OF SCIENCE IN MANAGEMENT



### Program Description

The Master of Science in management is designed for professionals who are assuming greater management responsibilities within their organizations. The program emphasizes the leading-edge management skills and technical expertise that are the basis for success in modern organizations. Throughout the curriculum, major emphasis is placed on the effects of rapid technological change on organizations and administrative processes, and the consequent ethical and moral responsibilities of managers to society at large.

### Program Objectives

Graduates of this program will be able to

- Utilize methods and conduct of organizational assessments
- Understand the organization/environment relationship
- Oversee strategic planning
- Demonstrate organizational communication and leadership
- Budget and allocate resources
- Manage organizational decision making

### Program Overview

This curriculum requires 36 credits and consists of five core courses, one of which is a program capstone, and seven specialization courses.

### Student Profile

Students entering this program are not required to have backgrounds in any particular educational or professional field. Those interested in the accounting specialization must have completed 15 semester hours of accounting coursework with a grade of C or better in each course prior to enrolling in any graduate level accounting course.

### SPECIALIZATIONS

The MS in management degree program offers 12 specializations, each covering subject areas relevant to today's career fields. Each specialization prepares students for one of several possible career paths, depending on the student's background and employer criteria.

## Accounting

The accounting specialization covers a broad range of accounting related studies, especially in the areas of financial accounting; fraud detection and accounting ethics; management accounting; government and nonprofit accounting; auditing process; income taxation; accounting information systems; and accounting policy, combining in-depth studies in management science and accounting. In addition to preparing students to assume positions of greater responsibility within their organizations, the accounting specialization may satisfy the education requirements for candidacy for the Certified Public Accountant examination.

### CAREER PATHS

- Public Accountant or Auditor
- Accounting Manager
- Internal Control/Forensics Accounting Specialist
- Management Accountant
- Government Accountant or Auditor
- Internal Auditor
- Financial, Budget, or Management Analyst
- Fraud Examiner

## Financial Management

The financial management specialization covers financial management in organizations; financial management of current operations; capital markets; institutions and long term financial management; investment valuation, multinational financial management; behavioral finance, cost management; and strategic financial management. The program emphasizes development of management skills and the use of financial analyses in decision making and performance management.

### CAREER PATHS

- Controller or Treasurer
- Financial Manager
- Capital Investment Analyst
- Financial Liaison with Business Units
- Credit or Cash Manager
- Financial Consultant or Advisor
- Financial, Budget, or Management Analyst
- Cost Analyst or Program Analyst

## Health Care Administration

The health care administration specialization provides an introduction to the health care industry and is designed for students who do not have educational or work experience in the field. While the MS in management is designed for students who do not have educational or work experience in the health care field, some previous health care experience is suggested.

### CAREER PATHS

- Entry Level Manager in Health Services Organizations
- Entry Level Manager in other Health Care Business Enterprises

## Homeland Security Management

The homeland security management specialization provides managers and practitioners with the background to prepare for and deal with a wide range of man-made and natural threats and vulnerabilities at the community and organizational level. The curriculum prepares students to perform security risk assessments and to develop strategies to mitigate threats to people, physical facilities, and information-dependent critical infrastructure as well to plan for and manage operational recovery. Courses also explore the evolving roles within various first responder communities regarding pre-event planning and post-event response.

### CAREER PATHS

- Enterprise Chief Operation Officers
- Facility and Plant Managers
- Facility Security Officers
- Military Planners
- Federal, State, and Local Government Emergency Planners and Policy Makers
- Law Enforcement, Emergency, and Medical Practitioners and Administrators

## Human Resource Management

The human resource management specialization is designed for managers who want to increase their understanding of the field. Individuals who intend to become HR professionals, as well as other managers who plan to supervise staff and need to comprehend the issues, policies, and procedures involved in effectively managing people, will find this program useful. Courses provide the theory, research, knowledge, and procedures used by HR executives, generalists, and specialists. They examine traditional functions, such as staffing, compensation, training, and change management, plus emerging disciplines, such as human resource information systems and employee security. Workforce diversity, the impact of globalization, and other current issues are included.

## CAREER PATHS

- HR Executive
- HR Generalist
- Employee Relations Manager
- Staffing Director
- Compensation Manager
- Director of Human Resource Training and Development
- Organizational Development and Change Consultant

## Information Systems and Services

The information systems and services specialization provides courses on the ways a manager can procure and use computer-based information systems to enhance decision making and organizational effectiveness. This specialization is structured to accommodate the needs of students who have little or no experience with computers as well as those with advanced computer skills. In addition to receiving a technological foundation, students are exposed to the interaction of technology, organizational behavior, strategic planning, project management, and systems analysis used to support an organization through its information systems.

## CAREER PATHS

- Systems or Business Analyst
- Systems Development Manager
- IS Project or Program Manager
- IS consultant
- CIO
- IS-Aware General Manager

## Interdisciplinary Studies in Management

The interdisciplinary studies in management specialization is intended for students who want a broad exposure to major areas of study that are essential for managers in every organization.

## CAREER PATHS

- HR Executive
- Marketing Manager
- Board Director

## Marketing

The marketing specialization is designed for managers in the public, private or non-profit sectors who need to acquire customers for their products and services either internally, externally, or business-to-business. The program focuses on the theories and skills that managers need to know in order to attract customers: defining the scope of 21st century marketing; developing and executing effective mar-

keting strategies; adapting to rapidly changing technologies; building customer satisfaction and retention; and facilitating communication successfully from the organization to the customer as well as from the customer to the organization.

## CAREER PATHS

- Marketing Manager (B-to-B or consumer)
- Internet Marketing Manager
- Direct Marketing Manager
- Product/Brand Manager
- Manufacturer's Representative
- Retail Manager
- Account Executive (Business or consumer products)
- Market Research Analyst (Entry-level)
- Promotions Manager

## Nonprofit and Association Management

The nonprofit and association management specialization is designed for current and potential managers of organizations in the independent sector, including associations, development organizations, foundations, and political organizations. A thorough understanding of the sector is provided with a special emphasis on civil society, nonprofit organizations, financial management, revenue generation and cost control issues, legal foundations, recruitment and management of volunteers, and approaches to promotion, marketing and fundraising. Contemporary concerns such as organizational quality, diversity, and ethics also are examined.

## CAREER PATHS

- Board Member or Director
- Executive Positions, such as:
  - Executive Director
  - Executive Vice President
  - CEO
- Professional Staff, such as:
  - Policy Analyst
  - Government Liaison
  - Director of Marketing and Development
  - Program Director
  - Membership Director
  - Technical Expert
- Social entrepreneur (those who wish to found their own nonprofits)
- Volunteering (skills, knowledge, and services to nonprofits or association)



## Procurement and Contract Management

The procurement and contract management specialization is designed for individuals who are involved in contract administration or procurement activities in the private, public, and not-for-profit sectors. The courses in this program provide a foundation for understanding both the strategic and operational aspects of the procurement function.

### CAREER PATHS

- Contract Specialist
- Contract Officer
- Contract Manager/Administrator
- Procurement Specialist
- Procurement Manager /Administrator
- Purchaser/Buyer
- Logistics Specialist
- Logistics Analyst
- Logistics Manager/Administrator

## Project Management

The project management specialization provides a strong theoretical and practical foundation in project management. This specialization is designed to serve managers and other professionals who wish to acquire, enhance, and certify their knowledge and skills to successfully design, integrate, develop, and manage projects. Students gain hands-on experience using various project management tools and techniques to successfully manage real-world projects of varying sizes and degrees of complexity. Additionally, students apply emerging principles and methods in the modern project management field.

### CAREER PATHS

- Program Manager
- Director
- CEO

## Public Relations

The public relations specialization is designed to meet the needs of both the entry-level employee and the working professional who seek a more formal grounding in the profession. The program provides students with a solid grounding in public relations theory, legal, and ethical issues confronted by practitioners, and the analytic and creative skills necessary to excel in the profession. The capstone experience provides the student with an opportunity to observe and participate in the production and assessment of a public relations campaign, providing the student with the opportunity to analyze the effects of various strategies and practices in the workplace.

### CAREER PATHS

- Director of Public Relations
- Corporate Communications Manager
- Director of Media Relations
- Account Manager
- Communications Writer
- Director of Public Affairs
- Promotion Director
- Internal Communications Manager

### Partnerships

For the accounting specialization, the Articulation Agreement between the Graduate School of Management & Technology (GSMT) and UMUC's School of Undergraduate Studies (SUS) allows students who completed their undergraduate degree at UMUC with a major in accounting to reduce their total coursework by up to 6 credits (two courses).

GSMT and SUS have agreed that the UMUC BS in accounting and the MS in management with a specialization in accounting, the MS in Accounting and Financial Management, and the MS in Accounting and Information Technology will "share" 6 credits of coursework and have selected certain courses that each program will accept from the other's curriculum. This may enable UMUC undergraduate accounting majors (both current students and alumni) to waive up to 6 credits of coursework in completing both degrees. UMUC undergraduates and alumni are eligible to complete both degrees for a total of 150 credits. The shared credits are restricted to the following substitutions:

- The Graduate School will accept either ACCT 426 Advanced Cost Accounting in lieu of ACCT 611 Management Accounting or ACCT 427 Advanced Auditing Theory and Practice in lieu of ACCT 612 Auditing Process.
- The School of Undergraduate Studies will accept either ACCT 612 Auditing Process in lieu of ACCT 427 Advanced Auditing Theory and Practice or ACCT 614 Accounting Information Systems in lieu of ACCT 326 Accounting Information Systems.

The total number of credits shared between the programs cannot exceed 6 credits, and the substitutions listed above are the only substitutions possible. Credits eligible for sharing must have been completed no earlier than 5 years prior to the beginning of graduate studies and no later than 1 year after the beginning of graduate studies.

### Dual Degrees

Graduates of the MS in management can elect to pursue dual degrees in the following areas:

- Master of Business Administration
- Master of Distance Education

# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF SCIENCE IN MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study	
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).		
<b>CORE</b>			
<b>Required Courses</b>	MGMT 610 MGMT 615 MGMT 640 MGMT 650	The Manager in a Technological Society (3) Intercultural Communication and Leadership (3) Financial Decision Making for Managers (3) Research Methods for Managers (3)	
<b>Capstone Course</b>	MGMT 670	Strategic Management Capstone (3)	
<b>Clustered Course Option</b>	MGMT 630	Organizational Theory and Behavior in a Global Environment (6) is a six-credit course. Students who receive credit for MGMT 630 may not receive credit for MGMT 610 or MGMT 615.	
<b>Core Rules</b>	<ol style="list-style-type: none"> <li>1. Students must complete 24 credits, including other core requirements, before enrolling in MGMT 670.</li> <li>2. MGMT 640 and MGMT 650 should not be completed simultaneously.</li> <li>3. MGMT 640 is prerequisite to FIN 610 in the Financial Management specialization.</li> </ol>		
<b>SPECIALIZATIONS</b>	<b>Accounting</b>		
	<b>Required Courses</b>	ACCT 610 ACCT 611 ACCT 612 ACCT 608 ACCT 614 ACCT 613 ACCT 665	Financial Accounting (3) Management Accounting (3) Auditing Process (3) Fraud Examination and Accounting Ethics (3) Accounting Information Systems (3) Federal Income Taxation (3) Special Topics in Accounting (3)
	<b>Specialization Rules</b>	<ol style="list-style-type: none"> <li>1. ACCT 610 must be taken prior to any other graduate accounting courses.</li> <li>2. Students must have completed 15 credits of undergraduate accounting work with a grade of C or better before enrolling in graduate level accounting courses.</li> <li>3. Students may be accepted into the degree program with less than the required 15 credit hours, but should take the undergraduate credit hours while they take the core courses.</li> </ol>	
	<b>Financial Management</b>		
	<b>Required Courses</b>	FIN 610 FIN 615 FIN 620 FIN 630 FIN 645 FIN 660 FIN 640	Financial Management in Organizations (3) Financial Management of Current Operations (3) Capital Markets, Institutions, and Long-Term Financing (3) Investment Valuation (3) Behavioral Finance (3) Strategic Financial Management (3) Multinational Financial Management (3)
	<b>Specialization Rules</b>	<ol style="list-style-type: none"> <li>1. MGMT 640 is prerequisite to FIN 610.</li> <li>2. FIN 610 is the prerequisite to all courses required for this specialization.</li> <li>3. FIN 610, FIN 620, and FIN 630 are prerequisite to FIN 660.</li> </ol>	
	<b>Health Care Administration</b>		
	<b>Required Courses</b>	HCAD 610 HCAD 620 HCAD 630 HCAD 640 HCAD 650 HCAD 660 TMAN 632	Information Technology for Health Care Administration (3) The U.S. Health Care System (3) Public Health Administration (3) Financial Management for Health Care Organizations (3) Legal Aspects of Health Care Administration (3) Health Care Institutional Organization and Management (3) Organizational Performance Management (3)
	<b>Specialization Rules</b>	<ol style="list-style-type: none"> <li>1. MGMT 640 is prerequisite to HCAD 640.</li> <li>2. MGMT 615 is prerequisite to HCAD 660.</li> </ol>	

Course descriptions are found on pp. 81–114.

## PROGRAM: MASTER OF SCIENCE IN MANAGEMENT (continued)

SPECIALIZATIONS

### Homeland Security Management

<b>Required Courses</b>	HSMN 610	Concepts in Homeland Security (3)
	HSMN 620	Physical Security (3)
	HSMN 630	Business Continuity: Disaster Recovery, Planning, and Response (3)
	INFA 660	Security Policy, Ethics, and the Legal Environment (3)
	BSBD 641	Biosecurity and Bioterrorism (3)
	ENER 603	Energy Infrastructure Management (3)

<b>Capstone Course</b>	HSMN 670	Seminar in Homeland Security (3)
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<b>Specialization Rules</b>	HSMN 610 must be taken as one of the first two specialization courses.	
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### Human Resource Management

<b>Required Courses</b>	HRMD 610	Issues and Practices in Human Resource Management (3)
	HRMD 620	Employee 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	Special Topics in Human Resource Management (3)

<b>Specialization Rules</b>	1.	HRMD 610 is recommended as the first specialization course.
	2.	The courses above are listed in their preferred sequencing.

### Information Systems and Services

<b>Required Courses</b>	ISAS 600	Information Systems for Managers (3)
	ISAS 610	Information Systems Management and Integration (3)
	ISAS 620	Information Systems Sourcing Management (3)
	ISAS 630	Systems Analysis and Design (3)
	ISAS 640	Decision and Support Systems and Expert Systems (3)
	ISAS 650	Information Technology, the CIO, and Organizational Transformation (3)
	IMAT 639	Internet Multimedia Applications (3)

<b>Specialization Rule</b>	ISAS 600 is a prerequisite for other courses in this specialization.	
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### Interdisciplinary Studies in Management

<b>Required Courses</b>	MGMT 645	Legal Aspects of Management (3)
	MRKT 600	Marketing Management (3)
	ISAS 600	Information Systems for Managers (3)
	HRMD 610	Issues and Practices in Human Resources Management (3)
	HRMD 650	Organizational Development and Change (3)
	MRKT 601	Legal and Ethical Issues in Global Communications (3)
	PMAN 634	Foundations of Project Management (3)

<b>Clustered Course Option</b>	MRKT 620	Marketing Principles, Regulation, and Ethical Issues (6) is a six-credit course. Students who receive credit for MRKT 620 may not receive credit for MRKT 600 or MRKT 601.
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### Marketing

<b>Required Courses</b>	MRKT 600	Marketing Management (3)
	MRKT 601	Legal and Ethical Issues in Global Communications (3)
	MRKT 602	Consumer Behavior (3)
	MRKT 603	Brand Management (3)
	MRKT 604	Marketing Intelligence and Research Systems (3)
	MRKT 605	International Marketing Management (3)
	MRKT 606	Integrated Direct Marketing (3)

<b>Clustered Course Option</b>	MRKT 620	Marketing Principles, Regulation, and Ethical Issues (6) is a six-credit course. Students who receive credit for MRKT 620 may not receive credit for MRKT 600 or MRKT 601.
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<b>Specialization Rules</b>	1.	Students must complete MRKT 600 and MRKT 601, or MRKT 620, as their first specialization courses.
	2.	MGMT 650 must be completed before MRKT 604 and MRKT 606.
	3.	Students who complete MRKT 620 cannot receive credit for any of the following: MRKT 600, MRKT 601, PRPA 604.

# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF SCIENCE IN MANAGEMENT (continued)

### Nonprofit and Association Management

<b>Required Courses</b>	NPMN 600	Nonprofit and Association Organizations and Issues (3)
	NPMN 610	Nonprofit and Association Law and Governance (3)
	NPMN 620	Nonprofit and Association Financial Management (3)
	NPMN 640	Marketing, Development, and Public Relations in Nonprofit Organizations and Associations (3)
	NPMN 650	Fundamentals of Association Management (3)
	NPMN 655	Outcome and Process Evaluation Management (3)
	NPMN 660	Strategic Management in Nonprofit Organizations and Associations (3)

**Specialization Rules** NPMN 600 must be taken as the first specialization course.

### Procurement and Contract Management

<b>Required Courses</b>	PCMS 626	Purchasing and Materials Management (3)
	PCMS 627	Legal Aspects of Contracting (3)
	PCMS 628	Contract Pricing and Negotiations (3)
	PCMS 629	Strategic Purchasing and Logistics (3)
	PCMS 630	Commercial Transactions in a Technological Environment: Law, Management, and Technology (3)
	PCMS 631	Integrative Supply Chain Management (3)
	PCMS 632	Contemporary Logistics (3)

**Clustered Course Option** PCMS 650 Legal Aspects of Contracting and Commercial Transactions (6) is a six credit course. Students who receive credit for PCMS 650 may not receive credit for PCMS 627 and PCMS 630.

**Specialization Rules**

1. Students must take PCMS 626 as the first specialization course.
2. Students must take PCMS 631 and 632 toward the end of the program.
3. Students who complete PCMS 650 cannot receive credit for any of the following courses: PCMS 627, PCMS 630.

### Project Management

<b>Required Courses</b>	PMAN 634	Foundations of Project Management (3)
	PMAN 637	Risk Management: Tools and Techniques (3)
	PMAN 638	Communication, Negotiation, and Conflict Resolution (3)
	PMAN 639	Project Quality Management (3)
	PCMS 627	Legal Aspects of Contracting (3)
	PMAN 650	Financial Management of Projects (3)

**Capstone Course** PMAN 670 Advanced Project Methods (3)

**Clustered Course Option** PMAN 600 Project Management: Foundations and Advanced Methods (6) is a six-credit course. Students who receive credit for PMAN 600 may not receive credit for PMAN 634 or PMAN 670.

**Specialization Rules** PMAN 634 or PMAN 600 must be taken as the first course.

### Public Relations

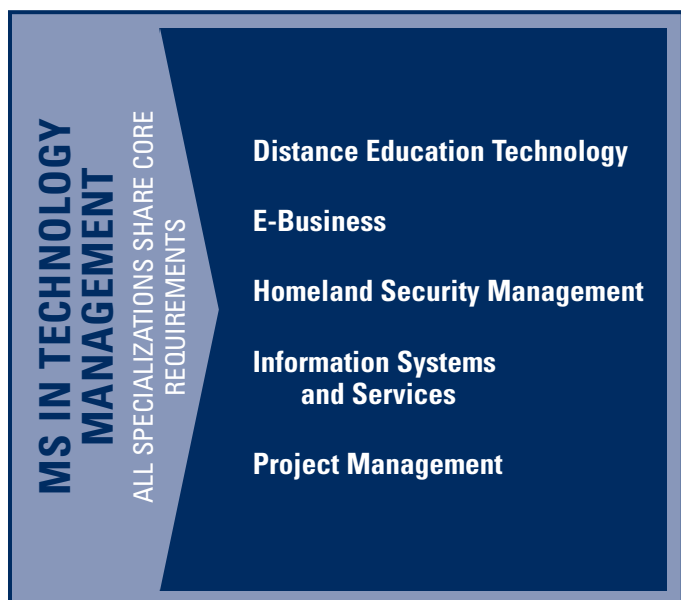
<b>Required Courses</b>	MRKT 600	Marketing Management (3)
	MRKT 601	Legal and Ethical Issues in Global Communications (3)
	PRPA 601	Public Relations Theory and Practice (3)
	PRPA 602	Public Relations Techniques (3)
	PRPA 610	Crisis Management Seminar (3)
	PRPA 620	Global Public Relations (3)
	PRPA 650	Public Relations Campaigns (3)

**Clustered Course Option** MRKT 620 Marketing Principles, Regulation, and Ethical Issues (6) is a six-credit course. Students who receive credit for MRKT 620 may not receive credit for MRKT 600 or MRKT 601.

**Specialization Rules**

1. Students must complete MRKT 600 and MRKT 601 (or MRKT 620) as their first public relations specialization course.
2. PRPA 601 must be completed as the next course.
3. All required core (except MGMT 670) and specialization courses are prerequisite to PRPA 650.

## MASTER OF SCIENCE IN TECHNOLOGY MANAGEMENT



### Program Description

The Master of Science in technology management program provides a broad-based core of management competency in the central business functions, along with a deep understanding of generic technologies that enable specific business capabilities.

Core courses focus on a common management competency, while specializations allow a student to customize depth in technology toward the student's long-term career goals. Technical depth is provided in several specialization areas: homeland security management, information systems and services, e-business, distance education technology, and project management.

### Program Objectives

Graduates of this program will be able to

- Manage the fast pace of technological change that is vitally important to both private- and public-sector organizations
- Manage businesses and public organizations through technology
- Understand the technological basis of management activities that are essential for modern management

### Program Overview

The curriculum requires 36 credits of coursework and is divided into 15 credits of core coursework and 21 credits of coursework, including a 3-credit capstone course, from one of the program specializations.

### Student Profile

Students with an undergraduate degree and experience in any field can enter this program.

### SPECIALIZATIONS

The MS in technology management degree program offers five specializations, each covering subject areas relevant to today's career fields. Each specialization prepares students for one of several possible career paths, depending on the student's background and employer criteria.

#### Distance Education Technology

The distance education technology specialization provides courses to train managers who manage technology-related aspects of distance education program development, including setting up appropriate technology configurations, selecting tools, and managing the technology-related aspects of media integration and course design and development. However, managers should also be critically aware of the intricate relationship of globalization and information and communication technologies, which exert a considerable influence in reshaping distance education.

#### CAREER PATHS

- **Technical Director**  
(for example, involved in setting up the appropriate technology configuration; has a profound understanding of the technology options combined with an awareness of pedagogical objectives)
- **Production Manager**  
(for example, supervises and guides course development processes and media integration; has awareness of what is technically feasible and what is pedagogically intended, is necessary, and bears on the management of the development and production process)
- **Technical Expert/Advisor/Consultant**  
(for example, advises setting up distance education centers or courses; evaluates the efficiency and appropriateness of technology configurations; works as a consultant for international organizations on aspects of technology/media choice)

# MASTER'S DEGREE PROGRAMS

- Coordinator of Online Instruction (for example, advises on the instructional design, the functionalities of the learning and content management systems, and the setting up of the faculty and student support systems)
- Online Course Support Specialist (for example, creates shells for online course development; provides faculty support; maintains critical data and course information)

## E-Business

The e-business specialization provides courses on how managers can design and operate Web sites and generally conduct e-commerce and e-business effectively. The specialization is structured to accommodate the needs of students who are specialists in information technology as well as those with little or no experience with computers. In addition to receiving a solid technology foundation, students are exposed to relevant business aspects, such as strategic planning, marketing planning, security planning, financial and economic aspects of e-business, and social, legal, and regulatory issues.

### CAREER PATHS

- Web Site Designer
- E-Marketing Specialist
- E-Security Expert
- Web Site Operator
- E-Government Specialist

## Homeland Security Management

The homeland security management specialization prepares managers for man-made and natural threats at the community and organizational level. The curriculum prepares students to perform security risk assessments and to develop strategies to mitigate threats to people, physical facilities, and information-dependent critical infrastructure as well as to plan for and manage operational recovery. Courses also explore the evolving roles within various first responder communities regarding pre-event planning and post-event response.

### CAREER PATHS

- Enterprise Chief Operation Officer
- Facility or Plant Manager
- Facility Security Officer
- Military Planner
- Government Emergency Planner or Policy Maker
- Law Enforcement, Emergency, or Medical Practitioner

## Information Systems and Services

The information systems and services specialization provides courses on the ways a manager can procure and use computer-based information systems to enhance decision making and organizational effectiveness. This specialization is structured to accommodate the needs of students who have little or no experience with computers as

well as those with advanced computer skills. In addition to receiving a technological foundation, students are exposed to the interaction of technology, organizational behavior, strategic planning, project management, and systems analysis used to support an organization through its information systems.

### CAREER PATHS

- Systems or Business Analyst
- Systems Development Manager
- IS Project or Program Manager
- IS Consultant
- Chief Information Officer
- IS-Aware General Manager

## Project Management

The project management specialization provides a strong theoretical and practical foundation in project management. This specialization is designed to serve managers and other professionals who wish to acquire, enhance, and certify their knowledge and skills to successfully design, integrate, develop, and manage projects. Students gain hands-on experience using various project management tools and techniques to successfully manage real-world projects of varying sizes and degrees of complexity. Additionally, students apply emerging principles and methods in the project management field.

### CAREER PATHS

Graduates of the project management specialization, depending on their background, can find positions in many areas, such as

- Aerospace
- Construction
- Information Technology
- Government Contracting
- Project-based Organizations

## Partnerships

The Graduate School of Management and Technology is a Project Management Institute Registered Educational Provider, and each course is recognized by the institute as being equivalent to 45 professional development units. Each course, therefore, suffices the educational/training requirement to pursue certification as a Project Management Professional, which must be pursued independently through the institute. Professional development units also apply to recertification.

## Dual Degrees

Graduates of the MS in technology management can elect to pursue a dual degree with the Master of Business Administration.

Course descriptions are found on pp. 81–114.

## PROGRAM: MASTER OF SCIENCE IN TECHNOLOGY MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).	
<b>CORE</b>		
<b>Required Courses</b>	TMAN 611 TMAN 614 TMAN 625 TMAN 632 TMAN 633	Principles of Technology Management (3) Strategic Management of Technology and Innovation (3) Economics and Financial Analysis for Technology Managers (3) Organizational Performance Management (3) Managing People in Technology-Based Organizations (3)
<b>Clustered Course Option</b>	TMAN 600	Foundations of Management and Technology (6) is a six-credit course. Students who receive credit for TMAN 600 may not receive credit for TMAN 611 or TMAN 633.
<b>Distance Education Technology</b>		
<b>Required Courses</b>	DEPM 604 DETT 607 DETC 630 DETC 620 DEPM 625 IMAT 639	Leadership in Distance Education (3) Instructional Design and Course Development in Distance Education (3) Synchronous and Asynchronous Learning Systems in Distance Education (3) Training and Learning with Multimedia (3) Distance Education, Globalization, and Development (3) Internet Multimedia Applications (3)
<b>Capstone Course</b>	OMDE 670	Portfolio and Project in Distance Education (3)
<b>E-Business</b>		
<b>Required Courses</b>	EBUS 610 EBUS 620 EBUS 630 EBUS 640 EBUS 650 EBUS 660	Introduction to E-Business (3) E-Marketing (3) Social, Legal, Ethical and Regulatory Issues (3) E-Technology (3) E-Development and Management (3) E-Business Economics (3)
<b>Capstone Course</b>	EBUS 670	E-Business Capstone (3)
<b>Specialization Rules</b>	Courses must be taken in the order as shown above.	
<b>Homeland Security Management</b>		
<b>Required Courses</b>	HSMN 610 HSMN 620 HSMN 630 INFA 660 BSBD 641 ENER 603	Concepts in Homeland Security (3) Physical Security (3) Business Continuity: Disaster Recovery, Planning, and Response (3) Security Policy, Ethics, and the Legal Environment (3) Biosecurity and Bioterrorism (3) Energy Infrastructure Management (3)
<b>Capstone Course</b>	HSMN 670	Seminar in Homeland Security (3)
<b>Specialization Rules</b>	HSMN 610 must be taken as one of the first two specialization courses.	
<b>Information Systems and Services</b>		
<b>Required Courses</b>	ISAS 600 ISAS 610 ISAS 620 ISAS 630 ISAS 640 ISAS 650 IMAT 639	Information Systems for Managers (3) Information Systems Management and Integration (3) Information Systems Sourcing Management (3) Systems Analysis and Design (3) Decision Support Systems and Expert Systems (3) Information Technology, the CIO, and Organizational Transformation (3) Internet Multimedia Applications (3)
<b>Specialization Rules</b>	ISAS 600 is a prerequisite to all other courses in this specialization.	

Course descriptions are found on pp. 81–114.

# MASTER'S DEGREE PROGRAMS

## PROGRAM: MASTER OF SCIENCE IN TECHNOLOGY MANAGEMENT (continued)

Project Management		
<b>SPECIALIZATIONS</b>	<b>Required Courses</b>	PMAN 634 Foundations of Project Management (3) PMAN 637 Risk Management: Tools and Techniques (3) PMAN 638 Communication, Negotiation, and Conflict Resolution (3) PMAN 639 Project Quality Management (3) PCMS 627 Legal Aspects of Contracting (3) PMAN 650 Financial Management of Projects (3)
	<b>Capstone Course</b>	PMAN 670 Advanced Project Methods (3)
	<b>Clustered Course Option</b>	PMAN 600 Project Management Foundations and Advanced Methods (6) is a six-credit course. Students who receive credit for PMAN 600 may not receive credit for PMAN 634 or PMAN 670.
	<b>Specialization Rules</b>	PMAN 634 must be taken as the first course.

## EXECUTIVE MASTER OF BUSINESS ADMINISTRATION

### DUAL DEGREE EXECUTIVE MBA



Master of  
Distance Education

Master of Science  
in Management

Master of Science in  
Health Care Administration

Master of International  
Management

Master of Science in  
Technology Management

Master of Science in  
Financial Management  
and Information Systems

Master of Science in  
Information Technology

Master of Science in  
Environmental Management

SEE P. 51 FOR DETAILS ABOUT DUAL DEGREES.

### Program Description

The days of succeeding in business without really trying are no more. Everyone is smart and hard working, so how do managers gain and maintain an advantage in a competitive global business environment? Because executives require a new style of management, the serious-minded, experienced, and successful middle and senior manager is invited to participate in the Executive Master of Business Administration (MBA) degree program.

### Program Objective

The objective of the Executive MBA program is to provide an exceptional graduate education in a program format tailored specifically for managers and professionals who aspire to senior-level management positions in their organizations.

### Program Overview

The curriculum requires 42 credits of coursework, which includes a 6-credit capstone course. The Executive MBA program is structured in groups of 20 to 25 students. The faculty is composed of industry experts with advanced degrees and chosen by invitation only. Instructors develop close relationships with students as they challenge them throughout the program. Executive MBA students participate in leadership assessment and training activities, which utilize individual assessment tools and hands-on training to forge existing competencies into expert managerial capabilities. Opportunities are also available to students to receive executive coaching. In addition, there is one international study trip.

### Student Profile

This program is designed for people who are interested in a senior executive leadership position in a public or private organization.

Course descriptions are found on pp. 81–114.



# MASTER'S DEGREE PROGRAMS

Because executives require a new style of management, serious-minded, experienced middle and senior managers are invited to participate in the Executive MBA program.

## CAREER PATHS

Depending on a student's background and an employer's criteria, graduates of the Executive MBA program may qualify for these career paths:

- CEO
- COO
- CFO

## Partnerships

University of Maryland University College has established academic partnerships with universities in Argentina, Belgium, Hungary, India, and China. Executive MBA students may participate in projects with students from these universities in company-sponsored projects.

## Dual Degrees

Graduates of the Executive MBA program can elect to pursue dual degrees in the following areas with the same requirements as the regular MBA dual degree option:

- Master of Distance Education
- Master of International Management

- Master of Science in financial management and information systems
- Master of Science in environmental management
- Master of Science in health care administration
- Master of Science in information technology
- Master of Science in management
- Master of Science in technology management

## Additional Information

This program has the following admission requirements:

- Minimum of five years of business or management experience (or equivalent)
- A current mid- or senior-level position (or equivalent responsibility)
- Education at least equivalent to a U.S. bachelor's degree from a regionally accredited university or college
- A personal statement of professional goals and objectives
- A résumé
- Senior-level organizational sponsor
- Three letters of recommendation, one of which is from the sponsor

### PROGRAM: EXECUTIVE MASTER OF BUSINESS ADMINISTRATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	International study trip will occur in XMBA 606.	
<b>Recommendations</b>	Students who wish to improve their graduate writing skills may take COMM 600, Academic Writing for Graduate Students (3).	
<b>Required Courses</b>	XMBA 601	The Role of the Manager in Organizations and Society (6)
	XMBA 602	Organizational Leadership, Management of Human Resources, and Business Ethics (6)
	XMBA 603	Marketing, Entrepreneurship, and New Product Development (6)
	XMBA 604	Technology and Operations Management (6)
	XMBA 605	Financial Systems and Management Accounting (6)
	XMBA 606	International Business, Trade, and Business Law (6)
<b>Capstone Course</b>	XMBA 607	Strategy and Capstone Project (6)

Course descriptions are found on pp. 81–114.

# TEACHER EDUCATION NONDEGREE PROGRAMS

## ALTERNATIVE TEACHER PREPARATION PROGRAM: RESIDENT TEACHER CERTIFICATION

### Program Description

The Alternative Teacher Preparation Program is an alternative teacher preparation program that provides an accelerated route to teacher certification in Maryland for career changers and others who hold a baccalaureate degree (or higher). The Alternative Teacher Preparation Program prepares participants for effective entry into their roles as elementary or secondary classroom teachers through academic preparation that provides the knowledge, skills, and dispositions of successful teaching.

### Program Objectives

Those who complete this program will

- Gain an understanding of the philosophical, sociological, cultural, political, legal, and economic influences on education and public schools in the United States
- Apply understanding of the physical, cognitive, emotional, and psychosocial development of children and youth to promote individual and collective learning
- Successfully maximize student learning through good classroom management
- Integrate technology effectively into teaching and learning
- Promote a fair, equitable, and effective learning environment
- Implement strategies for communicating and working effectively with administrators, colleagues, students, family, and others
- Develop curricular goals, objectives, assessments, and instructional plans appropriate to the learner
- Use reflection and critical thinking to continually improve and support student learning and contribute to the profession of teacher education

### Program Overview

The Alternative Teacher Preparation Program is developed through partnerships with individual school districts and approval by the Maryland State Department of Education. The program grants graduate-level credit while preparing “highly qualified” teachers and typically includes

- 9 credits of online graduate coursework: EDTP 615 (6 credits) and a reading course (3 credits)
- A four- to eight-week internship in K–12 schools

- A year-long, mentored experience as a teacher of record, for which the candidate is eligible to be paid by the school at the rate earned by a highly qualified teacher as defined by the federal No Child Left Behind Act. During this year, the candidate completes remaining state requirements to become eligible for the Maryland Standard Professional Certificate I.

Certification is available in content areas based upon school district need and typically includes elementary education, biology, chemistry, earth/space science, English, foreign language, mathematics, physics, and social studies.

### Student Profile

The Alternative Teacher Preparation Program is designed for career changers and other college graduates with an interest in teaching in K–12 schools. Students must have a major or concentration in a content area applicable to teaching elementary, middle, or high school.

### Special Requirements

Students must submit an official transcript for analysis. Additional undergraduate coursework may be required to meet state content area certification requirements. Per state requirements, students must have a bachelor’s degree from an accredited institution of higher education; a GPA of 3.0 in an appropriate content area; and passing scores on PRAXIS I and the first part of PRAXIS II (Content Knowledge). An interview may be required.

### CAREER PATHS

The Alternative Teacher Preparation Program provides opportunities for career changers to apply their previous experience and skills in new professional roles, as K–12 classroom teachers. Following successful completion of the academic portion of the program and internship, candidates are immediately eligible to teach based on the Resident Teacher Certificate and are considered “highly qualified teachers” according to standards of the federal No Child Left Behind Act. By completing remaining Maryland state requirements, Alternative Teacher Preparation Program candidates become eligible for the Maryland Standard Professional Certificate I.

### Partnerships

Contact the Teacher Education Department concerning partnerships with specific school districts.

Course descriptions are found on pp. 81–114.

# TEACHER EDUCATION NONDEGREE PROGRAMS

## PROGRAM: ALTERNATIVE TEACHER PREPARATION

<b>Initial Requirements</b>	None	
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. See Maryland State Department of Education regulations and guidelines for current rules for Alternative Teacher Preparation (Resident Teacher Certificate).</li> <li>2. Per the Maryland State Department of Education, additional requirements must be fulfilled prior to the State's awarding the Resident Teacher Certificate at the request of the partnering school district.</li> </ol>	
<b>Optional</b> <i>(These courses are optional for Alternative Teacher Preparation Students.)</i>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
	COMM 600	Academic Writing for Graduate Students (3)
<b>CORE</b>		
<b>Required Courses</b> <i>(Choose one reading course, depending on area of proposed certification)</i>	EDTP 615	Alternative Teacher Preparation Program (6)
	EDRS 620	Processes and Acquisitions of Reading (3)
	EDRS 600	Secondary Reading I (3)

## TEACHER EDUCATION READING STRAND: READING COURSES IN ELEMENTARY AND SECONDARY EDUCATION

### Program Description

The University of Maryland University College offers reading courses in elementary education (four courses) and secondary education (two courses). These courses provide a thorough foundation in the theories, processes, and acquisition of reading needed for the teaching of reading to elementary and secondary students. The courses are available online and on a rotating basis in fall, spring, and summer semesters.

All reading courses have been approved by the Maryland State Department of Education to meet the state's reading requirements for certification and recertification.

### Program Objectives

Students who take the reading courses in elementary and secondary education will be able to

- Utilize effective instructional and assessment methods and materials in the design of reading programs to meet the needs of diverse learners
- Apply the cognitive, linguistic, social, and physiological factors involved in oral and written language development and associated strategies to support content area learning and literacy development
- Explore a variety of techniques for integrating reading and writing across the curriculum and enhancing understanding of text and other media

- Identify intervention strategies and ways to modify instruction that best support content area instruction and literacy development for students with exceptional learning needs
- Implement technology and multimedia resources for effective reading instruction that facilitates the reading process
- Use reflection, critical thinking, and research to make sound decisions with regard to evaluating and modifying materials, resources, and strategies for the effective teaching of reading

### Program Overview

The reading courses for elementary education consist of 12 credit hours (four courses); the reading courses for secondary education consist of 6 credit hours (two courses). Each reading course earns 3 graduate-level credits. Students in the Alternative Teacher Preparation (Resident Teacher Certification) program can apply all appropriate reading course credits toward obtaining initial teacher certification, per Maryland State Department of Education guidelines.

### Student Profile

Fully certified teachers in Maryland may take the reading courses to renew their teaching license. Conditional and provisionally certified teachers and preservice teachers in Maryland, and others, may take the reading courses to meet Maryland certification and recertification requirements. Nondegree-seeking students and visiting students from any state may also enroll in reading courses to strengthen their

# TEACHER EDUCATION NONDEGREE PROGRAMS

understanding of the teaching of reading to children and young adults within a variety of settings.

## CAREER PATHS

The reading courses in elementary and secondary education enable education professionals to gain or renew professional teaching licensure in Maryland. Depending upon their professional goals and background, those who complete the reading courses may use reading course credits to

- Complete coursework for teaching certification in Maryland
- Maintain teaching licensure in Maryland

- Pursue a career as a reading specialist
- Integrate reading strategies into a variety of classroom and nonclassroom settings
- Tutor elementary and secondary students in reading

### PROGRAM: READING COURSES IN ELEMENTARY EDUCATION

<b>Initial Requirements</b>	Admission to UMUC Graduate School	
<b>Program Rules</b>	Elementary reading courses may be taken in any order.	
<b>Required Courses</b>	EDRS 620	Processes and Acquisitions of Reading (3)
	EDRS 625	Instruction of Reading (3)
	EDRS 630	Assessment for Reading Instruction (3)
	EDRS 635	Materials for Reading (3)

### PROGRAM: READING COURSES IN SECONDARY EDUCATION

<b>Initial Requirements</b>	Admission to UMUC Graduate School	
<b>Program Rules</b>	Secondary reading courses must be taken in order as shown unless waived through an approved transfer course.	
<b>Required Courses</b>	EDRS 600	Secondary Reading I (3)
	EDRS 605	Secondary Reading II (3)

### PROGRAM RULES FOR THE ELEMENTARY AND SECONDARY READING COURSE STRANDS

1. Students may take reading courses as visiting students without entry or commitment to a program.
2. Students in the Alternative Teacher Preparation Program can apply appropriate reading course credits toward obtaining initial teacher certification, per current Maryland State Department of Education regulations.

Course descriptions are found on pp. 81–114.

# DUAL DEGREE PROGRAMS

**MASTER OF BUSINESS  
ADMINISTRATION OR  
EXECUTIVE MBA**

+

**MASTER OF DISTANCE  
EDUCATION**

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MDE/MBA</b>		
<b>Required Courses</b>	DMBA 603 DMBA 604 DMBA 606	The Marketing of New Ideas (6) Technology and Operations Management (6) Organizations and the External Environment (6)
<b>MBA/MDE</b>		
<b>Required Courses</b>	OMDE 601 OMDE 603 OMDE 610 OMDE 606 OMDE 608 DEPM 622	Foundations of Distance Education (3) Technology in Distance Education (3) Teaching and Learning in Online Distance Education (3) Costs and Economics of Distance Education (3) Learner Support in Distance Education and Training (3) The Business of Distance Education (3)

**MASTER OF BUSINESS  
ADMINISTRATION OR  
EXECUTIVE MBA**

+

**MASTER OF SCIENCE  
IN ENVIRONMENTAL  
MANAGEMENT**

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MS in Environmental Management/MBA</b>		
<b>Required Courses</b>	DMBA 603 DMBA 604 DMBA 606	The Marketing of New Ideas (6) Technology and Operations Management (6) Organizations and the External Environment (6)
<b>MBA/MS in Environmental Management</b>		
<b>Required Courses</b>	ENVM 646 ENVM 641 ENVM 643 ENVM 647 ENVM 649 ENVM 650	Environmental/Energy Law and Policy Development (3) Environmental Auditing (3) Environmental Communications and Reporting (3) Environmental Risk Assessment (3) Principles of Waste Management and Pollution Control (3) Land and Water Resource Management (3)

\*Students should complete the Executive MBA before pursuing a second degree.

Course descriptions are found on pp. 81–114.

## DUAL DEGREE PROGRAMS

### MASTER OF BUSINESS ADMINISTRATION OR EXECUTIVE MBA



### MASTER OF SCIENCE IN FINANCIAL MANAGEMENT AND INFORMATION SYSTEMS

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MS in Financial Management and Information Systems/MBA</b>		
<b>Required Courses</b>	DMBA 603	The Marketing of New Ideas (6)
	DMBA 604	Technology and Operations Management (6)
	DMBA 606	Organizations and the External Environment (6)
<b>MBA/MS in Financial Management and Information Systems</b>		
<b>Required Courses</b>	FIN 620	Capital Markets, Institutions, and Long-Term Financing (3)
	FIN 630	Investment Valuation (3)
	ISAS 610	Information Systems Management and Integration (3)
	INFA 610	Computer Security, Software Assurance, Hardware Assurance, and Security Management (3)
	IMAT 637	IT Acquisitions Management (3)
	MSFS 700	Financial Management and Information Systems Capstone (3)

### MASTER OF BUSINESS ADMINISTRATION OR EXECUTIVE MBA



### MASTER OF SCIENCE IN HEALTH CARE ADMINISTRATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MS in Health Care Administration/MBA</b>		
<b>Required Courses</b>	DMBA 603	The Marketing of New Ideas (6)
	DMBA 604	Technology and Operations Management (6)
	DMBA 606	Organizations and the External Environment (6)
<b>MBA/MS in Health Care Administration</b>		
<b>Required Courses</b>	HCAD 600	Introduction to Health Care Administration (3)
	HCAD 620	The U.S. Health Care System (3)
	HCAD 630	Public Health Administration (3)
	HCAD 650	Legal Aspects of Health Care Administration (3)
	HCAD 660	Health Care Institutional Organization and Management (3)
<b>Capstone Course</b>	HCAD 670	Health Care Administration Capstone (3)

\*Students should complete the Executive MBA before pursuing a second degree.

Course descriptions are found on pp. 81–114.

## MASTER OF BUSINESS ADMINISTRATION OR EXECUTIVE MBA



## MASTER OF SCIENCE IN TECHNOLOGY MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MS in Technology Management/MBA</b>		
<b>Required Courses</b>	DMBA 603 DMBA 604 DMBA 606	The Marketing of New Ideas (6) Technology and Operations Management (6) Organizations and the External Environment (6)
<b>E-Business</b>		
<b>Required Courses</b>	EBUS 610 EBUS 630 EBUS 640 EBUS 660 EBUS 670 EBUS 650	Introduction to E-Business (3) Social, Legal, Ethical, and Regulatory Issues (3) E-Technology (3) E-Business Economics (3) E-Business Capstone (3) E-Development and Management (3)
<b>Project Management</b>		
<b>Required Courses</b>	PMAN 634 PMAN 637 PMAN 638 PMAN 639 PCMS 627	Foundations of Project Management (3) Risk Management: Tools and Techniques (3) Communication, Negotiation, and Conflict Resolution (3) Project Quality Management (3) Legal Aspects of Contracting (3)
<b>Capstone Course</b>	PMAN 670	Advanced Project Methods (3)
<b>Clustered Course Option</b>	PMAN 600	Project Management: Foundations and Advanced Methods (6) is a six-credit course. Students who receive credit for PMAN 600 may not receive credit for PMAN 634 or PMAN 670.
<b>Specialization Rules</b>	PMAN 634 or PMAN 600 must be taken as the first course.	
<b>Homeland Security Management</b>		
<b>Required Courses</b>	HSMN 610 HSMN 620 HSMN 630 INFA 660 BSBD 641 HSMN 670	Concepts in Homeland Security (3) Physical Security (3) Business Continuity: Disaster Recovery, Planning, and Response (3) Security Policy, Ethics, and the Legal Environment (3) Biosecurity and Bioterrorism (3) Seminar in Homeland Security (3)
<b>Information Systems and Services</b>		
<b>Required Courses</b>	ISAS 600 ISAS 610 ISAS 620 ISAS 630 ISAS 640 ISAS 650	Information Systems for Managers (3) Information Systems Management and Integration (3) Information Systems Sourcing Management (3) Systems Analysis and Design (3) Decision Support Systems and Expert Systems (3) Information Technology, the CIO, and Organizational Transformation (3)

\*Students should complete the Executive MBA before pursuing a second degree.

