

2021-2022 CATALOG UPDATE



**UNIVERSITY
OF MARYLAND
GLOBAL CAMPUS
EUROPE**



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Table of Contents

SUMMARY OF CHANGES	1
BACHELOR'S DEGREE PROGRAM	2
Data Science	
MASTER'S DEGREE PROGRAMS	4
Acquisition and Contract Management	
Healthcare Administration	
GRADUATE CERTIFICATE PROGRAM	7
Global Health Management	
COURSE INFORMATION	8
UNDERGRADUATE COURSE DESCRIPTIONS	
Computer and Information Science	
Cybersecurity	
Data Science	
Information Systems Management	
Mathematics	
Statistics	
GRADUATE COURSE DESCRIPTIONS	
Acquisition and Contract Management	
Decisive Communication and Leadership	
Global Healthcare Administration	
Healthcare Administration	
Management	
Special Topics	

MISSION

The mission of University of Maryland Global Campus is improving the lives of adult learners. We will accomplish this by operating as Maryland's open university, serving working adults, military servicemen and servicewomen and their families, and veterans who reside in Maryland, across the United States, and around the world.

VISION

UMGC will be a global leader in adult education focusing on career-relevant programs that enable students to realize their professional aspirations.

VALUES

- **Students First:** These are the people who make our work possible.
- **Accountability:** We are each responsible for our overall success.
- **Diversity:** Each individual brings value to our efforts and results.
- **Integrity:** Our principles and standards are never compromised.
- **Excellence:** Quality is the hallmark of our work.
- **Innovation:** We advance so others can benefit from our leadership.
- **Respect:** The rights and feelings of others are always considered.
- **People Always:** Our faculty and staff represent our differentiator and competitive advantage.

The following information is an update to the 2021–2022 UMGCEurope catalog and represents changes and additions made after original publication. Refer to the 2021–2022 catalog for information on all other programs, services, and policies.

SUMMARY OF CHANGES

The following represent the policy and program changes made to the 2021–2022 catalog since its publication:

- Undergraduate students admitted in provisional status (described on p. 5 of the 2021–2022 catalog) are no longer limited to enrolling in no more than 7 credits per semester.
- DATA 200 now satisfies the undergraduate general education requirement (described on pp. 59 and 74 of the 2021–2022 catalog) in research and computing literacy for both the associate and bachelor's degrees.
- The computer studies curriculum for the Associate of Arts (described on p. 64 of the 2021–2022 catalog) no longer requires completion of CMIS 102 or a programming language course. Also, DATA courses apply to the requirement for 15 credits in computer-related coursework in addition to the options already listed for this program.
- The eligibility requirements for federal student aid and most UMGC assistance (listed on p. 23 of the 2021–2022 catalog) no longer include registering with Selective Service if required to do so or not being convicted for the possession or sale of illegal drugs during the time you were receiving any type of federal financial aid.
- Additional annual maximum award limits and restrictions may apply to scholarships and grants (described on p. 23 of the 2021–2022 catalog). Contact the Financial Aid Office for details.
- An undergraduate major and minor in data science, graduate programs in acquisition and contract management