Course descriptions are found on pp. 81–114.

## DUAL DEGREE PROGRAMS

### MASTER OF DISTANCE EDUCATION

+

### MASTER OF SCIENCE IN MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST</b>		
<b>MDE/MS in Management</b>		
<b>Required Courses</b>	MGMT 610	The Manager in a Technological Society (3)
	MGMT 615	Intercultural Communication and Leadership (3)
	MGMT 640	Financial Decision Making for Managers (3)
	MGMT 650	Research Methods for Managers (3)
	HRMD 651	Current Perspectives in Training and Development (3)
<b>Capstone Course</b>	MGMT 670	Strategic Management Capstone (3)
<b>MS in Management/MDE</b>		
<b>Required Courses</b>	OMDE 601	Foundations of Distance Education (3)
	OMDE 603	Technology in Distance Education (3)
	OMDE 610	Teaching and Learning in Online Distance Education (3)
	OMDE 606	Costs and Economics of Distance Education (3)
	OMDE 608	Learner Support in Distance Education and Training (3)
	DETT 621	Training at a Distance (3)

### MASTER OF EDUCATION IN INSTRUCTIONAL TECHNOLOGY

+

### MASTER OF DISTANCE EDUCATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the Master of Education before beginning Master of Distance Education.	
<b>Required Courses</b>	OMDE 601	Foundations of Distance Education (3)
	OMDE 603	Technology in Distance Education (3)
	OMDE 610	Teaching and Learning in Online Distance Education (3)
	OMDE 606	Costs and Economics of Distance Education (3)
	OMDE 608	Learner Support in Distance Education and Training (3)
	DETT 621	Training at a Distance (3)

Course descriptions are found on pp. 81–114.



## MASTER OF BUSINESS ADMINISTRATION OR EXECUTIVE MBA

+

## MASTER OF INTERNATIONAL MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MIM/MBA</b>		
<b>Required Courses</b>	DMBA 603 DMBA 604 DMBA 606	The Marketing of New Ideas (6) Technology and Operations Management (6) Organizations and the External Environment (6)
<b>MBA/MIM</b>		
<b>Required Courses</b>	IMAN 601 IMAN 615 IMAN 625 IMAN 635 IMAN 645 MRKT 605	Strategic Management in a Global Environment (3) Strategic Investment and Partnering (3) International Trade and Trade Policy (3) Managing Country Risk (3) The International Legal and Tax Environment (3) International Marketing Management (3)

## MASTER OF SCIENCE IN ACCOUNTING AND INFORMATION TECHNOLOGY

+

## MASTER OF SCIENCE IN ACCOUNTING AND FINANCIAL MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST</b>		
<b>MS in Accounting and Financial Management/MS in Accounting and Information Technology</b>		
<b>Required Courses</b>	ISAS 610 ISAS 630 ISAS 650 INFA 610 IMAT 637	Information Systems Management and Integration (3) Systems Analysis and Design (3) Information Technology, the CIO, and Organizational Transformation (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) IT Acquisitions Management (3)
<b>Capstone Course</b>	MSAT 670	Accounting and Information Technology Capstone (3)
<b>MS in Accounting and Information Technology/MS in Accounting and Financial Management</b>		
<b>Required Courses</b>	MGMT 640 FIN 610 FIN 620 FIN 630 FIN 645	Financial Decision Making for Managers (3) Financial Management in Organizations (3) Capital Markets, Institutions, and Long-Term Financing (3) Investment Valuation (3) Behavioral Finance (3)
<b>Capstone Course</b>	MSAT 670	Accounting and Information Technology Capstone (3)

\*Students should complete the Executive MBA before pursuing a second degree.

Course descriptions are found on pp. 81–114.

## DUAL DEGREE PROGRAMS

### MASTER OF SCIENCE IN FINANCIAL MANAGEMENT AND INFORMATION SYSTEMS



### MASTER OF SCIENCE IN ACCOUNTING AND FINANCIAL MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. Students must complete all the requirements for the first degree before beginning the second degree.</li> <li>2. Students must have completed 15 credits of undergraduate accounting courses with a grade of C or better in each course before enrolling in any accounting course.</li> <li>3. ACCT 610 must be taken prior to any other graduate accounting courses.</li> </ol>	
<b>EITHER DEGREE MAY BE COMPLETED FIRST</b>		
<b>MS in Financial Management and Information Systems/MS in Accounting and Financial Management</b>		
<b>Required Courses</b>	ACCT 610 ACCT 608 ACCT 612 ACCT 613 ACCT 665	Financial Accounting (3) Fraud Examination and Accounting Ethics (3) Auditing Process (3) Federal Income Taxation (3) Special Topics in Accounting (3)
<b>Capstone Course</b>	MSAF 670	Accounting and Financial Management Capstone (3)
<b>MS in Accounting and Financial Management/MS in Financial Management and Information Systems</b>		
<b>Required Courses</b>	ISAS 610 ISAS 630 ISAS 650 INFA 610 IMAT 637	Information Systems Management and Integration (3) Systems Analysis and Design (3) Information Technology, the CIO and Organizational Transformation (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) IT Acquisitions Management (3)
<b>Capstone Course</b>	MSFS 670	Financial Management and Information Systems Capstone (3)

### MASTER OF BUSINESS ADMINISTRATION OR EXECUTIVE MBA



### MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete all requirements for the first degree before beginning the second degree.	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MS in Information Technology/MBA</b>		
<b>Required Courses</b>	DMBA 603 DMBA 604 DMBA 606	The Marketing of New Ideas (6) Technology and Operations Management (6) Organizations and the External Environment (6)
<b>MBA/MS in Information Technology</b>		
<b>Required Courses</b>	ITEC 610 ITEC 620 ITEC 630 ITEC 640 TMAN 625 INFA 610	Information Technology Foundations (3) Information Technology Infrastructure (3) Information Systems Analysis, Modeling, and Design (3) Information Technology Project Management (3) Economics and Financial Analysis for Technology Managers (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3)

\* Students should complete the Executive MBA before pursuing a second degree.

Course descriptions are found on pp. 81–114.

## MASTER OF BUSINESS ADMINISTRATION OR EXECUTIVE MBA



## MASTER OF SCIENCE IN MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. Students must complete all the requirements for the first degree before beginning the second degree.</li> <li>2. Students must have completed 15 credits of undergraduate accounting courses with a grade of C or better in each course before enrolling in any accounting course.</li> <li>3. ACCT 610 must be taken prior to any other graduate accounting courses.</li> </ol>	
<b>EITHER DEGREE MAY BE COMPLETED FIRST*</b>		
<b>MBA/MS in Management</b>		
<b>Required Courses</b>	DMBA 603 DMBA 604 DMBA 606	The Marketing of New Ideas (6) Technology and Operations Management (6) Organizations and the External Environment (6)
<b>Accounting</b>		
<b>Required Courses</b>	ACCT 610 ACCT 611 ACCT 612 ACCT 608 ACCT 614 ACCT 613	Financial Accounting (3) Management Accounting (3) Auditing Process (3) Fraud Examination and Accounting Ethics (3) Accounting Information Systems (3) Federal Income Taxation (3)
<b>Financial Management</b>		
<b>Required Courses</b>	FIN 615 FIN 620 FIN 630 FIN 645 FIN 660 FIN 640	Financial Management of Current Operations (3) Capital Markets, Institutions, and Long-Term Financing (3) Investment Valuation (3) Behavioral Finance (3) Strategic Financial Management (3) Multinational Financial Management (3)
<b>Health Care Administration</b>		
<b>Required Courses</b>	HCAD 610 HCAD 620 HCAD 630 HCAD 640 HCAD 650 HCAD 660	Information Technology for Health Care Administration (3) The U.S. Health Care System (3) Public Health Administration (3) Financial Management for Health Care Organizations (3) Legal Aspects of Health Care Administration (3) Health Care Institutional Organization and Management (3)
<b>Human Resource Management</b>		
<b>Required Courses</b>	HRMD 610 HRMD 620 HRMD 630 HRMD 640 HRMD 650 HRMD 651	Issues and Practices in Human Resources Management (3) Employee Relations (3) Recruitment and Selection (3) Job Analysis, Assessment, and Compensation (3) Organizational Development and Change (3) Current Perspectives in Training and Development (3)
<b>Marketing</b>		
<b>Required Courses</b>	MRKT 601 MRKT 602 MRKT 603 MRKT 604 MRKT 605 MRKT 606	Legal and Ethical Issues in Global Communications (3) Consumer Behavior (3) Brand Management (3) Marketing Intelligence and Research Systems (3) International Marketing Management (3) Integrated Direct Marketing (3)

\*Students should complete the Executive MBA before pursuing a second degree.

Course descriptions are found on pp. 81–114.

# DUAL DEGREE PROGRAMS

## MBA OR EXECUTIVE MBA/MS IN MANAGEMENT (continued)

MBA/MS IN MANAGEMENT SPECIALIZATIONS

### Nonprofit and Association Management

<b>Required Courses</b>	NPMN 600	Nonprofit and Association Organizations and Issues (3)
	NPMN 610	Nonprofit and Association Law and Governance (3)
	NPMN 620	Nonprofit and Association Financial Management (3)
	NPMN 650	Fundamentals of Association Management (3)
	NPMN 655	Outcome and Process Evaluation Management (3)
	NPMN 660	Strategic Management in Nonprofit Organizations and Associations (3)

### Procurement and Contract Management

<b>Required Courses</b>	PCMS 626	Purchasing and Materials Management (3)
	PCMS 627	Legal Aspects of Contracting (3)
	PCMS 628	Contract Pricing and Negotiations (3)
	PCMS 629	Strategic Purchasing and Logistics (3)
	PCMS 630	Commercial Transactions in a Technological Environment: Law, Management, and Technology (3)
	PCMS 631	Integrative Supply Chain Management (3)

### Public Relations

<b>Required Courses</b>	MRKT 601	Legal and Ethical Issues in Global Communications (3)
	PRPA 601	Public Relations Theory and Practice (3)
	PRPA 602	Public Relations Techniques (3)
	PRPA 610	Crisis Management Seminar (3)
	PRPA 620	Global Public Relations (3)
	PRPA 650	Public Relations Campaigns (3)

Course descriptions are found on pp. 81–114.

# CERTIFICATE PROGRAMS

## ACCOUNTING

### Program Description

The certificate is designed to broaden and deepen the accounting knowledge of practicing professionals.

### Program Objectives

At the completion of this program, students will be able to

- Respond to the changing role of accountants in modern organizations
- Assume positions of increasing responsibility in management by gaining an understanding of their importance in the modern development of accounting systems and the online interface.

### Program Overview

The certificate requires the completion of 12 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in management (accounting specialization).

### Student Profile

Students must have an undergraduate minor in accounting (or 15 credits in undergraduate accounting) with a minimum grade of “C” in each course to enroll in this certificate program.

### CAREER PATHS

Depending on a student’s background and employer criteria, certificate recipients may qualify for one of the following positions:

- Public Accountant or Auditor
- Accounting Manager
- Internal Control/Forensics Accounting Specialist
- Management Accountant
- Government Accountant or Auditor
- Internal Auditor
- Financial, Budget, or Management Analyst
- Fraud Examiner

## CERTIFICATE IN ACCOUNTING

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	1. ACCT 610 is a prerequisite for all required accounting courses. 2. Students must have completed 15 credits of undergraduate accounting courses with a grade of C or better in each course before enrolling in any accounting course.	
<b>Required Courses</b>	ACCT 610 ACCT 611 ACCT 612 ACCT 614	Financial Accounting (3) Management Accounting (3) Auditing Process (3) Accounting Information Systems (3)

## ACCOUNTING AND INFORMATION TECHNOLOGY

### Program Description

This certificate is designed for individuals who want to gain a better understanding of the risks related to accounting information and transaction processing in an online environment. Course content emphasizes how the Internet and information technology (IT) affect accounting processes by focusing on the development of accounting and information systems, and managing the risk and security related to systems.

### Program Objectives

At the completion of this program, students will be able to

- Take a multidisciplinary approach to managing IT within an organization
- Have a broad understanding of accounting and IT processes with an emphasis on data integrity and system security

### Program Overview

This certificate requires the completion of 12 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in accounting and information technology.

### Student Profile

Students must have an undergraduate minor in accounting (or 15 credits in undergraduate accounting) with a minimum grade of “C” in each course to enroll in this certificate program.

# CERTIFICATE PROGRAMS

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- CIO Liaison with the CFO Office
- CFO Liaison with the CIO Office
- Public Accountants and Auditors
- Government Accountants and Auditors
- Management or Systems Analysts
- Fraud Examiners or Internal Auditors

### CERTIFICATE IN ACCOUNTING AND INFORMATION TECHNOLOGY

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	1. ACCT 610 is a prerequisite for all required accounting courses. 2. Students must have completed 15 credits of undergraduate accounting courses with a grade of C or better in each course before enrolling in any accounting course.	
<b>Required Courses</b>	ACCT 610 ACCT 614 IMAT 637 INFA 610	Financial Accounting (3) Accounting Information Systems (3) IT Acquisitions Management (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3)

## BIOINFORMATICS

### Program Description

Bioinformatics is a rapidly growing area in the biotechnology industry today. This certificate is intended to provide students with a core set of knowledge and skills in bioinformatics.

### Program Objectives

At the completion of this program, students will be able to

- Understand the use of commonly available tools for biological data analysis
- Gain an understanding of use and implementation of data structures and relational databases
- Demonstrate an understanding of the use of statistical tools for biological data analysis
- Learn to write the code and apply the bioinformatics programming language Perl

### Program Overview

This certificate requires the completion of 15 credits of specified coursework.

### Student Profile

Students with any educational background can enter this program, but those without a molecular biology and statistics background are required to take a college-level molecular biology and statistics course prior to taking the required program courses.

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Bioinformatics Specialist
- Bioinformatics Support Specialist
- Database Analyst
- Perl Programmer

## CERTIFICATE IN BIOINFORMATICS

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	BIOT 630 BIFS 613  BIFS 617 DBST 651 BIFS 614	Introduction to Bioinformatics (3) Statistical Processes for Biotechnology (3)  Advanced Bioinformatics (3) Relational Database Systems (3) Data Structures and Algorithms (3)

## BIOTECHNOLOGY MANAGEMENT

### Program Description

This certificate is designed to provide students with a solid foundation in the technical, business, and ethical issues facing the biotechnology industry today.

### Program Objectives

At the completion of this program, students will be able to

- Understand the social and ethical issues pertaining to biotechnology
- Gain an understanding of the techniques currently in use in the biotechnology industry
- Demonstrate a basic understanding of bioinformatics
- Learn to write a business plan and become familiar with the regulatory issues in biotechnology

### Program Overview

This certificate requires the completion of 15 credits of specified coursework.

### Student Profile

Students with any educational background can enter this program, but those without a molecular biology background are required to take a college-level molecular biology course prior to taking the required program courses.

### CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Regulatory Affairs Associate
- Lab Technician

## CERTIFICATE IN BIOTECHNOLOGY MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	BIOT 640 BIOT 630 BIOT 643 BTMN 636  BTMN 632	Societal Issues in Biotechnology (3) Introduction to Bioinformatics (3) Techniques of Biotechnology (3) Biotechnology and the Regulatory Environment (3) Commercializing Biotechnology in Early-Stage Ventures (3)

## DATABASE SYSTEMS TECHNOLOGY

### Program Description

Database technology is pervasive in our society and is considered a core component of most businesses. This certificate focuses on the design, development, and management of database technology. The primary focus is on relational databases. In addition to basic courses, there is an opportunity to study distributed databases, data warehousing, data mining, database administration, and database security. Laboratory experiences are included in most courses.

### Program Objectives

At the completion of this program, students will be able to

- Have acquired the fundamentals of database technology
- Be able to design, create, and use databases in various arenas such as health care, financial management, security, and business

### Program Overview

This program requires the completion of 15 credits of specified coursework. Courses completed for the certificate can be applied toward the Master of Science in information technology (database systems technology specialization).

### Student Profile

Database technology is pervasive and fundamental to many areas of our lives. Students in this program come from many different backgrounds, but all have a desire to enhance their knowledge in this core technology.

# CERTIFICATE PROGRAMS

## CAREER PATH

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Technical Leaders
- Managers of Database Management Systems
- Database Administrators

CERTIFICATE DATABASE SYSTEMS TECHNOLOGY		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	DBST 651	Relational Database Systems (3)
	DBST 652	Advanced Relational/Object-Relational Database Systems (3)
	DBST 663	Distributed Database Management Systems (3)
	DBST 665	Data Warehouse Technologies (3)
<b>Capstone Course</b>	DBST 670	Database Systems Administration (3)

## DISTANCE EDUCATION, GLOBALIZATION, AND DEVELOPMENT

### Program Description

This certificate examines how distance education has been used and the audiences reached, allowing the student to explore organizational models for distance education at various educational levels. Students analyze the roles played by international agencies. This enables the student to evaluate the range of educational technologies that assist institutions in reaching various off-campus audiences. Also, it explores the changing role of the private sector, the role of conventional universities in relation to e-learning, and the new international players in a globalized environment.

### Program Objectives

At the completion of this program, students will be able to

- Know the fundamental concepts in the management, design, implementation and use of distance education in international and global endeavors
- Discuss the theory and history of distance education
- Understand the costing structures behind distance education projects

- Discuss strategies in distance education related to human development in a globalized environment
- Suggest student support services for specific educational scenarios and design and use asynchronous technologies in such projects

### Program Overview

This program requires the completion of 12 credits of specified coursework.

### Student Profile

This certificate should serve all those students who are pursuing management and leadership knowledge in distance education projects involving international agencies and different countries in the developed and underdeveloped world. It is an ideal certificate for those professionals that are in a field closely related to distance education and need to acquire specific knowledge of the use of distance education to address global educational issues.

### Partnerships

This program is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading German institution with extensive experience in distance education. Oldenburg is contributing a certificate and several courses to the program, all of which earn full credit in the Master's program. This helps to ensure that the program has a broad, global perspective that is critical for distance educators in today's world.

Oldenburg produced a series of books used as course literature that includes important reflective research of the program (including historical analysis of the program development and detailed cost analysis). Oldenburg has held MDE faculty meetings contributing to the development of a globally distributed MDE faculty.

## CAREER PATH

This certificate serves a number of careers at mid- or high-level positions, depending on the prior level of experience of the candidate. It serves professionals that are already in a distance education related field and need to expand their expertise in management and distance education projects in international and/or global settings.

CERTIFICATE IN DISTANCE EDUCATION, GLOBALIZATION, AND DEVELOPMENT		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	OMDE 601	Foundations of Distance Education (3)
	OMDE 606	Costs and Economics of Distance Education (3)
	DEPM 625	Distance Education, Globalization, and Development (3)
	DETC 630	Synchronous and Asynchronous Learning Systems in Distance Education

Course descriptions are found on pp. 81–114.



## DISTANCE EDUCATION LEADERSHIP

### Program Description

This certificate focuses on aspects related to management of distance education. It includes a basic foundation in terms of theory and history of distance education, as well as the use of technology in distance education. It includes basic knowledge of online teaching and fundamentals of distance education leadership and management.

### Program Objectives

At the completion of this program, students will be able to

- Understand the fundamentals of management and leadership in the area of distance education
- Comprehend the history and basic theory behind distance education
- Explain the mission and vision of distance education within an organization
- Describe the distance education enterprise with a systemic view
- Discuss the planning of technology for delivery and development in the distance education enterprise
- Teach in a distance education program and assess teaching quality according to distance education best practices
- Demonstrate expertise in the management and decision-making process within the distance education enterprise

### Program Overview

This program requires the completion of 12 credits of specified coursework.

### Student Profile

This certificate should serve all those students who are pursuing leadership and management knowledge in distance education. It is an ideal certificate for those professionals that are in a field closely related to distance education and need to be involved in distance education or e-learning projects in a managerial support or leading position.

### Partnerships

This program is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading German institution with extensive experience in distance education. Oldenburg is contributing a certificate and several courses to the program, all of which earn full credit in the Master's program. This helps to ensure that the program has a broad, global perspective that is critical for distance educators in today's world.

Oldenburg produced a series of books used as course literature that includes important reflective research of the program (including his-

torical analysis of the program development and detailed cost analysis). Oldenburg has held MDE faculty meetings contributing to the development of a globally distributed MDE faculty.

### CAREER PATH

The certificate serves a number of careers at mid- or high-level positions, depending on the prior level of experience of the candidate. It serves professionals that are in related fields, extending their area of expertise into the distance education environment with emphasis on the management and leadership skills. It also serves those who are already in the distance education field and need to expand their theoretical knowledge.

#### CERTIFICATE IN DISTANCE EDUCATION LEADERSHIP

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	OMDE 601 OMDE 603 OMDE 610  DEPM 604	Foundations of Distance Education (3) Technology in Distance Education (3) Teaching and Learning in Online Distance Education (3) Leadership in Distance Education (3)

## E-BUSINESS

### Program Description

This certificate designed to address the basic requirements of e-business, e-marketing, e-technologies, e-business economics, and social, legal, ethical, and regulatory issues.

### Program Objectives

At the completion of this program, students will be able to

- Acquire the main pillars of e-business
- Understand the history and basic theory behind e-business
- Explain the mission and vision of e-business within an organization
- Describe the e-business enterprise with a systemic view
- Describe and assess the necessary support services for an e-business program
- Plan for the implementation of an e-business program
- Discuss the planning of technology for delivery and development of the e-business enterprise

# CERTIFICATE PROGRAMS

## Program Overview

This certificate requires the completion of 15 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in technology management or MS in information technology (e- business specialization).

## Student Profile

This certificate should serve all those students who are pursuing an interest in e-business. It is an ideal certificate for those starting in the field, and for those professionals that are already in the field, but lack the basic theoretical foundations.

## CAREER PATHS

This certificate serves a number of careers at mid- or high-level positions. Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Web Site Designer
- E-Marketing Specialist
- E-Security Expert
- Web Site Operator
- E-government Specialist

CERTIFICATE IN E-BUSINESS		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	EBUS 610 EBUS 620 EBUS 630  EBUS 640 EBUS 660	Introduction to E-Business (3) E-Marketing (3) Social, Legal, Ethical and Regulatory Issues (3) E-Technology (3) E-Business Economics (3)

# ENVIRONMENTAL MANAGEMENT

## Program Description

This certificate is intended for people seeking to improve their abilities in managing environmental projects and programs. It is particularly helpful to new environmental managers who wish to strengthen skills in working with a diverse group of environmental professionals.

## Program Objectives

At the completion of this program, students will be able to

- Develop an environmental management system for an organization in a team environment
- Communicate results of compliance actions to diverse stakeholders
- Communicate to upper management recommended options to enhance pollution prevention measures
- Identify potential environmental risks from industrial activities

## Program Overview

This certificate requires the completion of 15 credits of specified coursework.

## Student Profile

Students that have been given management responsibilities for environmental projects and programs would benefit from this certificate program.

## CAREER PATH

The career path for students is assuming a position with increased managerial responsibilities for environmental projects and programs.

CERTIFICATE IN ENVIRONMENTAL MANAGEMENT		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	ENVM 646 must be taken prior to other courses.	
<b>Required Courses</b>	ENVM 641 ENVM 643  ENVM 646  ENVM 647 ENVM 649	Environmental Auditing (3) Environmental Communications and Reporting (3) Environmental/Energy Law and Policy Development (3) Environmental Risk Assessment (3) Principles of Waste Management and Pollution Control (3)

## FINANCIAL MANAGEMENT IN ORGANIZATIONS

### Program Description

This certificate is intended for people seeking to exercise managerial responsibilities over the financial functions of their organizations.

### Program Objectives

At the completion of this program, students will be able to

- Strengthen their knowledge of and skills in the financial management of their organizations

### Program Overview

This certificate requires the completion of 15 credits of specified coursework. All courses required for this certificate may be applied to the MS in management (financial management specialization).

### Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

### CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Controller or Treasurer
- Financial Manager
- Capital Investment Analyst
- Financial Liaison with business units
- Credit or Cash Manager
- Financial Consultant or Advisor
- Financial, Budget, or Management Analyst
- Cost Analyst or Program Analyst

### CERTIFICATE IN FINANCIAL MANAGEMENT IN ORGANIZATIONS

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. FIN 610 is a prerequisite to all other courses in financial management.</li> <li>2. FIN 620 and FIN 630 are prerequisites to FIN 660.</li> </ol>	
<b>Required Courses</b>	MGMT 640	Financial Decision Making for Managers (3)
	FIN 610	Financial Management in Organizations (3)
	FIN 620	Capital Markets, Institutions, and Long-Term Financing (3)
	FIN 630	Investment Valuation (3)
	FIN 615	Financial Management of Current Operations (3)

## FOUNDATIONS OF DISTANCE EDUCATION

### Program Description

This certificate is intended to represent the study of the four basic foundational aspects of the field of distance education: history and theory, media and technology, economics, and learner support.

### Program Objectives

At the completion of this program, students will be able to

- Acquire the main pillars of distance education
- Be able to understand the history and basic theory behind distance education
- Explain the mission and vision of distance education within an organization
- Describe the distance education enterprise with a systemic view
- Describe and assess the necessary support services for a distance education program
- Plan for the implementation of a distance education program
- Discuss the planning of technology for delivery and development in the distance education enterprise
- Use costing techniques to assess and plan the costs involved in a distance education project
- Teach in a distance education program
- Assess teaching quality according to distance education best practices

# CERTIFICATE PROGRAMS

## Program Overview

This certificate requires the completion of 12 credits of specified coursework.

## Student Profile

This certificate should serve all those students who are pursuing a first contact with distance education from a theoretical perspective. It is an ideal certificate for those starting in the field, and for those professionals that are already in the field, but lack the basic theoretical foundations.

## Partnerships

This program is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading German institution with extensive experience in distance education. Oldenburg is contributing a certificate and several courses to the program, all of which earn full credit in the Master's program. This helps to ensure that the program has a broad, global perspective that is critical for distance educators in today's world.

Oldenburg produced a series of books used as course literature that includes important reflective research of the program (including historical analysis of the program development and detailed cost analysis). Oldenburg has held MDE faculty meetings contributing to the development of a globally distributed MDE faculty.

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for a position in one of these areas:

- In related fields, extending their area of expertise into the distance education environment
- Already in the distance education field and need to expand their theoretical knowledge
- In the quest for a career change and would like to add a foundational knowledge of distance education to their professional profile

### CERTIFICATE IN FOUNDATIONS OF DISTANCE EDUCATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	OMDE 601 OMDE 603 OMDE 606  OMDE 608	Foundations of Distance Education (3) Technology in Distance Education (3) Costs and Economics of Distance Education (3)  Learner Support in Distance Education and Training (3)

## FOUNDATIONS OF HUMAN RESOURCE MANAGEMENT

### Program Description

This certificate is designed to serve as an introduction for managers who want a better understanding of the human resource management function.

### Program Objectives

At the completion of this program, students will be able to

- Understand organizational behavior
- Make decisions based on knowledge of human resource management issues
- Utilize basic legal frameworks for managing people

### Program Overview

This certificate requires the completion of 12 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in management (human resource management specialization).

### Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- HR Executive
- HR Generalist
- Employee Relations Manager
- Staffing Director
- Compensation Manager
- Director of Human Resource Training and Development
- Organizational Development and Change Consultant

## CERTIFICATE IN FOUNDATIONS OF HUMAN RESOURCE MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Recommendations</b>	MGMT 615 is recommended as the first course for this program.	
<b>Required Courses</b>	MGMT 615	Intercultural Communication and Leadership (3)
	HRMD 610	Issues and Practices in Human Resource Management (3)
	HRMD 620	Employee Relations (3)
	HRMD 650	Organizational Development and Change (3)

## FOUNDATIONS OF INFORMATION TECHNOLOGY

### Program Description

This certificate provides a general technical understanding of current and emerging technologies in the information technology (IT) field; familiarity with project and systems engineering concepts, technological basis of the Internet; and a solid foundation on IT economics.

### Program Objectives

At the completion of this program, students will be able to

- Comprehend the fundamentals of IT
- Understand the IT infrastructure including data communication systems and technologies, telecommunication networks standards, network architecture, future trends in data communication concepts, equipment, applications, and services
- Understand the systems development life cycle as it applies to large hardware and software systems
- Gain a solid understanding of essential concepts, processes, and techniques that are used in the management of projects and project investment economics in order to successfully manage IT projects in each phase of the project life cycle
- Utilize proven project management tools to complete IT projects on time and within budget

### Program Overview

This certificate requires the completion of 15 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in information technology.

### Student Profile

This certificate should serve all those students who are pursuing a better understanding of IT from a foundational perspective. It is an ideal certificate for those who are in a different field, but need an exposure to IT. It is also beneficial for those who desire to gain a better understanding of the IT field.

### CAREER PATH

Depending on a student's background and employer criteria, certificate recipients may qualify for a position in:

- The IT field, with a need to expand on theoretical knowledge
- A new career field, and would like to add a foundational knowledge of IT to their professional profile

## CERTIFICATE IN FOUNDATIONS OF INFORMATION TECHNOLOGY

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	ITEC 610	Information Technology Foundations (3)
	ITEC 620	
	ITEC 630	
	ITEC 640	
	TMAN 625	Economics and Financial Analysis for Technology Managers (3)

# CERTIFICATE PROGRAMS

## HEALTH CARE ADMINISTRATION

### Program Description

This certificate is designed for health care professionals who want to update their knowledge base in health care administration.

### Program Objectives

At the completion of this program, students will be able to

- Understand the scope of the U.S. health care system
- Comprehend legal aspects of health care administration and institutional organization
- Use management techniques in health care-related fields

### Program Overview

This certificate requires the completion of 18 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in management (health care administration specialization) or the MS in health care administration. Students who have not met course prerequisites may need to complete more than 18 credits to satisfy certificate requirements.

### Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field. While a background in the field is not required, some previous health care experience is suggested.

### CAREER PATH

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Entry-Level Manager in Health Services Organizations
- Entry-Level Manager in Health Care Business Enterprises

## CERTIFICATE IN HEALTH CARE ADMINISTRATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	1. MGMT 615 is prerequisite to HCAD 660. 2. MGMT 640 is prerequisite to HCAD 640.	
<b>Required Courses</b>	HCAD 620 HCAD 650 HCAD 660 HCAD 610 HCAD 630 HCAD 640	The U.S. Health Care System (3) Legal Aspects of Health Care Administration (3) Health Care Institutional Organization and Management (3) Information Technology for Health Care Administration (3) Public Health Administration (3) Financial Management for Health Care Organizations (3)

## HOMELAND SECURITY MANAGEMENT

### Program Description

This certificate provides managers and practitioners with the background to prepare for and deal with a wide range of man-made and natural threats and vulnerabilities at the community and organizational level. The curriculum prepares students to perform security risk assessments and to develop strategies to mitigate threats to personnel, physical facilities, and information-dependent critical infrastructure, as well to plan for and manage operational recovery. Courses also explore the evolving roles within various first responder communities regarding pre-event planning and post-event response.

### Program Objectives

At the completion of this program, students will be able to

- Recognize and apply domestic and international security concepts from a historical and current perspective in both a social and organizational context
- Apply skills in evaluating and formulating proactive and reactive strategies for community and enterprise survival

### Program Overview

This certificate requires the completion of 15 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in management (homeland security management specialization), the MS in information technology (homeland security management specialization), or the MS in technology management (homeland security management specialization).

## Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

### CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Chief Operation Officer
- Facility and Plant Manager
- Facility Security Officer
- Military Planner
- Federal, State, and Local Government Emergency Planner and Policy Maker
- Law Enforcement, Emergency, and Medical Policy Maker, Practitioner, and Administrator

### CERTIFICATE IN HOMELAND SECURITY MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	HSMN 610 must be taken as one of the first two courses in program.	
<b>Required Courses</b>	HSMN 610 HSMN 620 HSMN 630  INFA 660	Concepts in Homeland Security (3) Physical Security (3) Business Continuity: Disaster Recovery, Planning, and Response (3) Security Policy, Ethics, and the Legal Environment (3)
<b>Capstone Course</b>	HSMN 670	Seminar in Homeland Security (3)

## INFORMATICS

### Program Description

This certificate is designed for students interested in the foundation and issues of information technology (IT). The certificate addresses the introduction of the major facets of IT.

### Program Objectives

At the completion of this program, students will be able to

- Identify key issues and trends in IT
- Perform basic operations with major genres of applications software
- Define software requirements and rough out software projects
- Describe basic network operations and functions

### Program Overview

This certificate requires the completion of 15 credits. Students entering this certificate program must meet all of the requirements for admission to the Master of Science in information technology. Credits for all courses can be applied toward the Master of Science in information technology (informatics specialization).

### Student Profile

Students selecting this certificate program fit into one of four profiles:

- Those who are exploring entry into the field of data processing or are considering starting a master's degree program in IT
- Individuals who have come to IT from another discipline and now seek job enhancement
- Managers with a technical bent whose responsibilities include interacting with IT staff
- Persons whose studies concluded some years ago who desire a refresher in current IT concepts

### CAREER PATHS

This certificate is appropriate for students who are new to information technology and seek entry-level positions, as well as those who are renewing and updating skills acquired some time ago.

# CERTIFICATE PROGRAMS

## CERTIFICATE IN INFORMATICS

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	ITEC 610 must be taken first.	
<b>Required Courses</b>	ITEC 610 ITEC 620 DBST 651 INFA 610 IMAT 637	Information Technology Foundations (3) Information Technology Infrastructure (3) Relational Database Systems (3) Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) IT Acquisitions Management (3)

## INFORMATION ASSURANCE

### Program Description

This certificate provides a thorough knowledge base for managers and technology professionals concerned with the design, development, implementation, operation, and management of secure information systems and with the protection of an organization's information assets. The specification provides students with a practical understanding of the principles of data protection, network security, and computer forensics. The specification also introduces students to the ethical, legal, and policy issues associated with information security.

### Program Objectives

At the completion of this program, students will be able to

- Understand the principles in information assurance
- Identify the key issues and trends in information assurance
- Design, develop, implement, manage, and evaluate secure information systems with an emphasis on confidentiality, integrity, and availability

### Program Overview

This certificate requires the completion of 15 credits of specified coursework.

### Student Profile

This certificate will serve students pursuing information assurance from theoretical, technical, and practical perspectives. It is an ideal certificate for those starting in the field, and for those professionals who are already in the field, but desire to gain a better understanding of the information assurance field.

## CAREER PATH

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Chief Security Officers
- Security Managers
- Security Architects
- Security Administrators
- Security Officers
- Security Professionals
- Network Administrators
- Network Professionals
- System Administrators
- System Professionals

## CERTIFICATE IN INFORMATION ASSURANCE

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	INFA 610 INFA 620 INFA 630 INFA 640 INFA 650	Computer Security, Software Assurance, Hardware Assurance, and Security Management (3) Network and Internet Security (3) Intrusion Detection and Intrusion Prevention (3) Cryptology and Data Protection (3) Computer Forensics (3)

## INTEGRATED DIRECT MARKETING

### Program Description

This certificate is designed for managers and marketing professionals who want to gain a deeper understanding of direct marketing principles and techniques in order to design, implement, and manage programs.

### Program Objectives

At the completion of this program, students will be able to

- Formulate direct marketing strategies
- Design and test creativity
- Use a variety of media (for example, direct mail, catalogs, broadcast, and the Internet) and measure the results of those efforts



## Program Overview

This certificate requires the completion of 12 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in management (marketing specialization).

## Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Marketing Manager (B-to-B or consumer)
- Internet Marketing Manager
- Direct Marketing Manager
- Product/brand Manager
- Manufacturer's Representative
- Retail Manager
- Account Executive (Business or consumer products)
- Market Research Analyst (Entry-level)
- Promotions Manager

### CERTIFICATE IN INTEGRATED DIRECT MARKETING

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	MGMT 650 and MRKT 600 are required as the first courses.	
<b>Required Courses</b>	MGMT 650	Research Methods for Managers (3)
	MRKT 600	Marketing Management (3)
	MRKT 604	Marketing Intelligence and Research Systems (3)
	MRKT 606	Integrated Direct Marketing (3)

## INTEGRATIVE SUPPLY CHAIN MANAGEMENT

## Program Description

This certificate is designed for supply chain managers and analysts who are responsible for ensuring that their organizational supply chains are operating efficiently. Emphasis is on in-depth strategies, techniques, and procedures related to designing and managing integrative supply chains.

## Program Objectives

At the completion of this program, students will be able to

- Understand e-commerce, logistics, supply and distribution chains, pricing, and contract negotiations
- Analyze statistical manipulations of various databases containing supply chain metrics with the objective of improving the efficiency of the supply chains

## Program Overview

This certificate requires the completion of 12 credits of specified coursework. All courses required for this certificate may be applied toward the Master of Science in management (procurement and contract management specialization).

## Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Contract Specialist
- Contract Officer
- Contract Manager/Administrator
- Procurement Specialist
- Procurement Manager/Administrator
- Purchaser/Buyer
- Logistics Specialist
- Logistics Analyst
- Logistics Manager/Administrator

# CERTIFICATE PROGRAMS

## CERTIFICATE IN INTEGRATIVE SUPPLY CHAIN MANAGEMENT

**Initial Requirements** UCSP 611 Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study

**Program Rules** MGMT 650 must be completed as the first course.

**Required Courses** MGMT 650 Research Methods for Managers (3)  
PCMS 631 Integrative Supply Chain Management (3)  
PCMS 632 Contemporary Logistics (3)  
PCMS 628 Contract Pricing and Negotiations (3)

## INTERNATIONAL MARKETING

### Program Description

This certificate explores the marketing issues encountered when entering foreign markets, such as cultural differences, market access barriers, market research, and market entry strategies. The certificate is intended for U.S. company managers who seek to market goods and services outside the U.S.

### Program Objectives

At the completion of this program, students will be able to

- Fill a void in traditional business education
- Increase the competitiveness of their organizations

### Program Overview

This certificate requires the completion of 12 credits of specified coursework. Classes are offered online and hybrid (a combination of classroom and online instruction). Students choosing the hybrid format should plan to meet approximately seven times during the term.

### Student Profile

Midcareer professionals who must meet challenges and successfully pursue careers in international business and commerce.

### Partnerships

UMUC works through academic partnerships with universities in Argentina, Belgium, Hungary, India, and China. Students in this certificate program may participate with students from these universities on company-sponsored projects.

## CAREER PATH

This certificate is appropriate for students who currently are serving in or who aspire to take on a senior-level management role in a global business enterprise.

## CERTIFICATE IN INTERNATIONAL MARKETING

**Initial Requirements** UCSP 611 Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study

**Program Rules** 1. MRKT 605 must be taken first.  
2. Other courses may be taken in any order.

**Required Courses** MRKT 605 International Marketing Management (3)  
IMAN 625 International Trade and Trade Policy (3)  
MRKT 602 Consumer Behavior (3)  
MRKT 606 Integrated Direct Marketing (3)

## INTERNATIONAL TRADE

### Program Description

This certificate prepares managers to identify and take advantage of global business opportunities. Topics such as global business strategies, strategic alliances, the World Trade Organization, and government relations are explored and applied to business situations.

### Program Objectives

At the completion of this program, students will be able to

- Fill a void in traditional business education
- Increase the competitiveness of their organizations

### Program Overview

This certificate requires the completion of 12 credits of specified coursework. Classes are offered online and hybrid (a combination of classroom and online instruction). Students choosing the hybrid format should plan to meet approximately seven times during the term.

### Student Profile

The certificate is intended for managers who want to learn the principles and techniques of international business and how to apply them to real business situations. Working midcareer professionals meet challenges and successfully pursue careers in international business and commerce.

## Partnerships

UMUC works through academic partnerships with universities in Argentina, Belgium, Hungary, India, and China. Students in this certificate program may participate with students from these universities on company-sponsored projects.

### CAREER PATH

This certificate is appropriate for students who currently are serving in or who aspire to take on a senior-level management role in a global business enterprise.

CERTIFICATE IN INTERNATIONAL TRADE		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	<ol style="list-style-type: none"> <li>1. Students must take IMAN 601 as the first course followed by IMAN 615.</li> <li>2. The remaining courses can be taken in any order.</li> </ol>	
<b>Required Courses</b>	IMAN 601	Strategic Management in a Global Environment (3)
	IMAN 615	Strategic Investment and Partnering (3)
	IMAN 625	International Trade and Trade Policy (3)
	MRKT 605	International Marketing Management (3)

## NONPROFIT AND ASSOCIATION FINANCIAL MANAGEMENT

### Program Description

This certificate provides a framework for financial management within the context of overall nonprofit strategic management.

### Program Objectives

At the completion of this program, students will be able to

- Understand the fundamentals of financial management
- Know relevant theory and practice of financial management with application to nonprofit management

### Program Overview

This certificate requires the completion of 12 credits of specified coursework. Three of the four courses required for this certificate may be applied to the Master of Science in management (nonprofit and association management specialization).

## Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

### CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Volunteer Work
- Board Member or Director
- Executive Director
- Executive Vice President
- Chief Executive Officer (CEO)
- Policy Analyst
- Government Liaison
- Director of Marketing and Development
- Program Director
- Membership Director
- Technical Expert
- Social Entrepreneur

### CERTIFICATE IN NONPROFIT AND ASSOCIATION FINANCIAL MANAGEMENT

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	MGMT 640 is a prerequisite to FIN 610.	
<b>Recommendations</b>	<ol style="list-style-type: none"> <li>1. Students without recent coursework in accounting or economics are strongly advised to complete UCSP 620 and UCSP 621 before enrolling in MGMT 640 and FIN 610.</li> <li>2. Students are encouraged to take NPMN 660 as the last course in the program.</li> </ol>	
<b>Required Courses</b>	MGMT 640	Financial Decision Making for Managers (3)
	FIN 610	Financial Management in Organizations (3)
	NPMN 620	Nonprofit and Association Financial Management (3)
	NPMN 660	Strategic Management in Nonprofit Organizations and Associations (3)

# CERTIFICATE PROGRAMS

## POLICY AND MANAGEMENT IN DISTANCE EDUCATION

### Program Description

This certificate focuses on all aspects related to management and policy definition within the distance education enterprise. It includes a systemic view of distance education, fundamentals of the economics of distance education, the understanding of the diverse facets of business in distance education; concepts of quality assurance and control, as well as the basic foundation of leadership in distance education.

### Program Objectives

At the completion of this program, students will be able to

- Acquire the fundamentals of management and planning in the area of distance education
- Understand the costing structures behind distance education
- Understand different kinds of business in the distance education field
- Design and implement structures for quality assurance and quality control within the distance education system
- Acquire fundamentals of leadership in distance education

### Program Overview

This certificate requires the completion of 12 credits of specified coursework.

### Student Profile

The program should serve all those students who are pursuing a management and leadership knowledge in distance education. It is an ideal certificate for those professionals that are in a field closely related to distance education, have some prior knowledge in the foundations of distance education and need to take a high-managerial role in a distance education enterprise or endeavor.

### Partnerships

This program is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading German institution with extensive experience in distance education. Oldenburg is contributing a certificate and several courses to the program, all of which earn full credit in the Master's program. This helps to ensure that the program has a broad, global perspective that is critical for distance educators in today's world.

Oldenburg produced a series of books used as course literature that includes important reflective research of the program (including historical analysis of the program development and detailed cost

analysis). Oldenburg has held MDE faculty meetings contributing to the development of a globally distributed MDE faculty.

### CAREER PATH

This certificate serves a number of careers at mid- or high-level positions, depending on the prior level of experience of the candidate. It serves professionals that are already in the distance education field and need to expand their expertise in the management of distance education organizations.

### CERTIFICATE IN POLICY AND MANAGEMENT IN DISTANCE EDUCATION

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	OMDE 606	Costs and Economics of Distance Education (3)
	DEPM 622	The Business of Distance Education (3)
	DETT 615	Assessment and Quality Assurance in Distance Education (3)
	DEPM 604	Leadership in Distance Education (3)

## PROCUREMENT AND CONTRACT MANAGEMENT

### Program Description

This certificate program is designed to familiarize participants with the broad concepts and strategies of procurement and contract management.

### Program Objectives

At the completion of this program, students will be able to

- Understand foundations of pricing and negotiations
- Apply basic aspects of contracting
- Understand procurement of services and products
- Utilize knowledge of aspects of commercial transactions, logistics, and materials management

### Program Overview

This certificate requires the completion of 15 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in management (procurement and contract management specialization).

## Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

### CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Contract Specialist
- Contract Officer
- Contract Manager/Administrator
- Procurement Specialist
- Procurement Manager/Administrator
- Purchaser/Buyer
- Logistics Specialist
- Logistics Analyst
- Logistics Manager/Administrator

CERTIFICATE IN PROCUREMENT AND CONTRACT MANAGEMENT		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	PCMS 626	Purchasing and Materials Management (3)
	PCMS 627	Legal Aspects of Contracting (3)
	PCMS 628	Contract Pricing and Negotiations (3)
	PCMS 629	Strategic Purchasing and Logistics (3)
	PCMS 630	Commercial Transactions in a Technological Environment: Law, Management, and Technology (3)

## PROJECT MANAGEMENT

### Program Description

This certificate provides a strong theoretical and practical foundation in project management. It is designed to serve managers and other professionals who wish to acquire, enhance, and certify their knowledge and skills to successfully design, integrate, develop, and manage projects. Students gain hands-on experience using various project management tools and techniques to successfully manage real-world projects of varying sizes and degrees of complexity. Additionally, students apply emerging principles and methods in the modern project management field.

### Program Objectives

At the completion of this program, students will be able to

- Apply each of the nine core areas identified in the Project Management Body of Knowledge
- Use the major analytical tools and techniques that provide the ability to manage project scope, schedule, and budget
- Use the major people skills that are especially crucial to managing in team-based organizations
- Manage varying priorities as projects proceed from the initiation phase through to project completion
- Practice project management within its stated professional standards as articulated by the Project Management Institute

### Program Overview

This certificate requires the completion of 15 credits of specified coursework. To maintain a balance of interests, the curriculum is guided by the Project Management Body of Knowledge, the generally accepted standard approach to project management in the field. These principles are applicable to virtually all projects and project environments.

### STUDENT PROFILE

Students come from a wide variety of career and academic orientations and interests; information technology to construction, engineering to general management, business to government and military. Many realize that project management skills are becoming formally or informally required for career success in their main fields of interest. Others view project management as a profession unto itself and desire eventual certification as a Project Management Professional by the Project Management Institute.

## Partnerships

The Graduate School of Management & Technology is a Project Management Institute Registered Educational Provider, and each course is recognized by the Institute as being equivalent to 45 Professional Development Units. Each course therefore fulfills the educational/training requirement to pursue certification as a Project Management Professional, which must be pursued independently through the Institute. Professional Development Units also apply to recertification.

## CAREER PATHS

Some fields such as aerospace, construction, information technology, and government contracting are natural environments to practice project management principles. Driven by the need for innovation in rapidly changing environments, many other fields and industries are discovering that project-based organizations are more appropriate than their traditional modes of management. This growing perception applies from the lowest levels of management to the strategic boardroom.

CERTIFICATE IN PROJECT MANAGEMENT		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	PMAN 634 or PMAN 600 must be taken as the first course.	
<b>Required Courses</b>	PMAN 634 PMAN 637  PMAN 638 PMAN 639	Foundations of Project Management (3) Risk Management: Tools and Techniques (3) Communication, Negotiation and Conflict Resolution (3) Project Quality Management (3)
<b>Capstone Course</b>	PMAN 670	Advanced Project Methods (3)
<b>Clustered Course Option</b>	PMAN 600	Project Management: Foundations and Advanced Methods (6) is a six-credit course. Students who receive credit for PMAN 600 may not receive credit for PMAN 634 or PMAN 670.

## PUBLIC RELATIONS

### Program Description

This certificate provides students with solid grounding in public relations theory, legal and ethical issues confronted by practitioners, and the analytical and creative skills necessary to excel in the profession.

### Program Objectives

At the completion of this program, students will be able to

- Understand the impact of the explosion of Internet-enabled, networked communications that is forcing change in the manner in which corporations communicate with their varied publics

### Program Overview

This certificate requires the completion of 15 credits of specified coursework. All courses required for this certificate may be applied to the Master of Science in management (public relations specialization).

### Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Director of Public Relations
- Corporate Communications Manager
- Director of Media Relations
- Account Manager
- Communications Writer
- Director of Public Affairs
- Promotion Director
- Internal Communications Manager

## CERTIFICATE IN PUBLIC RELATIONS

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	Students must complete MRKT 600 and 601 as the first two courses.	
<b>Required Courses</b>	MRKT 600 MRKT 601  PRPA 601 PRPA 602 PRPA 610	Marketing Management (3) Legal and Ethical Issues in Global Communications (3)  Public Relations Theory and Practice (3) Public Relations Techniques (3) Crisis Management Seminar (3)

## SOFTWARE ENGINEERING

### Program Description

This certificate provides an understanding of the foundation and issues of software engineering. The certificate addresses software development and design issues.

### Program Objectives

At the completion of the program, students will be able to

- Identify key issues and trends in the software engineering industry
- Manage key phases of the software life cycle
- Define software requirements, identify conceptual design, develop detailed design, verify and validate the software product
- Prescribe procedures for maintenance of the software applications.

### Program Overview

This certificate requires the completion of 15 credits of specified coursework. All courses can be applied toward the Master of Science in information technology (software engineering specialization).

Students need to be conversant with operating systems (Windows, or a variant of Unix), and web access and development techniques. All students should have access to a personal computer with a high-speed connection to the Internet and the power to run sophisticated development environments (for example, Visual Studio from Microsoft, or WebSphere from IBM).

## Student Profile

Students selecting this program fit into one of three profiles:

- They are unsure that they wish to spend the time to get a master's degree
- They do not have a desire to get into management ranks
- They are adding a certificate to enhance another qualification (for example, information assurance)

## CAREER PATH

This certificate is selected by individuals who are either more comfortable working with the technology rather than managing others or are using it as an enhancement to another career direction (for example, database administration).

## CERTIFICATE IN SOFTWARE ENGINEERING

<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	SWEN 603 SWEN 640 SWEN 645  SWEN 646 SWEN 647	Systems Engineering (3) Software Project Management (3) System and Software Standards and Requirements (3)  Software Design and Implementation (3) Software Verification and Validation (3)

## SYSTEMS ANALYSIS

### Program Description

This certificate is designed to prepare students to undertake the early tasks in the development of an information system, including problem definition, systems analysis, requirements definition, and logical design.

### Program Objectives

At the completion of this program, students will be able to

- Have technical foundation and get exposure to issues such as the managerial uses of information systems
- Understand the software development life cycle, and systems analysis and design

# CERTIFICATE PROGRAMS

## Program Overview

This certificate requires the completion of 15 credits of required coursework. All courses required for this certificate may be applied to the MS in management or the MS in technology management (information systems and services specialization).

## Student Profile

Students entering this program are not required to have backgrounds in a particular educational or professional field.

## CAREER PATHS

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- Systems or Business Analyst
- Systems Development Manager
- IS Project or Program manager
- IS Consultant
- Chief Information Officer
- IS-Aware General Manager

CERTIFICATE IN SYSTEMS ANALYSIS		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Program Rules</b>	ISAS 600 is a prerequisite for the other courses.	
<b>Required Courses</b>	ISAS 600	Information Systems for Managers (3)
	ISAS 610	Information Systems Management and Integration (3)
	ISAS 620	Information Systems Sourcing Management (3)
	ISAS 630	Systems Analysis and Design (3)
	ISAS 650	Information Technology, the CIO, and Organizational Transformation (3)

## TEACHING AND TRAINING AT A DISTANCE

### Program Description

This certificate is intended to represent the study of all the foundations of teaching and training in the distance education realm: online teaching and training; instructional design in distance education; and multimedia.

### Program Objectives

At the completion of this program, students will be able to

- Understand fundamentals in teaching and training at a distance
- Grasp teaching and learning concepts
- Apply teaching and training skills
- Use methods that are appropriate to a distance education and training context within business, higher-education, industry, government, and nonprofit organizations

### Program Overview

This certificate requires the completion of 12 credits of specified coursework.

### Student Profile

This certificate should serve all those students who are pursuing a first contact with distance education with the goal of teaching or training at a distance. It is an ideal certificate for those starting in the field, and for those professionals that are already in the field, but lack the basic theoretical foundations of teaching and training in the distance education environment.

### Partnerships

This program is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading German institution with extensive experience in distance education. Oldenburg is contributing a certificate and several courses to the program, all of which earn full credit in the Master's program. This helps to ensure that the program has a broad, global perspective that is critical for distance educators in today's world.

Oldenburg produced a series of books used as course literature that includes important reflective research of the program (including historical analysis of the program development and detailed cost analysis). Oldenburg has held MDE faculty meetings contributing to the development of a globally distributed MDE faculty.



## CAREER PATH

This certificate serves a number of careers at mid- or high-level positions, depending on the prior level of experience of the candidate. It serves those already in the distance education field who need to expand their knowledge related to teaching and training techniques and best practices. It also serves those who are in the quest for a career change and would like to add the skills and knowledge to teach and provide training in the distance education setting.

CERTIFICATE IN TEACHING AND TRAINING AT A DISTANCE		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	OMDE 610	Teaching and Learning in Online Distance Education (3)
	DETT 607	Instructional Design and Course Development in Distance Education (3)
	DETC 620	Training and Learning with Multimedia (3)
	DETT 621	Training at a Distance (3)

## TECHNOLOGY IN DISTANCE EDUCATION

### Program Description

This certificate is intended to place the study of contemporary educational technologies in the context of the goals of educational and training organizations. It provides students with some in-depth knowledge and experience with the primary distance technologies in use today.

### Program Objectives

At the completion of this program, students will be able to

- Plan and implement the usage of asynchronous and synchronous technologies for distance education projects
- Use new technologies in teaching at a distance
- Explore the potential of the Internet and design
- Implement distance education programs with adequate technologies

### Program Overview

This certificate requires the completion of 12 credits of specified coursework.

## Student Profile

This certificate should serve all those students who are pursuing knowledge in the use and implementation of new technologies and media in the distance education field. It is an ideal certificate for those professionals that are in a field closely related to distance education, and need to be involved in distance education or e-learning projects in positions that deal directly with technology from a managerial or technical support perspective.

## Partnerships

This program is offered in partnership with Carl von Ossietzky University of Oldenburg, Germany, a leading German institution with extensive experience in distance education. Oldenburg is contributing a certificate and several courses to the program, all of which earn full credit in the Master's program. This helps to ensure that the program has a broad, global perspective that is critical for distance educators in today's world.

Oldenburg produced a series of books used as course literature that includes important reflective research of the program (including historical analysis of the program development and detailed cost analysis). Oldenburg has held MDE faculty meetings contributing to the development of a globally distributed MDE faculty.

## CAREER PATH

This certificate serves a number of careers at mid- or high-level positions, depending on the prior level of experience of the candidate. It serves professionals in related fields, such as media, extending their area of expertise into the distance education environment with emphasis on technology. It also serves those who are already in the distance education field and need to expand their technical knowledge or specialize in the technology related area.

CERTIFICATE IN TECHNOLOGY IN DISTANCE EDUCATION		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	OMDE 603	Technology in Distance Education (3)
	DETC 630	Synchronous and Asynchronous Learning Systems in Distance Education (3)
	IMAT 639	Internet Multimedia Applications (3)
	DETC 620	Training and Learning with Multimedia (3)

# CERTIFICATE PROGRAMS

## TELECOMMUNICATIONS MANAGEMENT

### Program Description

This certificate is designed for students who wish to learn the latest in the telecommunications field without obtaining a degree. It is designed to provide the technical knowledge and management skills needed to plan, acquire, operate, and evaluate telecommunication systems. The certificate emphasizes critical management concepts, such as the structure and environment of the telecommunications industry, strategic planning, financial management, and quality improvement.

### Program Objectives

At the completion of this program, students will be able to

- Develop an understanding of the emerging technologies in telecommunications including wireless, security and IP networking

### Program Overview

This certificate requires the completion of 15 credits of specified coursework.

### Student Profile

Students should be in the information technology field either in operations or management. Students require an understanding of higher algebra and simple statistics.

### CAREER PATH

Students who wish to develop an understanding of telecommunications field including regulatory, network management, and technologies including wireless, IP, and security.

CERTIFICATE IN TELECOMMUNICATIONS MANAGEMENT		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	ITEC 620	Information Technology Infrastructure (3)
	TLMN 602	Telecommunications Industry: Structure and Environment (3)
	TLMN 641	Network Management and Design (3)
	TLMN 645	Wireless Telecommunications Systems (3)
	TLMN 623	Telecommunications Networks (3)

## CHIEF INFORMATION OFFICER (CIO)

### Program Description

This certificate program is designed to provide a senior-level executive focus on management and leadership challenges. The program encompasses all competencies cited in the Information Technology Management and Reform Act (Clinger-Cohen) and identified by the federal CIO Council. The competencies cover all areas of management associated with the design, development, acquisition, implementation, planning, and maintenance of an organization's information technology structure.

### Program Objectives

To provide an exceptional graduate education in a program format tailored specifically for managers and professionals.

### Program Overview

This is a 24-credit, twelve-month program offered in partnership with the General Services Administration's CIO University. Participants receive both a federal government and UMUC CIO certificate.

### Student Profile

This program is designed for high-performing government and private-sector information technology (IT) professionals; chief information officers (CIO) and chief technology officers (CTO); senior IT staff members and planners; and consultants in the field of information technology.

### CAREER PATH

Depending on a student's background and employer criteria, certificate recipients may qualify for one of the following positions:

- CIO
- CTO

CERTIFICATE OF CHIEF INFORMATION OFFICER		
<b>Initial Requirements</b>	UCSP 611	Introduction to Graduate Library Research Skills (0), to be taken within the first 6 credits of study
<b>Required Courses</b>	CIOC 610	The Strategic Management of Technology (6)
	CIOC 620	Leading Change and Innovation in Technology (6)
	CIOC 630	Information Security and Finance (6)
	CIOC 640	Program Management (6)

Course descriptions are found on pp. 81–114.

# COURSE DESCRIPTIONS

## Accounting

### ACCT 608 Fraud Examination and Accounting Ethics (3)

Prerequisite: ACCT 610. A study of the nature of fraud, elements of fraud, fraud prevention, fraud detection, fraud investigation, use of controls to prevent fraud, and methods of fraud resolution. A critical competency for the 21st-century accountant is the ability to evaluate and analyze the various aspects of fraud prevention and detection in a strategic context. Emphasis is on the employment of forensic accounting techniques to analyze what is behind the data being generated by the accounting system, to detect internal control weaknesses, and to map out a fraud investigation program. The role of accounting ethics is explored in detail and considered in the context of laws, regulations, and the organization's culture.

### ACCT 610 Financial Accounting (3)

Prerequisite: 15 credits of undergraduate accounting. Accounting theory in a strategic framework. An overview of relevant theory, building upon undergraduate accounting studies, provides a foundation for other specialization courses. Critical thinking and the application of accounting concepts and principles are developed in the following areas: the preparation and interpretation of corporate financial statements in accordance with GAAP; accounting standards and the standard setting process; the use of electronic technology in financial accounting; effective communication; professional ethics; and current issues, debates and research in accounting. Current special interest topics include the impact of information technology on financial accounting and the valuation of and accounting for intellectual property.

### ACCT 611 Management Accounting (3)

Prerequisite: ACCT 610. An examination of the control and decision-making methodologies used by management accountants in solving strategic problems for business. Among the methodologies used are break-even analysis, regression analysis, the balanced scorecard, activity-based costing/management, value chain analysis, total quality management, and performance evaluation/assessment. The topics covered range from ethical issues to product costing. All the quantitative methods explained are used to help model business problems in a manner intended to provide the required insights for managers to make successful choices.

### ACCT 612 Auditing Process (3)

(Only students enrolled in the Accounting specialization may take this course.) Prerequisite: ACCT 610. An in-depth examination of Generally Accepted Auditing Standards (GAAS), as well as standards for attestation and other services. Alternative audit models are evaluated for both their practical relevance as well as their theoretical justification as informed by current research and emerging information technology. The use of Computer-Assisted Auditing Techniques (CAAT) and other computer-related technology for obtaining evidence is evaluated in terms of effectiveness and suit-

## THE UNIT OF CREDIT

The unit of credit is the semester hour. One semester hour is awarded on the basis of either of two sets of criteria, as follows:

- At least 15 hours (50 minutes each) of actual class meeting or the equivalent in guided learning activity (exclusive of registration and study days, holidays, and final examinations);
- At least 30 hours (50 minutes each) of supervised laboratory or studio work (exclusive of registration and study days, holidays, and final examinations).

## PREREQUISITES

Prerequisites, normally stated in terms of numbered courses, represent the level of knowledge a student should have acquired before enrolling in a given course. Students will not be able to register for courses in which prerequisites have not been met.

ability in diverse audit environments. Methods of evaluating internal control are considered in light of the risks encountered in new ways of conducting business, such as e-commerce. Professional ethical and legal responsibilities, as shaped by the contemporary professional, legal, and regulatory environments, are examined as they relate to audit risk, risk assessment, and audit program planning. The use of audit reports and other services as tools to support management control and decision making are considered.

### ACCT 613 Federal Income Taxation (3)

Prerequisite: ACCT 610. A case-study-based, problem-oriented examination of fundamental federal income tax concepts. Tax issues and controversies are explored in-depth. The primary focus is on applying tax laws, as opposed to learning individual tax rules. For example, while an undergraduate tax course would teach that gifts are not included in the donee's gross income, this course examines in detail the applicable criteria that determine when an item constitutes a gift. Methods of case analysis and research that are typically involved in tax planning and litigation are covered. Important definitions, judicially created rules, and other tax conventions are explored in great detail through the study of each one's genesis and purpose. Prime cases and tax issues that concern gross income, identification of the proper taxpayer, deductions, timing, income and deduction characterization, and deferral and capital gains and losses are examined. The textbook includes many classic court cases, explanatory materials, and problems that examine the application of the federal tax laws to various taxpayer situations.

### ACCT 614 Accounting Information Systems (3)

Prerequisite: ACCT 610. A study of the use of information systems in the accounting process, with an emphasis on computer systems and internal controls. Focus is on the analytical tools necessary to evaluate users' accounting information needs and to design, implement, and maintain an accounting information system to support

# COURSE DESCRIPTIONS

business processes and cycles. Among the topics covered are the components of a contemporary accounting information systems (AIS); security and internal controls, particularly within Internet and e-commerce environments; traditional flowcharting and data-flow diagrams; computer networks; theory and application of relational databases; and relational database management systems (RDBMS). Assignments include designing an AIS using a commercial database software package.

## **ACCT 665 Special Topics in Accounting (3)**

Prerequisite: ACCT 610. A study of current topics in accounting. Discussion focuses on one of the following topics: government and nonprofit accounting (including financial accounting standards applicable to public-sector and nonprofit organizations in the United States); international accounting (including multiple currencies, reporting requirements and their harmonization, and the interplay between international operations, differing cultures, and the management of the resulting risk); and strategies and tools in accounting (including current issues and strategies in accounting, integration of the various areas of accounting, and the research tools that can be used).

## **Master of Business Administration**

### **AMBA 600 MBA Fundamentals (3)**

An overview of fundamental management concepts across a broad spectrum of subject areas. Topics covered include the online environment and technologies used in the MBA program; research, writing, and analytical skills; and basic management concepts. Assignments focus on statistics, financial accounting, and the theory of constraints. Exercises improve skills in the areas of research, writing, critical thinking, and teamwork. Special emphasis is placed on plagiarism issues and the utilization of the UMUC Web databases. The Web-based technologies used throughout the MBA program are also explored. Topics covered include both the academic requirements and the technical skills necessary to succeed in the MBA program.

### **AMBA 601 The Role of Managers and Organizations in Society (6)**

An overview of the essential concepts and theories that provide a foundation for the study of business administration. Five major themes that reflect key characteristics of managers and organizations and span the curricula of the MBA program are introduced. These themes are leadership, ethics and legal concepts, technology, globalization, and innovation. Ten important competencies required of high-performing managers that are emphasized throughout the MBA program are also introduced. These competencies are information literacy/research skills, technology fluency, diversity and cross-cultural perspectives, communications skills, team building skills, systems thinking, critical thinking, problem solving, leading change, and ethical leadership. Finally, assignments include the construction of an electronic portfolio for use in achieving personal and professional goals. The electronic portfolio is used to document learning throughout the MBA program.

### **AMBA 602 The Dynamics of Individuals and Groups at Work (6)**

An investigation of the interplay of the nature, meaning, and value of work with individual, group, organizational, and societal outcomes. Strategies and methods for aligning individual interests and organizational needs to reach organizational goals are explored. The philosophical, legal, psychological, and structural decisions that managers and leaders must make in managing the dynamic human element at work are analyzed through readings, case analyses, exercises, presentations, and discussions. Topics covered include interpersonal skill development, with an emphasis on effective communication processes, to increase competence in successfully working with people.

### **AMBA 603 The Marketing of New Ideas (6)**

A study of the processes of strategic marketing and the development of new products from the perspective of understanding customers and cultivating and nurturing customer relationships. Such increased understanding is achieved through the effective flow of knowledge resources within and external to the organization, with an emphasis on the importance of market research, customer relationship management, data mining, demand forecasting, and market planning. As a managerial process, marketing is the way in which organizations determine their best opportunities and avoid major threats in a constantly changing marketplace. The managerial philosophy of marketing puts central emphasis on the customer, but does not lose sight of the competition and the environment in which it operates. Accelerated technological change, major ethical business decisions, and increased globalization exert substantial pressure on organizations to develop and transform their goods, services, and marketing programs. Stable product design and long production runs are no longer the norm. Topics covered include the increasing importance of electronic commerce as it relates to the distribution, promotion, and pricing of consumer and business products. Marketing applications and the effectiveness of various e-commerce strategies in an emerging new economy are explored. In addition, the important topics of ethics and social responsibility are investigated within the context of strategic marketing management and the current business climate.

### **AMBA 604 Technology and Operations Management (6)**

Seminar focusing on three key areas of modern business functional management: project management, operations management, and information technology management. Effective managers need to understand the principles and techniques of management in these areas. For instance, the fast pace of product innovation and decreasing product life cycles today mandate that managers possess effective project management skills. Further, managers continually restructure business processes in order to maintain or improve operational efficiency and effectiveness, which is the heart of sound operations management. In support of this purpose and many others, managers should also be able to quickly but critically acquire, analyze, and deploy business information, which requires an ability to manage information technology, that is, automated information systems and information security.

## AMBA 605 Economics of Management Decisions (6)

A study of the concept of economic decision making in a wide variety of managerial situations, including financial statement analysis, asset valuation, cost management, and organizational performance. Critical thinking is applied to make connections among concepts from the disciplines of microeconomics, finance, and managerial and financial accounting. Current legal and ethical issues surrounding financial accounting along with the valuation of both financial and business assets in a domestic and international context are addressed. Because cost management is crucial to a company's continued competitiveness, activity-based costing is discussed. Increasingly, managers are supplementing financial information with nonfinancial information to best analyze the economic performance of their organizations. Toward this end, several performance measurement techniques are covered, including economic value added, throughput accounting, and balanced scorecard.

## AMBA 606 Organizations and the External Environment (6)

An overview, global in scope, of various types of business organizations and environments that shape organizational decisions. Approached from an opportunities and risk perspective, emphasis is placed on the regulatory structures, legal systems, governance models, and policy making that define the internal and external functions of business at the confluence of local, state, national, and international affairs. Major theoretical approaches and issues guiding the seminar include critical thinking, international ethics, business sustainability, social responsibility, and the impact of economics and technology. The study functions as a term-long team project that comprises group, subgroup, individual, and conference activities enhanced by Web- and media-based resources and some teleconferences. A significant shift is required in conceptual development from local and national focus to international and local thinking, and from an emphasis on individual performance to an emphasis on effective teamwork.

## AMBA 607 Strategy (6)

An investigation of strategy, value creation, and value capture in different business contexts. The business environment of the 21st century is undergoing radical change. Companies now compete concurrently in domestic, global, and electronic markets. Such markets are often characterized by accelerating technological change, rising customer expectations, intense competition, and transitory competitive advantage. Added to that are demands for corporate transparency and responsibility that have lately become even more emphatic. Focus is on developing frameworks and models for understanding the rules of the game and taking appropriate action in these different, but concurrent, business contexts. An explicitly integrative approach is adopted, building on knowledge of the different functional areas of management covered in previous seminars. A top management perspective is also adopted because strategic thinking requires a good understanding of the interrelationships that exist within a firm and between the firm and its external environment. The seminar is divided broadly into three parts. The first deals with value creation

in different contexts—namely domestic, global, and e-business. The second part explores issues related to value capture through various organizational and strategic processes. The final part provides a synthesis of the foregoing themes as an opportunity to apply these concepts, tools, and techniques in a real-life project.

## Bioinformatics

### BIFS 613 Statistical Processes for Biotechnology (3)

(Formerly BIOT 613.) Prerequisite: Knowledge of basic statistics. A study of Bayesian statistics, Markov processes, and information theory indices. These statistical tools can be used to analyze sequence homology, the presence of motifs in sequences, gene expression, and gene regulation. A number of concepts are introduced, including information content, mutual information, long-range correlation, repeats, and Fourier analysis. Linguistic methods are evaluated.

### BIFS 614 Data Structures and Algorithms (3)

(Formerly CSMN 614.) An introduction to the definitions, implementations, and applications of the most basic data structures used in computer science, including the concept of abstract data types. Also introduced are the basic formalism and concepts used in the analysis of algorithms and in algorithm design. The relative efficiency of the algorithms studied is estimated by informal application of these ideas. The algorithms and data structures discussed include those for sorting, searching, graph problems, dynamic programming, combinatorial search, and others.

### BIFS 617 Advanced Bioinformatics (3)

(Formerly BIOT 617.) An overview of the basic programming tools for performing bioinformatic analyses in both the UNIX and MS DOS/Window environments. Focus is on the use of Perl and Bioperl as the basic programming tools. Basic programming skills are developed and practiced on such problems as codon usage/bias, open reading frame, CpG islands detection, and gene identification.

### BIFS 618 Java for Biotechnology Applications (3)

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 Gene Expression Data Analysis (3)**

A study of high-throughput technologies for transcriptome and genomic aberration profiling. Topics include statistical theories, algorithms and data analysis tools for microarray experiments, array comparative genome hybridization, SNP array experiments, and supervised and unsupervised machine learning technologies for class discovery and classifier identifications. Practice is provided in the preprocess of empirical gene expression profiling and the post-process of microarray data analysis for identifying differentially regulated genes related to biological functions. Several legacy databases and data integration strategies in gene expression profiling are explored through data mining and functional annotation of interesting genes; statistical principles and theories are illustrated.

## **Biotechnology Studies**

### **BIOT 601 Molecular Biology for Business Managers (3)**

A thorough grounding in the fundamentals of biology, offering a broad review of the life sciences with emphasis on molecular biology. The basic concepts and processes in cell biology, molecular biology, and immunology are covered in a comprehensive manner. The components of a cell and the processes occurring in a single cell for the functioning of a multicellular organism are explained. The use of model organisms to understand basic and applied biology is discussed.

### **BIOT 630 Introduction to Bioinformatics (3)**

(Formerly BIOT 610.) An introduction to bioinformatics. Efficient experimental techniques have led to an exponential growth of data in biotechnology. Today the emphasis is switching from the accumulation of data to their analysis and interpretation. Computational tools for classifying sequences, large databases of biological information, computationally intensive methods, new algorithms, and machine learning unite to extract new concepts. This is the domain of bioinformatics. Specifically, bioinformatics includes new, sophisticated DNA, RNA, and protein sequence analyses and pattern recognition and DNA computing, but also more traditional mathematical modeling, Bayesian probability and basic algorithms, machine learning and neural networks, and Markov models and dynamic programming. Bioinformatics covers many subjects, among the most important of which are the analysis of macromolecular sequences, the analysis of tri-dimensional structures, the analysis of phylogenetic relationships, and the analysis of 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)**

(Formerly BTMN 643.) A comprehensive review of the current techniques in biotechnology research and applications. The development and use of some of the techniques are placed in historical context. The techniques that are used in the fields of genomics, transcriptomics, and proteomics, and the applications of these techniques are extensively discussed. Plant and animal transformation methods currently being used are explained. High-throughput technologies, including sequencing, real time RT-PCR, SAGE, and microarrays, are also discussed. Topics include therapeutic applications of biotechnology, such as gene therapy, stem cell technology, and RNA interference. Emerging technologies in this field are introduced.

### **BIOT 645 The Business of Biotechnology (3)**

(Formerly BTMN 645.) An introduction to the range of businesses associated with biotechnology. These businesses include medical procedures, self-testing procedures, pharmaceuticals, reagents, agricultural, environmental bioremediation, energy production, material and mineral recovery, veterinary medicine and sensors. A variety of alliances and funding sources, as well as global and international issues, is covered.

## **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)**

(Formerly BIOT 681.) A review of bioterrorism, biosecurity, and government biodefense strategy. A review of the history and science of biological agents in agriculture and society is presented, followed by an in-depth examination of surveillance, public health preparedness, response, and recovery at the community, state, and federal government levels. Various aspects of the law are introduced, including the Posse Comitatus Act and federal and state quarantine powers. 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)**

(Formerly BIOT 683.) Prerequisite: BIOT 681 or BSBD 641. A thorough examination of special and advanced topics in bioterrorism and biosecurity issues. Topics will include, but are not limited to, 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. In addition, students will have the opportunity to choose their own special topics during the semester for further in-depth analysis and class discussion. Future challenges in biosecurity are also covered by analyzing case studies of hypothetical threats and participating in a comprehensive bioterrorism exercise.

## Biotechnology Management

### **BTMN 632 Commercializing Biotechnology in Early-Stage Ventures (3)**

(Formerly BIOT 641.) An overview of the 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. Approaches to marketing technology and developing joint ventures are emphasized. Advantages and disadvantages of forming international ventures are weighed. The importance of maintaining relations with external constituents is discussed, as is the need for managing public awareness.

### **BTMN 634 Selection and Evaluation of Biotechnology Projects (3)**

(Formerly BIOT 642.) A study of the applications of the methodologies of 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. Managing the safety aspects of biotechnology is stressed.

### **BTMN 636 Biotechnology and the Regulatory Environment (3)**

(Formerly BIOT 644.) A comprehensive review of the role of regulation in biotechnology products and services development and commercialization. The roles of the federal government, state government agencies, international bodies, and professional groups are emphasized. Specifically, the regulatory roles of the U.S. Environmental Protection Agency (EPA), the U.S. Department of Agriculture, the Animal and Plant Health Inspection Service (APHIS), and the Food and Drug Administration (FDA) are emphasized. Human subject protection, good laboratory practices, and good manufacturing practices are discussed.

### **BTMN 670 Capstone in Biotechnology (3)**

(Formerly BIOT 671.) Prerequisites: Completion of 27 credits, including 21 credits of core courses in the MS in biotechnology studies degree program. The application of knowledge gained from previous coursework to real-world business, technical, and ethical issues. Topics include entrepreneurship and new venture creation, progress in biotechnology and prediction of future trends, and ethical development and management. Discussion also covers professional goals and an action plan to put knowledge

and experience gained in the program to use. Focus is on demonstrating analytical, communication, and leadership skills through case analysis of promising technologies and through teamwork via group development of a strategic product development plan for a start-up biotechnology venture.

## CIO

### **CIOC 610 The Strategic Management of Technology (6)**

A study of how technology, especially information technology, can be used as an essential component of the global strategy of an enterprise. Emphasis is on linking technology policy with corporate strategy and identifying technology options that will ensure the most effective execution of organizational strategy. Electronic commerce is examined as a strategic technology application. Topics also include external and internal strategic analysis, technology forecasting, benchmarking, corporate intelligence, knowledge management, and planning and control strategies. Strategic technology planning is examined from a historical perspective; concepts essential to technology security and information assurance are introduced.

### **CIOC 620 Leading Change and Innovation in Technology (6)**

Analysis of the role of the CIO/CTO in leading the new fast-paced, information age organization. Practical study of leadership provides the foundation for the application of decision-making strategies, systems thinking, teamwork, and knowledge management and the allocation of human capital within an intercultural framework. Readings, conferences, exercises, case studies, and simulations provide an introduction to research in cognitive weaknesses and bias in management and decision making. Leading-edge thought in innovation and the process of change is explored. Characteristics of the high-performing organization within the technology function are appraised. The interaction of people, processes, and technology is a cross-cutting theme.

### **CIOC 630 Information Security and Finance (6)**

A critical analysis of risk assessment and security within cyberspace and technology. Focus is on the people, processes, and technology used in securing an information infrastructure. A risk-based framework involving threats, vulnerabilities, and countermeasures for the evaluation of information security needs is highlighted. Discussion covers the Sarbanes-Oxley and Federal Information Security Management Acts and their costs, as well as the practical financial management skills of the technology officer: general accounting, capital planning, asset and contract management, and activity-based costing. Exercises and assignments address the practical implications of an integrative strategy focused on concepts of total cost of ownership, balanced scorecard, and performance measurement.

## **CIOC 640 Program Management (6)**

A study of the concepts, processes, and theory of project management and their application within an organization. Various programs, program offices, and executive roles within an organization are assessed. Discussion covers the ability of the executive to analyze program and program office issues and the relationship of the project to the strategic goals of the organization. Both the legal and ethical ramifications of project management are also examined. Emphasis is on acquiring skills in developing effective outcome measures for projects and understanding the implications of project management on the information needs of internal managers. Topics also include the mechanisms necessary to effectively manage both internal and external stakeholders and forces. Assignments include developing a management analysis of the impact of the growth of new products/services within a functional organization and the effect of projects on human resources in the selection and establishment of project teams.

## **Communication Studies**

### **COMM 600 Academic Writing for Graduate Students (3)**

A writing seminar designed to help graduate students acquire and strengthen the writing and critical thinking skills needed for effective academic writing. Emphasis is on developing well-organized, well-supported, and clear arguments; demonstrating the appropriate use of sources; and refining grammar and mechanics. The writing process presented begins with planning, continues through drafting and revision, and culminates in completion of a final project that demonstrates advanced writing and critical thinking skills.

## **Database Systems Technology**

### **DBST 651 Relational Database Systems (3)**

(Formerly CSMN 661.) 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)**

(Formerly CSMN 662.) Prerequisite: CSMN 661 or DBST 651. A continuation of the foundation established in DBST 651, exploring advanced concepts. Advanced knowledge in logical design, physical design, performance, architecture, data distribution, and data sharing in relational databases is provided. The concepts of object-relational design and implementation are introduced and developed. Remote access laboratory component required.

### **DBST 663 Distributed Database Management Systems (3)**

(Formerly CSMN 663.) Prerequisite: CSMN 661 or DBST 651. An introduction to the development of distributed database management, focusing on concepts and technical issues. Knowledge and awareness of current trends and emerging technologies in distributed data management is quintessential to 21st-century database management. The fundamentals of database systems that manage distributed data are built upon. A survey of various topics in distributed database management systems includes architecture, distributed database design, query processing and optimization, distributed transaction management and concurrency control, distributed and heterogeneous object management systems, and database inoperability.

### **DBST 665 Data Warehouse Technologies (3)**

(Formerly CSMN 665.) Prerequisite: CSMN 661 or DBST 651. An introduction to the concepts needed for successfully designing and implementing a data warehouse. Topics include the technological knowledge base for data model approaches such as the star schema and denormalization, issues such as loading the warehouse, performance challenges, and other concepts unique to the warehouse environment.

### **DBST 667 Data Mining (3)**

(Formerly CSMN 667.) Prerequisite: CSMN 661 or DBST 651. An overview of the data mining component of the knowledge discovery process. As the amount of data has grown, so has the difficulty in analyzing it. Data mining is the search for hidden, meaningful patterns in large databases. Identifying these patterns and rules can provide significant competitive advantage to businesses. Data mining applications are introduced and algorithms and techniques useful for solving different problems are identified. Many of the techniques will 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. Topics include researching data mining applications and learning how to integrate data mining with data warehouses.



## **DBST 668 Database Security (3)**

(Formerly CSMN 668.) Prerequisite: CSMN 661 or DBST 651. An overview of both the theory of and applications for providing effective security in database management systems. Information stored in databases is a valuable asset that needs to be protected from damage. 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 are studied. Models for multilevel secure databases for both relational and object-relational databases are analyzed. Practical applications of database security concepts are applied in the remote access laboratory component.

## **DBST 670 Database Systems Administration (3)**

(Formerly CSMN 666.) Prerequisite: CSMN 661 or DBST 651. 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 included.

## **Distance Education Policy and Management**

### **DEPM 604 Leadership in Distance Education (3)**

(Formerly OMDE 604.) An introduction to the organization, management, and administration of distance education systems. Specific issues covered include management theory, organizational behavior, leadership roles, human resource management, employee relations, the impact of information technology, faculty/staff development, inter-institutional collaboration, planning, policy, and change. Both education and training environments are explored, including the knowledge and skills necessary to function effectively in either type of organizational setting.

### **DEPM 609 Distance Education Systems (3)**

(Formerly OMDE 609.) Prerequisites: OMDE 601, OMDE 603, DETT 607 (or OMDE 607), 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 (3)**

(Formerly OMDE 622.) 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 Distance Education, Globalization, and Development (3)**

(Formerly OMDE 625.) A study of distance education from an international perspective, highlighting developing countries. Processes are explored through concrete case studies in the areas of higher education and internationalization; teacher education, school networks, and mobile learning; alternative routes to schooling; nonformal education, community radio, telecenters, and radio browsing; and vocational education and training. Topics also cover national and international policies on distance education, including the role of the state; international organizations (such as the World Bank or UNESCO) and their policies (e.g., the Millennium Development Goals); telecommunication infrastructure; transnational corporations and the commercialization of education; and the World Trade Organization (WTO) and the General Agreement on Trade in Services (GATS).

## **Distance Education Technology**

### **DETC 620 Training and Learning with Multimedia (3)**

(Formerly OMDE 620.) An examination of the use of digital media in a variety of educational settings to identify properties, strengths, and weaknesses of multimedia in different learning contexts. Basic psychological processes of perception, understanding, and learning are introduced. Multimedia and instructional design for online learning systems, such as Web-based training, are a special focus. Hands-on experiences with several multimedia and online learning and information systems are provided. Additional topics covered include groupware and collaborative learning technologies, intelligent systems, instructional simulations, and virtual reality systems. The module has been developed by Joachim Hasebrook (Germany).

### **DETC 630 Synchronous and Asynchronous Learning Systems in Distance Education (3)**

An examination of synchronous (real-time) and asynchronous (non-real-time) tools and technologies used in online education. Topics include synchronous functions such as text chat and audio/video conferencing and asynchronous functions such as e-mail, threaded Web discussions, blogs, and wikis. Each communication model is examined critically in both a research and an applied context. Review also covers how synchronous and asynchronous modes of communication are incorporated in learning management systems.

## Distance Education Teaching and Training

### **DETT 607 Instructional Design and Course Development in Distance Education (3)**

(Formerly OMDE 607.) An opportunity to examine 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 instruction. The theoretical underpinnings of learning are explored and applied to the course project, the design of a prototype classroom. Management issues surrounding the course and curriculum development efforts are discussed, and a comprehensive curriculum management plan is developed.

### **DETT 611 Library and Intellectual Property Issues in Distance Education (3)**

(Formerly OMDE 611.) 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 615 Assessment and Quality Assurance in Distance Education (3)**

A study of quality assessment and quality assurance in distance education within the context of quality in education in general. Discussion covers the diverse meanings of quality in different contexts, the multidimensional nature of the concept of quality, personal reflections on quality, and the importance of quality as an emerging leitmotiv in the educational debate. A variety of methodological approaches (including quality assessment techniques, quality evaluation, quality criteria and guidelines, quality benchmarks, and quality management approaches) are introduced and applied to distance education. Topics also include the connection between accreditation and quality. Quality models are applied to distance education, and case studies are used to reveal good practice in quality assessment and quality assurance in distance education today.

### **DETT 621 Training at a Distance (3)**

(Formerly OMDE 621.) An examination of the role of distance training in business, nonprofit, and government organizations. A wide variety of issues, problems, and solutions is explored in the areas of Web-based training, the economics of distance training, distance technology in the business organization, synchronous versus asynchronous interactive tools, collaborative and problem-solving tools, authoring tools, insourcing versus outsourcing, and the role of multimedia in distance training. Specific emphasis is given to the concept of the corporate virtual university and its design and operation.

## Dual Degree Master of Business Administration

### **DMBA 603 The Marketing of New Ideas (6)**

(Formerly AMBA 603D.) A study of the processes of strategic marketing and the development of new products from the perspective of understanding customers and cultivating and nurturing customer relationships. Such increased understanding is achieved through the effective flow of knowledge resources within and external to the organization, with an emphasis on the importance of market research, customer relationship management, data mining, demand forecasting, and market planning. As a managerial process, marketing is the way in which organizations determine their best opportunities and avoid major threats in a constantly changing marketplace. The managerial philosophy of marketing puts central emphasis on the customer, but does not lose sight of the competition and the environment in which it operates. Accelerated technological change, major ethical business decisions, and increased globalization exert substantial pressure on organizations to develop and transform their goods, services, and marketing programs. Stable product design and long production runs are no longer the norm. Topics covered include the increasing importance of electronic commerce as it relates to the distribution, promotion, and pricing of consumer and business products. Marketing applications and the effectiveness of various e-commerce strategies in an emerging new economy are explored. In addition, the important topics of ethics and social responsibility are investigated within the context of strategic marketing management and the current business climate.

### **DMBA 604 Technology and Operations Management (6)**

(Formerly AMBA 604D.) Seminar focusing on three key areas of modern business functional management: project management, operations management, and information technology management. Effective managers need to understand the principles and techniques of management in these areas. For instance, the fast pace of product innovation and decreasing product life cycles today mandate that managers possess effective project management skills. Further, managers continually restructure business processes in order to maintain or improve operational efficiency and effectiveness, which is the heart of sound operations management. In support of this purpose and many others, managers should also be able to quickly but critically acquire, analyze, and deploy business information, which requires an ability to manage information technology, that is, automated information systems and information security.

## **DMBA 606 Organizations and the External Environment (6)**

(Formerly AMBA 606D.) An overview, global in scope, of various types of business organizations and environments that shape organizational decisions. Approached from an opportunities and risk perspective, emphasis is placed on the regulatory structures, legal systems, governance models, and policy making that define the internal and external functions of business at the confluence of local, state, national, and international affairs. Major theoretical approaches and issues guiding the seminar include critical thinking, international ethics, business sustainability, social responsibility, and the impact of economics and technology. The study functions as a term-long team project comprises group, subgroup, individual, and conference activities enhanced by Web- and media-based resources and some teleconferences. A significant shift is required in conceptual development from local and national focus to international and local thinking, and from an emphasis on individual performance to an emphasis on effective teamwork.

## **Doctoral Studies**

### **DMGT 800 Foundations of Management Theory and Strategic Thinking (6)**

A comprehensive foundation in the history of management and the structure and function of organizations. 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 is provided. Topics include organizational theory, strategic thinking and strategic management, theories of decision making, leadership, organizational culture, and management in a postindustrial society. Problem solving, application, and evaluation skills are used to analyze the theories and practices of current and emerging organizational challenges and opportunities. The goal is to be able to critically assess the ideas of others and defend one's own ideas through the application of scholarship.

### **DMGT 810 Leadership, Enterprise Change, and Virtual Management (6)**

A study of leadership—not just for survival but for sustainability—in environments where external pressure for change is the dominant feature. Discussion examines change and leadership issues in varied industries, as well as 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 needed for managing change, such as improvisation and reinvention; 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. The goal is to recognize the link between leadership, change, and organizational resilience and apply the lessons.

### **DMGT 820 International Finance and Global Operation (6)**

An examination of four perspectives on strategic management within an international and global context: strategy and the competencies that are required for managers to function effectively, trade and financial issues, the political and legal context of decision making when many nation-states are in play, and issues arising from cultural differences and their effect on the management of firms operating transnationally. Topics include the economic and financial forces affecting the organization in its internal and external environment and appropriate responses to these forces in a global context. Discussion also covers the forces and values shaping these four perspectives in terms of the firm and its industry and how these forces and values may shape the working strategy of a particular firm viewed globally and within the context of an assigned country.

### **DMGT 830 Innovation and Sustainable Development (6)**

A study of how technological innovation drives the long-term competitiveness of global organizations. The objective is to acquire skills in developing conceptual frameworks for managing sustainable organizational growth in both private and public sectors. Focus is on critically evaluating the actors and factors for technological innovation and developing concepts for managing technological innovations to improve the creation and delivery of new goods and services in a productivity-based international competitive environment. Discussion covers issues related to technology resources, technological capacities, capabilities and competencies, and technology strategies for sustained competitive advantage in the global marketplace. Decision-making roadmaps are developed and applied to ensure that technological and socioeconomic, ethical, and legal considerations are integrated for desired results.

### **DMGT 840 Enterprise Continuity and Information Assurance (6)**

An exploration of the concepts of enterprise continuity and information assurance as integral, essential, and dynamic characteristics of all sustainable organizations—governmental, economic, academic, and social. Enterprise continuity management is presented as the application of a flexible but deliberate regimen of risk analysis, security planning, disaster response training, crisis control, and consequence management. Information assurance is presented as the reliable access to, and distribution of, essential organizational information through redundant and secure knowledge management systems. The goal is to comprehend how to continue operations in the face of both localized and external large-scale threats. Discussion explores the role of human factors, organizational policy and leadership, ethical and legal compliance, and technology in ensuring enterprise continuity and information assurance. Topics include continuity and assurance issues that exist both within and beyond the boundaries of the organization and how to communicate these challenges to stakeholders.

## **DMGT 850 Research Methods and Design (6)**

An applied study of how to plan, conduct, interpret, and critique both quantitative and qualitative research. Methods are grounded in the philosophy of science to provide a solid foundation to support the identification of researchable questions, as well as the selection and application of a methodology to a dissertation topic. Methodologies studied include organizational ethnography, action research, content analysis, and survey research. Assignments include short analyses representative of the different methodological traditions.

## **DMGT 860 Teaching Practicum (6)**

Preparation and practice in college-level teaching. Discussion covers teaching pedagogy. Practicum includes teaching one section of a 3-credit graduate course.

## **DMGT 890 Dissertation Topic and Literature Review (3)**

Guidance in developing a dissertation topic and completing a literature review, under the guidance of a dissertation advisor, cohort advisor, and the assigned faculty member.

## **DMGT 891 Dissertation Methodology (3)**

A continuation of the dissertation process through development of the methodology and design, under the guidance of a cohort faculty advisor and the assigned faculty member.

## **DMGT 892 Dissertation Research (3)**

Further continuation of the dissertation process, focusing on the data gathering phase, under the guidance of a cohort faculty advisor and the assigned faculty member.

## **DMGT 893 Dissertation Submission (3)**

The completion and defense of the dissertation before the dissertation advisor, the cohort advisor, and the assigned faculty member.

## **DMGT 899 Continuing Registration (1)**

This course enables the student to continue work on dissertation coursework with supervision from the faculty. Students must maintain continual registration throughout their dissertation phase.

## **E-Business**

### **EBUS 610 Introduction to E-Business (3)**

(Formerly ECOM 610.) An overview of the managerial, strategic, and technical aspects of e-commerce functions, processes, and interactions. Topics include an introduction to the economics of information and information products; definitions of e-commerce retailing, e-tailing, and portals; a brief history of e-commerce; e-commerce business models; the roles of e-supply chains, corporate portals, and public business-to-business exchanges; e-support services, auctions, and e-commerce security issues and processes; the impact of e-commerce on organizational strategy and industry structure; in-depth assessment of successful e-commerce strategies; social, ethical, and other emerging issues related to e-commerce; and innovative e-commerce systems. Overviews of the technologies that enable e-commerce are presented, including telecommunications technology trends, portals and search engines, Web site design and management, electronic payment systems, security, e-publishing and digital download features, and mobile commerce and pervasive computing are presented.

### **EBUS 620 E-Marketing (3)**

(Formerly ECOM 620.) An exploration of e-marketing approaches, research methods, and technologies, as well as 21st-century advertising strategies used online and offline by organizations, corporations, and innovators worldwide. Focus is on analysis and creative development of effective global marketing strategies using the Web—one of the most significant forces to affect marketing since the emergence of mass media. Topics include understanding demographic research strategies, comparing international Web site e-marketing features, attracting and managing Web site traffic, understanding effective online business marketing strategies, and developing a final e-marketing plan that addresses the components of market research and online/offline advertising to “drive traffic” to a Web site.

### **EBUS 630 Social, Legal, Ethical, and Regulatory Issues (3)**

(Formerly ECOM 670.) A study of the protection of intellectual property on electronic networks through trademarks, copyrights, and patents. Privacy and liability issues are examined in areas that include the handling of e-mail, the electronic dissemination of data, and the regulatory requirements for the safeguarding of confidentiality of information. Society's responsibility to provide universal availability of Web-based technologies is considered, and an ethical framework for the development and implementation of e-commerce applications is developed.

## **EBUS 640 E-Technology (3)**

(Formerly ECOM 640.) A study of how information security, e-business, and networking technologies interrelate and which managerial approaches effectively deal with the current and future challenges of e-technology. A broad range of technologies in existence and in development is covered, including networking and internetworking basics, wireless technologies, e-business integration, Internet infrastructure providers, and e-business network, encryption, and Web site security. The material focuses on integrating cutting-edge technology with tactical and strategic e-commerce skills, covering topics from security, networking, and communications to wireless advances and various development tools. Examples are presented of how major advances in computer technology, networking capabilities, and web-enabled applications and wide area networks have placed data, security, and privacy at risk. Effective approaches of understanding and dealing with various e-technologies will be evaluated.

## **EBUS 650 E-Development and Management (3)**

(Formerly ECOM 680.) An examination of application software for business-to-business and business-to-consumer e-commerce. Initially studied are several fundamental e-commerce application software tools, including programming languages (e.g., Java, Perl/cgi-bin), search engines, and Web authoring tools (e.g., HTML, HTTP, and XML). Also studied are transaction processing software tools, including intelligent agents. Specific business-to-business transaction exchange methods reviewed include Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT).

## **EBUS 660 E-Business Economics (3)**

(Formerly ECOM 660.) A study of the economics of online business. Focus is on evaluating the impact of the Web and related technologies on the creation and transformation of goods and services and on organizations, industries, and society in general. Analysis covers concepts drawn from economics, including information asymmetries, efficient markets, transaction costs, switching costs, network externalities, adverse selection, and contracts. Topics include auctions, digital cash and e-payment systems, innovation and intellectual property rights, taxation and public good issues, and valuation and financing of e-business investments.

## **EBUS 670 E-Business Capstone (3)**

(Formerly ECOM 671.) Prerequisites: Completion of 27 of the required 36 credits in the MS in information technology or MS in technology management degree programs. The application of all the knowledge gained from the previous coursework. Study focuses on best practices as demonstrated through case studies. Working in teams, students develop a comprehensive business plan or a market plan for a new Internet venture with a real company. Cross-cutting issues are integrated, such as learning organization, the changing nature of work, entrepreneurship and intrapreneurship, technology trends, communication, creativity, and innovation. Students may enroll in this class only after completing at least 27 of the required 36 credits.

## **Education—Reading**

### **EDRS 600 Secondary Reading I (3)**

(Formerly OMAT 607.) A study of the selection and evaluation of materials and resources for the effective teaching of reading. Topics covered emphasize the effective use of text and other media to best meet diverse reader needs. The role of the parent and community in fulfilling the goals of the literacy program is also examined.

### **EDRS 605 Secondary Reading II (3)**

(Formerly OMAT 608.) Prerequisite: EDRS 600 or OMAT 607. A study of the implementation of a coherent literacy program that supports content area learning and literacy. Focus is on the use of effective instructional methods and materials in the design of reading programs to meet the diverse needs and backgrounds of students.

### **EDRS 620 Processes and Acquisitions of Reading (3)**

(Formerly OMAT 620.) An overview of the theories, processes, and acquisition of reading and language arts skills in the elementary school. The cognitive, linguistic, social, and physiological factors involved in oral and written language development are emphasized. Concepts central to emergent literacy and the relationship between language and reading acquisition are explored.

### **EDRS 625 Instruction of Reading (3)**

(Formerly OMAT 621.) A study of the selection and application of strategies for developing oral reading, comprehension, and literacy skills. A variety of techniques for building word recognition, integrating reading and writing, and enhancing understanding of text is addressed. The development of a balanced literacy program attentive to early identification of reading difficulties and meeting diverse reader needs is also emphasized.

### **EDRS 630 Assessment for Reading Instruction (3)**

(Formerly OMAT 622.) A study of the techniques, processes, and instruments for assessment of reading performance. The administration of assessment tools, interpretation of assessment data, and diagnosis of reading deficiencies are emphasized. The appropriate use of national, state, local, and classroom data for selecting instructional methods, facilitating instructional decisions, and monitoring student performance is also explored.

### **EDRS 635 Materials for Reading (3)**

(Formerly OMAT 623.) A study of the selection and evaluation of materials and resources for the effective teaching of reading. The effective use of text and other media to best meet diverse reader needs is discussed. The role of the parent and community in fulfilling the goals of the literacy program is also explored.

## Instructional Technology

### **EDTC 600 Foundations of Technology in Teaching and Learning (3)**

(Formerly OMED 600.) An introduction to the integration of technology in the schools focusing on how instructional technology affects and advances K–12 learning. Topics include principles of integrating technology to strengthen standards-based curricula, instruction, and assessment; selection of software and other technological materials; uses of technology for collaboration with school-related audiences; issues of digital equity and ethics; and strategies for using digital technology with special needs populations.

### **EDTC 605 Digital Information Literacy for K-12 Educators (3)**

(Formerly OMED 610.) Prerequisite or corequisite: EDTC 600 or OMED 600. A study of the use and evaluation of a wide array of electronic information resources, including ERIC, LEXIS/NEXIS, Marco Polo, the World Wide Web, and numerous subject-specific databases. A portfolio of electronic references is developed for use in curriculum design. Age- and content-appropriate exercises and assignments are created to help build K–12 student information literacy skills. Emphasis is on information resources in the field of education and in specific content areas to assist in future curriculum development and research activities. Criteria to evaluate the usefulness and validity of different types of education resources are developed and critically assessed.

### **EDTC 610 Web-Based Learning and Teaching: Design and Pedagogy (3)**

(Formerly OMED 620.) Prerequisite: EDTC 600 or OMED 600. Prerequisite or corequisite: EDTC 605 or OMED 610. An examination of the theory that informs technology-enabled and Web-based education, with special attention to best pedagogical practices. Unique challenges related to original design and/or adaptation of Web courses are explored. Knowledge and skills are acquired to create individual assignments, special classes, units, and entire courses that take full advantage of synchronous, asynchronous, and/or multimedia technology. Special emphasis is placed on creation of age-, content-, and context-appropriate exercises for students in a diverse array of classroom situations. Criteria and specific evaluation tools are developed to assess student learning outcomes with different pedagogical approaches, delivery techniques, core content areas, and technologies. Current and emerging technology-enabled curricular innovations are also examined.

### **EDTC 615 Using Technology for Instructional Improvement (3)**

(Formerly OMED 640.) Prerequisites: EDTC 600 (or OMED 600) and EDTC 605 (or OMED 610.) An overview of the use of technology to become more effective in the classroom and more efficient in planning. Technologies integral to curriculum and instruction can also enhance teachers' day-to-day activities in classroom administration and management. Topics covered include presentation programs, database programs, spreadsheets, electronic gradebooks, desktop publishing, portfolio development, and various types of educational software. Practical applications for the contemporary classroom are emphasized.

### **EDTC 620 Technology in K–12 Education: Synchronous, Asynchronous, and Multimedia Technologies (3)**

(Formerly OMED 630.) Prerequisites: EDTC 600 (or OMED 600), EDTC 605 (or OMED 610) and EDTC 610 (or OMED 620). The technological foundation of the program, enabling K–12 teachers to employ appropriate technologies in classrooms and schools. The capacity of a variety of technologies designed to meet specific content, delivery, and learner goals and objectives is critically assessed. Particular attention is paid to Web site construction. Knowledge and skills are developed in the application of such real-time technologies as satellite broadcasting, audio conferencing, videoconferencing, synchronous chats, streaming audio and video, and asynchronous technologies such as e-mail and listservs.

### **EDTC 625 Hardware and Software in Instructional Development (3)**

(Formerly OMED 650.) Prerequisites: EDTC 600 (or OMED 600) and EDTC 605 (or OMED 610.) The application of hardware and software programs in K–12 classroom settings. A variety of operating systems commonly found in schools is examined. Also investigated is a wide range of instructional software packages related to specific subjects, with a cross-disciplinary emphasis on software for reading instruction and remediation. Issues such as compatibility with curricular goals, appropriateness of use, and student learning outcomes are examined. A project is completed in which a specific software program is integrated into the classroom, experiences of students with the software are assessed, and the effectiveness of the software in achieving teaching goals and objectives is evaluated.

## **EDTC 630 Administration of Technology Initiatives: Planning, Budgeting, and Evaluation (3)**

(Formerly OMED 660.) Prerequisites: EDTC 600 (or OMED 600), EDTC 605 (or OMED 610), and completion of at least 15 credits in EDTC or OMED courses. An overview of the administration of technology in K–12 school systems. The impact of technology in schools is explored from a variety of perspectives, including access, planning, budgeting, maintenance, and life cycle management at the classroom, school, and district levels. Criteria for making financial and instructional decisions about technology are developed and evaluated. A particular emphasis is placed on knowledge and skills teachers can use to acquire classroom technology, including grant writing and public private-sector partnerships.

## **EDTC 640 Technology Change Management in Schools (3)**

(Formerly OMED 670.) Prerequisites: EDTC 600 (or OMED 600), EDTC 605 (or OMED 610), and completion of at least 15 credits in EDTC or OMED courses. An overview of the theories, approaches, and strategies that help teachers assume leadership roles in implementing technology change in K-12 schools. Specific topics include the role of change agents in K–12 schools, strategies to meet the needs of technologically unskilled teachers, tools and techniques to respond to diverse competency levels, and various training models and approaches for adult learners. Structured observation is employed to critically assess the effectiveness of various technology training formats. In a guided project, a technology-training seminar is designed, developed, and implemented for delivery to colleagues.

## **EDTC 645 Integration of Technology: Global Perspectives (3)**

(Formerly OMED 690.) Prerequisites: EDTC 600 (or OMED 600) and EDTC 605 (or OMED 610). Exploration of global perspectives on advancing K–12 student learning through technology. Investigation covers how schools design innovative units and programs that take full advantage of technology's ability to reach beyond national borders and promote global understanding and how various nations approach the challenge of technology integration in the schools. Focus is on evaluating best practices in the United States and other nations and on analyzing the role of policy in shaping the way resources are deployed to advance effective technology integration. Major projects include designing models for integrating global understanding into curriculum and instruction, developing case studies of technology integration in various countries, and evaluating relevant research.

## **EDTC 650 Special Topics in Instructional Technology (3)**

Prerequisite: EDTC 620 or DETT 620. An exploration of current topics in instructional technology offered on a rotating basis. Individual topics focus on advanced instructional multimedia for the K–12 classroom (including building interactive multimedia materials that meet the learning needs of diverse K–12 populations while developing skills using animation and other multimedia technologies) or on teaching and learning in the K–12 virtual school (including policies and structures of K–12 virtual schools, teaching and course development strategies appropriate for elementary and secondary school online courses, and emerging issues in the K–12 virtual enterprise).

## **EDTC 670 Integrative Capstone Project (3)**

(Formerly OMED 680.) Prerequisite: Completion of at least 27 graduate credits in EDTC or OMED courses. Recommended as the final course in the program. A self-directed project, in which teachers collaborate with colleagues within or across grade levels or departments to incorporate innovations into their curricula. Throughout the seminar, a portfolio is built to demonstrate the development, implementation, and outcomes of the project. This capstone experience provides teachers the opportunity to apply previous knowledge and skills gained from other courses in the program.

## **Education—Teacher Preparation**

### **EDTP 615 Alternative Teacher Preparation Program (6)**

(Formerly RTCP 615.) The Resident Teacher Certification program consists of the following five modules: Teaching in the Contemporary School; Human Development, Learning, and Diversity; Curriculum, Instruction, and Assessment; Teaching in the Subject Area; and Synthesis and Application.

## **Energy Resources Management and Policy**

### **ENER 603 Energy Infrastructure Management (3)**

An overview of U.S. and world energy infrastructure from the wellhead to the consumer. Topics covered include drilling, refining, transportation, and power generation and how the various energy grids fit together in a vast network of energy delivery services. The vulnerabilities in the system of energy delivery are identified and methods to reduce these vulnerabilities are discussed. Energy infrastructure issues in developing countries and the means to leapfrog over existing technologies in order to develop an energy infrastructure are also covered. Energy infrastructure risk and security issues are discussed and measures to safeguard these infrastructures and minimize risk are introduced.

## Environmental and Waste Management

### ENVM 641 Environmental Auditing (3)

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. 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—are emphasized.

### ENVM 643 Environmental Communications and Reporting (3)

An overview of the range of communication practices required for environmental managers in the fulfillment of legal, regulatory, ethical, and organizational responsibilities. The various populations with whom environmental managers must communicate and interact are identified and examined, including plant supervisors, corporate executives, regulators, the legal community, civic groups, labor unions, and the media. The types of communication discussed range from decision memoranda to environmental impact statements, presentations of corporate environmental policies before affected communities, and development/conveyance of technical evidence for obtaining permit variances.

### ENVM 644 New Technologies in Environmental Management (3)

An overview of new waste management and waste minimization technologies, including treatment technologies such as physical and chemical treatment of hazardous wastes, bioreactors and bioremediation, and reverse osmosis and ultrafiltration. Disposal technologies are reviewed, such as landfill design and operation, incineration, and encapsulation methods. Pollution prevention technologies are also presented, including process redesign and computer-aided process control, as well as the substitution of toxic materials.

### ENVM 645 Hazardous Materials Transportation (3)

A review of the legal, regulatory, and operational requirements for the transport of hazardous materials and hazardous waste. A foundation is provided for understanding the state, federal, and international regulatory framework that governs the transport of such materials. The identification, classification, and description of transported materials (according to U.S. Department of Transportation criteria) are presented. Topics covered include the evaluation of shipment alternatives, such as the use of common carriers, contract carriage, and private carriage; compliance with shipping requirements, including the selection of appropriate packaging, labeling, and placarding; and the provision of emergency response support.

### ENVM 646 Environmental/Energy Law and Policy Development (3)

An examination of U.S. environmental and energy law and policy, including its development, implementation, and enforcement; legislative, executive, and judicial perspectives; and the roles and impacts these institutions have made on environmental and energy law and policy. Leading laws and their ensuing policies, such as the National Environmental Protection Act, the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the 1992 National Energy Policy Act, the FDR-era Federal Policy Act, the Public Utility Holding Company Act, and the Carter-era Public Utility Regulatory Policy Act, are examined.

### ENVM 647 Environmental Risk Assessment (3)

An overview of the basic concepts of risk assessment. The four core parts of a risk assessment, as denoted by the National Academy of Sciences, are examined: hazard assessment, dose-response assessment, exposure assessment, and risk characterization. Methods of measurement and modeling are discussed, along with an exploration of key questions concerning uncertainty. Differences in the risk characterizations of substances under different use conditions and legal requirements are studied. Significant case studies serve to illustrate the assessment process.

### ENVM 648 Fundamentals of Environmental Systems (3)

(For students lacking a strong science background or experience in the environmental field.) An introduction to the basic concepts of environmental chemistry, physics, geology, and risk. Environmental systems are presented in the study of the gaseous, liquid, and solid effluents from various industrial activities, while management methods and the statutory and regulatory requirements of major federal environmental laws affecting this management are considered. Additionally, study reviews the basic vocabulary of the field and the fundamental principles relating to the transport and fate of contaminants and industrial wastes.

### ENVM 649 Principles of Waste Management and Pollution Control (3)

An introduction to various methods of waste management, including waste collection, transportation, recycling, treatment, and disposal and environmental monitoring. Focus is on hazardous and municipal solid waste, pollution prevention techniques, and waste minimization. An introduction to the process of disposal-facility site selection, design, and operation is also included.

### ENVM 650 Land and Water Resource Management (3)

An introduction to the development of multiple-use resource management strategies and the role of public policy in land and water resource management. Free markets, market failure, and distributional equity issues are examined. The Public Trust Doctrine, Native American Trust responsibilities, and land use regulations are also examined. Enforcement of land and water restrictions, ex post liability schemes, and public purchase of private land and water rights are examined as approaches to land and water management.



## **ENVM 651 Watershed Planning Management (3)**

An introduction to the concepts of watershed management and the development of watershed-related management planning documents. The physical characteristics of watersheds and their role in maintaining healthy environments and providing a natural resource to society are examined. Focus is on examining management techniques for the conservation and maintenance of watersheds.

## **ENVM 652 Principles of Air Quality Management (3)**

An overview of management techniques for addressing air quality issues and managing air quality programs. Focus is on air pollution law; air pollutants and their sources; effects of air pollution on health and welfare; sampling and analysis of air pollutants; standards, regulations, and enforcement systems; and quality assurance principles.

## **ENVM 653 Land Use Management (3)**

Introduction to the powers, process, and practice of managing the patterns and land use implications of human settlement and the built environment. Specific issues covered include where to build, where not to build, how to build, and when to build. In addition to the settlement history of the United States, the constitutional and legislative mandates for government, private-sector participants, and institutions that shape land use policy are discussed. The role of local government will be emphasized. Land use and environmental community planning are covered as well as best practices in land use management.

## **ENVM 670 Seminar in Environmental Management (3)**

Prerequisites: Completion of 27 of the required 39 credits in the MS in environmental management degree program. The application of knowledge gained in from previous coursework for the solution of environmental management problems encountered in industrial, commercial, institutional, and military organizations. Focus is on management guidelines, including ISO 14001, that provide an organizational framework for developing an environmental management system that can be integrated with other management requirements to help organizations support environmental protection on balance with socioeconomic goals. Case studies are used to illustrate applications of environmental management systems to various types of organizations. The capstone project requires assessment of the efficiency and effectiveness of an environmental management system at an organization and the development of recommendations for improvement.

## **Financial Management**

### **FIN 610 Financial Management in Organizations (3)**

(For students in an accounting or financial management specialization or program. Formerly ADMN 631.) Prerequisite: MGMT 640. Recommended: UCSP 620 and 621 for students without recent coursework in accounting or economics. An investigation of financial management theory and applications in business, government, and not-for-profit organizations. Basic accounting concepts and their use in financial statement analysis are discussed. Discounted cash flow and rate-of-return analysis are used to evaluate projects. Break-even analysis is employed to measure the impact of changes in volume and costs. An introduction to scenario analysis, short- and long-term financial management, international finance, and operating budgets and their preparation is provided.

### **FIN 615 Financial Management of Current Operations (3)**

(Formerly ADMN 632.) Prerequisite: FIN 610. A study of the financial management of ongoing operations in organizations. The effects of various credit, inventory, accounts payable, and working capital policies on an organization are examined, as are alternative approaches for meeting short-term cash needs and working capital management. Also covered are short-term investment management and managing interest rate risk. The use of e-commerce applications to manage these functions is illustrated.

### **FIN 620 Capital Markets, Institutions, and Long-Term Financing (3)**

(Formerly ADMN 633.) Prerequisite: FIN 610. An exploration of the long-term capital needs of an organization and the roles of the capital markets and institutions. Topics include the financial environment of organizations, the role of the Federal Reserve and financial intermediaries, capital and money markets, options and futures markets, 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 are analyzed, including term loans, debt and equity securities, and leasing. Alternate policies with regard to financial leverage, capital structure, dividends, and the issuance of preferred stock, warrants and convertible debt are evaluated. Mergers, leveraged buyouts, and divestitures are examined as special situations to create value.

### **FIN 630 Investment Valuation (3)**

(Formerly ADMN 634.) 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 primary model employed as a learning tool are the discounted cash flow model. The financial drivers of value are covered, including assessing and determining risk, competitive advantage period, and sales and

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earnings growth estimates. Other valuation techniques using earnings, revenues, and price/earnings multiples are discussed and applied in selected examples.

### **FIN 640 Multinational Financial Management (3)**

(Formerly ADMN 639.) Prerequisite: FIN 610. A study of financial management issues in multinational organizations. Major topics include the environment of international financial management, foreign exchange markets, risk management, multinational 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 additional issues considered.

### **FIN 645 Behavioral Finance (3)**

Prerequisite: FIN 630. 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 valuation, capital budgeting, capital structure, dividend policy, agency conflicts, corporate governance, and mergers and acquisitions. Readings and exercises explore the psychological basis of nonoptimal decision making from the perspective of the individual investor.

### **FIN 660 Strategic Financial Management (3)**

(Formerly FIN 670.) Prerequisites: FIN 620 and FIN 630. An integrative study of financial management through readings, discussion, applied problems, and case studies. Topics reflect the changing environment around and role of financial management in organizations and include corporate performance management, the role of intangibles in value creation, 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 business finance simulation is used as an integrating mechanism.

## **Health Administration Informatics**

### **HAIN 661 Health Administration Informatics (3)**

An integrative study of how information technology (IT) can be used by health care administrators to optimize individual practice and promote organizational effectiveness. Emphasis is on the strategic value of data and how the management, synthesis, and transformation of data affects both tactical and strategic decision making throughout the health care and IT enterprise. Topics include data structure, management, and manipulation and their implications for decision making; strategic information systems planning; e-health; local, national, and global IT policies and practices that affect the delivery of health care services; and the legal and ethical issues related to IT and their implications on practice for the health care administrator. Evolving industry and global initiatives that affect the practice of health care administration are considered.

### **HAIN 670 Health Administration Informatics Capstone (3)**

A capstone study that integrates the fields of health care administration and informatics and applies them to the delivery of health care services in the rapidly changing health care environment. Focus is on practical, theory-based learning experiences. Key elements are examined from perspectives of both health care administration and informatics. These include issues and challenges in U.S. and global health care systems, potential new health care delivery models, approaches to strategically shaping local and national policy, and the role of information technology (IT) in supporting the full continuum of care in health organizations. Tools and methods for strategic planning, implementing, and evaluating the efficacy of IT systems are explored.

## **Health Care Administration**

### **HCAD 600 Introduction to Health Care Administration (3)**

An introduction to the principles of management and leadership as the foundations for the administration of health care products and service delivery. The evolution of management principles and practices are traced and the bases for health care administration are analyzed. Emphasis is on the management of global health care systems in technological societies and the need for innovation and creativity in health care administration. Focus is on mastering graduate-level critical thinking and writing skills, and enhancing ethical responses to the many ethical challenges in the health care industry.

### **HCAD 610 Information Technology for Health Care Administration (3)**

(Formerly ADMN 669.) An overview of the management perspective of information technology (IT) and how health care administrators can use IT to maximize organizational performance. Fundamental principles of information technology and data management and their implications for health care administrators are reviewed. The use of technology, databases, and other analytical tools to structure, analyze, and present information related to health care management and problem solving is explored. Strategic information systems planning, systems analysis, system design, evaluation, and selection are also explored. 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 health care administrators today and in the future. Focus is also on the legal and ethical issues related to IT and their practical implications for the health care administrator.

## **HCAD 620 The U.S. Health Care System (3)**

(Formerly ADMN 670.) A comprehensive examination of the complex, dynamic, rapidly changing health care system in the United States. The health care system's major components and their characteristics are identified, with an emphasis on current problems in health care financing and delivery. Social, economic, and political forces that have shaped and continue to influence the system are traced. The health care system in the United States is compared with systems in industrialized and developing nations. An analysis of current trends in health care and prospects for the future is included.

## **HCAD 630 Public Health Administration (3)**

(Formerly ADMN 671.) An in-depth study of the field of public health, emphasizing leadership and management. The current U.S. public health system is analyzed, focusing on federal, state, and local public health entities and their management issues. Connections and relationships between the system of public health and the private personal health services market are also analyzed. Major topics include the history and current status of public health; core functions; legislation; ethics; and accountability, including assessment and evaluation; and the politics and financing of public health, particularly in light of the increased utilization of evidence-based budgeting. Contact with a public health agency in order to analyze a public health program or policy may augment text and lecture presentation.

## **HCAD 635 Long-Term Care Administration (3)**

(Formerly HCAD 670.) A study of the management of skilled nursing, intermediate care, and long-term care facilities; the management of day care, residential care, social HMOs, and community-based programs; and the management of home health services. Long-term care administration encompasses all of those activities that relate to caring for and satisfying the essential needs of the aging population, including housing, health care, nutrition, education, and recreation. Textbooks and readings are supplemented by case studies in management of long-term-care services and facilities.

## **HCAD 640 Financial Management for Health Care Organizations (3)**

(Formerly ADMN 672.) Prerequisite: MGMT 640. An overview of the financial management of health care organizations and the basic economic models used in the United States. The U.S. health care market and the attendant concepts of financial management of health services organizations within that market are described. The issues of free market and mixed market economies, regulation, licensure, certification, and other barriers to free market economies are examined, as are various insurance mechanisms. In addition, the major financial issues of health care organizations are extensively discussed, including reimbursement mechanisms, managed care, capitation, per-case or per-diagnosis payment, and how these are packaged by third party-payers, along with the effects reimbursement types have on health care provider organizations. Focus is also on financial problems and how health care providers should respond to financial problems such as uncompensated care, cost increases, increased competition, and increased regulation.

Issues of working capital, capital budgeting and investment in relation to net present value and value added to the organization, health care organizations' ratio analysis, cost analysis, and other financial management techniques of primary importance to health care organizations are discussed.

## **HCAD 650 Legal Aspects of Health Care Administration (3)**

(Formerly ADMN 673.) An overview of the law and legal process as applied to the practice of health care administration. The principles of health care law, with an emphasis on contracts and torts, are discussed. Topics addressed include legal and regulatory constraints imposed on the health care industry, the liability of health care providers, the rights of patients, labor relations, and administrative law for health care organizations. A variety of pressing bioethical issues facing health care practitioners and administrators is examined.

## **HCAD 660 Health Care Institutional Organization and Management (3)**

(Formerly ADMN 674.) A study of the nature of management and how it is applied in various health care settings. Health services organizations and systems that are effectively led and well managed dominate their market, attract and hold good people, and consistently deliver cost-effective care. Critical perspectives, tools, and techniques needed to successfully manage in the health care environment are examined, and the management of the complex human and organizational relationships that exist both internally and externally in today's health care settings is addressed.

## **HCAD 670 Health Care Administration Capstone (3)**

(Formerly HCAD 690.) A capstone study integrating previous core and specialized graduate-level health care administration courses in the development of a systems approach to health care administration. Focus is on public and private health care delivery systems, alliances with internal and external environments, and strategic decision making and implementation in the rapidly evolving global arena of health care administration.

## **Human Resource Management and Development**

### **HRMD 610 Issues and Practices in Human Resource Management (3)**

(Formerly ADMN 662. It is strongly recommended that human resource management students take this course before taking the other courses in the specialization.) 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. Particular atten-

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tion is given to 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 included.

### **HRMD 620 Employee Relations (3)**

(Formerly ADMN 661.) An investigation of the rights and responsibilities of employees and organizations in union and nonunion environments in the United States. The legal framework is reviewed, primarily at the federal level; and the strategic fit of the employee relations program/services within the organization is discussed. Current issues are explored, such as equal employment opportunity, privacy, drug testing, wrongful discharge, health and safety, and pension and benefit plans. Public-sector and global issues are included.

### **HRMD 630 Recruitment and Selection (3)**

(Formerly ADMN 666.) 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)**

(Formerly ADMN 663.) 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 is presented. Techniques are discussed 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. Consideration is given to the interaction of compensation, worker motivation, performance appraisal, and level of worker performance within the organization.

### **HRMD 650 Organizational Development and Change (3)**

(Formerly ADMN 664.) 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. Areas of concentration 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)**

(Formerly ADMN 665.) 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 discussed. Students develop training proposals or programs to demonstrate knowledge of the concepts.

### **HRMD 665 Special Topics in Human Resource Management (3)**

(Not open to students who have completed HRMD 621, HRMD 652, or HRMD 660.) A study of selected topics in human resource management. Specific content may vary by term.

## **Homeland Security Management**

### **HSMN 610 Concepts in Homeland Security (3)**

(Formerly ITSM 620.) 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 both vulnerable assets and critical solutions.

### **HSMN 620 Physical Security (3)**

(Formerly ITSM 624.) A comprehensive study of the many interdependent elements involved in protecting man-made structures from direct or indirect physical and cyber attacks. Examination covers various factors impacting physical security, including construction materials, architectural design, location, function, occupancy, and life cycle management. Accessibility, access control, traffic patterns, and internal and external communications are analyzed. Methods for protecting critical infrastructure support systems, such as electric power, water supply, airflow, and information systems, are reviewed. Typical security policies and procedures for various categories of physical facilities—for example, those involved in power generation, finance, and telecommunications—are also evaluated.

## **HSMN 630 Business Continuity: Disaster Recovery, Planning, and Response (3)**

(Formerly ITSM 626.) An in-depth examination of managerial and technical strategies for maintaining enterprise resiliency in the face of man-made or natural disruptions to business operations. Study emphasizes the importance of advanced planning and explores techniques for performing business risk assessment and potential incident impact analysis. Alternative models for supporting contingency operations, including the use of Service Level Agreements, are discussed. Key activities and processes involved in post-event business resumption, including the recovery of key information assets, are reviewed. Various formal Business Continuity standards such as ISO 17799 are also introduced. Actual and hypothetical cases are analyzed to reinforce key concepts.

## **HSMN 670 Seminar in Homeland Security (3)**

(Formerly ITSM 622.) An up-to-date evaluation of vulnerabilities and protective countermeasures regarding various aspects of the nation's critical infrastructure, with particular 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 upon the nation's health system and engaging government at all levels. The singularly important roles of first responders are also analyzed.

## **International Management**

### **IMAN 601 Strategic Management in a Global Environment (3)**

A foundational study that establishes a framework for analyzing the competitive structure of industries, ascertaining the direction of industry change, analyzing country environments, and formulating strategy within an international context. Theories of competition and competitive strategy are examined, as well as methodologies for formulating strategy relevant to major commercial environments. Organizational and functional issues are discussed, including transnational company structures, the role of marketing, finance, trade, technology innovation, and the public-private interface in the formulation of firm strategy.

### **IMAN 610 Economics for Global Managers (3)**

An economics refresher, enabling managers both to understand the complexities of the marketplace and to appreciate the economic implications of their decisions. Managers need a working knowledge of key economic principles and concepts to fully appreciate the issues they face in the globalizing world economy. Competitive to monopolistic market structure and how different economic systems (from open to closed, or protected, market economies) affect economic outcomes are examined from a problem-oriented perspective. The management implication of a

variety of economic concepts are covered, including scarcity, opportunity cost, price and income elasticities, income distribution, market failures, transaction costs, the role of government, unemployment, inflation, and monetary and fiscal policy.

### **IMAN 615 Strategic Investment and Partnering (3)**

(A continuation of IMAN 601.) In-depth treatment of the more complex business strategies and transactions for conducting and expanding transnational business operations. Case-intensive analysis is employed to gain insight into formulating strategy, negotiating, selecting partners, and structuring and managing business transactions over a range of market-entry vehicles, including outsourcing, distributorship, greenfield investment and acquisitions, technology transfer and licensing, franchising, joint ventures, and various types of strategic alliances between companies based in different countries.

### **IMAN 625 International Trade and Trade Policy (3)**

An examination of the theory and conduct of international trade by transnational enterprises. The international trading system has been a key lever over the past half century in stimulating world economic development. In addition to trade theory, this study explores how national trade policies affect the trading system and addresses the knowledge and skills needed by enterprises of all sizes to function effectively within trading rules. The evolution of the Bretton Woods system, the General Agreement on Tariffs and Trade (GATT), and the World Trade Organization (WTO), and the effects of these changes on national policy and international business are covered. The effects of various multilateral and regional trade agreements, national systems of trade laws and remedies are analyzed in addition to forms of trade and the types of documentation they require.

### **IMAN 631 Financial Management for Global Managers (6)**

(A 6-credit course that integrates IMAN 630 with MGMT 640.) An investigation of financial decision making in business, government, and nonprofit organizations, as well as the theory and management of financial systems for the global enterprise. Topics include the environment of international financial management, foreign exchange markets, risk management, multinational working capital management, and foreign investment analysis. International banking, the financing of foreign operations, and the role of financial management in maintaining global competitiveness are considered. Discussion covers restructuring and strategic partnering; corporate governance; risk associated with consolidated financial statements; and the application of financial and nonfinancial information to a wide range of management decisions, from product costing and pricing to project analysis and organizational performance measurement. Activity-based costing procedures, breakeven analysis, target costing, and kaizen costing, as well as discounted cash flow techniques, are explored as a means of improving profit planning and operational efficiency.

## **IMAN 635 Managing Country Risk (3)**

An overview of the tools needed to analyze the economic, political, and cultural risks of doing business in various types of country environments and to develop strategies for thriving in the midst of social change. Countries everywhere are seeking to attract foreign investment and, to the extent necessary, to accommodate the forces of globalization. At the same time, enterprise managers are seeking to benefit from globally expanding markets, but are faced with country-specific regulatory regimes, economic systems, cultural patterns, and physical and social infrastructures that often constrain their business agendas. Topics covered include stakeholder analysis, varying rules of market competition and intellectual property protection, ethical conflicts, corporate social responsibility, and the conduct of government relations.

## **IMAN 645 The International Legal and Tax Environment (3)**

A comparative analysis of national and regional (European Union) legal systems, covering a variety of commercial and corporate matters such as contract law and the transactional environment of business. International business transactions should be structured in the context of public and private international law and tax systems. Topics covered include the impact of competing investment laws, national tax issues, intellectual property rights, and the resolution of disputes through international litigation, arbitration, and mediation.

## **IMAN 670 Managing Overseas Operations (3)**

(Formerly IMAN 650.) An examination of a wide range of management problems facing both large and mid-sized enterprises as they introduce their products and services overseas. The development of a full-scale business plan for entering a foreign market enhances skills for integrating entry strategy with strategy implementation, designing business functions, solving staffing and control issues, and developing a supportive financial plan and organizational structure.

## **Informatics**

### **IMAT 637 IT Acquisitions Management (3)**

(Formerly ITSM 637.) A study of management practices related to the acquisition of information technology (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 and contract and procurement policies and procedures provide examples for analysis of concepts with wider relevance.

### **IMAT 639 Internet Multimedia Applications (3)**

(Formerly CSMN 639.) 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 Web sites 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 Contemporary Topics in Informatics (3)**

A capstone study of emerging and current technologies and some eternal verities in information technology (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, using technology to ameliorate the digital divide, managing an enterprise's IT portfolio, and the social impact of information policy decisions.

## **Information Assurance**

### **INFA 610 Computer Security, Software Assurance, Hardware Assurance, and Security Management (3)**

(Formerly CSMN 655.) An overview of information security management. Topics include security architecture, security models, access control systems and methodology, applications and systems security, operation security, database security, cryptography, physical security, network and Internet security, business continuity planning, and law and ethics in information assurance. A brief review of the building blocks of information systems (such as computer organization and architecture, operating systems, data structure and algorithms, principles of programming languages, database, and software engineering) is provided to show the scope of security management.

### **INFA 620 Network and Internet Security (3)**

(Formerly TLMN 672.) An introduction to the security concepts needed for the design, use, and implementation of secure voice and data communications networks, including the Internet. A brief review of networking technology and standards (including an introduction to Internet communication protocols) is provided. Specific security subjects addressed include defense models, security policy development, authentication and authorization controls, firewalls, packet filtering, virtual private networks (VPNs), and wireless network security.

## **INFA 630 Intrusion Detection and Intrusion Prevention (3)**

(Formerly CSMN 683.) An exploration of the theory and implementation of intrusion detection and intrusion prevention. Topics include network-based, host-based, and hybrid intrusion detection, intrusion prevention, attack pattern identification, deployment, response, surveillance, damage assessment, data forensics, data mining, attack tracing, system recovery, and continuity of operation.

## **INFA 640 Cryptology and Data Protection (3)**

(Formerly CSMN 681.) An overview of the theory of encryption using symmetric and asymmetric keys, current protocols for exchanging secure data (including the Data Encryption Standard and the Advanced Encryption Standard), and secure communication techniques. A review of the historical development of cryptographic methods and cryptanalysis tools is provided. Public Key Infrastructure and the use of digital signatures and certificates for protecting and validating data are examined. Strategies for the physical protection of information assets are explored.

## **INFA 650 Computer Forensics (3)**

An introduction to the fundamental concepts behind the collection and analysis of the digital evidence left behind in a digital crime scene. Topics include the identification, preservation, collection, examination, analysis, and presentation of evidence for prosecution purposes. Discussion also covers the laws and ethics related to computer forensics and challenges in computer forensic. Network forensics is briefly explored.

## **INFA 660 Security Policy, Ethics, and the Legal Environment (3)**

(Formerly CSMN 685.) An overview of laws and ethics related to information assurance. The information security responsibilities of major domestic and international agencies (such as the Federal Bureau of Investigation, National Security Agency, and National Institute of Standards and Technology) are reviewed. Topics include issues involving information security management within an enterprise, such as suitable organizational policy, plans, and implementation strategies. Discussion also covers ethical issues, such as monitoring employee computer use and proper limitations on the use of customer data.

## **INFA 670 Information Assurance Capstone (3)**

A study of information assurance that integrates and applies concepts previously studied. Best practices and appropriate technologies to design, implement, manage, evaluate, and further improve information security are explored. Emerging trends are analyzed to understand their potential effect on information security and assurance.

## **Information Systems and Services**

### **ISAS 600 Information Systems for Managers (3)**

(Formerly ADMN 640.) Prerequisite: Basic microcomputer skills. An investigation of different types of hardware and software and their application in organizations from a systems perspective, designed for managers without a technical background in computers and information systems. Case studies are used to reveal technical and organizational issues, along with operational considerations. The theme of determining managers' needs for information and procuring and using appropriate computer systems is emphasized.

### **ISAS 610 Information Systems Management and Integration (3)**

(Formerly ADMN 641.) A study of the life-cycle perspective of the information system, from inception through systems development and integration to system operation and maintenance. An overriding concern is 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. Focus is on the frameworks, tools, and techniques for making such decisions. Topics include the "make or buy" sourcing decision and various models of outsourcing, from the contracting of finite technical services through the use of off-the-shelf package software (including enterprise resource planning software) to the outsourcing of entire business processes. Processes and metrics used in the procurement and managing of outsourced services are also examined. Discussion also covers the phenomenon of "offshoring" (i.e., outsourcing business processes and functions to other countries) and its ramifications.

### **ISAS 630 Systems Analysis and Design (3)**

(Formerly ADMN 643.) A combination of the areas of management science, computer technology, systems analysis and design and software development, integration and implementation to study current techniques and practices in requirements specification, software application selection, project management, and analysis and design of information system applications. Emphasis is on a management perspective in the specification of the information system's logical and physical analysis and design.

## **ISAS 640 Decision Support Systems and Expert Systems (3)**

(Formerly ADMN 644.) An investigation of computer applications for management support. In addition to the technologies of decision-support systems and expert systems, the organizational factors leading to the success or failure of such systems are introduced. Other topics addressed 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)**

(Formerly ADMN 645.) An examination of how information technology (IT) can affect the strategic direction of an organization, how IT enables new ways of operating, and how the chief information officer (CIO) 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 620 Information Technology Infrastructure (3)**

An introduction to the broad variety in information technology infrastructure from the perspectives of systems architecture, data communications, and networks. Topics include enterprise information infrastructure, multinational enterprise, servers and Web services, layered network architecture, convergence and Internet protocols, global WAN services, enterprise network design, wireless technologies, network security, network management, server architectures, storage management and networks, and content management networks.

## **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 post-implementation 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.

## **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 information technology (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.

## **Management**

### **MGMT 610 The Manager in a Technological Society (3)**

(Formerly ADMN 601.) An overview of the fundamental concepts of organizational theory and design in the context of a post-industrial and increasingly global society. Integrated within the study of organizations are several key knowledge areas essential to today's manager: the impact of technological and workforce changes on society, organizational ethics and social responsibility, global issues, history of management thought and its relevance for managers today, and systems thinking and the challenges of managing in today's complex and rapidly changing environment. Study addresses essential concepts in organizational theory and design, including measuring effectiveness, organizational life cycles, options for organizational structure, and becoming the learning organization, providing a knowledge base upon which other core courses build.



## **MGMT 615 Intercultural Communication and Leadership (3)**

(Formerly IMAN 605. Not open to students who have completed MGMT 620, MGMT 625, MGMT 635, ADMN 620, ADMN 625, ADMN 635, ADMN 625C, or ADMN 635C.) A study of organizational communication, leadership, and decision-making skills essential for all managers in intercultural environments. Theories of culture are examined and applied in relation to leadership style and practices, as well as organizational communication across cultural groups. Team development and leadership are explored in an intercultural environment.

## **MGMT 630 Organizational Theory and Behavior (6)**

(Not open to students who have completed MGMT 610, MGMT 615, MGMT 620, MGMT 625, MGMT 635, ADMN 601, ADMN 620, ADMN 625, ADMN 635, ADMN 625C, or ADMN 635C.) An overview of the fundamental concepts of organizational theory and organizational behavior in the context of a postindustrial and increasingly global society. Topics include the impact of technological and workforce changes on society, organizational ethics and social responsibility, organizational communication, leadership and decision-making skills in intercultural environments, the history of management thought and its relevance for managers today, and systems thinking and the challenges of managing in today's complex and rapidly changing environment.

## **MGMT 640 Financial Decision Making for Managers (3)**

(Formerly ADMN 630.) Prerequisite: Knowledge of the materials covered in UCSP 620 and 621, including the concepts of opportunity cost, the time value of money, financial accounting, and financial analysis. An investigation of financial decision making in business, government, and not-for-profit organizations. Emphasis is on the application of financial and nonfinancial information to a wide range of management decisions, from product pricing and budgeting to project analysis and performance measurement. A variety of decision-making tools is employed in the analysis of these decisions. Break-even analysis is used in profit planning. The cost of individual products and services is determined by activity-based costing procedures. Product mix and resource allocation issues are examined using linear programming. Discounted cash flow techniques are used to compare alternative investment opportunities, and the balanced scorecard provides a framework with which organizational performance can be evaluated. In addition, contemporary managerial systems, such as target costing and kaizen costing, are explored as a means of improving operational efficiency. Students may receive credit for only one of the following courses: MGMT 640 or FIN 610.

## **MGMT 645 Legal Aspects of Management (3)**

(Formerly ADMN 637.) A study of legal consequences of major issues facing managers in dynamic organizations. The nature and structure of the traditional legal system in the U.S. and current alternatives for resolving disputes are reviewed. Issues such as employment contracts and reference checks, job descriptions and evaluations, employee termination, discrimination, age and handicap regulations, and substance abuse testing in the workplace are considered. Additional topics of discussion include union and nonunion environments, contracts, torts and product liability, business/white-collar crime, and ethics in the workplace. Emphasis is on preparing managers with limited legal experience for dealing with these situations before they develop into workplace crises.

## **MGMT 650 Research Methods for Managers (3)**

(Formerly ADMN 638.) Prerequisite: Knowledge of the materials covered in UCSP 630, including data collection techniques, presentation of data in tables and charts, basic descriptive statistics, basic probability distributions, normal distribution and sampling distributions, estimation, and hypothesis testing. A presentation of techniques and methodologies related to the evaluation and utilization of organizational research and evaluation studies in making business decisions. Emphasis is on preparing the student to evaluate and utilize research-based information developed by other individuals. Focus is on the analysis and interpretation of research-based materials in assessing the performance of individuals, work groups, and organizations. Areas covered include principles of good research design, measurement, appropriate sample size, evaluating research instruments, reviewing procedures for collecting and analyzing data, and evaluating and utilizing existing research-based materials in solving business problems. Emphasis is on approaches and skills necessary to evaluate research-based materials and their utilization in business decision making. Various approaches to data collection (including the Internet) and utilization that best serve the practical needs of the manager are provided.

## **MGMT 670 Strategic Management Capstone (3)**

(Formerly ADMN 651.) Prerequisite: Completion of 24 credits of coursework, including all core requirements. A capstone seminar that investigates how strategy interacts with and guides an organization within its internal and external environments. Emphasis is on corporate- and business-unit-level strategy, strategy development, strategy implementation, and the overall strategic management process. Key elements examined include organizational mission, vision, goal setting, environmental assessment, and strategic decision making. Techniques such as industry analysis, competitive analysis, and portfolio analysis are presented. Strategic implementation as it relates to organizational structure, policy, leadership, and evaluation issues are covered. Emphasis is on the ability to "think strategically" and to weigh things from the perspective of the total enterprise operating in an increasingly global market environment. In addition to integrating prior core content areas through case analysis and text material, investigation covers problems and issues of strategy formulation are investigated through participation in the Business Strategy Game simulation.

## Marketing

### **MRKT 600 Marketing Management (3)**

(Formerly ADMN 686.) A study of the theory and practices related to the management of the marketing function as they would be applied by managers and administrators in organizations concerned with “business development.” The marketing of organizational products, programs, and services is related to either internal or external clients. Through analysis of case studies and spreadsheet exercises, the necessity of incorporating marketing functions with other business functions is demonstrated. The planning and implementation activities required to attain marketing goals for the organization are also emphasized. Topics include the product/service mix, pricing, marketing communications such as advertising and sales promotion, and channels of distribution. Control techniques for the overall marketing mix are also introduced.

### **MRKT 601 Legal and Ethical Issues in Global Communications (3)**

(Formerly PRPA 604.) A survey of communications law, emphasizing its applications to advertising and public relations. Topics include First Amendment issues, libel, privacy, confidentiality, and access to information. The integration of public relations with advertising and marketing efforts is discussed, with special emphasis on the legal issues inherent in this integration. Ethical issues surrounding the practice of public relations in a wired world are explored.

### **MRKT 602 Consumer Behavior (3)**

(Formerly ADMN 687.) A study of the cognitive and behavioral bases underlying consumers’ buying preferences and decision processes, intended for managers and administrators who have to evaluate the efficacy of the firm’s marketing plan. Special emphasis is placed on the role of the communications strategy (for example, advertising, promotion, public relations) in achieving the overall marketing objectives.

### **MRKT 603 Brand Management (3)**

(Formerly ADMN 685.) A presentation of the concepts and techniques for creating and selecting marketing strategies for an organizational unit that survives on its ability to provide products and services to other organizations. Trends toward a “marketing culture” in both public and private institutions and the implications that this change has for all managers and administrators are discussed. Emphasis is on the role of brand equity in achieving a sustainable competitive advantage.

### **MRKT 604 Marketing Intelligence and Research Systems (3)**

(Formerly ADMN 688.) Prerequisite: MGMT 650. A study of the applications of cross-cultural marketing research methods and techniques useful to managers and administrators with responsibility for assessing or increasing the demand for their organization’s product, programs, and services. Methodologies and special topics related to the design and completion of marketing research projects are presented, including the survey, observational, and experimental methods used in assessing and segmenting markets. Special topics in data analysis that are especially useful for marketing research (that is, focus groups, customer visits, conjoint analysis, and multidimensional scaling) are covered.

### **MRKT 605 International Marketing Management (3)**

(Formerly IMAN 640.) An overview of the fundamentals of marketing and marketing management, presented in the context of competitive global environments and diverse national economies. Topics include demand analysis, product development, product pricing, marketing organization, foreign representation and distribution systems, promotion, advertising, and sales and service. Review also covers regulatory issues as they relate to international marketing.

### **MRKT 606 Integrated Direct Marketing (3)**

(Formerly ADMN 689.) Prerequisite: MGMT 650 or appropriate background in statistics. A systematic approach to integrated direct marketing. Integrated direct marketing is a process of precision deployment of multiple media and sales channels (for example, publicity and public relations, advertising, direct mail, telemarketing, and field sales channels) that seeks to maintain contact with the customer at multiple points during the sales cycle and throughout the long-term relationship with the customer. Integrated direct marketing is an information-driven marketing process, managed by database technology that enables the marketers to develop, test, implement, measure, and appropriately modify customized marketing programs and strategies. Specific measurement tools and topics to be examined include lifetime value, performance measurement, cost per million (CPM), and cost per response.

### **MRKT 620 Marketing Principles, Regulation, and Ethical Issues (6)**

An examination of the pivotal role of marketing in organizations and the ethical and legal constraints on marketing practitioners. Topics covered include competitive strategy, market segmentation, e-commerce issues, the product/service mix, pricing strategies, channels of distribution, customer service, and marketing communications (e.g., the role of advertising, public relations, and sales promotions). Ethical and legal issues surrounding the practices of marketing, advertising, and public relations are examined in depth. The practical aspects of marketing management are analyzed through discussion of current marketing activities, emerging trends, problems, and cases. Students who receive credit for MRKT 620 cannot receive credit for ADMN 686, MRKT 600, MRKT 601, or PRPA 604.

## MS in Accounting and Financial Management

### MSAF 670 Accounting and Financial Management Capstone (3)

(Formerly ADMN 619.) Prerequisite: Completion of all other requirements in the Master of Science (MS) in accounting and financial management program with the exception of either FIN 640 or one elective accounting course. The capstone course for the MS in accounting and financial management degree. Subject matter from the financial management and accounting specialization courses is integrated through readings and class discussion. Principles, techniques, and theories are applied through the analysis and presentation of case studies by teams of students. An end-of-term research paper that comprehensively analyzes an important current issue or emerging trend in the fields of financial management and accounting is required.

## MS in Accounting and Information Technology

### MSAT 670 Accounting and Information Technology Capstone (3)

(Formerly ADMN 618.) Prerequisite: Completion of all required accounting and management information systems courses in the Master of Science (MS) in accounting and information technology program with the exception of one elective technology course. The capstone course for the MS in accounting and information technology degree. Subject matter from the accounting and information technology courses is integrated through readings and class discussion. Principles, techniques, and theories are applied through the analysis and presentation of case studies by teams of students. An end-of-course research paper that comprehensively analyzes an important current issue or emerging trend in the fields of accounting and information technology is required.

## MS in Financial Management and Information Systems

### MSFS 670 Financial Management and Information Systems Capstone (3)

A synthesis of material from all previous study in financial management and information systems that reflects the importance of information systems in modern organizations and the role of the CFO/CIO in managing this resource to maximize value. Simulations provide the opportunity to apply theory to practice. Topics include the acquisition, installation, and management of information systems. Important current issues and emerging trends in the fields of financial management and information systems are emphasized through special readings, briefing papers, and discussion.

## Nonprofit and Association Management

### NPMN 600 Nonprofit and Association Organizations and Issues (3)

(Formerly ADMN 656.) A presentation of a framework outlining the roles and functions of the principal types of nonprofit organizations. Major characteristics are introduced that distinguish nonprofit organizations from their counterparts in the private and public sectors. The challenges, opportunities, and common issues facing managers of nonprofit organizations are explored. These issues include administrative cost control, preserving the organization's legal status and revenue base, staffing and organizing in response to client needs, and ethical considerations. Specific laws, regulations, policies, and court rulings that affect the nonprofit sector are examined.

### NPMN 610 Nonprofit and Association Law and Governance (3)

(Formerly ADMN 657.) A study of current ideas and approaches related to nonprofit law, governance and mission. Distinctions between nonprofit, educational, charitable, social action, membership, cultural, scientific, environmental, and trade associations as they relate to incorporation, legal standing, tax-exempt status, and governance are made. Integral to study is a discussion of nonprofit governance and trustee issues. Subsidiary issues such as lobbying and advocacy, nonprofit liability, personnel, and unrelated business income tax are analyzed. Special attention is paid to the relationship of governance and ethics in nonprofit management.

### NPMN 620 Nonprofit and Association Financial Management (3)

(Formerly ADMN 654.) A detailed study of theories and practices of not-for-profit financial management and decision making, including budgeting, reporting requirements, nonprofit accounting, and financial standards. The role of financial management in maintaining the fiscal health and legal status of the nonprofit organization is the primary focus. Emphasis is on budgeting, fund accounting, cash flow analysis, expenditure control, long-range financial planning, audits, and grant and contract management. Special attention is paid to compliance with nonprofit accounting and financial management principles with reference to maintaining public access and ethical standards.

### NPMN 640 Marketing, Development, and Public Relations in Nonprofit Organizations and Associations (3)

(Formerly ADMN 658.) A study of the principles and practices required to develop and promote the products, services, positions, and image of nonprofit organizations. Fundraising and membership recruitment issues provide a central focus. Topics include the design of a marketing strategy and marketing mix, pricing issues, alternative revenue-generating mechanisms, and customer service. Use of the media, advertising and promotion methods, and rela-

tionships with business, government, and the community are explored. The integration of sponsors, members, and chapters in the total marketing effort is examined.

### **NPMN 650 Fundamentals of Association Management (3)**

A study of the unique and important niche of associations within the nonprofit sector. Analysis covers the history of associations, political groups, trade lobbying groups, and foundations in relation to their varying missions, internal capacity, shifting environments, and legal status. Associations also are assessed in terms of their wider environment, including the extent of their labor force and command of capital resources. As associations frequently provide information to the wider public and attempt to influence legislation as a way of fulfilling their mission, their wider influence on U.S. economy and polity is discussed.

### **NPMN 655 Outcome and Process Evaluation Management (3)**

A detailed study of the role that assessments and evaluations play in the management of nonprofit organizations. Analysis covers the role that state granting authorities and foundations play in institutionalizing program process and affecting evaluations within the management structure of nonprofit organizations. Distinctions are made between process and impact assessments and between programs and projects. Different evaluation techniques (such as surveys, Delphi studies, and grounded theory, as well as empirical methods like sampling) are studied in relation to stated program expectations, goals, and mission. Important evaluation concepts such as indicator and measure are discussed in detail.

### **NPMN 660 Strategic Management in Nonprofit Organizations and Associations (3)**

(Formerly NPMN 670.) A study of the integration and application of strategic management principles, concepts, and practices in nonprofit organizations. The development of mission statements, goal-setting concepts, and strategy formulation and implementation approaches are included. The opportunity to design organizational plans and strategies relevant to the specific needs of organizations is provided.

## **Distance Education**

### **OMDE 601 Foundations of Distance Education (3)**

An overview of the knowledge, skills, and attitudes that are required by a competent practitioner of distance education. Critical concepts and issues identified in the distance education literature are explored and the history and theories of the field are critically examined. The course has been developed by Ulrich Bernath (Germany) and Eugene Rubin (USA) in collaboration with Borje Holmberg (Sweden) and Otto Peters (Germany).

### **OMDE 603 Technology in Distance Education (3)**

A review of the history and the terminology of technology used in distance education (DE), building on the topics and technological issues raised in OMDE 601. The basic technology building blocks of hardware, networks, and software are identified. The characteristics of asynchronous and synchronous technologies and tools used in the teaching and learning, as well as the administration, of DE are analyzed. The relationship between technology and the goals of the educational/training organization are critically examined. The relationship between information technology and DE is explored, with special emphasis placed on online technology. Topics covered include the criteria and guidelines for selecting technologies for DE and the future directions of technology in DE.

### **OMDE 606 Costs and Economics of Distance Education (3)**

Study places the economics of distance education in the larger context of economics of education. A variety of methodological approaches (including cost/benefit and cost/effectiveness analysis) 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. The module has been developed by Thomas Huelsmann (Germany).

### **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. The various types of learner support, including tutoring and teaching; advising and counseling; and library, registrarial, and other administrative services are examined. 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 are addressed. In the final part of the study, an opportunity is provided to apply theory to designing a learner support model for a particular context (e.g., public or private educational institution, corporate or military training).

### **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 Portfolio and Project in Distance Education (3)**

(Formerly OMDE 690.) 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 also 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.

## **Procurement and Contracts**

### **PCMS 626 Purchasing and Materials Management (3)**

(Formerly ADMN 626.) An overview of the procurement and contracting cycle, along with other organizational functions. Methods of purchasing and source selection are covered, with a focus on receipt, inspection, and quality assurance. Documentation and reporting specifics are examined, as are surplus, salvage, and disposal issues. Inventory, physical distribution, and logistics are considered.

### **PCMS 627 Legal Aspects of Contracting (3)**

(Formerly ADMN 627 or PMAN 636.) A study of the law of commercial purchasing, including the law of agency, contracts, sales, torts, and antitrust. In addition, the Federal Acquisition Regulation and American Bar Association model procurement codes for state and local governments are examined. Topics addressed include, the authority of purchasing, unauthorized purchases, rights and duties of sellers and buyers under a contract, buyer rights upon receipt of nonconforming goods, ability to terminate a sales contract, formation of government contracts, and formal dispute resolution.

### **PCMS 628 Contract Pricing and Negotiations (3)**

(Formerly ADMN 628.) A study of techniques for planning, conducting, and managing negotiated procurement. A primary focus is on analytical techniques for conducting price and cost analysis in preparation for negotiations. Techniques for critically examining all categories of costs, including profit, are examined. The theory and practice of negotiations are studied, and opportunities to practice negotiation techniques to achieve a fair and reasonable contract price are given. Emphasis is on practice in preparing negotiation positions through analysis of cases containing detailed cost and pricing data. Ethical decision making throughout these processes is addressed.

### **PCMS 629 Strategic Purchasing and Logistics (3)**

(Formerly ADMN 629.) An investigation of issues and methodologies related to strategic purchasing and logistics. The ethics, social responsibility, and accountability considerations in procurement, logistics, and contract management are among the major topics considered. In addition, specific areas of study such as the professional development of staff, just-in-time management, electronic data interchange, vendor assessment and development, pricing and negotiation, and international procurement issues are presented.

### **PCMS 630 Commercial Transactions in a Technological Environment: Law, Management, and Technology (3)**

(Formerly ADMN 660.) Recommended: PCMS 627 or ADMN 627. A presentation of the legal issues and management methodologies related to commercial transactions in a technological environment. The law, ethics, accountability, and contract management considerations in the procurement of technology products and services are among the major topics considered. In addition, specific areas of study such as commercial sales transactions, government commercial item acquisition, private and government contracts for services, assignment and protection of proprietary rights in technology products, technology transfers, and international contractual issues in the procurement of products and services are presented.

### **PCMS 631 Integrative Supply Chain Management (3)**

(Formerly ADMN 622.) A study of supply chain issues, techniques, methodologies, and strategies designed to enhance organizational procurement efficiency. Integrated supply chain management, as a core competitive strategy that affects the organization's bottom line, is explored. Topics include the integration of information, supplies and materials flows across multiple supply chain channels, and how these flows can be streamlined and optimized for more efficient procurement. Additional topics covered include the role of information systems and technology in supply chain management, e-commerce strategies, managing the flow of materials across the supply chain, developing and maintaining supply chain partnerships and other relationships, and future challenges in integrative supply chain management.

### **PCMS 632 Contemporary Logistics (3)**

(Formerly ADMN 623.) A study of logistical issues, techniques, methodologies, and strategies designed to enhance organizational efficiency. Topics examined include the total cost approach to logistics; logistical planning and implementation; logistical concepts; systems relationships and integration; demand forecasting; interplant movement; inventory management and control; order management and processing; packaging; plant and warehouse selection; production scheduling; traffic and transportation management; warehouse and distribution management; recycling; and other logistical strategies, techniques, and methodologies.

## **PCMS 650 Legal Aspects of Contracting and Commercial Transactions (6)**

A study of the law relevant to commercial, governmental, and international purchasing, contracting, and other legal transactions. Focus is on agency law, contracts, sales, torts, antitrust, ethics, and accountability. Contract management considerations in the procurement of products and services are among the major topics discussed. Topics include commercial sales transactions, government commercial item acquisition, private and government contracts for services, assigning and protecting proprietary rights in technology products, technology transfers, and international contractual issues in the procurement of products and services. The Federal Acquisition Regulation (FAR) and ABA Model Procurement Code for state and local government are investigated, and topics relevant to these frameworks, including the authority of purchasing, unauthorized purchases, rights and duties of sellers and buyers under a contract, buyer rights upon receipt on non-conforming goods, ability to terminate a sales contract, formation of government contracts, and formal dispute resolution are addressed. Students who receive credit for PCMS 650 cannot receive credit for PCMS 627 or PCMS 630.

## **Project Management**

### **PMAN 600 Project Management: Foundations and Advanced Methods (6)**

This six-credit study integrates the foundations of project management (PMAN 634) with advanced methods in project management (PMAN 670). A one-semester study of the foundations of project management, including project planning, organizing, team building, tracking, and controlling. Analytical and quantitative concepts involved in project management (such as techniques for estimating project time and cost, optimizing allocation of resources, expediting projects, and applying scheduling algorithms) are examined. Simulation tools and statistical techniques are used to analyze uncertainty in project selection, budget allocation, and time estimation. The processes, tools, and techniques of project management are applied to a large-scale governmental or commercial project that is developed from proposal to completion through group work. Students who receive credit for PMAN 600 may not receive credit for PMAN 634, PMAN 635, or PMAN 670.

### **PMAN 634 Foundations of Project Management (3)**

An overview of the theory and practice of managing projects in any organization. Focus is on the fundamental building blocks of project management, including project planning, organizing, team building, tracking, and controlling projects. Key aspects of management and proven techniques that differentiate project management from other types of management are examined in-depth. The goal is to gain a solid understanding and foundation to successfully manage each phase of the project life cycle, work within organizational constraints, set goals linked directly to stakeholder needs, and utilize proven project management tools to complete projects on time and within budget while meeting specifications. Essential concepts, processes, and techniques are applied through management of a term project.

### **PMAN 637 Risk Management: Tools and Techniques (3)**

Prerequisite: PMAN 600 or PMAN 634. An in-depth analysis of risk management methodologies, from both the strategic and tactical aspects. Risk management is the systematic process of identifying, analyzing, evaluating, and controlling project risks. State-of-the-art tools and techniques for identifying, measuring, and monitoring risks in the project management environment are examined. Both qualitative and quantitative risk analyses are conducted and strategies for proactive risk aversion and reactive risk response are developed. Focus is on how a comprehensive risk management approach can enable a project team to proactively manage issues that adversely impact the successful control and completion of a project.

### **PMAN 638 Communication, Negotiation, and Conflict Resolution (3)**

Prerequisite: PMAN 600 or PMAN 634. An overview of the international aspects of project management and the skills needed to deal effectively with the key issues of labor, environment, stakeholders, global project workforce, and relevant country disputes. Managing the human elements of project management is as challenging as mastering the technical aspects. Innovative approaches are employed to successfully negotiate and resolve conflicts among the team members and stakeholders. In today's global corporate environment, project workers are faced with critical global issues both at home and abroad. Proven techniques to make conflict a constructive rather than a destructive experience are discovered. Emphasis is placed on effective communication, negotiation, and conflict resolution skills to successfully lead both domestic and global projects.

### **PMAN 639 Project Quality Management (3)**

Prerequisite: PMAN 600 or PMAN 634. A study of the policy, processes, and procedures involved in assuring that projects satisfy the objectives for which they were undertaken. Emphasis is on quality planning, quality assurance, quality control, and process improvement. Discussion covers all the activities that determine quality objectives, policies, and responsibilities. The importance of customer satisfaction, prevention over inspection, management responsibility, and continuous improvement is recognized. Topics include control charts, cause and effect diagrams, Pareto charts, failure mode and effect analysis, design reviews, and cost of quality. Content and approach are compatible with the International Organization for Standardization.

## **PMAN 650 Financial Management of Projects (3)**

Prerequisite: PMAN 600 or PMAN 634. An investigation of financial decision making in management of projects. Major topics include developing cost estimates, analyzing accuracy of estimates, and monitoring and controlling project budgets. Other topics include top-down and bottom-up budgeting, in particular integrating cost estimates with work breakdown structures.

Techniques of cost and schedule control are discussed in the context of project baselines against which projects can be monitored and re-directed. There is in-depth discussion of managing change within the project, in particular design of a project control system, the use of reserves, methodologies to exercise control, and change management practices. Earned value analysis is applied as a technique for evaluating, monitoring, and forecasting project costs and schedule. There is coverage of breakeven analysis, discounted cash flow, and financial risk management in the context of cash flow, schedule, and cost. There is also coverage of how different functional units in an organization

## **PMAN 670 Advanced Project Methods (3)**

(Formerly PMAN 635.) Prerequisite: PMAN 600 or PMAN 634. An overview of advanced methods of managing projects using industry-standard software tools for project management and risk analysis. Analytical and quantitative concepts involved in project management (such techniques for estimating project and time cost, optimizing allocation of resources, expediting projects, and applying scheduling algorithms) are examined. Simulation tools and statistical techniques are used to analyze uncertainty in project selection, budget allocation, and time estimation. The processes, tools, and techniques of project management are applied to a team project.

## **Public Relations**

### **PRPA 601 Public Relations Theory and Practice (3)**

A study of the relationship between the management function of policy formulation and the communication process of disseminating ideas and information to the organization's public. The process of planning and executing public information and public relations programs to address the concerns of the organization's various publics are examined. Topics addressed include message formation, media selection and audience differentiation. The impact of the Internet on public relations practices is explored in depth.

### **PRPA 602 Public Relations Techniques (3)**

Prerequisite: PRPA 601. A presentation of advanced writing techniques designed to coach students in the writing of specialized public relations materials, with emphasis on audience, message and channel identification. The latter portion examines special communication techniques necessary for broadcast and electronic media.

### **PRPA 610 Crisis Management Seminar (3)**

An examination of current approaches to defining crises, issue management, and crisis management through a mix of discussion, lecture, and presentation. Traditional and Web-based approaches to the study of issue management and crisis management are explored by applying research, theory, and case examples to these situations with a goal of developing better issue identification, public segmentation, and strategic response sets to crisis situations.

### **PRPA 620 Global Public Relations (3)**

A study of the role, function, and influence of public relations in a global environment. Topics include global trends, multicultural communication knowledge and skills, multiple cultures and diversity within nations, national media structures and public policy, and international legal and ethical codes in public relations. Global case studies are used to develop and implement strategic and creative communications plans.

### **PRPA 650 Public Relations Campaigns (3)**

(Formerly PRPA 670.) Prerequisite: 30 credits, including all core and specialization courses for the public relations specialization (except MGMT 670); approval of program director required for internship option. A study of public relations campaigns that integrates content from previous coursework. Focus is on creating a public relations strategy and a plan to execute that strategy for an existing organization. Critical principles of public relations are reviewed and applied in real-world settings.

## **Software Engineering**

### **SWEN 603 Systems Engineering (3)**

(Formerly MSWE 603.) An examination of the systems engineering process, with special emphasis on software engineering as a discipline within systems engineering. Topics include an overview of system theory and structures, elements of the system life cycle (including systems design and development), risk and trade-off analyses, modeling and simulation, and the tools needed to analyze and support the systems process.

## **SWEN 640 Software Project Management (3)**

(Formerly MSWE 640.) A study of the current theory and practice of software development project management. Fundamental elements include integration, scope, time, cost, quality, human resources, communications, risk, and procurement management as defined in the Institute of Electrical and Electronics Engineers (IEEE) Standard for project management, which is an adoption of the Project Management Institute Guide to the Project Management Body of Knowledge. The relationship between each knowledge area and the detailed processes required to manage software projects is explored. Various approaches to software project planning, software project estimating, networks and scheduling, tracking and control, and technical and support processes are analyzed. The principles covered are applied by developing a software project management plan for a complex system.

## **SWEN 645 System and Software Standards and Requirements (3)**

(Formerly MSWE 645.) An examination of major models of software requirements and specifications (sequential and concurrent systems), existing software standards and practices, and formal methods of software development. A comparative survey of various languages and methods serves to emphasize similarities and significant differences. Additional topics covered 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)**

(Formerly MSWE 646.) A guide for the transition from programming-in-the-small to programming-in-the-large. Software development processes and the role of design as applied in those processes are discussed. Major design methods and available computer-aided software engineering (CASE) tools, the proper application of design methods, and techniques for estimating the magnitude of the development effort are reviewed. Strengths and weaknesses of the development methods are covered, along with traceability to requirements and code.

## **SWEN 647 Software Verification and Validation (3)**

(Formerly MSWE 647.) A study of the evaluation of software for correctness, efficiency, performance, and reliability. Specific skills covered include program proving, code inspection, unit-level testing, and system-level analysis. The difficulty and cost of some types of analysis are examined in addition to the need for automation of tedious tasks. Problem-solving skills are stressed, especially in analysis of code. The textbook world is contrasted with the real world using case studies from the book and personal experiences. Industry attitudes toward reliability and performance are also discussed.

## **SWEN 648 Software Maintenance (3)**

(Formerly MSWE 648.) A guide for the transition from programming for the short term to programming for the long term. The role of creation and maintenance in the software development process, as well as analysis and implementation of a software design, is reviewed. The need for software maintenance and evolution, software maintenance process and performance issues, planning for extended software life, and effective mechanisms to control software change are additional topics of discussion.

## **SWEN 670 Software Engineering Project (3)**

(Formerly MSWE 617.) A comprehensive examination covering the application of the tools, skills, and techniques the students have acquired in the course of their studies. Producing software while working in teams under the schedule constraints commonly experienced in industry provides experience in applying software-engineering techniques. The instructor emulates the vagueness shown by typical customers in describing requirements. The instructor serves as a guide and mentor, not as a traditional teacher. The students are expected to have acquired the knowledge of what to do and how to do it from the prerequisite classes. It is up to the students to form their own teams (organization) and schedule their work to meet the deadlines imposed by the contract (syllabus).

## **Telecommunications Management**

### **TLMN 602 Telecommunications Industry: Structure and Environment (3)**

A study of major technological, legal, and regulatory developments (national and international) as they have molded the structure of the current telecommunications industry. The progression is traced of early legislation, the regulated monopoly, antitrust, divestiture, and recent legislation that has led to the current industry environment of competition and incipient integration of different industry segments. The roles of various national and international institutions in shaping the telecommunications industry are discussed.

### **TLMN 623 Telecommunications Networks (3)**

A study of computer networks and telecommunications functionality, characteristics, and configurations. Recent advances in standardization, internetworking, and deployment of LANs (local area networks), MANs (metropolitan area networks), and WANs (wide area networks) are examined. Topics include network topologies; protocols; architectures; and current and emerging protocols such as asynchronous transfer mode (ATM), 10 gigabit ethernet, and the Open Systems Interconnect (OSI) Reference Model. Emphasis is on emerging trends in telecommunications, network technologies, and services. Discussion also covers strategies for network planning, implementation, management, and security.



## **TLMN 630 Satellite Communication Systems (3)**

An analysis of issues surrounding the current and future design and use of satellite communications systems. Topics include such satellite system characteristics as type, class (bandwidth, standards, and availability), applications, interfaces, traffic patterns, network installation, performance criteria, hardware, and cost. Current and planned satellite communications are examined and compared to future needs and technologies.

## **TLMN 641 Network Management and Design (3)**

A study of those techniques that network managers can utilize to maintain and improve the performance of a telecommunications network. A network management system is defined and explained, including a description of how software package programs can monitor real-time performance of a network to identify problems. Emphasis is on the five tasks traditionally involved with network management (fault management, configuration management, performance management, security management, and accounting management). Examples of current specific network management products are reviewed. Also covered is how the performance data gathered from the monitoring can be archived and used later as an input when decisions are made on changes in the network architecture. Additionally, network design is studied for the development of a new network architecture when only user requirements are known. Students who have already completed TLMN 640 may take TLMN 641 as a technological specialization course.

## **TLMN 645 Wireless Telecommunications Systems (3)**

Study reviews wireless telecommunications systems from microcell to global infrastructures. Its purpose is to teach the technology, applications, and limitations of these systems, which have become an essential element of the world information infrastructure. Technology topics covered include cellular communication principles, coding, antenna and propagation effects, channel access schemes, traffic engineering, and wireless network design. Places emphasis on terrestrial systems such as cellular, personal communication services (PCS), dispatch, wireless local-area networks (LANs), and wireless data systems. Also covered are the topic areas of market trends, regulations, and standards. Students assess the role of wireless systems in comparison with other telecommunications alternatives available to organizations.

## **TLMN 670 Capstone Course in Telecommunications (3)**

An examination of emerging telecommunication technologies and their applications. Topics vary each term and may include wireless security, voice over internet protocol, private branch exchanges (PBXs), or ad hoc (peer to peer) wireless local area networks.

## **Technology Management**

### **TMAN 600 Foundations of Management and Technology (6)**

A study integrating the foundations of management (TMAN 633) with the principles of technology in organizations (TMAN 611). The foundations of management include the study of various organizational factors that affect efficiency and effectiveness and global competitiveness. These factors include the following: group behavior, organization structure, environmental factors, international competitiveness, organization culture, change management, decision making, team effectiveness, values, conflict, power, and politics. Ethics and the socially responsible environment within which managers must operate are stressed through readings and practical applications. Provides a gateway to the understanding of technology management. Introduces students to key concepts and the role of technology managers in all sectors of the workforce. A major focus is the study of technological innovation from a historical perspective, including its impact on the economy, public policy, global competitiveness, and organizational strategy, effectiveness, and efficiency. Students who receive credit for TMAN 600 cannot receive credit for TMAN 611 or TMAN 633.

### **TMAN 611 Principles of Technology Management (3)**

(Formerly TMAN 601.) An introduction to the key concepts in technology management and the role of technology managers in both private- and public-sector organizations. An understanding of how organizational entities can be structured and managed to respond effectively to dynamic changes caused by technology and international competition is provided. The key cycles in the development of technology are covered from a historical perspective, including their impacts on the economy, industrial sectors, and organizational strategy and survival. Management is examined from both a process and system perspective. The major technical, social, legal, and ethical issues in innovating and implementing technology are presented.

## **TMAN 614 Strategic Management of Technology and Innovation (3)**

A study of the effective management of technical organizations in an increasingly competitive, rapidly changing, global environment. A coherent process for the formulation, implementation, and assessment of business strategy is provided. A historical framework for the birth, growth, maturation, and decline of business innovation is presented. Findings and recommendations on contemporary businesses and industrial sectors are reported. The strategic framework integrates: a) strategy setting, implementation, and assessment process; b) historical analogies/cases of business innovation through maturation lifecycle; and c) application of lessons learned in contemporary business cases in business, government, and nonprofit organizations.

## **TMAN 621 Systems Analysis and Operations Research (3)**

An introduction to the fundamentals of systems analysis and operations research. The purpose is to provide an understanding of the systems view of a product, service, or process to include a generic representation of its elements and dynamics. The skills, tools, and methodologies needed to quantitatively analyze and optimize systems and to make decisions as technology managers are provided. State-of-the-art analytical tools and quantitative methods, including computer-based solutions, are discussed. Topics covered include decision theory, linear programming, transportation problems, network analysis, game theory, reliability theory, cost estimating, and expert systems.

## **TMAN 625 Economics and Financial Analysis for Technology Managers (3)**

A study of the financial tools managers use to find answers to four important questions: What is the financial condition of the firm? What long-term investment should the firm make? How can the money be raised for the investments? And how will the firm meet its daily financial requirements? Topics include accounting statements, tax implications, types of costs, profit recognition, financial markets, investment decision tools, net present value, free cash flows, project financing, valuation of firms, risk-return, cost of capital, long-term financing, short-term financing, and equity financing for entrepreneurs. Discussion also covers mergers and acquisition activities, governance and ethics, and international aspects. Business cases from contemporary firms and readings relevant to technology management are used to illustrate the application of financial concepts.

## **TMAN 632 Organizational Performance Management (3)**

An overview of the most successful strategies and approaches for achieving a high-performing organization, based on the latest research findings and the examples of successful global organizations. Topics include organizational capabilities in managing costs, ensuring quality in products and services, and enhancing customer satisfaction, as well as performance capabilities (such as organizational values, adaptability, flexibility, agility, responsiveness, and decisiveness) that enable organizations to anticipate and respond to change. The Baldrige Criteria for Performance Excellence are examined as assessment tools for achieving desired organizational capabilities. Discussion also covers specific approaches that contribute to high performance and organizational effectiveness, such as customer relationship management, supply chain management, Six Sigma methodology, and other process improvement tools. Successful applications of these strategies and approaches are illustrated.

## **TMAN 633 Managing People in Technology-Based Organizations (3)**

An overview of the management of three levels of behavior in organizations: individual employee behavior, group behavior, and organizational behavior. Regardless of an organization's technology, size, or mission, people are the common denominator as managers cope with the challenges in today's information-based and global economy. Topics covered include emerging organizational behavior issues facing dynamic, technology-based organizations such as knowledge management, work design, virtual organizations and teams, contingent workforce management, creativity/innovation, socio-technical systems, the development of learning and boundary-less organizations, emotional intelligence, the global workforce, and the formulation of pay/retention strategies. Contemporary organizational behavior theories are linked to their applications in technology-based organizations through the use of real-life examples, case studies, and current events.

## University College Special Topics

### UCSP 611 Introduction to Graduate Library Research Skills (0)

(Required for all new graduate students and all inactive students who reapply for admission. It must be completed within the first six credits of graduate study.) An overview of online library and information resources material that is critical for 21st-century managers. The significant changes in how information is delivered make information retrieval and research an exciting challenge. An in-depth introduction to the library research process and the tools necessary to be effective in the Graduate School of Management and Technology are provided. Emphasis is on the efficient and effective use of a variety of electronic retrieval systems, including the online catalog of the University System of Maryland and Affiliated Institutions (USMAI), UMUC's subscription databases, and the Web. This online faculty-mediated course is taken concurrently with an introductory course in the student's discipline (recommended) but may also be taken alone. Discipline-specific research is conducted in order to gain experience in formulating viable research questions, selecting the most appropriate investigative methods and resources for research, locating relevant research materials, evaluating the scholarly value of sources, and effectively citing sources.

### UCSP 620 Financial Accounting (0)

(Recommended for students without a background in accounting and finance, before enrolling in ADMN 630 or 631.) Designed for students with no prior coursework in financial accounting, encompassing basic financial concepts and their use in analyzing financial statements. Financial accounting is an information system built upon a set of fundamental concepts. Its primary purpose is to help both current and potential investors value a company's debt and equity securities, that is, its bonds and common stock. The financial statements of actual companies are analyzed and the process by which accounting principles are developed is explored. Emphasis is on a fundamental appreciation for how financial accounting information can be used to evaluate the economic performance of companies.

### UCSP 621 Economics (0)

(Recommended for students without a background in accounting and finance, before enrolling in ADMN 630 or 631.) An overview of both the microeconomic issues of supply and demand for individual companies and products and macroeconomic issues concerning inflation, unemployment, and recession for the economy as a whole. Basic economic concepts such as opportunity cost, comparative advantage, economic efficiency, and the time value of money are explored in the context of business, government, and personal situations.

### UCSP 630 Introduction to Research Methods (0)

(Recommended for students without a background in statistics, before enrolling in ADMN 638.) A presentation of basic research techniques and methodologies used in organizational research and evaluation studies. The information from these studies is used in making business decisions. Emphasis is also placed on evaluating and using research-based information developed by other individuals. The focus of the course is on applying basic research techniques to assess the performance of individuals, work groups, and organizations. Areas covered include principles of good data collection, presentation of data in tables and charts, summary and description of numerical data, basic probability and discrete estimation, the fundamentals of hypothesis testing, and the use of existing research-based materials to solve business problems. Focus is on basic approaches and beginning skills necessary to evaluate research materials and their use in decision making.

## Executive MBA

### XMBA 601 The Role of the Manager in Organizations and Society (6)

An introduction to the concepts and theories that are essential building blocks of management thinking. Topics covered are systems thinking, the competitive structure of industry, technology trends, the future of organizations, and global challenges. These themes are incorporated throughout the program and further developed in subsequent seminars. Opportunities are provided for leadership assessments and feedback on presentation style and organizational quality.

## COURSE DESCRIPTIONS

### **XMBA 602 Organizational Leadership, Management of Human Resources, and Business Ethics (6)**

An overview of issues that confront managers working with diverse populations in a period of rapid technological change. The focus is on managing human resources through organizational change, including understanding and affecting organizational cultures and establishing and maintaining an ethical climate. Strategies and methods for aligning individual interests and organizational needs in order to reach organizational goals are introduced. How the nature of work and the perceived value and meaning of work affect individual, group, organizational, and societal outcomes is evaluated. Self-assessment instruments, case analyses, exercises, simulations, and discussions, participants are used to analyze and practice communication skills and decisions that motivate and effectively organize individuals and groups.

### **XMBA 603 Marketing, Entrepreneurship, and New Product Development (6)**

A study of business development strategies from the perspective of customer needs and preferences. Market research approaches, product and service design processes and life cycles are introduced. Workshops, team projects, and case studies, are used to develop effective marketing programs that recognize the increasing importance of electronic commerce as a distribution channel.

### **XMBA 604 Technology and Operations Management (6)**

An overview of the latest information technologies and operations management techniques that enable an organization to operate around the world and around the clock. Tools that managers use to measure operational efficiency and effectiveness are introduced, including statistical process control, decision trees, forecasting techniques, expert systems, and organizational benchmarking. Effective project management techniques, important to introducing new products and analyzing and improving an organization's processes, are introduced.

### **XMBA 605 Financial Systems and Management Accounting (6)**

A study of economic decision making and the techniques and tools managers use to analyze the financial performance of their organizations. Performance measurement techniques include economic value added, the balanced scorecard, open-book management, and activity-based costing. The theory of constraints is introduced to analyze the value an organization provides to the customer. Other tools are used to value intellectual property and whole businesses for purposes of joint ventures, mergers, or acquisitions. In assessing the broader economic environment of an organization, participants analyze the changing global economy, including the evolution of financial markets in response to rapidly expanding worldwide investment opportunities.

### **XMBA 606 International Business, Trade, and Business Law (6)**

A study of how various strategic facets must be managed in the global context of trading and regulatory systems and the growing concerns about national competitive advantage. The impact on corporate decision making of laws, regulatory structures, and public policies at the local, state, national, and international levels are discussed. In addressing national competitive advantage, participants consider the impact of technology innovation, international trade, and business and antitrust laws on business organizations.

### **XMBA 607 Strategy and Capstone Project (6)**

Participants are teamed with sponsoring organizations to develop a strategic action plan that integrates management techniques and methodologies covered in the previous seminars. Focus on strategic models, strategy formulation and implementation, organizational assessment, and the creation of business plans, leads to insight into strategic thinking and practical application. Working in teams, participants develop business plans for their sponsoring organizations that may include a new market entry strategy, a product development project, or an organizational assessment with appropriate change strategy.

# ADMINISTRATION

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The Graduate Council serves in an advisory capacity to the dean of the Graduate School of Management and Technology. The council is responsible for advisement on academic affairs including curriculum development, program initiatives, policies, and standards. The council meets monthly or more frequently, on call of the dean, and is comprised of the following members:

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## Graduate School of Management and Technology

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## Graduate School General Contact Information

Need assistance or other information? Call 800-888-UMUC for all your student needs. Call to speak with a graduate academic advisor who will help you make decisions about your courses and your degree or certificate program. You may also call the Adelphi, Dorsey Station, or UMUC at Shady Grove locations to schedule in-person academic advising.

## Graduate Library and Writing Courses

Students taking COMM 600 Academic Writing for Graduate Students or the noncredit course UCSP 611 Introduction to Graduate Library Research Skills may reach one of the following individuals for assistance and information.

## COMM 600 Academic Writing for Graduate Students

### ACADEMIC DIRECTORS

Andrew J. Cavanaugh, MA  
[acavanaugh@umuc.edu](mailto:acavanaugh@umuc.edu)  
240-582-2830

# CONTACT INFORMATION

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## UCSP 611 Introduction to Library Research Skills

### COURSE MANAGER

Julie Arnold, MLS  
*jlarnold@umuc.edu*  
301-985-7403

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### BOOKSTORES

MBS Direct 800-325-3252  
University Book Center/  
Barnes & Noble 800-434-6621

Bursar Office  
(Student Accounts) 301-985-7404

Career Services 301-985-6785

### DISABLED STUDENT SERVICES

Main Number 301-985-7930  
Hearing-Impaired TTY 301-985-7466

Financial Aid 301-985-7510

Finance Office 301-985-5500

Grades, Records,  
Transcripts 301-985-7236

Information and  
Library Services 301-985-7209

International Student  
Admissions 301-985-7155

IRIS (Phone Registration) 800-584-9413

Literature Requests  
(e.g., catalogs, schedules  
of classes, financial  
aid brochure) 800-888-UMUC

MyUMUC Support 877-868-2847

National Leadership  
Institute 301-985-7195

Registrar 301-985-7236

WebTycho Support 800-807-4862

## UMUC Graduate Instructional Sites

### Dorsey Station

6865 Deerpath Road  
Elkridge, MD 21075

443-459-3500

### UMUC Headquarters and UMCP Campus

3501 University Boulevard East  
Adelphi, MD 20783

800-888-UMUC

### UMUC at Shady Grove

9640 Gudelsky Drive  
Rockville, MD 20850

301-738-6090

### Waldorf Center for Higher Education

3261 Old Washington Road  
Waldorf, MD 20602

301-632-2900

# ADMISSION AND ENROLLMENT

## GENERAL INFORMATION AND ORIENTATION

Before the beginning of each semester, UMUC holds information sessions online and in the Maryland area for new and prospective students. An orientation to graduate study is also held annually at UMUC's Adelphi headquarters before the fall semester. These events offer an opportunity to learn about UMUC and its programs, student services, academic and career options, faculty members, and fellow students. Prospective students can be admitted and register for courses during the face-to-face open houses. An online orientation to graduate study at UMUC is also available at [www.umuc.edu/grad/orientation](http://www.umuc.edu/grad/orientation).

For general information or to be directed to specific offices, students may call 800-888-UMUC. Phone representatives are available for general information from 6 a.m. to 10 p.m., Monday through Saturday. Most UMUC offices are open weekdays from 8:30 a.m. to 5 p.m. Eastern Time.

## ADMISSION

Applicants for graduate certificate and master's degree programs must complete and submit an application for admission along with a nonrefundable application fee and an official transcript indicating completion of a bachelor's degree (or higher degree) from a regionally accredited degree-granting university or college.

Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT) scores are not required for admission to master's degree and certificate programs. (See MBA program description on p. 12 for information regarding optional submission of GMAT scores.)

The Doctor of Management (DM) program has different criteria and requirements for admission. Individuals interested in the DM program should consult the DM program Web site at [www.umuc.edu/grad/dm](http://www.umuc.edu/grad/dm) or the program office by calling 800-888-UMUC, ext. 7056.

Some graduate programs require the submission of additional information before an admission decision can be made (see individual program descriptions for more details).

Due to the importance of strong writing skills for success in a graduate program, particularly in online courses, all applicants are encouraged to assess their writing ability at the time of application. Students who have been out of academia for a period of time or who do not write often in their profession are encouraged to enroll in COMM 600 in their first semester of enrollment. COMM 600 is a 3-credit graduate-level writing course specially designed to reinforce and strengthen the writing skills necessary for success in UMUC's graduate programs.

To complete an application for admission, please visit our Web site at [www.umuc.edu/prospect](http://www.umuc.edu/prospect).

## Determination of Residency for Tuition Purposes

An initial determination of in-state or out-of-state status for tuition purposes is made when a student applies for admission. The determination made at that time remains in effect thereafter unless it is successfully challenged. The student is responsible for providing the information necessary to establish eligibility for in-state status. Official criteria for determining residency are in the section on University Policies on p. 161. Information on tuition and fees may be found on p. 125.

## Readmission

Students who have not enrolled in graduate classes at UMUC for more than a two-year period must complete a new application for admission.

Students who were academically dismissed from the Graduate School of Management and Technology will not be considered for readmission.

## International Applicants

To be considered for admission, international students must present

- Official documents indicating successful completion of the equivalent of a regionally accredited U.S. bachelor's degree. Applicants educated in countries other than the United States must have their official transcripts evaluated by an independent evaluation service. The evaluation organization will send a copy of the evaluation both to the applicant and to the Graduate School of Management and Technology. For a transcript evaluation, students should contact directly the following independent organization, not affiliated with UMUC:

American Association of Collegiate Registrars and Admissions Officers (AACRAO)  
Office of International Education Services  
One Dupont Circle, N.W., Suite 520  
Washington, DC 20036-1135 USA  
Phone: 202-293-9161; Fax: 202-872-8857  
E-mail: [goughd@aacrao.nche.edu](mailto:goughd@aacrao.nche.edu) or [oies@aacrao.nche.edu](mailto:oies@aacrao.nche.edu)

Additional information on this evaluation service is available online at [www.umuc.edu/students/credeval](http://www.umuc.edu/students/credeval).

- Proof of English language proficiency.

Applicants who have not received a baccalaureate degree from the United States, United Kingdom, Australia, New Zealand, Commonwealth Caribbean, or English speaking Canada must demonstrate English language proficiency to be eligible for admission. These applicants may submit

- A. A minimum score of 575 on the written version, 233 on the computer version, or 90 on the Internet version of the Test of English as a Foreign Language (TOEFL), and a minimum score of 4 on the Test of Written English (TWE), except for the Internet-based TOEFL, where no TWE is required; or
- B. A minimum score of 7 on the IELTS, including the academic writing and academic reading modules.

Applicants must arrange to have official score reports sent directly from the testing agency to the Graduate School of Management and Technology. The TOEFL score recovery code for UMUC is 5804. Test scores must be no more than five years old.

- Documentation of residency status.

Applicants must provide a photocopy (front and back) of either a permanent residency card, work authorization card, or the first page and visa page of a valid passport and Form I-94.

International students seeking Form I-20 or IAP-66 must be granted admission three months before the semester start date to register for classes.

Merely providing these documents does not ensure admission. An interview may also be required. The official transcript evaluation from AACRAO must be submitted and evaluated before admission is considered.

## Restrictions

Students may be admitted to only one institution in the University System of Maryland at any one time. Students may be admitted as either graduates or undergraduates, but no one may hold both classifications simultaneously. A student's most recent application for admission invalidates any previous admission.

Students may be admitted to only one graduate program at any time. Application for admission to a second graduate program is not permitted until notification of resignation has been presented to the first program. Students admitted to any other graduate program in the University System of Maryland must notify UMUC. Students retain active status for two years (six consecutive semesters) even without being registered in the program. However, after two years without a completed graduate course, students must submit a new application along with another application fee.

*Note:* Graduate students may take both graduate and undergraduate courses concurrently.

## REGISTRATION

### Ways to Register

Registration begins each semester as soon as the class schedule becomes available on the Web and continues until the day before classes begin. A late fee is charged for registering after the regular registration period. Students should check the current *Graduate Schedule of Classes* for the deadlines for regular and late registration.

UMUC offers six ways to register for courses: online via MyUMUC, by phone via the Interactive Registration and Information System (IRIS), by mail, by fax, on-site, and by e-mail to [gradinfo@umuc.edu](mailto:gradinfo@umuc.edu).

#### ONLINE AT MYUMUC

Students may register online at <https://my.umuc.edu>. If a student has questions regarding confirmation of the registration, the student should contact Graduate Advising.

#### BY TELEPHONE VIA IRIS

Students are eligible to register by phone via the Interactive Registration and Information System (IRIS) if they have already been admitted to UMUC as a graduate student and have received a personal identification number (PIN). (*Note:* Former students who have not registered for courses within the last two years must first be readmitted.) Through IRIS, students may register by entering all pertinent information via their touch-tone telephone. IRIS provides immediate feedback on course availability and the student's registration.

Students may call IRIS at 800-584-9413 daily from 6 a.m. to 9 p.m. Eastern Time. Visit [www.umuc.edu/studserv/registration/register\\_iris.shtml](http://www.umuc.edu/studserv/registration/register_iris.shtml) for detailed instructions on using IRIS registration.

#### BY MAIL

Students may mail their registration to Graduate Advising, University of Maryland University College, 3501 University Boulevard East, Adelphi, MD 20783. Forms are available online at [www.umuc.edu/register](http://www.umuc.edu/register) and in the *Graduate Schedule of Classes*.

#### BY FAX

Students may fax their registration to 301-985-7175. Forms are available in the *Graduate Schedule of Classes* and online at [www.umuc.edu/register](http://www.umuc.edu/register).

Students who have employer-provided tuition must be sure to fax their registration and employer contract at the same time. Any fees not covered by the contract must be charged to American Express, Discover, MasterCard, or Visa.

## ON-SITE

Walk-in admission and registration is held in the Student and Faculty Services Center in Adelphi, Maryland, and at a number of other locations in the Baltimore-Washington metropolitan area. Students may register for any course offered (regardless of location or format) at any walk-in registration. Locations, dates, and times are listed each semester in the *Graduate Schedule of Classes*.

## Wait List

If a class is already full at the time of registration, the student has the option of placing his or her name on a waiting list for that class. Students can check on class availability by visiting <https://my.umuc.edu>.

- If a space becomes available, the first student on the wait list will automatically be registered for it, and the charge will appear on their account. An e-mail notification of the enrollment from the wait list will be sent. If a space becomes available but the first student is ineligible to enroll in the class (for reasons such as they have not met the prerequisites, or they are enrolled in a class that conflicts in time), the space will go to the next person on the wait list.
- Students who no longer want a class should remove their name from the wait list to prevent the possibility of an automatic enrollment.
- Students already enrolled in the maximum number of allowable credits (2 courses/6 credits) who are on a waiting list for a third course will not be registered in the third course even if space becomes available in the class.
- Faculty members and academic advisors are NOT authorized to add students to a full class.

## Schedule Adjustment

From the time a student registers through the end of late registration, he or she may make certain adjustments to his or her schedule. The schedule adjustment options available include changing a section, dropping a class, or adding a class.

## Withdrawals or Dropped Courses

Stopping payment on checks for registration fees, or not paying at registration, does not constitute an official withdrawal or relieve the student of his or her financial obligation to UMUC. Never attending or ceasing to attend class(es) does not constitute a withdrawal.

Students who officially withdraw from a course receive a mark of W (described on p. 128). Graduate students must officially withdraw at least two weeks (14 days) before the final class.

Students may withdraw from a course by four methods:

- Students may access MyUMUC online at <https://my.umuc.edu> and follow the directions for dropping a course. The use of the student and personal identification numbers is considered an official authorization to withdrawal, which is effective immediately.
- Students may call IRIS at 800-584-9413 and follow the directions for dropping a course. The use of the student and personal identification numbers is considered an official “signature” authorizing the withdrawal, which is effective immediately.
- Students may complete a withdrawal form or send an e-mail request to be processed by an advisor. The withdrawal becomes effective the date the form is filed with UMUC.
- Students may request in writing to withdraw from a course or courses. The letter should specify the course, course number, and section, and include the student’s full name, student identification number, and signature. The request should be addressed to Graduate Advising, University of Maryland University College, 3501 University Boulevard East, Adelphi, MD 20783. The postmark on the envelope becomes the official date of withdrawal. *Note:* Because the Graduate School of Management and Technology can only honor withdrawal requests actually received, it is recommended that students ask for a return receipt from the post office to ensure that delivery of the withdrawal will be acknowledged.

In all cases, the student should maintain a copy of the transaction for his or her records.

UMUC cannot accept withdrawals verbally over the telephone. Failure to withdraw in the required manner results in the forfeiture of any refund and may result in a failing grade. For financial aid recipients, failure to withdraw in the required manner may result in cancellation/reversal of financial aid rewards. It is recommended that the student contact a financial aid advisor before withdrawing to determine if or how this will affect his or her financial aid.

## FINANCIAL INFORMATION

### Tuition and Fees

All tuition and applicable fees must be paid in full at registration, unless the student is enrolled in UMUC’s interest-free monthly payment plan. Students registering by phone via the Interactive Registration and Information System (IRIS) are granted a certain number of days for payment to be received. (If payment is not received by the specified deadline, the registration may be canceled or a finance hold may be placed on the student’s account—unless the student is a financial aid recipient.)

Payment may be made by cash, check, money order, or American Express, Discover, MasterCard, or Visa credit cards. Checks should be payable to University of Maryland University

# ADMISSION AND ENROLLMENT

College. Students who qualify for tuition assistance, financial aid, or veterans benefits should consult the appropriate sections. Students interested in the monthly payment plan, administered by Academic Management Services (AMS), should contact AMS at 800-635-0120 or visit [www.amsweb.com](http://www.amsweb.com) on the Web.

## CURRENT TUITION AND FEES

Tuition rates and fees are published each semester in the *Graduate Schedule of Classes* and are available on the Web at [www.umuc.edu/tuition](http://www.umuc.edu/tuition). Students should review the fee schedule carefully to see which ones apply. Fees are commonly charged for admission and graduation application, late registration, make-up testing, technology, and transcripts. There is also a service charge for dishonored checks.

## Refunds

The official date used to determine a refund is either the date the withdrawal form is hand-delivered to the Information Desk at the Student and Faculty Services Center, the date and time of the IRIS request, the date and time the change was made in MyUMUC, or the postmark date on a mailed request. The official date for federal financial aid recipients is the last date of class attendance as determined by federal regulations.

*Note:* Students in their first enrollment period with UMUC, who are receiving financial aid (grants, work-study, or loans) and withdraw from the institution (not merely from a course) before completing 60 percent of the enrollment period for which they have been charged, are subject to a new federal pro-rata refund policy. Financial aid advisors can provide further information.

## REFUND FOR COURSE CANCELLATIONS

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

## REFUND FOR STUDENT WITHDRAWALS

Tuition is refunded as follows:

100%	Withdrawal before the class start date
75%	Withdrawal 1–13 calendar days after a class starts
50%	Withdrawal 14–20 calendar days after a class starts
0%	Withdrawal 21 or more calendar days after a class starts

Fees are non refundable, with the exception of technology fees, which are refundable prior to the first day of class.

*Note:* This policy applies only to students not receiving federal financial aid.

## Dishonored Checks

For each check returned unpaid by the payer's bank (whether because of insufficient funds, stopped payment, postdating, or drawing against uncollected items), UMUC assesses a service

charge of \$25 (over and above any service charges levied by the financial institution).

A student who stops payment on a check for tuition is thereby 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

Students who incur debts to UMUC must clear them to be permitted to register. Requests for transcripts and diplomas are denied until all debts have been paid. Outstanding debts are collected against refunds due the student. After a reasonable period of time, uncollected debts are forwarded to the Central Collection Unit of the State Attorney General's Office.

The Board of Regents has authorized UMUC to charge students' delinquent accounts for all collection costs incurred by UMUC. The normal collection fee is 17 percent plus attorney and/or court costs. Delinquent students are reported to a credit bureau.

## Employer-Provided Tuition Assistance

If an employer is going to pay for part or all of a student's tuition, at the time of registration the student 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, late-registration fee, or books) and the amount to be assumed by the employer
- The student's name and student identification number
- The semester or term covered by the document
- The billing address
- The signature and telephone number of the authorizing official

A student who does not have an authorizing document at the time of registration must pay the bill in full and arrange for direct reimbursement from the employer. UMUC 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 UMUC, the student is responsible for payment.

## Monthly Tuition Payment Plan

UMUC offers a cost-effective alternative for students who are budgeting for college tuition: an interest-free, monthly tuition-payment plan. This plan allows students to spread all or part of their tuition bills into monthly installments on a term basis. All UMUC students are eligible to participate in the payment plan, regardless of financial need. More complete information is available online at [www.amsweb.com](http://www.amsweb.com) or from Academic Management Services (AMS) at 800-635-0120.



# ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

## GRADING METHODS

There are four grading methods at UMUC. The most commonly used is the standard method. The pass/fail alternative is available only under limited conditions. The satisfactory/I/fail method is restricted to certain specified courses. Any course may be audited. Regulations for each are given in the following paragraphs.

GRADE OR MARK	INTERPRETATION	QUALITY POINTS
A	Excellent	4
B	Good	3
C	Below standards	2
F	Failure	0
FN	Failure for nonattendance	0

The following grades and marks may be applied under special circumstances and are not computed in the grade-point average.

G	Grade pending
P	Passing
S	Satisfactory
I	Incomplete
AU	Audit
W	Withdrawal

### Standard

Unless students choose the audit option at the time of registration, they will be given a letter grade according to the standard method. Under the standard grading method, students are given a grade of A, B, C, or F on the basis of their performance in meeting the requirements of each course.

For management projects, the standard grading method is replaced by the satisfactory/incomplete/fail method. For non-credit courses, the standard grading method is replaced by the pass/fail method.

### Pass/Fail

Noncredit courses, such as the required graduate library skills course, are graded on a pass/fail basis. Students may not choose to take other courses on a pass/fail basis.

### Satisfactory/Incomplete/Fail

This grading method is available only on a limited basis. Although a grade of satisfactory (S) earns credit toward graduation, it is not included in calculating grade-point averages. The mark of incomplete (I) earns no credit and is not included in computing grade-point averages, but is included in computing

the course completion rate (explained on p. 164). While a failing grade (F) earns no credit, it is included in computing grade-point averages.

### Audit

Students who do not wish to receive credit may register for courses as auditors after they have been admitted. Students must indicate this intention when they register. Students may request a change from credit to audit status anytime before the end of the second week of classes.

Audited courses are listed on the permanent record, with the notation AU. No letter grade is given for audited courses, nor are credits earned. Students receiving financial aid should check with a financial aid advisor before selecting audit as a grading option as this may affect financial aid.

## GRADES AND MARKS

### The Grade of A: Excellent

Only students who demonstrate exceptional comprehension and application of the course subject matter merit an A.

### The Grade of B: Good

The grade of B represents the benchmark for the Graduate School of Management and Technology. It indicates that the student has demonstrated competency in the subject matter of the course. For example, the student has fulfilled all course requirements on time, has a clear grasp of the full range of course materials and concepts, and is able to present and apply these materials and concepts in clear, reasoned, well-organized, and grammatically correct responses, whether written or oral.

### The Grade of C: Below Standards

The grade of C indicates that the student has passed the course. However, the grade of C is not considered to meet overall standards for graduate work. Students should refer to Academic Standards for further information on the implications of a grade of C.

### The Grade of F: Failure

The grade of F means a failure to satisfy the minimum requirements of a course. Although it carries no credit, it is included in calculating the grade-point average. If applicable, a student assigned the grade of F must register again for the course, pay the applicable fees, repeat the course, and earn a passing grade in order to receive credit for that course.

# ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

## The Grade of FN: Failure for Nonattendance

The grade of FN means a failure in the course because the student has not attended or participated in course assignments and activities. It is assigned when the student ceases to attend class but has not officially withdrawn. If applicable, a student assigned the grade of FN must register again for the course, pay the applicable fees, repeat the course, and earn a passing grade in order to receive credit for that course.

## The Grade of P: Passing

Since the grade of P is only awarded for noncredit graduate courses, it is not included in calculating the grade-point average. It does, however, appear on the permanent record.

## The Grade of S: Satisfactory

The grade of S is only awarded for select courses such as management projects. Although the grade of S confers credit and appears on the permanent record, courses graded S are not used in determining grade-point averages.

## 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 Mark of I: Incomplete

The grade of I (Incomplete) is an exception and is given only to students whose completed coursework has been qualitatively satisfactory, but who have been unable to complete all course requirements because of illness or other extenuating circumstances beyond their control. To be eligible for an I, students must have completed 60 percent or more of the course requirements with a grade of B or better. Students must request an I from their faculty member before the end of the semester. Faculty, however, are not required to grant the request. Students with a grade of I must arrange fulfillment of course responsibilities with their teachers in order to receive credit. The teacher must set a deadline within four months of the last day for the semester in which the course occurred. Grades of I are automatically converted to F after four months.

## The Mark of W: Withdrawal

Students who officially withdraw from a course after the end of the schedule adjustment period receive a mark of W. This mark appears on the permanent record unless withdrawal is completed before a course begins. For purposes of financial aid, the mark of W is counted as attempted hours. It is not used in determining grade-point averages.

The withdrawal process is described on p. 125.

## COMPUTING THE GPA

The grade-point average is calculated using the quality points assigned to each grade or mark (chart on p. 127). 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, or F was received.

## CHANGES IN GRADE

Teachers may revise a grade previously assigned if a student's grade has been miscalculated or a mark of I has been submitted and must be changed. Any revision must be made no later than four months after the original grade was awarded.

## GRADING REPEATED COURSES

When a course is repeated, only the higher grade earned in the two attempts is included in the calculation of the GPA. For purposes of financial aid, both attempts are counted. Both grades are entered on the permanent record, with a notation indicating that the course was repeated. Students cannot increase the total hours earned toward a degree by repeating a course for which a passing grade was conferred previously.

To establish credit in a course previously failed or withdrawn from, students must register, pay the full tuition and fees, and repeat the entire course successfully.

## SCHOLASTIC RECOGNITION

### Academic Honor Society

As the oldest and most selective of the nation's honor societies, Phi Kappa Phi promotes the pursuit of excellence in all fields of higher education. It recognizes the outstanding achievements of students, faculty, and others through election to membership and through awards for distinguished scholarly achievement. To qualify, graduate students must be in the final semester of their degree coursework and in the upper 10 percent of their graduating class. Additional information on the Phi Kappa Phi chapter can be found at [www.umkpp.org](http://www.umkpp.org).

### Presidential Management Fellows Program

The Graduate School of Management and Technology participates with the Presidential Management Fellows (PMF) Program, a prestigious leadership development program that is a pathway to a career with the Executive Branch of the federal government. The program considers graduating master's and doctoral candidates who demonstrate a strong commitment to a career in public service. Student candidates to the program are nominated by UMUC and those selected participate in a fellowship working with federal agencies in locations throughout the country. The PMF Program operates under the auspices of the

# ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

federal Office of Personnel Management. To learn about nomination criteria, contact Laurie Hulcher, Student Relations Coordinator, at 301-985-7200 or [lhulcher@umuc.edu](mailto:lhulcher@umuc.edu).

## ACADEMIC STANDARDS

### Master's Degree and Certificate Programs

Graduate students are expected to maintain a 3.0 or higher GPA at all times.

#### ACADEMIC LEVELS OF PROGRESS

An assessment of academic standing is made for each student at the end of every semester. Each student's GPA is computed for all UMUC graduate-level graded coursework to make a determination of academic standing as described below.

##### Good Academic Standing

A student with a cumulative GPA of 3.0 or higher with no grade of F is in good academic standing. Students must be in good academic standing to be considered for graduation.

##### Academic Probation

A student with a cumulative graduate GPA below 3.0 with no grade of F is placed on academic probation. Academic probation is a temporary status. Students placed on academic probation must restore their GPA to 3.0 or higher by the end of the next semester of enrollment. Students on academic probation should seek guidance and advice from an academic advisor. Any course in which a grade of F is earned must be repeated in the next semester of enrollment. Failure to restore the GPA to 3.0 or higher will result in academic dismissal. A student who successfully restores his or her GPA to 3.0 or higher will be in good academic standing.

##### Dismissal

A student on academic probation who fails to raise the GPA to 3.0 or higher by the end of the next semester of enrollment is dismissed. A student who is dismissed is ineligible to enroll in UMUC graduate courses and ineligible for readmission to any UMUC graduate program.

### Program Completion Requirements

Students are responsible for applying for graduation (for degrees and/or certificates) by completing and submitting the appropriate diploma application forms and fees by the published deadlines available on the UMUC Web site. The award of degrees and certificates is conditional upon satisfactory completion of all program requirements and compliance with all UMUC policies. Graduation clearance will not be granted for a student with outstanding debt to UMUC or any outstanding misconduct charges or unsatisfied sanction terms. Regardless of GPA, no grade of F can remain on the graduate record at the time a student applies for graduation. Individual programs may have additional requirements that must be met before graduation clearance can be granted.

### Doctor of Management Program

The Doctor of Management (DM) program has requirements in addition to those listed above for academic standing. In addition to a minimum GPA of 3.2, a DM student who receives a grade of C in a course must repeat that course in the next semester of enrollment and earn a grade of B or better. The option to repeat a course may be exercised only once. A DM student who receives a grade of F or a second grade of C is dismissed from the DM program, regardless of GPA.

### Time Limit for Degrees and Certificates

All requirements established for the completion of a graduate degree or certificate program must be fulfilled within seven consecutive years (five years from beginning AMBA 601 or XMBA 601 for the Master of Business Administration). This regulation includes courses transferred from other institutions. Any transfer of credit must be completed within the five- or seven-year time frame applied toward the degree or certificate program.

## DEGREE REQUIREMENTS

In general, the UMUC degree and certificate requirements that apply to a student are those that were in effect when the student began continuous enrollment in the program. If a student has not been continuously enrolled, the requirements that apply are those in effect at UMUC when the student resumes continuous enrollment. To be considered continuously enrolled, students must be or have been enrolled at UMUC and have had no more than two years of nonenrollment. When a continuously enrolled student chooses to change his or her program, the student may be subject to the requirements in effect at the time of the change.

## RESPONSIBILITIES OF THE STUDENT

### Attendance

Students are expected to attend all on-site or online classes and any related activities regularly and punctually. Attendance in itself is not a requirement for successfully completing a course.

Students who are absent from class retain responsibility for completing any missed coursework, as indicated in the course outline. Students are also responsible for obtaining information about each class session, including any announcements and assignments they missed. Failure of the student to complete any required coursework as scheduled may adversely affect the grade earned. Faculty are not expected to repeat material that a student missed because of absence.

Students who are not officially registered for classes are not permitted to sit in on classes.

# ACADEMIC AND ADMINISTRATIVE REQUIREMENTS

## Academic Integrity

Integrity in teaching and learning is a fundamental principle of a university. UMUC believes that all members of the university community share the responsibility for academic integrity, as expressed in the University System of Maryland policy “Faculty, Student, and Institutional Rights and Responsibilities for Academic Integrity.” At UMUC, faculty members are expected to establish classroom environments conducive to the maintenance of academic integrity by giving students a complete syllabus describing the course and its requirements, by grading submitted work promptly and adequately, and by arranging appropriate testing conditions, including having faculty members monitor examinations given in class. Students at UMUC are expected to conduct themselves in a manner that will contribute to the maintenance of academic integrity. The University System policy is found at [www.usmd.edu/Leadership/BoardOfRegents/Bylaws](http://www.usmd.edu/Leadership/BoardOfRegents/Bylaws).

Academic dishonesty is the failure to maintain academic integrity. Academic dishonesty includes but is not limited to cheating; fabrication; bribery offered for grades, transcripts, or diplomas; obtaining or giving aid on an examination; having unauthorized prior knowledge of an examination; doing work for another student; presenting another student’s work as one’s own; and plagiarism.

Plagiarism is the presentation of another person’s idea or product as one’s own. Plagiarism includes but is not limited to the following: copying verbatim all or part of another’s written work; using phrases, charts, figures, illustrations, or mathematical or scientific solutions without citing the source; paraphrasing ideas, conclusions, or research without citing the source; or using all or part of a literary plot, poem, film, musical score, or other artistic product without attributing the work to its creator.

Students can avoid unintentional plagiarism by carefully following accepted scholarly practices. Notes taken for papers and research projects should accurately record sources of material to be cited, quoted, paraphrased, or summarized, and papers and research projects should acknowledge these sources in references.

Additional information on UMUC’s policy on Academic Dishonesty and Plagiarism may be viewed at [www.umuc.edu/policy](http://www.umuc.edu/policy).

## Examinations

The student is responsible for obtaining information about quiz and examination schedules and policies.

Make-up examinations and tests may be given to students who for valid reasons are unable to take exams at the scheduled time. Teachers are not required to offer make-up examinations

because of a student’s absence unless the student can present evidence that it was caused by unavoidable circumstances or occurred on a religious holiday.\* In such cases, an examination may be rescheduled for the mutual convenience of student and teacher and must cover only the material for which the student was originally responsible. Such a rescheduling must not cause a conflict with the student’s other classes.

## Course Load

Students are advised to limit their course loads to conform with the demands of their employment and the time they have to prepare for class. A normal load for full-time students, or for those employed no more than 20 hours a week, is 9 semester hours of credit per term. To be considered half-time status, students must be enrolled in 6 semester hours in the fall and spring semesters and 3 semester hours in the summer term. Fully employed students are limited to a maximum of 6 semester hours in the fall, spring, and summer semesters.

Full-time students who are not employed during the summer or who work fewer than 20 hours a week (except those in the Master of Business Administration program) may ask to take additional courses by submitting a request in writing to Graduate Advising. Requested exceptions must be made at least one month before the beginning of the semester.

To be eligible for a course overload, a student must

- Be a degree- or certificate-seeking student
- Be employed no more than 20 hours a week
- Have no previous grades of C or F
- Have no current marks of I
- Have never been on academic probation

## Grievance/Appeal Procedure

Students having legitimate complaints about Graduate School of Management and Technology faculty, staff members, academic departments, or administrative units should contact their program director. For information on the procedure to file a formal appeal or grievance about the actions of a faculty or administrative staff member, students should contact the Office of Student Relations, Graduate School of Management and Technology, at 800-888-UMUC, ext. 7200, or [graduateschool@umuc.edu](mailto:graduateschool@umuc.edu). More information is available online at [www.umuc.edu/policy/aa13070.shtml](http://www.umuc.edu/policy/aa13070.shtml) and [www.umuc.edu/policy/aa13080.shtml](http://www.umuc.edu/policy/aa13080.shtml).

\*The UMUC policy on religious holidays is stated in the chapter on University Policies.

## Connectivity and Computer Literacy

To take full advantage of the Graduate School of Management and Technology's educational offerings, students must own or have access to a personal computer and have access to the Internet.

All graduate students must be able to reach their fellow students, faculty, and the university via e-mail. **It is imperative that students update their e-mail address through MyUMUC at <https://my.umuc.edu>.** Students who do not have a personal e-mail account may create one by using the directions in the current *Graduate Schedule of Classes* or on the Web at [www.umuc.edu/suppserv/it/hosts/itfaq.shtml](http://www.umuc.edu/suppserv/it/hosts/itfaq.shtml). In some classes, students may be required to participate in asynchronous, computer-based class discussions and study group activities.

All graduate students are expected to have a working knowledge of, and access to, a basic word processing program such as WordPerfect or Microsoft Word; a spreadsheet program such as Lotus, QuattroPro, or Microsoft Excel; and Internet electronic mail services. Knowledge of Microsoft Windows and Internet information services such as the World Wide Web is also highly recommended. Internet information services may be necessary to conduct appropriate research for some courses.

Applicants and students who require further training in the use of Internet services and basic software packages may wish to consult the UMUC *Undergraduate Schedule of Classes* or speak to an undergraduate advisor. The *Schedule* may be obtained by calling 800-888-UMUC and advisors may be reached at 800-888-UMUC, ext. 7939. *Schedules of Classes* and *Catalogs* are also available for download on the UMUC Web site.

## Code of Student Conduct

In accordance with the Board of Regents Policy V-1.00 Policy on Student Affairs, approved on January 11, 1990, disciplinary regulations are set forth in writing to give students general notice of prohibited conduct. UMUC reserves the right to take appropriate action to protect the safety and well-being of the UMUC community.

Students may be accountable to both civil authorities and to UMUC for acts that constitute violations of law and of this code. Disciplinary action at UMUC will normally go forward pending criminal proceedings and will not be subject to challenge on the ground that criminal charges involving the same incident have been dismissed or reduced.

To encourage the development and growth of a supportive and respectful academic environment for all students, faculty, and staff, UMUC has created the Code of Civility, which is available at [www.umuc.edu/students/civility.html](http://www.umuc.edu/students/civility.html) and in UMUC publications.

In every case of alleged Code of Conduct violation, the burden of proof rests with the complainant who must establish the guilt of the person accused by clear and convincing evidence. In cases where the complainant wishes to remain anonymous, the burden of proof rests with the administrator.

Additional information on the UMUC Code of Student Conduct may be found at [www.umuc.edu/policy/stud15100.shtml](http://www.umuc.edu/policy/stud15100.shtml).

# ONLINE STUDY

## COMPUTER AND INTERNET ACCESS

UMUC is committed to ensuring that students acquire the level of technological fluency needed for active participation in contemporary society and access to up-to-date resources. All UMUC students must be prepared to participate in asynchronous, computer-based class discussions, study groups, online database searches, course evaluations, and other online activities. This policy applies to students in both classroom-based and online courses.

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

All students currently enrolled at UMUC are eligible for a university computer account on the UNIX system Polaris.

The computer account provides students an e-mail address and access to many text-based services such as Internet newsgroups, mailing lists, and programming languages. This computer account will remain active as long as the student is registered for classes at UMUC.

## ON-SITE WEBTYCHO-ENHANCED CLASSES

All Graduate School of Management and Technology on-site classes use the university's online course delivery system WebTycho as an enhancement. WebTycho-enhanced classes provide on-site students with online educational opportunities. Faculty members may elect to use some or all of WebTycho's online features in conjunction with classroom-based activity.

## ONLINE CLASSES

The Graduate School of Management and Technology's online courses maintain the same academic standards as on-site courses. Course content, texts, requirements, assignments, and class participation are comparable for online and on-site courses; for example, students need to adhere to a course schedule for assignment deadlines and exam times. Before registering for an online course, students may want to consider the following:

1. Online students need to be prepared to write extensively, because nearly all communication is written. Online students need strong English reading and writing skills.
2. Online students need to be competent in the use of computers and commonly used software programs.

3. Since WebTycho is asynchronous and students are expected to be active participants online, students are encouraged to log in frequently to check what has transpired in their online classroom (in lieu of classroom meetings).
4. Online students need disciplined work habits, effective time management skills, and the ability to work both alone and collaboratively.

## TECHNICAL REQUIREMENTS

*Note:* Minimum technical requirements are subject to change. Current information about technical requirements is available at [tychousa.umuc.edu/wtdocs/wthelp/html/technicalrequirements.html](http://tychousa.umuc.edu/wtdocs/wthelp/html/technicalrequirements.html). Students are responsible for their own phone line and Internet access costs.

## BASIC TECHNICAL REQUIREMENTS

Technical requirements for students taking graduate courses include

- A PC running Windows 2000 or Windows XP operating system
- A compatible Web browser (Internet Explorer 6.0 or higher; Netscape 7.2 or higher)
- A connection to the Internet (broadband preferred)
- An e-mail account
- A sound card with speakers or headphones and a microphone
- Sun Java VM (can be downloaded for free)
- Virus protection software (updated regularly)
- Control of the desktop to allow software downloads

Some academic programs have additional technical requirements. Students should consult the section on the degree program they are considering.

## MANDATORY COURSE EVALUATIONS

UMUC uses student feedback to make decisions about future courses. The online evaluation is required to ensure complete information from every student—your input is vital. Individual responses are kept confidential. The evaluation notice for online courses will appear on the class screen about 21 days before the end of the semester. Students will have approximately one week to complete the evaluation until access to the Class Menu will be locked. If students do not open the file and either respond to the questions or click on “no response,” they will be “locked out” of the Class Menu until they complete the evaluation. After completing the evaluation, access to the classroom will resume.

# SERVICES AND RESOURCES

## AVAILABILITY OF SERVICES

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

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

In the Maryland area, services are available at the following locations:

### Adelphi (UMUC Headquarters)

[gradinfo@umuc.edu](mailto:gradinfo@umuc.edu)

Phone 800-888-UMUC; Fax 301-985-7175

### Dorsey Station

443-459-3500

### UMUC at Shady Grove

Phone 301-738-6000; Fax 301-738-6040

### Waldorf Center for Higher Education

Phone 301-632-2900; Fax 301-632-2940

All regional sites offer all graduate services except for advising, but the Office of Regional Programs will facilitate advising for the student.

## GENERAL INFORMATION

UMUC phone representatives are available Monday through Saturday, 6 a.m. to 10 p.m., at 800-888-UMUC to provide answers to general questions and for help navigating UMUC's Web site. Representatives can also make sure that callers are on the UMUC mailing list to receive upcoming class schedules and other important announcements.

## ADMISSION ASSISTANCE

Enrollment specialists serve individuals who are inquiring about becoming UMUC students at some future time or are admitted but have not yet registered. They can help prospective students

apply for admission, identify financial aid opportunities, plan their curriculum, and register for their first semester of classes.

Enrollment specialists can also help qualified senior citizens apply for Golden Identification benefits. More information is on p. 134.

Prospective and new students may contact an enrollment specialist by phone at 800-888-UMUC or by e-mail at [newgrad@umuc.edu](mailto:newgrad@umuc.edu). More detailed information on admission is available on p. 123.

## AUTOMATED SERVICES

A number of automated services are available to current students online through MyUMUC and by telephone through the Interactive Registration and Information System (IRIS).

Through MyUMUC (available online at <https://my.umuc.edu>), students have access to many of their personal UMUC records. MyUMUC enables them to change personal information (such as home address, e-mail address, or phone numbers) and view and print reports (such as their class schedule, grade report, statement of account, and unofficial transcript).

Through IRIS, students can register for classes or make changes to their registration. IRIS is available seven days a week, from 6 a.m. to 9 p.m. eastern time, at 800-584-9413.

## ADVISING

All students who have registered in a course are assigned an advisor, who will help guide them through all steps that lead to a graduate-level degree or certificate. Advisors will also recommend ways for the student to complete academic requirements quickly and efficiently.

Students who have not attended UMUC for a year or more should also contact an advisor, once they are readmitted, for assistance in getting back on track.

It is up to the student to seek advising and to keep track of his or her program requirements. Students should retain the catalog of the year they entered their program as it contains all degree requirements for which they will be held accountable.

Whenever possible, students should get advising information in writing. Students who fail to meet all degree requirements will not be cleared for graduation.

Students may contact advisors by phone, fax, or e-mail. In the local metropolitan area, students also have the option of scheduling an appointment with an advisor in person at the sites listed on the previous page.

## Evaluation of Transfer Credit

An advisor can help students with the process to determine whether any previous graduate coursework is eligible to be accepted as transfer credit.

Up to 6 semester hours of graduate credit may be considered for transfer to most graduate degree programs at UMUC if earned at a regionally accredited institution and if applicable to the student's program of study. Credits may be considered for transfer to the Master of Business Administration program; students should contact their advisor for specific information. The Master of Arts in Teaching program does not accept transfer credit. The Graduate School of Management and Technology will accept up to 3 graduate transfer credits for a certificate program.

All graduate credits offered for transfer credit must meet the following criteria:

1. The credits must have been earned as graduate credit.
2. The credits must not have been used to meet the requirements for any degree the student previously earned or is expected to earn.
3. The credits must have been awarded within the time limit for the degree or certificate.
4. The student must have earned a grade of B or better in the courses considered for transfer. (However, these grades are not included in the calculation of the student's grade-point average.)
5. The department advisor and the program director must have determined that the transfer courses are relevant to the student's program of study.
6. The credits must have been earned at a regionally accredited institution and be equivalent to graduate-level coursework or recommended for graduate-level credit by the American Council on Education (ACE).

## SERVICES FOR STUDENTS WITH DISABILITIES

Reasonable accommodations are available for students who have disabilities and are enrolled in any program offered at UMUC. To allow for adequate planning, students who need accommodations should contact the director of Veteran and Disabled Student Affairs at least four to six weeks before the beginning of the semester.

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

documentation must provide clear and specific evidence of a disability and recommended accommodations from a qualified licensed professional.

All UMUC students are required to meet university policies and procedures and the academic requirements of all graduate degrees and certificates. Students with disabilities should review the academic and administrative requirements listed under the program descriptions in this *Graduate Catalog*. Students should not apply to a UMUC certificate or degree program with the expectation that any academic requirement or administrative policy will be waived or substituted.

For more information, students should call the director of Veteran and Disabled Student Affairs at 800-888-UMUC, ext. 7930, or 301-985-7466 (TTY) or send an e-mail to [vdsa@umuc.edu](mailto:vdsa@umuc.edu).

## TRANSCRIPT SERVICES

Students should contact the Office of the Registrar to receive an official UMUC transcript. Written requests should be addressed to Office of the Registrar, University of Maryland University College, 3501 University Boulevard East, Adelphi, MD 20783. Continuing students may request transcripts online at <https://my.umuc.edu>.

## GRADUATION SERVICES

Advisors are available to answer any questions about requirements for graduation and the application for diploma or certificate at 800-888-UMUC, ext. 7155, or [gradinfo@umuc.edu](mailto:gradinfo@umuc.edu).

## GOLDEN ID PROGRAM

Senior citizens may qualify for participation in the Golden Identification program, which allows them to register for up to 6 credits per semester without paying tuition. Students must be Maryland residents, U.S. citizens, or documented permanent residents; 60 years old by the beginning date of the semester for which they are applying; and not employed more than 20 hours per week to qualify for this program. Golden ID students may only register during late registration on a space-available basis. Benefits do not apply to Master of Business Administration, Executive Program, or 800-level courses. To request an application, students should contact Graduate Advising at 800-888-UMUC. More information on this program is available online at [www.umuc.edu/grad/studserv/golden.shtml](http://www.umuc.edu/grad/studserv/golden.shtml).

## STUDENT ADVISORY COUNCIL

The Student Advisory Council provides an avenue for students to express their concerns about UMUC or their academic career. The council consists of 12 members, elected by their fellow students, who act in an advisory capacity to the university president, provost, deans, and other officials on behalf of all students.



Students who would like to see certain issues addressed or who have questions should contact their council representative by e-mail at [stac@umuc.edu](mailto:stac@umuc.edu).

More information on shared governance is available in the chapter on University Policies in this catalog and online at [www.umuc.edu/gov](http://www.umuc.edu/gov).

## BOOKSTORES

Students can order books from MBS Direct online through the UMUC Virtual Bookstore. In conjunction with MBS Direct, UMUC offers convenient online and mail-order shipping for required textbooks and software for courses in classroom and distance education formats. MBS guarantees availability of new and used inventory, shopping discounts if books are ordered online, no sales tax, and an easy return and buyback program. Orders are shipped via UPS within 24 hours on receipt, Monday through Friday. Overnight and two-day delivery is available for an additional fee. Payment by personal check, American Express, Discover, MasterCard, and VISA is accepted. Some employer contracts may be accepted.

University Book Center/Barnes & Noble offers purchase of UMUC required textbooks and software by mail, phone, fax and online, as well as at their College Park store, for courses offered in all formats. Most major credit cards and some employer-provided assistance documents are accepted. Students should call for additional information and store hours.

## CAREER SERVICES

The Office of Career Services provides resources and services to assist UMUC students and alumni worldwide with their career and job search needs. For additional information, call 800-888-UMUC, ext. 6785.

### Career Development & Planning

Career Services professionals are available to provide personalized attention to help you clarify your skills, interests, and work-related values; making career/life-related decisions; research career options; plan for further study; and search for employment.

### Job Search Services

Opportunities in the job market most often come to those who actively pursue jobs and take control of their employment search. Services designed to assist the employment needs of UMUC students and alumni include job fairs; employability skills workshops, such as resume writing and interview preparation; job search tutorials; and CareerQuest, UMUC's online job and internship database, which enables students to search job listings and post resumes for prospective employers.

## Resource Library

The Office of Career Services offers a variety of print and online materials that can be useful in the career planning and job search process. Resources include occupational information, employer and graduate school directories, job hunting guides, and career resource literature.

Services are available on a walk-in basis, by appointment, or online via e-mail or the ReadyMinds Distance Career Counseling program. For more information please call 301-985-6785 or send an e-mail message to [careerservices@umuc.edu](mailto:careerservices@umuc.edu).

## COMPUTER LABS AND SERVICES

Computer labs are available at many UMUC sites (including Adelphi, Shady Grove, and Waldorf). These labs are available primarily for the use of students completing coursework, but are also open to faculty members, staff, and alumni on a first-come, first-served basis on presentation of a valid library bar code. Students must bring a floppy or zip disk to save data or documents.

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

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

Technical support for students taking online courses is available 24 hours a day, seven days a week, at [webtychosupport@umuc.edu](mailto:webtychosupport@umuc.edu) or 800-807-4862.

## INFORMATION AND LIBRARY SERVICES

UMUC's Information and Library Services promotes the use of library technology and resources, teaches library research classes, and provides access to a variety of library resources on the Information and Library Services Web page at [www.umuc.edu/library](http://www.umuc.edu/library). UMUC reference librarians are located in the Student and Faculty Services Center in Adelphi, Maryland, and at the McKeldin Library on the campus of University of Maryland, College Park. Reference librarians are available to assist students in a variety of formats; service is available 24 hours a day, seven days a week via chat, e-mail, and telephone.

Resources that currently enrolled students can access through the Web page include the online catalog of the University System of Maryland and affiliated institutions (USMAI), tutorials on how to conduct research and cite sources, and more than 140 databases, most providing full-text articles, covering a variety of academic disciplines including business administration, management, computer science and information technology, health, education, social sciences, and arts and humanities.

Information and Library Services also provides students with instruction in finding and using library resources. The Peck Virtual Library Classroom is available within WebTycho as an additional free resource for students who want to improve their research skills.

Currently enrolled students have borrowing privileges at all USMAI libraries. Students also are encouraged to make use of library resources in their residential areas, including community colleges and other libraries. The USMAI online catalog is available from the Information and Library Services Web page at [www.umuc.edu/library](http://www.umuc.edu/library) or through WebTycho. To borrow USMAI materials, students must have a current bar code on their UMUC student ID card. USMAI library materials can be delivered for pickup at any of the USMAI libraries or UMUC circulation sites. UMUC students who reside outside the state of Maryland and within the continental United States may have books sent to their address of record. In addition, all UMUC students can request, through interlibrary loan, that journal articles or book chapters that are not available in full text online be mailed or sent to them electronically in a portable document format (PDF) file via the Web.

Students who have any questions about these or other library services or resources should call 800-888-UMUC, ext. 7209, or 800-295-2084 after scheduled hours.

## FINANCIAL AID

UMUC's Student Financial Services Office administers a variety of financial assistance programs—including grants, loans, federal work-study, and scholarships—to help students meet the costs of their university education. Aid is available for students who can prove financial need, academic merit, or both. Students are urged to research the various sources of aid through their employers and through the UMUC Student Financial Services Office.

UMUC attempts to assist all adult students, particularly those studying part-time, who would otherwise be unable to afford a college education. Regardless of income level, all students are encouraged to apply for assistance; many financing alternatives are available.

Students must apply for aid through UMUC, not through any other office or institution of the University System of Maryland. (This can be a confusing point; students must be clear in all correspondence.) Students must reapply for financial aid at each school attended.

## General Eligibility Requirements

An eligible applicant for UMUC need-based assistance must

- Be admitted to UMUC as a regular degree-seeking or eligible certificate-seeking student
- Be a U.S. citizen or classified as an eligible noncitizen
- Be enrolled half-time (6 credits during the fall and spring semesters and 3 credits during the summer) for federal loan programs; institutional aid requires enrollment for at least 3 credits
- Demonstrate satisfactory academic progress toward a degree or certificate according to UMUC policy
- Have a high school or GED diploma
- Possess a valid Social Security number
- Register with Selective Service, if required to do so
- 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 student aid programs
- Not be ineligible based on a drug conviction

## Financial Aid Programs

Most aid programs are available to both full- and part-time students. UMUC offers several kinds of aid, including grants, scholarships, work-study, and loans. In most cases, at least half-time enrollment (6 semester hours) is required.

Amounts and eligibility for financial aid vary from year to year. Following is a brief description of amounts likely to be available for the 2007–8 award year. For more detailed information, students may refer to the current *UMUC Guide to Financial Aid*.

### GRANTS AND SCHOLARSHIPS

Gift assistance, for which no repayment is required, is offered by the state of Maryland and UMUC. The UMUC Student Financial Services Office administers several types of gift assistance: UMUC scholarships and grants and Maryland state scholarships and grants.

The **UMUC President's Grant** program offers grants to students who demonstrate financial need. Typical awards during the 2005–6 year will range from \$100 to \$500 per semester, based on need. Funds are limited, so students are urged to apply early.

**UMUC scholarship programs**, which include the UMUC President's Scholarship, offer a number of institutional scholarships as well as scholarships from corporate donors and foundations. A separate scholarship application must be completed for consideration. Requirements vary according to the individual scholarship programs. Typical awards range from \$200 to \$1,500 per semester, depending on the specific program. Most scholarships require a minimum GPA for consideration. Students may refer to the UMUC scholarship brochure for further information.

**Maryland state grant and scholarship programs** provide financial assistance to Maryland residents based primarily on financial need. Awards to graduate students typically require enrollment of at least 6 credits per semester. Award amounts range from \$200 to \$3,000 annually. Senatorial and Delegate Scholarship awards are based on criteria established by the elected official. For more information, students should contact the Office of Student Financial Assistance at 410-260-4565 or 800-974-1024.

Many UMUC students receive **private scholarships** offered by corporations, associations, foundations, and other organizations that offer awards on a competitive basis to students who meet specific criteria. Students should inquire about scholarship possibilities through organizations with which they have an affiliation. Additional scholarship links and search tools are available through the Web at [www.umuc.edu/financialaid](http://www.umuc.edu/financialaid).

## LOANS

Loan programs are available to students enrolled for at least 6 credits per semester. Students who take loans to pay for college expenses must repay the principal and interest in accordance with the terms of the promissory note.

The **Federal Perkins Loan** program offers need-based, low-interest federal loans. UMUC is the lender. Award amounts typically range between \$500 and \$1,500 per semester. The current interest rate is 5 percent. Repayment is made to UMUC and begins nine months after the borrower leaves school or attendance drops below half-time.

The **William D. Ford Federal Direct Loan** program offers low-interest federal loans to students. Students may qualify for a subsidized Federal Direct Loan, which is based on financial need. Students can also acquire an unsubsidized Federal Direct Loan, which is not based on need—that is, personal or family income level is not considered. The federal government pays the interest on need-based Federal Direct Loans while the borrower is in school or a deferment status. Students with an unsubsidized Federal Direct Loan (not based on need) are responsible for the interest during in-school and deferment periods. The interest rate is variable but will not exceed 8.25 percent. Interest rates are set each year in June. Loan amounts vary based on grade level and dependency status. Repayment begins six months after the student leaves school or attendance drops below half-time. For annual award amounts and general repayment terms, students should see the *UMUC Guide to Financial Aid*.

**Alternative student loan** programs are also an option for UMUC students. Students whose financial aid awards do not meet their financial need may be able to borrow up to their cost of attendance through private student loan programs offered by many banks and other lenders. These education loans are not federal loans; students borrow directly from and make payments to the lender. Alternative student loans typically require a credit check and often a cosigner. Students are generally required to be enrolled for at least 6 credits. Students with an alternative loan

must pay their tuition charges when they register for classes. Registration will not be held pending payment, since alternative loan checks are usually mailed directly to the borrower. Students who are interested in an alternative student loan should contact the bank of their choice or visit UMUC's Web page on alternative student loans at [www.umuc.edu/financialaid](http://www.umuc.edu/financialaid) for more information.

## EMPLOYMENT PROGRAMS FOR STUDENTS

UMUC recognizes the importance of flexible, part-time employment for students who are in transition or who have financial need.

The Federal Work-Study program is a need-based program that provides jobs to assist students in meeting college costs. The amount of the award varies according to financial need and availability of funds. Funds are paid biweekly, based on hours worked. Students must apply and be hired for employment in the university setting or in an approved community-service position. Students who do not secure such employment forfeit their work-study award. More information is available from the Student Financial Services Office.

## UMUC Financial Aid Standards for Satisfactory Academic Progress

Federal regulations require students receiving financial aid to maintain satisfactory academic progress toward their degree or certificate. Students who fail to meet the minimum academic standard are placed on financial aid probation for one semester, during which they may receive financial aid. If a student fails to meet the minimum requirements during probation, the student is denied aid the following semester and financial aid is not disbursed. Students should refer to the chapter on University Policies for details of the appeal process and the complete Satisfactory Academic Progress policy for financial aid students.

## Completing the Financial Aid Application Forms

Students must complete the Free Application for Federal Student Aid (FAFSA) to be considered for any type of financial aid at UMUC. There is no cost to the student to obtain or process this form. The FAFSA must also be completed for a student to be considered for need-based Maryland state scholarships. The application process can take from six to ten weeks, so students are encouraged to apply early. The *UMUC Guide to Financial Aid* provides more information on the application process.

## UMUC Financial Aid Priority Deadlines

One of the most important aspects of the financial aid process is applying for assistance as early as possible. The application deadlines listed on this page are priority deadlines. Students meeting these dates will have the opportunity to be considered for the various grant and scholarship programs with limited funds.

# SERVICES AND RESOURCES

Students meeting the priority deadlines will also enjoy the security of having their award authorizations ready at the time of registration. Those who do not meet these deadlines may not receive their financial aid in time for registration.

Students who apply late may still receive aid, depending on their eligibility and the availability of funds. Late applications are processed continually throughout the award year, so students are always encouraged to apply. Eligibility for both loans and grants can be authorized even after the semester has begun.

To be given high priority for their financial aid applications and a determination of eligibility early enough for funds to be reserved by registration, students should complete the Free Application for Federal Student Aid (FAFSA) by the priority deadlines below.

Program or Period Being Applied for	Priority Deadline for Filing Financial Aid Forms
Maryland State Scholarships	March 1
Full Academic Year or Fall Term Only	June 1
Spring Term Only	November 1
Summer Term	April 1

## Federal Return of Funds Policy

Students receiving federal financial aid have the responsibility to follow the institution's withdrawal procedures as outlined on p. 125 of this catalog. The 1998 Reauthorization of the Higher Education Act requires the university to calculate a return of Title IV funds for all federal financial aid students who withdraw from all classes on or before the 60-percent attendance point in the semester. UMUC is required to return to the federal programs any award funds that were "unearned" based on the percentage of attendance. Students who stop attending all classes without officially withdrawing are also subject to a return of funds calculation at the end of the semester based on the last documented date of attendance as determined by the teachers. For further information, students should refer to the *UMUC Guide to Financial Aid*.

## For Further Information

Information and applications are available from Student Financial Services. Students can also obtain a current financial aid kit by contacting their advisor. All financial aid information and forms are also available at [www.umuc.edu/financialaid](http://www.umuc.edu/financialaid) on the UMUC Web site. Students with additional questions should either contact Student Financial Services by phone at 800-888-UMUC, ext. 7510, or by e-mail at [gradfinaid@umuc.edu](mailto:gradfinaid@umuc.edu).

## VETERANS BENEFITS

### Veterans Benefits Programs

The following educational assistance programs administered by the U.S. Department of Veterans Affairs are available for active-duty military personnel, reservists, veterans, and their dependents who are attending UMUC:

- The Montgomery GI Bill—Active Duty Educational Assistance Program (Chapter 30)
- Vocational Rehabilitation (Chapter 31)
- Post-Vietnam Era Educational Assistance Program (Chapter 32)
- Survivors' and Dependents' Educational Assistance Programs (Chapter 35)
- Montgomery GI Bill—Selected Reserve Educational Assistance Program (Chapter 1606)
- Educational Assistance for Reserve Component Members Supporting Contingency Operations and Certain Other Operations (Chapter 1607)

Detailed information on these programs is available online at [www.umuc.edu/vabenefits](http://www.umuc.edu/vabenefits) and [www.gibill.va.gov](http://www.gibill.va.gov).

### Application Procedures

Students who are eligible for educational benefits from the U.S. Department of Veterans Affairs should review the online information on application procedures at [www.umuc.edu/studserv/vainfo.html](http://www.umuc.edu/studserv/vainfo.html). Every educational assistance program requires different paperwork and documentation to process a claim. Initial applications for benefits may be submitted online directly to the U.S. Department of Veterans Affairs. Students must also complete a UMUC Veterans Certification form each semester they wish to receive benefits. The U.S. Department of Veterans Affairs processes claims and issues payment six to eight weeks after receiving completed paperwork.

### Amounts and Methods of Payment

The amount of money a student may receive from the U.S. Department of Veterans Affairs depends on the educational assistance program for which the student is eligible, the number of semester hours of credit for which the student is registered, the length of the semester, and for certain programs the number of dependents the student has. The current monthly payment for each educational assistance program is available online at [www.umuc.edu/studserv/vainfo.html](http://www.umuc.edu/studserv/vainfo.html).

Benefits are paid directly to students on a monthly basis. The money may be used to help with tuition, books, or other costs of college education. Eligibility for benefits does not defer payment of tuition.

The U.S. Department of Veterans Affairs offers an accelerated payment program to students eligible for MGIB benefits. The program provides a lump-sum payment of 60 percent of a student's tuition and fees for certain high-cost, high-tech programs. To receive accelerated payment, the tuition and fees for a semester must be more than double the MGIB benefits that a student would receive otherwise for the semester. More information on the accelerated payment program is available on the U.S. Department of Veterans Affairs Web site at [www.gibill.va.gov](http://www.gibill.va.gov).

## Evaluation of Prior Training

When a student files a claim for educational benefits, the U.S. Department of Veterans Affairs requires previous training to be evaluated so that the student receives correct transfer credit. Students who have graduate credit earned from a regionally accredited institution must have an evaluation completed during the first semester of attendance. Students who do not comply may find future benefits delayed. After their first registration, eligible students are provided with information on the necessary procedure.

## Students' Responsibilities

Students receiving benefits are expected to follow all regulations and procedures of the U.S. Department of Veterans Affairs while attending UMUC.

At UMUC, all regulations of the U.S. Department of Veterans Affairs are enforced. Students should be aware of the following requirements and consequences:

- Each student is expected to make satisfactory progress toward a degree or certificate; everyone must comply with the academic standards of UMUC.
- Each student 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 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, P, or S was assigned.
- Payment of benefits will be disallowed for any course that is not a requirement in a student's degree or certificate program.

## Noncredit Graduate Courses

The U.S. Department of Veterans Affairs does not pay benefits for noncredit graduate courses.

## Tutorial Assistance

Veterans, active-duty military personnel, and reservists receiving funding assistance from the U.S. Department of Veterans Affairs may qualify for tutorial assistance. Students enrolled at least half-time may qualify. Payments are allowed when students demonstrate deficiency in courses that are required for their degree programs.

## Work-Study Allowance

Students who are registered at least three-quarters time (9 semester hours of credit) and who need money to attend school may participate in work-study. Recipients of benefits under the provisions of Chapters 30, 31, 32, 35, and 106 may be eligible. Students may work up to 400 hours during a semester and receive either the federal minimum wage or the state minimum wage, whichever is greater.

## For Further Information

Information and applications are available from the student's advisor or at [www.umuc.edu/studserv/vainfo.html](http://www.umuc.edu/studserv/vainfo.html) on the UMUC Web site.

## Abdelhamied, Adam

*Adjunct Associate Professor*  
BS, Cairo University, 1977  
MS, Ohio State University, 1982  
PhD, Ohio State University, 1986

## Abdul-Hamid, Husein

*Adjunct Associate Professor*  
BS, Birzeit University (Palestine), 1987  
MS, American University, 1990  
PhD, American University, 1996

## Abramson, Myriam

*Adjunct Assistant Professor*  
BS, George Mason University, 1984  
MS, George Mason University, 1989  
PhD, George Mason University, 2003

## Abrego, Joe L.

*Adjunct Assistant Professor*  
BA, St. Mary's College of California, 1985  
MS, St. Mary's College of California, 1988  
EdD, Alliant International University, 2006

## Adair, Deborah E.

*Adjunct Associate Professor*  
BS, Boston University, 1982  
MS, University of Arizona, 1992  
PhD, University of Arizona, 1997

## Adams, Kevin M.

*Adjunct Assistant Professor*  
BS, Rutgers University, 1981  
MS, Massachusetts Institute of Technology, 1986

## Ademola, Matthew

*Adjunct Assistant Professor*  
BS, Medgar Evers College, 1983  
MS, Maritime College, 1987  
DBA, Argosy University, 2004

## Aje, John O.

*Associate Dean and Collegiate Professor*  
BS, Clemson University, 1975  
MS, North Carolina State University, 1980  
MEA, George Washington University, 1983  
DSc, George Washington University, 1988

## Akazan, Justin

*Adjunct Assistant Professor*  
MS, University of Nancy (France), 1992  
PhD, National Polytechnic Institute of Lorraine (France), 1996

## Akbar, Yusaf H.

*Adjunct Associate Professor*  
BA, University of Sussex, UK, 1992  
MA, College of Europe, Belgium, 1993  
PhD, Sussex European Institute, 2000

## Akpom Uchenna N.

*Adjunct Associate Professor*  
BS, Regents College  
MA, University of Louisville, 1987  
MBA, Morehead State University, 1983  
PhD, University of Kentucky, 1990

## Akridge, P. Bai

*Adjunct Associate Professor*  
BA, DePauw University  
MA, University of Wisconsin–Madison, 1975  
MA, University of Wisconsin–Madison, 1978  
PhD, University of Wisconsin–Madison, 1979

## Alavi, Hamid

*Adjunct Assistant Professor*  
PhD, George Washington University

## Alberts, Henry C.

*Adjunct Professor*  
BS, Queens College, 1949  
MS, University of Delaware, 1956  
PhD, City University London (England), 1995

## Alden, Jay

*Adjunct Professor*  
BS, Long Island University, 1966  
MS, Hofstra University, 1968  
PhD, Hofstra University, 1973

## Aldridge, Susan C.

*President and Collegiate Professor*  
BA, Colorado Women's College, 1977  
MPA, University of Colorado at Denver, 1987  
DPA, University of Colorado at Denver, 1991

## Alexander, James A.

*Adjunct Associate Professor*  
BS, Iowa State University, 1976  
MA, Western Michigan University, 1991  
EdD, Western Michigan University, 1997

## Alkhafaji, Abbass F.

*Adjunct Professor*  
BS, University of Baghdad, 1972  
MBA, Bowling Green State University, 1977  
MS, North Texas State University, 1981  
MS, North Texas State University, 1982  
EdD, University of Texas at Dallas, 1984

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PhD, George Mason University, 2004

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MPA, George Washington University, 1977  
DPA, George Washington University, 1986

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PhD, University of Pennsylvania, 1996

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MA, University of Maryland, College Park, 1980  
MA, University of Maryland, College Park, 1990

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MA, Wayne State University, 1971  
EdD, Wayne State University, 1978

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JD, University of Texas at Austin, 1996  
MBA, Texas A & M University, 2000

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EdD, University of Maryland, College Park, 1991

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MS, Federal University of Minas Gerais Belo Horizonte (Brazil), 1997  
MS, University of Maryland, College Park, 1999  
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MA, University of Waterloo, Canada, 1983  
PhD, Northern Illinois University, 1988

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MS, Ohio University, 1977  
MS, Pennsylvania State University, 1978  
MS, Boston University, 1984

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BA, George Washington University, 1989  
MHS, George Washington University, 1993  
PhD, George Washington University, 2004

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BS, Shiraz University (Iran), 1973  
MEA, George Washington University, 1979  
DSc, George Washington University, 1984

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PhD, University of North Texas, 1994

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BA, University of Calgary (Canada), 1969  
MA, Queen's University (Canada), 1970  
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BSBA, Korea University, 1980  
MBA, Michigan State University, 1983  
PhD, University of Florida, 1987

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BS, Cairo University (Egypt), 1964  
MS, Pennsylvania State University, 1969  
PhD, University of Maryland, College Park, 1973

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BS, The University of Birmingham (England), 1963  
MA, University of Dayton, 1968  
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PhD, University of Massachusetts, 1993

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BS, Northern Illinois University, 1974  
MS, Central Michigan University, 1976  
EdD, Northern Illinois University, 1993

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BA, University of Pennsylvania, 1982  
PhD, Princeton University, 1992  
MBA, University of Maryland  
University College, 2002

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BS, New York University, 1989  
JD, Southwestern University, 1996

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BA, University of Maryland,  
Baltimore County, 1997  
MA, George Mason University, 1999  
PhD, George Mason University, 2004

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BA, Southern Illinois University, 1987  
MBA, Auburn University, 2005  
JD, University of Florida, 1992

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BA, Syracuse University, 1982  
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EdD, Virginia Polytechnic Institute and State  
University, 1995

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AB, Brown University, 1965  
MFA, University of Chicago, 1967  
PhD, Stanford University, 1992

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MA, University of Iowa, 1977  
MA, George Washington University, 1992  
PhD, George Washington University, 1993

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BS, Tuskegee Institute, 1984  
MS, Howard University, 1986  
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MS, University of Maryland, Baltimore, 1975  
MA, University of Southern Mississippi, 1984  
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BS, Agricultural University, 1967  
MS, Agricultural University, 1970  
MS, Texas Tech University, 1984  
PhD, Texas Tech University, 1990

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BS, Canisius College, 1968  
MS, Butler University, 1974  
DBA, Nova Southeastern University, 1994

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BS, University of Maine  
MA, American University  
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BS, University of Alabama, 1965  
PhD, University of Alabama, 1968  
MS, George Washington University, 1973

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BS, University of Iowa, 1965  
MA, University of Iowa, 1969  
PhD, University of Iowa, 1975

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BS, University of Florida, 1965  
MS, University of Florida, 1966  
PhD, University of California, Berkeley, 1972

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BS, Rochester Institute of Technology, 1977  
PhD, Michigan State University, 1988

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PhD, University of Illinois, 1955

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BTECH, Indiana Institute of Technology, 1983  
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MBA, Indiana University of Pennsylvania, 1991  
DBA, Southern Illinois University  
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Science & Technology, U.K., 1964  
MS, Bombay University, India, 1978  
MS, Punjabi University, India, 1981

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MSEd, University of Southern California, 1974  
MS, Butler University, 1978

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PhD, University of Maryland, College Park, 2002

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MBA, Loyola College in Maryland, 1985  
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BA, George Mason University, 1979  
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JD, Catholic University of America, 1997  
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MS, U MD University College, 2002  
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MA, University of Pittsburgh, 1975  
PhD, University of Maryland, College Park, 1990  
MPA, Harvard University, 1993

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BM, Berklee College of Music, 1978  
MA, Boston University, 1980  
PhD, Boston University, 1983  
MBA, Boston University, 1985

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PhD, Virginia Polytechnic and State University, 2003

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MLS, University of Maryland, College Park, 1993

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MLIR, Michigan State University, 1981  
EdD, University of Tulsa, 1985

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PhD, Virginia Commonwealth University, 2002

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MA, University of Michigan, 1995  
DBA, University of Memphis, 2006

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MS, University of Michigan, 1997  
PhD, University of Michigan, 2000

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BSBA, Drake University, 1976  
MBA, University of Iowa, 1977  
PhD, University of Iowa, 1982

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MA, University of Alabama, 1992  
PhD, University of Texas, 2003

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MBA, University of California, Los Angeles, 1981



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MA, George Washington University, 1974  
EdD, George Washington University, 2002

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MHSA, George Washington University, 1998  
PhD, University of Illinois at Chicago, 2001

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BS, University of Maryland, College Park, 1972  
JD, Emory University, 1976  
LLM, Georgetown University, 1980

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PhD, Oregon State University, 1998

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MBA, University of Kentucky, 1981  
DBA, University of Kentucky, 1988

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JD, Georgetown University Law Center, 1978  
MS, National Defense University, 2000

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MBA, Harvard University, 1982  
PhD, University of Maryland, College Park, 2001

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DSc, Robert Morris University, 2002

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PhD, University of Massachusetts, 1985

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MA, George Washington University, 1981  
PhD, The Union Institute and University, 2002

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MS, Ohio State University, 1981  
PhD, Colorado State University, 1988

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MEng, George Washington University, 1989  
DSc, George Washington University, 1996

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PhD, University of Missouri, 1980  
MS, Johns Hopkins University, 1990  
MBA, Wharton School of Business, University of Pennsylvania, 1998

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PhD, University of Missouri, 1988

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MBA, Temple University, 1992  
PhD, Temple University, 1997

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MBA, Thunderbird, 1978  
DBA, Alliant International University, 1998

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EdD, University of Maryland, College Park, 1989

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MBA, Minnesota State University, 1990  
DBA, Cleveland State University, 1994

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MA, Louisiana State University, 1970  
GG, Gemological Institute of America, 1998

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LLM, Georgetown Law, 1998  
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PhD, SUNY at Binghamton, 1990

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MDiv, Princeton Theo Sem, 1971  
PhD, Princeton Theo Sem, 1981

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MS, Iowa State University, 1997  
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MEd, University of Massachusetts, Amherst, 1988  
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BEcon, James Cook University (Australia), 1988  
MA, University of New Mexico, 1989  
PhD, University of Technology Sydney (Australia), 2000

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MPA, University of Minneapolis, 1979  
PhD, University of Minneapolis, 1984

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BS, Montana State University, 1965  
MS, Southern Illinois University, 1966  
MS, University of Oregon, 1968  
PhD, University of Oregon, 1973  
MBA, University of Puget Sound, 1978  
MSIS, Claremont Graduate School, 1987

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BS, SUNY at Brockport, 1992  
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JD, Syracuse University, 2002  
PhD, Miami University-Oxford, 2004

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MA, University of South Florida, 1986  
PhD, University of South Florida, 1992

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MS, Pennsylvania State University, 1969  
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DM, University of Maryland University College, 2006

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JD, Massachusetts School of Law, 1995

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EdD, Virginia Polytechnic Institute and State University, 1985

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PhD, University of Glasgow (Scotland), 2001

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MS, Ohio State University, 1967  
PhD, Ohio State University, 1970

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PhD, University of California, Irvine, 1983

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MLS, University of Washington, 1974  
JD, Seattle University School of Law, 1980

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EdD, University of Southern California, 1980

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MS, University of Maryland University College, 2002

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MS, Columbia University, 1989  
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MS, University of Houston, 1967  
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PhD, Pennsylvania State University, 1992

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MS, University of Minnesota, 1965  
PhD, University of Maryland, College Park, 1970  
MBA, University of Dayton, 1976

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MS, Naval Postgraduate School, 1990  
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MS, University of Vermont, 1971  
PhD, Case Western Reserve University, 1976  
MS, Johns Hopkins University, 1984

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EdD, Morgan State University, 1998

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MS, University of Massachusetts, 1967  
PhD, University of Massachusetts, 1970

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MBA, Southern Methodist University, 1974

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MA, University of London, 1978  
JD, DePaul University, 1983

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MS, University of Southern California, 2005

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MS, Ohio State University, 1982  
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MBA, Northwestern University, 2001

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BS, University of Alabama, 1993  
MA, University of Alabama, 1995  
PhD, University of Alabama, 1997

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BS, University of Texas at Austin, 1989  
MS, University of Texas at Austin, 1992

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MS, Indiana University, 1972  
PhD, University of Southern Mississippi, 1992

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BS, University of Maryland, College Park, 1967  
MS, Catholic University of America, 1971  
PhD, Catholic University of America, 1981

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BS, Cairo University, 1969  
MBA, American University, 1980  
PhD, George Mason University, 2005

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BA, Western Maryland College, 1967  
MA, Washington College, 1972  
PhD, University of Maryland, College Park, 1982

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BS, Rutgers CUNJ-Newark, 1991  
MS, Long Island University Brooklyn, 1993  
DBA, Louisiana Tech University, 1997

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BS, Cairo University (Egypt), 1966  
PhD, Hungarian Academy of Sciences (Hungary),  
1979

## Ellis, George J.

*Collegiate Professor*

BA, Yale University, 1956  
MS, George Washington University, 1967  
PhD, George Washington University, 1990

## Ellis, Maureen L.

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BS, St. Mary's of the Woods College, 1990  
MS, Indiana University, 1999  
PhD, Indiana University, 2003

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BA, Oslo Music Conservatory (Norway), 1984  
MA, Golden Gate University, 1992  
MA, Stanford University, 1996  
PhD, Stanford University, 1997

## Epps, John L.

*Adjunct Assistant Professor*

BA, The Citadel  
PhD, Southern Methodist University

## Esler, Anne G.

*Adjunct Assistant Professor*

BA, University of Michigan, 1993  
MLS, Wayne State University, 1998  
MBA, University of Phoenix, 2002

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BS, Federal U of Rio de Janeiro, 1991  
MS, University of Politecnica, 1993

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Programs, and Collegiate Professor*

BS, Rensselaer Polytechnic Institute, 1971  
MS, Rensselaer Polytechnic Institute, 1972  
MS, University of Southern California, 1974  
PhD, University of Washington, 1989

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*Adjunct Associate Professor*

BA, University of New Mexico, 1975  
MA, American University, 1980  
PhD, Johns Hopkins University, 1991

## Fawson, Trude J.

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BA, Queens College, City University of New York  
MA, University of Chicago  
PhD, University of Chicago, 1972

## Fazio, Rosario "Russ"

*Adjunct Associate Professor*  
BS, City College of New York  
MS, Hunter College, City University of New York  
PhD, Syracuse University, 1988

## Fekete, Paul J.

*Adjunct Assistant Professor*  
BA, Bates College, 1978  
MA, Johns Hopkins University, 1982

## Fiedler, Rebecca L.

*Adjunct Assistant Professor*  
BA, Southern Illinois University, 1982  
MBA, University of Florida, 1993  
PhD, University of Florida, 2006

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BA, Colby College, 1974  
MA, University of Maine, 1976  
PhD, Cornell University, 1988

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*Collegiate Professor*  
BA, Temple University, 1964  
MS, University of Massachusetts, 1966  
MS, George Washington University, 1974  
DBA, George Washington University, 1995

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*Adjunct Professor*  
BS, SUNY at Buffalo, 1979  
MBA, University of Illinois, 1984  
PhD, SUNY at Buffalo, 1996

## Fitzpatrick, Edmund W.

*Adjunct Professor*  
BA, Hamline University, 1957  
MA, University of Minnesota, 1958  
PhD, Catholic University of America, 1970

## Fitzsimmons, Charles F.

*Collegiate Professor*  
MLA, Johns Hopkins University, 1965  
EdD, George Washington University, 1975

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BS, Virginia State University, 1964  
MS, Virginia State University, 1965  
JD, University of Maryland, Baltimore, 1976  
PhD, Catholic University of America, 1977

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BS, State University of New York, 1975  
MLS, Syracuse University, 1985  
PhD, Syracuse University, 1990

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MBA, University of Maryland, College Park, 1982

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PhD, University of Maryland, College Park, 2003

## Forbes, Judith L.

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BA, California State University, Fullerton, 1974  
MS, California State University, Fullerton, 1979  
MBA, University of Southern California, Los Angeles, 1984  
PhD, Claremont Graduate University, 1993

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BA, University of New South Wales (Australia), 1973  
Graduate Diploma of Education, University of Newcastle (Australia), 1973  
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BA, State University of New York, Binghamton, 1987  
MA, New York University, 1993  
MS, Long Island University, 1997

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BA, Smith College, 1989  
MLIS, University of Pittsburgh, 1996

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BSD, University of Michigan, 1967  
MLS, University of Michigan, 1974  
MFA, University of South Florida, 1986

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BA, University of Maryland, College Park, 1968  
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PhD, University of Maryland, College Park, 1981

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BA, Baruch College, City University of New York, 1985  
JD, New York Law School, 1988

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*Adjunct Associate Professor*  
BA, Catholic University of America, 1963  
MA, University of Pennsylvania, 1965  
MBA, University of Pennsylvania, 1978

## Fuller, Mila M.

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BS, University of Illinois, Urbana-Champaign  
MA, College of Notre Dame of Maryland, 2000

## Fulton, James A.

*Adjunct Associate Professor*  
BA, Kansas State College of Pittsburg, 1965  
AM, University of Illinois, 1968  
PhD, Brown University, 1970

## Gabriel, Kenneth

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BS, University of Illinois, 1977  
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MS, University of Illinois, 1981  
PhD, University of Illinois, 1984

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BA, Delhi University (India), 1966  
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## Gantz, Stephen

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BA, Harvard University, 1990  
MPP, Harvard University, 1998

## Gao, Shaojian James

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BS, Shandong University (China), 1984  
PhD, University of Kentucky, 1994

## Garson, Bonnie E.

*Adjunct Professor*  
PhD, Georgia State University, 1995

## Garuba, Moses

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MS, University of London, 1993  
MS Howard University, 2000  
PhD, University of London, 2004

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BS, Morehouse College, 1962  
MS, American University, 1974  
PhD, University of California, Santa Barbara, 1980

## Geiger, Marshall A.

*Adjunct Professor*  
BS, Bloomsburg University of Pennsylvania, 1982  
MS, Pennsylvania State University, 1985  
PhD, Pennsylvania State University, 1988

## Gelatt, James P.

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MA, Colgate University, 1969  
PhD, University of Southern California, 1979

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BA, Drew University, 1973  
MPH, George Washington University, 1978  
PhD, George Washington University, 1979

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MBA, Syracuse University, 1986

## Glennie, John R.

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BA, Denison University, 1964  
MBA, Indiana University at Kokomo, 1966  
DBA, George Washington University, 1971

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BEE, City College of New York, 1961  
MS, State University of New York at Binghamton, 1990  
PhD, State University of New York at Binghamton, 1996

## Glickstein, Violet

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MS, State University of New York at Binghamton, 1983

## Goff, Donald L.

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BAT, Western Illinois University, 1969  
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PhD, Northwestern University, 1991

## Goldstein, Jerry M.

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BA, University of Toledo, 1969  
MAT, State University of New York College at Brockport, 1971  
MA, University of Toledo, 1972  
PhD, Pennsylvania State University, 1975

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MBA, University of International Business and Economics (China), 1994

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MS, University of Maryland University College, 1996

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BA, Fordham University, 1963  
JD, Georgetown University, 1969

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*Adjunct Professor*  
BS, Washburn University, 1967  
MS, University of Florida, 1969  
PhD, University of Florida, 1971

## Goyette, Heather N.

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BA, Ramapo College, 1996  
MLS, Rutgers University, 2000

## Graber, Eric S.

*Adjunct Professor*  
BA, California State College, 1965  
PhD, Iowa State University, 1978

## Grabowski, Beatrice

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PhD, University of Maryland, College Park, 2000

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*Adjunct Professor*  
BS, Moscow State University, 1976  
MEcon, Russian Academy of Science, 1982  
PhD, Russian Academy of Science, 1998

## Grant, Keith B.

*Adjunct Associate Professor*  
BS, Davenport University, 1981  
MS, Central Michigan University, 1982  
PhD, Union Institute & University, 1995

## Gray, George L.

*Adjunct Assistant Professor*  
MS, Rensselaer Polytechnic Institute, 1967  
MA, University of Delaware, 1972  
PhD, University of Delaware, 1978

## Gray, Joshua P.

*Adjunct Assistant Professor*  
PhD, Pennsylvania State University, 1998

## Gray, Sheila

*Adjunct Assistant Professor*  
BA, University of Pittsburgh, 1973  
MEd, Loyola College (Maryland), 1978  
PhD, University of Maryland, College Park, 1992

## Gray, Terrie

*Adjunct Assistant Professor*  
BA, University of California, Davis, 1973  
MA, California State University, Sacramento, 1993  
EdD, Pepperdine University, 1998

## Green, Timothy D.

*Adjunct Associate Professor*  
BA, Andrews University  
MS, Indiana University, Bloomington, 1998  
PhD, Indiana University, Bloomington, 2000

## Greene, James

*Adjunct Associate Professor*  
BS, University of Maryland University College, 1989  
MS, American University, 1992  
JD, University of Maryland, Baltimore, 1998

## Greenia, Earl G.

*Adjunct Associate Professor*  
BA, University of Vermont, 1989  
MHA, University of Southern California, 1994  
PhD, University of Southern California, 2004

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*Adjunct Assistant Professor*  
MA, Fletcher School of Law and Diplomacy, Tufts University, 1972  
DrJur, Free University Berlin (Germany), 1974

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*Adjunct Professor*  
BS, University of Wisconsin, 1953  
MA, University of South Dakota, 1954  
PhD, Emory University, 1963

## Grojean, Michael W.

*Adjunct Assistant Professor*  
BS, Park College, 1990  
MA, University of Maryland, College Park, 1999  
PhD, University of Maryland, College Park, 2002

## Grosse, Daniel J.

*Adjunct Assistant Professor*  
BS, University of Michigan, 1978  
MS, University of Washington, 1982  
PhD, University of Washington, 1994

## Grunin, Susan Krup

*Adjunct Associate Professor*  
BA, Anderson University, 1973  
MA, University of Illinois, Chicago, 1975  
MA, University of Illinois, Chicago, 1980  
PhD, University of Illinois, Chicago, 1990

## Gudsnuk, Joseph III

*Adjunct Associate Professor*  
BA, Southern Connecticut State College, 1966  
BA, University of Connecticut, 1968  
MBA, New York Institute of Technology, 1986  
MAS, Johns Hopkins University, 1990

## Gulbro, Robert D.

*Adjunct Professor*  
BS, University of Alabama  
MBA, University of Alabama  
DBA, Mississippi State University, 1991

## Gupta, Ashis

*Adjunct Professor*  
PhD, Boston University, 1976

## Haddad, Mahmoud M.

### *Adjunct Professor*

AS, Montgomery County Community College, PA, 1974  
BS, Minnesota State University, 1975  
MBA, Minnesota State University, 1977  
PhD, University of Alabama, 1984

## Haines, Joel D.

### *Adjunct Assistant Professor*

BS, York College PA, 1985  
DM, University of Maryland University College, 2004  
MS, University of Maryland University College, 1998

## Hallion, Marie E.

### *Collegiate Professor*

BA, University of Maryland, College Park, 1963  
MA, University of Maryland, College Park, 1964  
PhD, University of Maryland, College Park, 1968

## Hamp, Jacqueline M.

### *Adjunct Associate Professor*

BS, Barry University, 1994  
MS, Barry University, 1996  
EdD, George Washington University, 2006

## Hannah, Christina

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BA, Simon Fraser University (Canada), 1970  
BEEd, Queen's University (Canada), 1973  
MPA, Carleton University (Canada), 1978  
PhD, Carleton University (Canada), 1989

## Hanouille, Leon J.

### *Adjunct Associate Professor*

BS, Merrimac College, 1969  
MS, Syracuse University, 1971  
PhD, Syracuse University, 1983

## Hanson, Greg J.

### *Adjunct Professor*

BS, U.S. Air Force Academy, 1977  
MS, Air Force Institute of Technology, 1981  
PhD, University of Central Florida, 1987

## Happ, Barbara

### *Adjunct Associate Professor*

BSN, George Mason University, 1982  
MS, Georgetown University, 1984  
PhD, George Mason University, 1993

## Harding, George

### *Collegiate Associate Professor*

BS, New England College, 1963  
MBA, University of Delaware, 1968  
EdD, Wilmington College, 1996

## Hardy, Stuart B.

### *Collegiate Professor*

BA, Bates College, 1968  
MA, Georgetown University, 1973  
PhD, Georgetown University, 1974

## Hartigan, Rosemary

### *Program Director, Master of Business Administration, and Collegiate Professor*

BA, State University of New York at Stony Brook, 1975  
MA, State University of New York Health Science Center, Stony Brook, 1975  
MA, Antioch University McGregor, 1994  
JD, University of Wisconsin, 1978

## Hause, Spedden A.

### *Collegiate Associate Professor*

BA, Hood University, 1984  
MS, Johns Hopkins University, 1986  
PhD, University of Maryland, College Park, 1993

## Hazari, Sunil I.

### *Adjunct Associate Professor*

BS, Maharaja Sayajirano University, 1983  
MS, Eastern Kentucky University, 1986  
EdD, West Virginia University, 1990

## Head, Stephany

### *Adjunct Assistant Professor*

BA, National-Louis University  
MBA, College of William and Mary  
PhD, University of Maryland, College Park, 1999

## Helfers, Eric C.

### *Adjunct Associate Professor*

BS, College of Charleston, 1966  
MS, University of Southern California, 1973

## Henriksen, Kermit

### *Adjunct Professor*

BA, Utica College of Syracuse University, 1964  
MS, University of Wyoming, 1966  
PhD, University of New Mexico, 1971

## Henry, Byron K.

### *Adjunct Associate Professor*

BA, University of Texas at Austin, 1986  
MA, George Washington University, 1988  
PhD, Texas A & M University, 1999

## Herd, Ann M.

### *Collegiate Associate Professor*

PhD, University of Tennessee, Knoxville, 1987

## Herndon, James S.

### *Adjunct Professor*

BS, Old Dominion University, 1973  
MA, Pepperdine University, 1978  
PhD, Old Dominion University, 1986  
PhD, University of Sarasota, 2002

## Hillery, Joseph M.

### *Adjunct Professor*

BS, Loyola University, 1965  
MA, University of Detroit, 1968  
PhD, University of Akron, 1973  
BS, University of Maryland University College, 1979

## Hilliard, Philip E.

### *Adjunct Assistant Professor*

BS, Georgia Institute of Technology, 1986  
MBA, Georgia State University, 2000  
MS, Florida State University, 2003

## Hinkle, Norman W.

### *Adjunct Professor*

BBA, Marshall University, 1982  
MBA, Marshall University, 1985  
DBA, Nova Southeastern University, 2004

## Hoferek, Mary J.

### *Program Director, Database Systems Technologies, and Collegiate Professor*

BA, Trenton State College, 1965  
MA, University of Michigan, 1969  
PhD, University of Wisconsin, 1978  
MS, American University, 2000

## Horner, Donald H.

### *Adjunct Professor*

BS, US Military Academy, 1981  
MS, Massachusetts Institute of Technology, 1985  
DSW, Stanford University, 1992

## Housman, Robert F.

### *Adjunct Associate Professor*

BA, St. Lawrence University, 1987  
JD, American University, 1990

## Howard, Edward G.

### *Adjunct Professor*

BS, Stanford University, 1960  
MBA, Northwestern University, 1962  
MS, Georgetown University, 1969  
PhD, Georgetown University, 1972

## Howard, James A.

### *Associate Chair, Management, Accounting, and Finance Department; Program Director, Financial Management; and Collegiate Professor*

BA, University of Nebraska, 1968  
MBA, Syracuse University, 1976  
PhD, George Washington University, 1991

## Hruneni, George A.

### *Adjunct Assistant Professor*

BA, Santa Clara University, 1966  
MA, Santa Clara University, 1967  
PhD, University of California, 1972

## Hsu, Hsiao Yu

### *Adjunct Associate Professor*

BS, National Taiwan University, 1985  
MS, University of Houston, 1989  
PhD, University of Houston, 1995

## Huang, Li-Ning

### *Adjunct Associate Professor*

BA, National Tsing-Hua University, 1989  
MA, University of Maryland College Park, 1992  
MBA, University of Chicago, 2006  
PhD, University of Michigan, 1998

## Hurley, James M.

*Adjunct Professor*

BA, Georgetown University, 1975  
MA, University of Maryland, College Park, 1976  
DPA, George Washington University, 1986

## Hurley, Tracy A.

*Adjunct Associate Professor*

BBA, University of Houston, 1982  
MBA, University of Houston, 1984  
PhD, University of Houston, 1991

## Hurt, Robert L.

*Adjunct Professor*

BS, Southern Missouri State University, 1981  
MS, California State Polytechnic University, 1985  
PhD, Claremont Graduate University, 1991

## Ikoku, Alvan E.

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BBA, University of Oklahoma, Norman, 1981  
MBA, University of Oklahoma, Norman, 1982  
MA, University of Southern California, 1986  
PhD, University of Southern California, 1995

## Irwin, Barbara A.

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BA, Salem-Teikyo University, 1963  
MEd, Bowie State University, 1977

## Islam, Mazhar M.

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BA, University of Dhaka (Bangladesh), 1974  
MA, University of Dhaka (Bangladesh), 1976  
MA, Vanderbilt University, 1985  
PhD, Vanderbilt University, 1987

## Ismond, Deborah R.

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BA, Calvin College, 1977  
MA, George Washington University, 1980  
PhD, Union Institute and University, 2003

## Jacobs, Michael A.

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BS, Florida Agriculture & Mechanical University, 1979  
JD, Howard University School of Law, 1983

## Jacobs, Norma M.

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BA, University of Texas  
MEd, University of Houston, 1984  
PhD, Texas A&M University, 1989

## Jaffe, Roger J.

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MS, University of Maryland University College, 2000

## Jain, Bharat A.

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BS, Delhi College of Engineering (India), 1983  
MBA, Pennsylvania State University, 1989  
PhD, Pennsylvania State University, 1992

## Jamsa, Kris

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BS, U.S. Air Force Academy, 1983  
MS, University of Nevada, Las Vegas, 1997  
PhD, Arizona State University, 1993  
MBA, San Diego State University, 1997

## Japzon, Andrea C.

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BA, University of Florida, 1992  
MLS, Florida State University, 1994  
MA, Hunter College, 2002

## Jerome, Robert W.

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MA, Fletcher School of Law and Diplomacy, Tufts University, 1972  
PhD, University of Geneva (Switzerland), 1981

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MS, George Mason University, 1993  
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## Johnson, James W.

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BS, Prairie View A&M University, 1963  
MS, University of Maryland, College Park, 1969  
DSc, George Washington University, 1981  
MS, George Washington University, 1990

## Johnson, Travis M.

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MLS, University of Maryland College Park, 2000

## Johnston, Timothy C.

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MBA, Harvard University, 1983  
MS, University of California at Berkeley, 1990  
PhD, University of California at Berkeley, 1993

## Jones, C. Kenneth

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MBA, University of Florida, 1980  
PhD, University of Colorado, 1986

## Jones, Rhonda J.

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BA, Swarthmore College  
MBA, California State Polytechnic University, 1998  
EdD, George Washington University

## Joseph, Larry M.

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MS, Tufts University, 1968  
PhD, University of Michigan, 1974

## Kankanahilli, Srinivas

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MS, Indian Institute of Technology, India, 1985  
PhD, New Mexico State University

## Kaske, Neal K.

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MLS, Kansas State Teachers College, 1968  
PhD, University of Oklahoma, 1973

## Kasprzak, James E.

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PhD, Loyola University Chicago, 1967

## Kavoossi, Masoud

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MA, American University, 1976  
PhD, Catholic University of America, 1982

## Kayes, Anna B.

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MA, George Washington University, 2000  
EdD, George Washington University, 2004

## Kearsley, Greg

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BS, University of Toronto (Canada), 1973  
MS, University of Alberta (Canada), 1976  
PhD, University of Alberta (Canada), 1978

## Keaton, Frederick M.

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BA, Howard University, 1967  
MA, Central Michigan University, 1977  
EdD, Western Michigan University, 1983

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MS, Elmira College, 1967  
PhD, Southern Illinois University at Carbondale, 1977

## Kelley, Kimberly

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MLS, Emory University, 1985  
PhD, University of Maryland, College Park, 1998

## Kerr-Walker, Joi

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MS, Morgan State University, 1992  
MAT, Towson State University, 1993  
PhD, University of Maryland, College Park, 2001

## Khalsa, Datta Kaur

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BS, Edinboro University PA, 1974  
MS, Montclair State College, 1978  
MS, California State University, 2001  
PhD, UMBC, 2005

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PhD, University of Maryland, College Park, 1999

## Khatri, Anil

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BS, Meerut University (India), 1979  
MS Meerut University (India), 1982  
MS, Jackson State University, 1989  
PhD, George Mason University, 2000

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MPhil, City University of New York, 1984  
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## Kimiavi, Sassan

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BS, George Washington University, 1985  
MS, George Washington University, 1987  
PhD, George Washington University, 1998

## King, Robyn M.

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MA, Golden Gate University, 1987  
MS, Golden Gate University, 1984  
PhD, Walden University, 2002

## Kinney-Cartwright, Kara

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BA, Syracuse University, 1990  
JD, Georgetown University, 1993

## Kirk, Florence R.

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MS, Cornell University, 1986  
PhD, Cornell University, 1988

## Kirkhorn, Judith B.

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BS, University of Wisconsin–Madison, 1963  
MS, University of Wisconsin–Milwaukee, 1967  
PhD, University of Wisconsin–Milwaukee, 1977

## Klisch, Karen

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BS, Florida State University, 1963  
MA, University of Maryland, College Park, 1968  
PhD, University of Maryland, College Park, 1980

## Klose, Kathryn

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## Knode, Steven

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BS, Duke University, 1966  
MS, University of North Dakota, 1970  
PhD, Syracuse University, 1978

## Kogge, Stephen N.

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## Kornilov, Guerman V.

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MA, American University, 1998  
PhD, American University, 2003

## Kraus, Peter L.

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BA, Florida State University, 1991  
MLS, Florida State University, 1993

## Krivan, Howard C.

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BS, University of New Mexico, 1980  
MS, University of New Mexico, 1982  
PhD, Virginia Polytechnic Institute and State  
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## Kroopnick, Allan

*Adjunct Assistant Professor*  
BA, New York University, 1968  
MS, University of Manitoba (Canada), 1970  
MS, Johns Hopkins University, 1982  
PhD, University of South Africa, 1991

## Kuhns, Barbara A.

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BA, University of Southern California, 1970  
MA, University of Southern California, 1972  
PhD, University of Geneva (Switzerland), 1978

## Kurtz, Gila

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PhD, Bar-Ilan University (Israel), 1995

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BS, College of St. Rose, Albany, NY, 1979  
MBA, University of Hawaii at Manoa, 1988  
MA, University of Hawaii at Manoa, 1996  
PhD, University of Hawaii at Manoa, 2002

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BS, University of California, Berkeley, 1965  
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PhD, University of California, Los Angeles, 1971

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MS, Cornell University, 1973  
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PhD, Cornell University, 1975

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PhD, North Dakota State University, 1991

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MA, Villanova University, 2002  
MLS, St John's University New York, 2004

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MS, State University of New York  
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DrPH, Columbia University, 1996

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BS, U.S. Military Academy at West Point, 1973  
MBA, University of Colorado, 1985  
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MSwE, University of Maryland  
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PhD, George Mason University, 1997

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BS, Shanxi Agricultural University (China), 1984  
MS, University of Idaho, 1995  
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BS, Tsinghua University, Beijing, 1993  
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MS, University of Maryland, College Park, 2000  
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BA, University of the West Indies, 1971  
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BS, Brown University, 1990  
MS, Massachusetts Institute of Technology, 1993  
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MS, University of Pennsylvania, 1968  
PhD, George Mason University, 1990

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MS, George Mason University, 1993  
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BS, Northern Illinois University, 1972  
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EdD, Northern Illinois University, 1984

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BS, University of Missouri, 1981  
MBA, Fontbonne College, 1991

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MA, Catholic University of America, 1989  
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MBA, Stanford University, 1963  
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BA, Albright College, 1961  
MA, New York University, 1964  
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MS, Saint Cloud State University, 1981  
PhD, Louisiana State University, 1990  
MBA, Heriot-Watt University (Scotland), 1996

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PhD, University of Minnesota Twin Cities, 1970

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BS, Southeast Missouri State University, 1995  
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PhD, University of Illinois, 2004

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MA, University of Texas Pan American, 2002

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BS, Florida Southern College, 1993  
MBA, Webster University, 1995  
MS, Keller Graduate School, 2005  
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MS, Rensselaer Polytechnic Institute, 1967  
PhD, University of Pennsylvania, 1975  
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BS, University of Maryland, College Park, 1967  
MS, American University, 1973  
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BA, Connecticut College, 1998  
MA, University of Massachusetts, 1998  
MLS, University of Southern Mississippi, 2004

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BS, Moscow State University  
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MS, Northern Illinois University, 1993  
PhD, Baylor College of Medicine, 1998

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LLB, Yale University, 1963  
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DrJur, University of Bonn (Germany), 1967

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DSc, George Washington University, 2001

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MS, Johns Hopkins University, 1982  
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PhD, George Mason University, 1995

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MPH, Rutgers Medical School, 1988  
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PhD, University of Southern California, 1988

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DMgt, Webster University, 1997

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BA, University of Notre Dame, 1963  
BS, University of Missouri, 1974  
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MBA, Kent State University, 1993  
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PhD, Wayne State University, 1979

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MS, Bowling Green State University, 1990  
DSc, George Washington University, 2001

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MA, George Washington University, 1973  
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MBA, Stanford University, 1983  
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MA, University of Missouri—Columbia, 1992  
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2004

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MLA, Harvard University, 1968  
MPA, University of Southern California, 1984  
DPA, University of Southern California, 2003

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BA, Dartmouth College, 1956  
MA, Cornell University, 1963  
EdD, Temple University, 1977

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MLS, University of Kentucky, 1996  
MBA, University of Maryland University College,  
2006

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MPA, New York University, 1980  
PhD, Walden University, 1999

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MS, Clarkson College, 1969  
MBA, Syracuse University, 1988  
PhD, Syracuse University, 1993

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MS, Johns Hopkins University, 1989  
PhD, George Mason University, 2000

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MA, Catholic University, 1987  
PhD, Catholic University, 1995

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MSE, University of Michigan, 1968  
PhD, Rensselaer Polytechnic Institute, 1974

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MS, Texas A&I University, 1977  
PhD, Ohio State University, 1982  
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PhD, Concordia University, 1991

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MS, University of Washington, 1968  
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MBA, Bryant College, 1976

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MS, Florida Institute of Technology, 1988  
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PhD, Pace University, NY, 1984

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MS, Texas A & M University—Kingsville, 1991

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PhD, Virginia Polytechnic Institute and  
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JD, University of Maryland, College Park, 1969

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DPA, University of Alabama, 1994  
MS, National Defense University, 1995

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PhD, University of Minnesota, 1982  
JD, Florida State University, 1993

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DEng, Columbia University, 1996  
MST, Cambridge, UK, 2004

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PhD, New York University, 1971  
DrPH, Columbia University, 1974

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MA, American University, 1961  
PhD, American University, 1967

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MA, Fordham University, 1966  
PhD, University of Illinois, 1976

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MS, Virginia Polytechnic Institute and State University, 1979  
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MD, University of Ibadan (Nigeria), 1983  
MPH, Johns Hopkins University, 1990  
PhD, Johns Hopkins University, 1995  
MBA, Johns Hopkins University, 2004

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MBA, New York Institute of Technology, 1988

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MPA, University of Oklahoma, 1978  
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BA, University of Nebraska, 1971  
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JD, University of Nebraska, 1977  
PhD, University of Nebraska, 1982

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MS, University of Baltimore, 1991

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PhD, University of Alberta, 1988

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MBA, University of Louisiana at Monroe, 1990  
DBA, Louisiana Tech University, 1994

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MS, University of Nebraska, 1979  
PhD, University of Utah, 1983  
MBA, University of Maryland, College Park, 1988

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MS, University of Maryland University College, 2004

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MS, Oxford College of Emory University, 2004  
JD, Antioch School of Law, 1980

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MS, University of Maryland, College Park, 2002  
PhD, Purdue University, 1974

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JD, Boston University, 1973  
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MS, New Mexico State University, 1984  
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PhD, University of Michigan, Ann Arbor, 1986  
JD, University of Maryland, Baltimore, 1986

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MBA, Temple University, 1964  
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MSEE, University of New Mexico, 1977  
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MS, University of Rochester, 1962  
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 PhD, Syracuse University, 1972

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 JD, New York University, 1966

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 MLS, Rutgers University, 1993  
 PhD, Florida State University, 2002

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 JD, American University, 1976  
 MFS, George Washington University, 1979

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 PhD, Stanford University, 1971

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 PhD, University of Virginia, 1998

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 JD, Duquesne University, 1981  
 LLM, University of Baltimore, 1996

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PhD, University of Cincinnati, 1970

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*Adjunct Associate Professor*  
BS, Emporia State University, 1988  
MS, Moorhead State University, 1992  
MS, Oregon State University, 1997  
PhD, Oregon State University, 2003

## Zeitlin, Allan R.

*Adjunct Associate Professor*  
BA, Queens College—CUNY, 1970  
JD, New England School of Law, 1974

## Zietlow, John

*Adjunct Professor*  
BS, Ohio State University, 1978  
MBA, Ohio State University, 1979  
DBA, University of Memphis, 1985

## Zuba, Marge Tye

*Adjunct Associate Professor*  
BS, St. Mary-of-the-Woods  
MSW, University of Illinois, Chicago, 1973EdD,  
Northern Illinois University, 1990

## VISITING FACULTY

### Oldenburg University

Brindley, Jane

Creed, Charlotte

Huelsman, Thomas

Macintosh, Wayne

Panda, Santosh

Rumble, Greville

Zawacki, Olaf

### Universidad Argentina De La Empresa

Blousson, Alfredo Enrique

Feld, Mariana

## POLICY ON STUDENT CLASSIFICATION FOR ADMISSION, TUITION, AND CHARGE DIFFERENTIAL PURPOSES

(Approved by the Board of Regents August 28, 1990; Amended July 10, 1998; Amended November 27, 2000; Amended April 11, 2003)

### I. Policy

It is the policy of the Board of Regents of the University System of Maryland (USM) to recognize the categories of in-state and out-of-state students for the purpose of admission, tuition, and charge differentials at those institutions where such differentiation has been established.

- A. An in-state student is a student whom the university determines to be a permanent resident of the state of Maryland. For the purposes of this policy, “permanent resident” is defined as a person who satisfies all the following conditions and has done so for at least twelve (12) consecutive months immediately prior to and including the last date available to register for courses in the semester/term for which the person seeks in-state status:
1. Is not residing in the state of Maryland primarily to attend an educational institution;
  2. Owns and continuously occupies or rents and continuously occupies living quarters in Maryland. There must exist a genuine deed or lease in the individual’s name reflecting payments/rents and terms typical of those in the community at the time executed. Persons not having such a lease may submit an affidavit reflecting payments/rents and terms, as well as the name and address of the person to whom payments are made that may be considered as meeting this condition. As an alternative to ownership or rental of living quarters in Maryland, a student may share living quarters in Maryland that are owned or rented and occupied by a parent, legal guardian, or spouse;
  3. Maintains within Maryland substantially all personal property;
  4. Pays Maryland income tax on all earned taxable income, including all taxable income earned outside the state;
  5. Registers all owned motor vehicles in Maryland in accordance with Maryland law;
  6. Possesses a valid Maryland driver’s license, if licensed, in accordance with Maryland law;
  7. Is registered in Maryland, if registered to vote;
  8. Receives no public assistance from a state other than the state of Maryland or from a city, county, or municipal agency other than one in Maryland; and
  9. Has a legal ability under federal and Maryland law to live permanently without interruption in Maryland.

- B. In addition, persons with the following status shall be accorded the benefits of in-state status for the period in which they hold such status:
1. A full-time or part-time (at least 50-percent-time) regular employee of the USM.
  2. The spouse or financially dependent child of a full-time or part-time (at least 50-percent-time) regular employee of the USM.
  3. A full-time active member of the Armed Forces of the United States whose home of residency is Maryland or one who resides or is stationed in Maryland, or the spouse or a financially dependent child of such a person.
  4. For UMUC, a full-time active member of the Armed Forces of the United States on active duty, or the spouse of a member of the Armed Forces of the United States on active duty.
  5. A graduate assistant appointed through the USM for the semester/term of the appointment. Except through prior arrangement, this benefit is available only for enrollment at the institution awarding the assistantship.
- C. Students not entitled to in-state status under the preceding paragraphs shall be assigned out-of-state status for admission, tuition, and charge-differential purposes.
- D. Assignment of in-state or out-of-state classification will be made by the university upon an assessment of the totality of facts known or presented to it. The person seeking in-state status shall have the burden of proving that he or she satisfies all requirements.
- E. Either of the following circumstances raise a presumption that the student is residing in the state of Maryland primarily for the purpose of attending an educational institution:
1. The student was attending high school or residing outside Maryland at the time of application for admission to a USM institution, or
  2. The student is both (a) not financially independent and (b) is financially dependent upon a person who is not a resident of Maryland.
- The burden shall be on the student to rebut the presumption.

### II. Procedures

- A. An initial determination of in-state status will be made by the university at the time a student’s application for admission is under consideration. The determination made at that time, and any determination made thereafter, shall prevail for each semester/term until the determination is successfully challenged in a timely manner.
- B. A change in status must be requested by submitting a USM “Petition for Change in Classification for Admission, Tuition, and Charge Differential.” A student applying for a change to in-state status must fur-

nish all required documentation with the petition by the last published date to register for the forthcoming semester/term for which the change in classification is sought.

- C. The student shall notify the institution in writing within fifteen (15) days of any change in circumstances that may alter in-state status.
- D. In the event incomplete, false, or misleading information is presented, the institution may, at its discretion, revoke in-state status and take disciplinary action provided for by the institution's policy. Such action may include suspension or expulsion. If in-state status is gained due to false or misleading information, the university reserves the right to retroactively assess all out-of-state charges for each semester/term affected.
- E. Each institution of the USM shall develop and publish additional procedures to implement this policy. Procedures shall provide that on request the president or designee has the authority to waive any residency criterion set forth in Section I if it is determined that the student is indeed a permanent resident and the application of the criteria creates an unjust result. These procedures shall be filed with the Office of the Chancellor.

### III. Definitions

- A. **Financially Dependent:** For the purposes of this policy, a financially dependent student is one who is claimed as a dependent for tax purposes or who receives more than one-half of his or her support from another person during the twelve- (12-) month period immediately prior to the last published date for registration for the semester or session. If a student receives more than one-half of his or her support in the aggregate from more than one person, the student shall be considered financially dependent on the person providing the greater amount of support.
- B. **Financially Independent:** A financially independent student is one who (1) declares himself or herself to be financially independent as defined herein; (2) does not appear as a dependent on the federal or state income tax return of any other person; (3) receives less than one-half of his or her support from any other person or persons; and (4) demonstrates that he or she provides through self-generated support one-half or more of his or her total expenses.
- C. **Parent:** A parent may be a natural parent, or, if established by a court order recognized under the law of the state of Maryland, an adoptive parent.
- D. **Guardian:** A guardian is a person so appointed by a court order recognized under the law of the state of Maryland.
- E. **Spouse:** A spouse is a partner in a legally contracted marriage.

- F. **Child:** A child is a natural child or a child legally adopted pursuant to a court order recognized under the law of Maryland.
- G. **Self-Generated:** Self-generated describes income that is derived solely from compensation for an individual's own efforts as evidenced, for example, by federal or state W-2 forms or IRS Form 1099, where interest income is based upon finances created from one's own efforts. For the purposes of this policy, grants, stipends, awards, benefits, loans, and gifts (including federal and state aid, grants, and loans) may not be used as self-generated income.
- H. **Regular Employee:** A regular employee is a person employed by the USM who is assigned to a state budget line or who is otherwise eligible to enroll in a state retirement system. Examples of categories not considered regular employees are graduate students, contingent employees, and independent contractors.

### IV. Implementation

This policy as amended by the Board of Regents on November 27, 2000, shall be applied to all student residency classification decisions made on or after this date.

### POLICY ON RELIGIOUS OBSERVANCES

(UMUC Policy 51.00)

- I. UMUC conforms to the Board of Regents Policy III-5.10 Concerning the Scheduling of Academic Assignments on Dates of Religious Observance, approved on January 11, 1990.
- II. So that the academic programs and services of UMUC 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. Students who miss a course session because of an observance of their religious beliefs must be allowed
  - To make up any examinations, other written tests, or class work;
  - To have access to any handouts or other material distributed in class; and
  - To have the opportunity to obtain or review any duplicated lecture notes or slides presented in class.
- III. UMUC prohibits scheduling examinations on the following religious holidays: Rosh Hashanah, Yom Kippur, and Good Friday.

## SHARED GOVERNANCE

(From UMUC Policy 20.20)

In accordance with Board of Regents I-6.00 Policy on Shared Governance in the University System of Maryland, UMUC developed a new worldwide shared governance structure. Each of the three primary stakeholder groups—students, faculty, and staff—of UMUC has an advisory council consisting of elected representatives. These councils advise senior UMUC leadership on broad issues related to the university’s strategic planning, communications, academic initiatives, and other issues. Further, there is a University Advisory Council, made of representatives from each of the three stakeholder councils, to advise and assist the president of UMUC.

### Student Advisory Council

The Student Advisory Council consists of twelve (12) student representatives from UMUC locations worldwide and includes both undergraduate and graduate students. Student Advisory Council representatives serve on the overall University Advisory Council, the Graduate Council, and the Undergraduate Curriculum Committee. The Student Advisory Council provides senior management with critical input on a wide variety of institutional initiatives that affect students and student life at UMUC. To learn more about the Student Advisory Council or contact a representative, students should visit the Web page at [www.umuc.edu/gov/stac](http://www.umuc.edu/gov/stac).

## POLICIES AND REGULATIONS ON STUDENT DRUG AND ALCOHOL USE

UMUC 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 UMUC officials will be addressed through UMUC procedures, or through prosecution in the courts, or both.

All UMUC students are prohibited by UMUC from unlawfully possessing, using, manufacturing, distributing, or dispensing alcohol or any controlled substance on UMUC premises or at UMUC-sponsored activities. UMUC 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 UMUC academic programs and referral to the appropriate state, federal, and/or local authorities for prosecution in the courts. See [www.umuc.edu/inform/report.html](http://www.umuc.edu/inform/report.html) for additional information.

## FINANCIAL AID—SATISFACTORY ACADEMIC PROGRESS, GRADUATE

(UMUC Policy 220.31)

Financial aid is intended to meet the financial needs of the student who otherwise could not or would not consider continuing their education. Students who receive financial aid must not only demonstrate financial need, but must also make satisfactory progress as determined by University of Maryland University College in accordance with federal regulations.

Financial aid recipients are required to be in good standing and to maintain satisfactory academic progress toward their degree requirements for each semester/term in which they are enrolled. Satisfactory academic progress, as described below, is evaluated three times annually, in January, June, and August. Failure to maintain satisfactory progress, as described below, may result in cancellation of financial aid awards, and the student may have to repay any funds already received.

### Basic Standard for Graduate Students

UMUC’s institutional requirements for minimum satisfactory performance for financial aid recipients are defined as follows:

1. **Minimum cumulative grade-point average (GPA).**  
Graduate students must maintain a minimum cumulative GPA of 3.0.
2. **Minimum passing grade.**  
The minimum passing grade for a graduate student is a B grade for each course. A student may not receive a grade of C or below for a course in the most recent semester of enrollment and be considered to meet the minimum academic standards.
3. **Minimum cumulative completion rate.**  
Graduate students must maintain a minimum cumulative completion rate of two-thirds of credits attempted (67 percent).
4. **Maximum timeframe to completion.**  
The federally mandated maximum timeframe to complete the program or degree. The student must complete his or her educational program within a time frame no longer than 150 percent of the published length of the educational program (for example, complete his or her program after attempting a maximum of 54 credits for a 36-credit program).

Federal regulations require that UMUC track the academic progress of financial aid recipients from the first date of enrollment at UMUC, whether or not financial aid was received. Credits transferred from all other credit sources will be considered as attempted and completed credits in the evaluation of the completion rate standards.

Students who do not earn their degree within the maximum timeframe to completion, outlined above, will be placed on

Financial Aid Denied status, not Financial Aid Probation. No financial aid will be disbursed for the student during subsequent semesters/periods of enrollment unless the student has made an appeal of the Financial Aid Denied and the appeal is granted.

## Treatment of W, I, AU, F, S, P, RT, H, and G Grades, No Grade Reported, and Repeated Coursework

1. Course withdrawals (W) after the drop/add period are not included in the GPA calculation, but are considered a non-completion of attempted coursework.
2. Incomplete (I) grades are not included in the GPA calculation and are considered a noncompletion of attempted coursework until the Incomplete grade is replaced with a permanent grade and academic progress can be re-evaluated.
3. An audit (AU) grade or a course taken out of sequence (H) grade is not considered attempted coursework. It is not included in the GPA calculation or completion rate determinations.
4. A satisfactory (S) grade, a passing (P) grade, or a repeat through transfer credit (RT) grade is treated as attempted credits which are earned, but is not included in calculation of GPA.
5. F grades will be treated as attempted credits that were not earned and so will be included both in the calculation of GPA and minimum completion rate.
6. If a grade pending (G) or no grade is assigned, for any reason, it will not be included in the GPA calculation and will not be considered a noncompletion of attempted coursework until a grade is assigned and academic progress is reevaluated.
7. The highest grade earned in a course that is repeated will count in the GPA computation, but every repeated attempt will be included in the completion rate determinations. No financial aid can be disbursed for a repeated attempt if the student already has achieved a passing grade for that course.

## Financial Aid Probation Status

Graduate students who fail to meet the minimum 3.0 cumulative grade-point average standard or fail to complete at least two-thirds of cumulative credits attempted or who receive a grade of C or below for a course in the most recent semester/period of enrollment will be placed on Financial Aid Probation for the subsequent semesters/periods of enrollment. Financial aid can be received during the semesters/terms of probation. Financial aid disbursements for the next period of enrollment will be held until the grades and course completions have been reviewed for the probationary semesters/periods of enrollment of Financial Aid Probation.

Students receiving financial aid for the first time will be placed on Financial Aid Probation if they do not meet the minimum grade point average or course completion standards as noted in this policy in a previous semester/period of enrollment at UMUC.

## Financial Aid Denied Status

Students who, while on Financial Aid Probation or on Financial Aid Denied status, fail to maintain the minimum completion rate of 67 percent and/or fail to maintain a minimum cumulative GPA of 3.0 or better and/or receive a grade of C or below for a course in the most recent semester/period of enrollment will be placed on Financial Aid Denied status for subsequent semesters/periods of enrollment. No financial aid will be disbursed during subsequent semesters/periods of enrollment until the student is removed from Financial Aid Denied status.

Graduate students who do not earn their degree within the maximum timeframe to completion will be placed in Financial Aid Denied status. No aid will be disbursed during subsequent semesters/periods of enrollment unless the student has made an appeal and the appeal is granted for that semester/period of enrollment. There are no exceptions to this requirement.

## Reinstatement of Aid After Financial Aid Denied Status

Reinstatement of financial aid after a student is placed in Financial Aid Denied status is achieved in one of the following ways:

1. The student submits a written letter of appeal in accordance with the appeal process and the Financial Aid Appeals Committee grants the appeal. The student is placed on Financial Aid Probation for the semester/period of enrollment rather than in Financial Aid Denied status.
2. The student attends UMUC, pays for tuition and fees without the help of student financial aid, and does well enough in the coursework to satisfy all the satisfactory academic progress standards. The student regains aid eligibility in a probationary status. Students who are in Financial Aid Denied status for failure to graduate within the maximum timeframe to completion cannot regain eligibility this way. Students who are beyond the maximum timeframe to completion cannot regain financial aid eligibility except on a semester/period of enrollment-by-semester/period of enrollment basis through the appeal process.

## Appeal Process

The student must submit an appeal of Financial Aid Denied status in writing to the associate director of Financial Aid by the date specified in the Financial Aid Denied notification letter. The Financial Aid Appeals Committee will review the appeal and notify the student in writing of their decision within 14 working days after the Appeals Committee meets and makes its determination.

## DISCLOSURE OF STUDENT RECORDS

(UMUC Policy 210.14)

### I. Introduction

UMUC complies with the Family Educational Rights and Privacy Act (FERPA) of 1974 (also known as “the Buckley Amendment”) which protects the privacy of students. In accordance with FERPA, this policy informs students of their rights to

- A. Inspect and review their education records;
- B. Seek an amendment of their education records, where appropriate;
- C. Limit disclosure to others of personally identifiable information from education records without the student’s prior written consent; and
- D. File formal complaints alleging a violation of FERPA with the Department of Education.

### II. Definitions

- A. “Student” is an individual who is attending or who has attended UMUC. It does not include any applicant for admission to UMUC who does not matriculate, even if he or she previously attended UMUC.
- B. “Education records” are records that contain information directly related to a student that are maintained by UMUC or by a third party on behalf of UMUC. The following records are not education records:
  1. Campus police or security (“law enforcement unit”) records maintained solely for law enforcement purposes and maintained by that law enforcement unit.
  2. Employment records, except where a currently enrolled student is employed as a result of his or her status as a student.
  3. Records of a physician, psychologist, or other recognized professional or paraprofessional if made or used only for treatment purposes and available only to persons providing treatment.
  4. Records that contain only information relating to a person’s activities after that person is no longer a student at UMUC.

### III. Inspection and Review of Education Records by Students

- A. Right of Access
  1. Each student has a right of access to his or her education records, except financial records of the student’s parents and confidential letters of recommendation received prior to January 1, 1975.
  2. A student may, by a signed writing, waive his or her right of access to confidential recommendations in

three areas: admission to any educational institution, job placement, and receipt of honors and awards. UMUC will not require such waivers as a condition for admission or receipt of any service or benefit normally provided to students. If the student chooses to waive his or her right of access, he or she will be notified, upon written request, of the names of all persons making confidential recommendations. Such recommendations will be used only for the purpose for which they were specifically intended. A waiver may be revoked in writing at any time; and the revocation will apply to all subsequent recommendations, but not to recommendations received while the waiver was in effect.

- B. Custodians of Education Records  
The custodian of education records is
  1. For UMUC Adelphi: the registrar located in Adelphi, Maryland.
  2. For UMUC Asia: the registrar located in Tokyo, Japan.
  3. For UMUC Europe: the registrar located in Heidelberg, Germany.
  4. For Mannheim: the registrar located in Heidelberg, Germany.
  5. For Schwäbisch Gmünd: the registrar located in Adelphi, Maryland.
- C. Procedure to Request Review and/or Inspection of Education Records

Requests for review and/or inspection of education records should be made in writing to the appropriate custodian of records, as defined above. The custodian of records or designee will comply with a request for access within a reasonable time by arranging for the student to review his or her records in the presence of a staff member. If facilities permit, a student may obtain copies of his or her records by paying reproduction costs. The fee for copies is 50 cents per page. UMUC will not provide copies of any transcripts in the student’s records other than the student’s current UMUC transcript. Official transcripts (with the seal of UMUC) will be provided for a separate fee.

### IV. Amendment of Education Records

Students may request an amendment of their education records in accordance with this procedure.

- A. Request to Amend Education Records  
A student who believes that his or her education record is inaccurate, misleading, or in violation of the student’s rights of privacy may ask the custodian of the education records to amend the record. The custodian of the education records or designee will decide whether to amend the record within a reasonable time after the request. If the custodian of the education records or designee decides not to amend the record, he or she will inform the student of the right to a hearing.

## B. Hearings

1. A student may submit a written request for a hearing to challenge the content of his or her education records to the university registrar. The written request must state what records the student believes are inaccurate, misleading, or in violation of the privacy rights of the student.
2. A hearing will be conducted by the university registrar or designee. The hearing may take place via telephone or video conferencing. The student will be given an opportunity to present evidence relevant to the issues raised and may be assisted or represented by individuals of his or her choice at his or her own expense, including an attorney.
3. Within a reasonable period of time after the conclusion of a hearing, the university registrar will notify the student in writing of his decision. The written decision will include a summary of the evidence and the reasons for the decision.
  - a. If the university registrar determines that the education record is inaccurate, misleading, or in violation of the privacy of the student, the education records will be amended. The university registrar will inform the student of the amendment in writing.
  - b. If, as a result of the hearing, the university registrar decides that the education record is not inaccurate, misleading, or otherwise in violation of the privacy rights of the student, he will inform the student of the right to place a statement in the record commenting on the contested information in the record or stating why he or she disagrees with the decision of the agency or institution, or both. Any such explanation will be kept as part of the student's record as long as the contested portion of the record is kept and will be disclosed whenever the contested portion of the record is disclosed.

3. Identify to whom the disclosure is to be made; *and*
4. Be signed and dated by the student.

At the student's request and expense, a copy of the records disclosed will be provided to the student.

## B. Directory Information

1. UMUC designates the following categories of information as directory information:
  - a. Name;
  - b. Major field of study;
  - c. Dates of attendance;
  - d. Degrees and awards received;
  - e. Previous educational institution most recently attended; and
  - f. Birth date.

2. Directory information may be disclosed in the absence of consent unless the student files a written notice, within three weeks of the first day in which the student is enrolled, informing UMUC not to disclose any or all of the categories. To prevent automatic disclosure of directory information, this notice must be filed annually within the time allotted above, with the appropriate custodian of the education records, as defined in this policy.

## C. Additional Disclosures Without Prior Consent

Prior consent is not required for disclosure of education records or the personally identifiable information contained therein in the following circumstances:

1. The disclosure is to other school officials generally within the University System of Maryland (USM) or UMUC who have legitimate educational interests.
  - a. "School officials" includes internal and external instructional or administrative personnel who are or may be in a position to use the information in furtherance of a legitimate educational objective, such as to provide student services. This includes, but is not limited to, faculty, staff members, and security personnel.
  - b. "Legitimate educational interests" include interests directly related to the academic environment.
2. The disclosure is to officials of other schools in which a student seeks to enroll or is enrolled. Upon his or her request and at his or her expense, the student is provided with a copy of the records that have been transferred.
3. The disclosure is to authorized representatives of the comptroller general of the United States, the secretary of the U.S. Department of Education, and state or local educational authorities.
4. The disclosure is to authorized persons and organizations in connection with a student's application

## V. Disclosures

UMUC will not disclose education records or the personally identifiable information contained therein unless permitted by FERPA and under the following circumstances:

### A. Prior Written Consent

The custodian of the records will provide the education records or personally identifiable information contained therein if the student provides prior written consent that the information may be disclosed. The consent must

1. Specify the records that may be disclosed;
2. State the purpose for the disclosure;



for, or receipt of, financial aid—but only to the extent necessary for such purposes as determining eligibility, amount, conditions, and enforcement of terms and conditions.

5. The disclosure is to state and local officials to whom, according to effective state law adopted prior to November 19, 1974, such information is specifically required to be reported.
  6. The disclosure is to organizations conducting educational studies for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction. The studies shall be conducted so as not to permit personal identification of students to outsiders, and the information is destroyed when it is no longer needed for those purposes.
  7. The disclosure is to accrediting organizations for purposes necessary to carry out their functions.
  8. The disclosure is to the parent of a student who is dependent for income tax purposes. (*Note:* UMUC may require documentation of dependent status, such as copies of income tax forms.)
  9. The disclosure is to comply with a judicial order or lawfully issued subpoena. Unless expressly prohibited by the subpoena, UMUC will make a reasonable effort to notify the student or parent of the order or subpoena in advance of compliance in order to give them time to seek protective action.
  10. The disclosure is in connection with a health or safety emergency.
  11. The disclosure is to an alleged victim of any crime of violence, of the results of any disciplinary proceeding conducted by UMUC against the alleged perpetrator of that crime with respect to that crime.
  12. The disclosure is to an alleged victim of any crime of violence of the results of any disciplinary proceeding conducted by UMUC against the alleged perpetrator of that crime with respect to that crime.
- D. Record of Disclosures
- UMUC maintains with the student's education records a record of each request and each disclosure, except for
1. Disclosures to the student himself or herself.
  2. Disclosures made pursuant to the written consent of the student (the written consent itself suffices as a record).
  3. Disclosures to USM instructional or administrative officials.
  4. Disclosures of directory information. This record of disclosures may be inspected by the student, the official custodian of the records, and other officials of UMUC and governmental officials.

## VI. Right to File Complaint

A student alleging that UMUC has not complied with the Family Educational Rights and Privacy Act (FERPA) may file a student grievance in accordance with UMUC's Student Grievance Procedures (Policy 130.70) or submit a written complaint to

Family Policy Compliance Office  
U.S. Department of Education  
400 Maryland Avenue, SW  
Washington, DC 20202-4605

## INTELLECTUAL PROPERTY

(UMUC Policy 190.0)

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. More information about UMUC's policy on intellectual property is available on the Web at [www.umuc.edu/policy/research19000.shtml](http://www.umuc.edu/policy/research19000.shtml).

# APPENDIX A: PROGRAM–CAREER MAPPINGS

BUSINESS MANAGEMENT AND FINANCE CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
<b>Administrative Services</b>	<ul style="list-style-type: none"> <li>Administrative Services Manager</li> <li>General Manager</li> <li>Operations Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
<b>Community Relations</b>	<ul style="list-style-type: none"> <li>Board Member or Director</li> <li>Executive positions, such as:                             <ul style="list-style-type: none"> <li>Executive Director</li> <li>Executive Vice President</li> <li>CEO</li> </ul> </li> <li>Professional staff, such as:                             <ul style="list-style-type: none"> <li>Policy Analyst</li> <li>Government Liaison</li> <li>Director of Marketing and Development</li> <li>Program Director</li> <li>Membership Director</li> <li>Technical Expert</li> </ul> </li> <li>Social Entrepreneur: (those who wish to found their own nonprofits)</li> <li>Volunteering (skills, knowledge, and services to nonprofits or associations)</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Nonprofit and Association Management Specialization</li> <li>Executive MBA</li> </ul>	38 46
<b>Finance and Accounting</b>	<ul style="list-style-type: none"> <li>Public Accountant or Auditor</li> <li>Accounting Manager</li> <li>Internal Control/Forensics Accounting Specialist</li> <li>Management Accountant</li> <li>Government Accountant or Auditor</li> <li>Internal Auditor</li> <li>Financial, Budget, or Management Analyst</li> <li>Accounting or Financial Officer</li> <li>Fraud Examiner</li> <li>Controller or Treasurer</li> <li>Financial manager</li> <li>Capital Investment Analyst</li> <li>Financial liaison with business units</li> <li>Credit or Cash Manager</li> <li>Financial Consultant or Advisor</li> <li>Cost Analyst or Program Analyst</li> <li>Chief Financial Officer (CFO) or Chief Information Officer (CIO)</li> <li>CFO Liaison with the CIO Office</li> <li>CIO Liaison with CFO Office</li> <li>CIO or CFO Liaison with the business units</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Accounting Specialization</li> <li>MS in Management, Financial Management Specialization</li> <li>MS in Accounting and Financial Management</li> <li>MS in Accounting and Information Technology</li> <li>MS in Financial Management and Information Systems</li> <li>Executive MBA</li> </ul>	37 37 20 22 27 46
<b>Marketing</b>	<ul style="list-style-type: none"> <li>Marketing Manager (B-to-B or consumer)</li> <li>Internet Marketing Manager</li> <li>Direct Marketing Manager</li> <li>Product/Brand Manager</li> <li>Manufacturer's Representative</li> <li>Retail Manager</li> <li>Account Executive (business or consumer products)</li> <li>Market Research Analyst (entry-level)</li> <li>Promotions Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Marketing Specialization</li> </ul>	38
<b>Security</b>	<ul style="list-style-type: none"> <li>Facility Security Officers</li> <li>Military Planners</li> <li>Federal, State, and Local Government Emergency Planners and Policy Makers</li> <li>Chief Security Officers</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Homeland Security Specialization</li> <li>MS in Information Technology, Information Assurance Specialization</li> </ul>	37 32

# APPENDIX A: PROGRAM–CAREER MAPPINGS

BUSINESS MANAGEMENT AND FINANCE CLUSTER (continued)			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Information Systems	<ul style="list-style-type: none"> <li>Systems or Business Analyst</li> <li>Systems Development Manager</li> <li>IS Project or Program Manager</li> <li>IS consultant</li> <li>CIO</li> <li>IS-Aware General Manager</li> <li>Technical Director</li> <li>Technical Expert/Advisor/Consultant</li> <li>Coordinator of Online Instruction</li> <li>Online Course Support Specialist</li> <li>Project/Program Director (e-learning arena)</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Information Systems and Services Specialization</li> <li>Executive MBA</li> <li>Master of Distance Education, Distance Education Technology Specialization</li> <li>Master of Distance Education, Distance Education Teaching and Training Specialization</li> </ul>	<p>38</p> <p>46</p> <p>14</p> <p>14</p>
Health Care Administration	<ul style="list-style-type: none"> <li>Entry or mid-level manager in health services organizations</li> <li>Entry or mid-level manager in other health care business enterprises</li> <li>Coordinator of Online Instruction (in Health Care)</li> <li>Online course Support Specialist (in Health Care)</li> <li>Online Trainer and Manager/supervisor (in Health Care)</li> <li>Program Evaluator</li> <li>Director of Distance Learning (in Health Care)</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Health Care Administration Specialization</li> <li>MS in Health Care Administration (only for students with previous professional experience in the field)</li> <li>Master of Distance Education, Distance Education Technology Specialization</li> <li>Master of Distance Education, Distance Education Teaching and Training Specialization</li> </ul>	<p>37</p> <p>29</p> <p>14</p> <p>14</p>
Business Administrative Services	<ul style="list-style-type: none"> <li>General Manager</li> <li>Consulting</li> <li>Finance</li> <li>Marketing</li> <li>Corporate Planning</li> <li>Mid-level Corporate Management</li> <li>CEO</li> <li>COO</li> <li>CFO</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Interdisciplinary Studies in Management Specialization</li> <li>MBA</li> <li>Executive MBA</li> </ul>	<p>38</p> <p>12</p> <p>46</p>
Logistics and Procurement	<ul style="list-style-type: none"> <li>Contract Specialist</li> <li>Contract Officer</li> <li>Contract Manager/ Administrator</li> <li>Procurement Specialist</li> <li>Procurement Manager/Administrator</li> <li>Purchaser/Buyer</li> <li>Logistics Specialist</li> <li>Logistics Analyst</li> <li>Logistics Manager/Administrator</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Procurement and Contract Management Specialization</li> </ul>	<p>39</p>
Human Resources	<ul style="list-style-type: none"> <li>HR Executive</li> <li>HR Generalist</li> <li>Employee Relations Manager</li> <li>Staffing Director</li> <li>Compensation Manager</li> <li>Director of Human Resource Training and Development</li> <li>Organizational Development and Change Consultant</li> <li>Technical Director</li> <li>Production Manager</li> <li>Technical Expert/ Advisor/ Consultant</li> <li>Coordinator of Online Instruction</li> <li>Online Course Support Specialist</li> <li>Online Trainer</li> <li>Online Librarian/Resource Manager</li> <li>Pedagogical Expert</li> <li>Online Resource Manager</li> <li>Program Evaluator/Educational Consultant</li> <li>Director of Distance Learning</li> <li>Financial Advisor/Account Manager (as part of e-learning projects)</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Human Resource Management Specialization</li> <li>Master of Distance Education, Distance Education Technology Specialization</li> <li>Master of Distance Education, Distance Education Teaching and Training Specialization</li> <li>Master of Distance Education, Distance Education Policy and Management Specialization</li> </ul>	<p>37</p> <p>14</p> <p>14</p> <p>15</p>

# APPENDIX A: PROGRAM–CAREER MAPPINGS

## BUSINESS MANAGEMENT AND FINANCE CLUSTER (continued)

PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
International Business	<ul style="list-style-type: none"> <li>• Mid-level Management in a Global Enterprise, Corporation, Government Agency, or Nonprofit Organization</li> <li>• International Communications</li> <li>• Global Trade Operations</li> <li>• Senior-level Management in a Global Enterprise, Corporation, Government Agency, or Nonprofit Organization</li> <li>• CEO, CFO or COO in an International Corporation or Domestic Business with International Partnerships</li> </ul>	<ul style="list-style-type: none"> <li>• Master of International Management</li> </ul>	19

## CONSUMER SERVICES, HOSPITALITY, AND TOURISM CLUSTER

PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Customer Service	<ul style="list-style-type: none"> <li>• General/Regional Manager</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Management, Interdisciplinary Studies in Management Specialization</li> </ul>	38
Marketing and Communications/Event Management	<ul style="list-style-type: none"> <li>• Marketing Manager (B-to-B or consumer)</li> <li>• Internet Marketing Manager</li> <li>• Direct Marketing Manager</li> <li>• Manufacturer's Representative</li> <li>• Product/Brand Manager</li> <li>• Retail Manager</li> <li>• Account Executive (Business or consumer products)</li> <li>• Market Research Analyst (entry-level)</li> <li>• Promotions Manager</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Management, Marketing Specialization</li> </ul>	38
Logistics	<ul style="list-style-type: none"> <li>• Logistics Specialist</li> <li>• Logistics Analyst</li> <li>• Logistics Manager/Administrator</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Management, Procurement and Contract Management Specialization</li> </ul>	39
Merchandising/Buying	<ul style="list-style-type: none"> <li>• Purchaser/Buyer</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Management, Procurement and Contract Management Specialization</li> </ul>	39

## CONSTRUCTION AND DEVELOPMENT CLUSTER

PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Construction	<ul style="list-style-type: none"> <li>• Project Manager</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Technology Management</li> </ul>	43
Maintenance and Operations	<ul style="list-style-type: none"> <li>• Cost Estimator</li> <li>• Project Manager</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Technology Management</li> </ul>	43

# APPENDIX A: PROGRAM–CAREER MAPPINGS

EDUCATION AND TRAINING CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Pre-K–12 Education*	<ul style="list-style-type: none"> <li>Teacher in Elementary or Secondary Education</li> <li>Tutor</li> <li>Teacher Leader (within the school building responsible for technology integration)</li> <li>Staff Developer (at the school district level)</li> <li>Technology Integration Specialist (for a school district)</li> <li>Technology Integration Specialist (for a state agency or education provider)</li> <li>Program or Curriculum Developer</li> <li>Developer of Multimedia (for education or training)</li> <li>Online Distance Education Teacher (for virtual K–12 schools)</li> </ul>	<ul style="list-style-type: none"> <li>Alternative Teacher Certification (EDTP)</li> <li>Teacher Education Reading Strand (EDRS)</li> <li>Master of Education in Instructional Technology</li> </ul>	48
			49
			17
Distance Education	<ul style="list-style-type: none"> <li>Technical Director</li> <li>Production Manager</li> <li>Technical Expert/Advisor/ Consultant</li> <li>Coordinator of Online Instruction</li> <li>Online Course Support Specialist</li> <li>Online Teacher/Tutor/Trainer</li> <li>Pedagogical Expert (online learning)</li> <li>Online Librarian/Resource Manager</li> <li>Program Evaluator/Educational Consultant</li> <li>Subject Matter Expert (for distance education)</li> <li>Director of Distance Learning</li> <li>Project/Program Manager/Director</li> <li>Project Management Assistant</li> <li>Financial Advisor/Account Manager (in distance education environments)</li> <li>Distance Learning Librarian</li> </ul>	<ul style="list-style-type: none"> <li>Master of Distance Education, Distance Education Technology Specialization</li> <li>Master of Distance Education, Distance Education Teaching and Training Specialization</li> <li>Master of Distance Education, Distance Education Policy and Management Specialization</li> <li>Master of Education in Instructional Technology</li> </ul>	14
			14
			15
			17

\* State certification as a teacher, paraprofessional, or administrator may be a prerequisite for employment in Pre-K–12 school settings. Check with your state department of education. Note that the Master of Education (MEd) does not lead to initial teacher certification.

ENVIRONMENTAL SYSTEM CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Management	<ul style="list-style-type: none"> <li>Environmental Project Manager</li> <li>Environmental Program Manager</li> <li>Environmental Program Analyst</li> <li>Environmental Specialist</li> <li>Environmental and Waste Manager</li> <li>Air Quality Specialist</li> <li>Land and Water Use Planner</li> <li>Natural Resource Manager</li> <li>Natural Resource Specialist</li> </ul>	<ul style="list-style-type: none"> <li>MS in Environmental Management</li> </ul>	25

# APPENDIX A: PROGRAM–CAREER MAPPINGS

HEALTH AND BIOSCIENCES CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Health Administration Informatics	<ul style="list-style-type: none"> <li>• Consultants in health administration informatics</li> <li>• Vendors of health administration informatics products</li> <li>• Health administration informatics employees for health insurance companies</li> <li>• Health administration informatics employees in hospital, primary care, long term care or integrated health care delivery systems</li> <li>• Coordinator of Online Instruction (in Health Administration)</li> <li>• Online course support specialist (in Health Administration)</li> <li>• Online trainer and manager/supervisor (in Health Administration)</li> <li>• Program evaluator</li> <li>• Director of distance learning (in Health Administration)</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Health Administration Informatics (requires three years of professional experience in the field)</li> </ul>	28
		<ul style="list-style-type: none"> <li>• Master of Distance Education, Distance Education Technology Specialization</li> </ul>	14
		<ul style="list-style-type: none"> <li>• Master of Distance Education, Distance Education Teaching and Training Specialization</li> </ul>	14
Informatics	<ul style="list-style-type: none"> <li>• Bioinformatics Analyst</li> <li>• Bioinformatics Engineer</li> <li>• Bioinformatics Support Specialist</li> <li>• Bioinformatics Programmer</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Biotechnology, Bioinformatics Specialization</li> </ul>	24
Basic Research	<ul style="list-style-type: none"> <li>• Bioinformatics Analyst</li> <li>• Bioinformatics Developer</li> <li>• Research Scientist</li> <li>• Lab technician</li> <li>• Lab Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Biotechnology, Bioinformatics Specialization</li> </ul>	24
		<ul style="list-style-type: none"> <li>• MS in Biotechnology, Biotechnology Management Specialization</li> </ul>	25
Applied Research	<ul style="list-style-type: none"> <li>• Bioinformatics Analyst</li> <li>• Bioinformatics Engineer</li> <li>• Statistical Analysts</li> <li>• Emergency Response Coordinator</li> <li>• Research Assistant/Associate, Domestic Preparedness</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Biotechnology, Bioinformatics Specialization</li> </ul>	24
		<ul style="list-style-type: none"> <li>• MS in Biotechnology, Biosecurity and Biodefense Specialization</li> </ul>	25
Manufacturing	<ul style="list-style-type: none"> <li>• Product Manager</li> <li>• Quality Assurance Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Biotechnology, Biotechnology Management Specialization</li> </ul>	25

# APPENDIX A: PROGRAM–CAREER MAPPINGS

HUMAN RESOURCE SERVICES CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Government and Public Administration	• Contract Specialist	• MS in Management, Procurement and Contract Management Specialization	39
	• Contract Officer	• MS in Management, Accounting Specialization	37
	• Contract Manager/Administrator	• Master of Distance Education, Distance Education Technology Specialization	14
	• Procurement Specialist	• Master of Distance Education, Distance Education Teaching and Training Specialization	14
	• Procurement Manager/Administrator	• Master of Distance Education, Distance Education Policy and Management Specialization	15
	• Purchaser/ Buyer		
	• Logistics Specialist		
	• Logistics Analyst		
	• Logistics Manager/Administrator		
	• Government Accountant or Auditor		
	• Technical Director		
	• Technical Expert/Advisor/ Consultant		
	• Program Manager		
	• Coordinator of Online Instruction		
	• Online Course Support Specialist		
	• Online Trainer		
• Manager of Online Instruction			
• Pedagogical Expert			
• Online Resource Manager			
• Program Evaluator/Educational Consultant			
• Director of Distance Learning			
• Financial Advisor/Account Manager (as part of e-learning projects)			

# APPENDIX A: PROGRAM–CAREER MAPPINGS

INFORMATION TECHNOLOGY CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
<b>Telecommunications Management</b>	<ul style="list-style-type: none"> <li>• Telecommunications System Developer</li> <li>• Network Security Manager</li> <li>• Network Manager (for local and wide area, wired and wireless systems)</li> <li>• Network Designer (for local and wide area, wired and wireless systems)</li> <li>• Information Systems Developer</li> <li>• Telecommunications System Business Manager</li> <li>• Telecommunications System Operations Manager</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Telecommunications Management Specialization</li> </ul>	33
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Project Management Specialization</li> </ul>	33
<b>Software Engineering/ Development</b>	<ul style="list-style-type: none"> <li>• Software Architect</li> <li>• Network Analyst</li> <li>• Operating Systems Designer/Engineer</li> <li>• Information Systems Architect</li> <li>• Software Development Team Leader</li> <li>• Software Development Department Head</li> <li>• Chief Technical Officer</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Software Engineering Specialization</li> </ul>	33
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Project Management Specialization</li> </ul>	33
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Informatics Specialization</li> </ul>	32
<b>Software Operations</b>	<ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Operations Manager</li> <li>• Operations Systems Analyst</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Software Engineering Specialization</li> </ul>	33
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Project Management Specialization</li> </ul>	33
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Informatics Specialization</li> </ul>	32
<b>Software Operations</b>	<ul style="list-style-type: none"> <li>• Database Administrator</li> <li>• Senior Database Administrator</li> <li>• Database Security Expert</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Database Systems Technology Specialization</li> </ul>	31
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Project Management Specialization</li> </ul>	32
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Informatics Specialization</li> </ul>	32
<b>Systems</b>	<ul style="list-style-type: none"> <li>• Systems Architect</li> <li>• Systems Engineer</li> <li>• Operations System Engineer</li> <li>• Security Analyst</li> <li>• Operations System Program Manager</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Project Management Specialization</li> </ul>	33
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Informatics Specialization</li> </ul>	32
<b>Information Systems and Security</b>	<ul style="list-style-type: none"> <li>• Security Analysts</li> <li>• Chief Security Officers</li> <li>• Security Managers</li> <li>• Security Architects</li> <li>• Security Administrators</li> <li>• Security Officers</li> <li>• Security Professionals</li> <li>• Network Administrators</li> <li>• Network Professionals</li> <li>• System Administrators</li> <li>• System Professionals</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Information Assurance Specialization</li> </ul>	32
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Project Management Specialization</li> </ul>	32
<b>Homeland Security</b>	<ul style="list-style-type: none"> <li>• Chief Operation Officers</li> <li>• Facility and Plant Managers</li> <li>• Facility Security Officers</li> <li>• Military Planners</li> <li>• Federal/State/Local Government Emergency Planners/Policy Makers</li> <li>• Law Enforcement, Emergency, and Medical Policy Makers, Practitioners, and Administrators</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Homeland Security Specialization</li> </ul>	32
		<ul style="list-style-type: none"> <li>• MS in Information Technology, Project Management Specialization</li> </ul>	33



# APPENDIX A: PROGRAM–CAREER MAPPINGS

INFORMATION TECHNOLOGY CLUSTER (continued)			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
<b>E-Business</b>	• E-commerce Manager	• MS in Information Technology, E-Business Specialization	32
	• E-commerce Operations Manager	• MS in Information Technology, Project Management Specialization	33
	• E-commerce Consultant	• Master of Distance Education, Distance Education Technology Specialization	14
	• E-commerce Product Manager	• Master of Distance Education, Distance Education Policy and Management Specialization	15
	• Technical Director		
	• Program Manager		
	• Coordinator of Online Instruction		
	• Online Course Support Specialist		
	• Online Trainer		
	• Manager of Online Instruction		
	• Pedagogical Expert		
	• Online Resource Manager		
	• Financial Advisor/Account manager (as part of e-learning projects)		
<b>Information Systems Management</b>	• Chief Information Officer	• MS in Information Technology	31

# APPENDIX A: PROGRAM–CAREER MAPPINGS

MANUFACTURING, ENGINEERING, AND TECHNOLOGY CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Production	<ul style="list-style-type: none"> <li>Systems Engineer</li> <li>Project Manager</li> <li>Program Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Product Engineering	<ul style="list-style-type: none"> <li>Systems Engineer</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Manufacturing Sales and Service	<ul style="list-style-type: none"> <li>Marketing Manager</li> <li>Sales Manager</li> <li>Customer Sales Manager</li> <li>Sales and Application Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Logistics and Inventory Control	<ul style="list-style-type: none"> <li>Logistics Analyst</li> <li>Production Planner and Scheduler</li> <li>Inventory Manager</li> <li>Purchasing Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Manufacturing Process	<ul style="list-style-type: none"> <li>Product Change Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Quality Assurance	<ul style="list-style-type: none"> <li>Reliability Engineer</li> <li>Quality Engineer</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Reliability and Maintenance	<ul style="list-style-type: none"> <li>Facility Engineer</li> <li>Systems Engineer</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Information Technology	<ul style="list-style-type: none"> <li>System Engineer</li> <li>Knowledge Engineer</li> <li>Product Data Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Logistics and Inventory Control/Purchasing and Procurement	<ul style="list-style-type: none"> <li>Contract Specialist</li> <li>Contract Officer</li> <li>Contract Manager/ Administrator</li> <li>Procurement Specialist</li> <li>Procurement Manager/Administrator</li> <li>Purchaser/Buyer</li> <li>Logistics Specialist</li> <li>Logistics Analyst</li> <li>Logistics Manager/Administrator</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Procurement and Contract Management Specialization</li> </ul>	39
Manufacturing Sales and Service	<ul style="list-style-type: none"> <li>Marketing Manager</li> <li>Sales/Retail Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Marketing Specialization</li> </ul>	38
Production	<ul style="list-style-type: none"> <li>Project Manager</li> <li>Program Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Project Management Specialization</li> </ul>	39
Commercialization of Technology	<ul style="list-style-type: none"> <li>Chief Technology Officer</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43

# APPENDIX A: PROGRAM–CAREER MAPPINGS

MARKETING AND MASS COMMUNICATION CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
<b>Marketing</b>	<ul style="list-style-type: none"> <li>• Marketing Manager (B-to-B or consumer)</li> <li>• Internet Marketing Manager</li> <li>• Direct Marketing Manager</li> <li>• Product/Brand Manager</li> <li>• Manufacturer’s Representative</li> <li>• Retail Manager</li> <li>• Account Executive (Business or consumer products)</li> <li>• Market Research Analyst (entry-level)</li> <li>• Promotions Manager</li> <li>• Production Managers</li> <li>• E-learning specialist/consultant</li> <li>• Project/Program manager (in e-learning related areas)</li> <li>• Director of Advertising</li> <li>• Advertising Manager</li> <li>• Director of Marketing Communications</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Management, Marketing Specialization</li> </ul>	38
		<ul style="list-style-type: none"> <li>• Master of Distance Education, Distance Education Technology Specialization</li> </ul>	14
		<ul style="list-style-type: none"> <li>• Master of Distance Education, Distance Education Policy and Management Specialization</li> </ul>	15
<b>Public Relations</b>	<ul style="list-style-type: none"> <li>• Public Relations Manager</li> <li>• Director of Public Relations</li> <li>• Corporate Communications Manager</li> <li>• Director of Media Relations</li> <li>• Account Manager</li> <li>• Communications Writer</li> <li>• Director of Public Affairs</li> <li>• Promotion Director</li> <li>• Internal Communications Manager</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Management, Public Relations Specialization</li> </ul>	39
<b>Multimedia Production</b>	<ul style="list-style-type: none"> <li>• Software Engineer</li> <li>• Production Manager</li> <li>• Web Designer</li> <li>• Project Manager</li> <li>• Technical Director</li> <li>• Production Manager</li> <li>• Pedagogical Expert (online learning);</li> <li>• Coordinator of Online Instruction</li> <li>• Online Librarian/Resource Manager</li> <li>• Program Evaluator/Educational Consultant</li> </ul>	<ul style="list-style-type: none"> <li>• MS in Information Technology, Informatics Specialization</li> </ul>	32
		<ul style="list-style-type: none"> <li>• MS in Distance Education, Distance Education Technology Specialization</li> </ul>	14
		<ul style="list-style-type: none"> <li>• MS in Distance Education, Distance Education Teaching and Training Specialization</li> </ul>	14

# APPENDIX A: PROGRAM–CAREER MAPPINGS

TRANSPORTATION TECHNOLOGIES CLUSTER			
PATHWAYS	CAREER OPTIONS	ACADEMIC PROGRAMS	PAGE
Transportation Operations	<ul style="list-style-type: none"> <li>Quality Manager</li> <li>Operations Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Logistics Planning and Management	<ul style="list-style-type: none"> <li>Logistics Analyst</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Distribution Center Operations	<ul style="list-style-type: none"> <li>Distribution Center Manager</li> <li>Inventory Manager</li> <li>Quality Control Manager</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Sales and Customer Service	<ul style="list-style-type: none"> <li>General Manager</li> <li>Market Analyst</li> <li>Marketing Manager</li> <li>Sales Manager</li> <li>Parts Manager</li> <li>Contract Officer</li> <li>Procurement Officer</li> </ul>	<ul style="list-style-type: none"> <li>MS in Technology Management</li> </ul>	43
Logistics Planning and Management	<ul style="list-style-type: none"> <li>Logistics Analyst</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Procurement and Contract Management Specialization</li> </ul>	39
Sales and Customer Service	<ul style="list-style-type: none"> <li>Market Analyst</li> <li>Marketing Manager</li> <li>Sales Manager</li> <li>Contract Officer</li> <li>Procurement Officer</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Marketing Specialization</li> <li>MS in Management, Procurement and Contract Management Specialization</li> </ul>	38 39
Safety, Environmental, and Security Management	<ul style="list-style-type: none"> <li>Facility and Plant Managers</li> <li>Facility Security Officers</li> <li>Military Planners</li> <li>Federal/State/Local Government Emergency Planners/Policy Makers</li> <li>Air Marshal</li> <li>Customs Officer</li> </ul>	<ul style="list-style-type: none"> <li>MS in Management, Homeland Security Management Specialization</li> <li>MS in Management, Project Management Specialization</li> </ul>	36 39

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Certificate in Homeland Security Management		68
Certificate in Integrated Direct Marketing		70
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<b>Master of International Management</b>	BEP	• Master of Business Administration	BEP	55
<b>Master of Science in Accounting and Financial Management</b>	MAF	• Master of Science in Accounting and Information Technology	MAF	55
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<b>Master of Science in Accounting and Information Technology</b>	MAF	• Master of Science in Accounting and Financial Management	MAF	55
<b>Master of Science in Environmental Management</b>	ITS	• Master of Business Administration	BEP	51
<b>Master of Science in Financial Management and Information Systems</b>	MAF	• Executive Master of Business Administration	BEP	52
		• Master of Business Administration	BEP	52
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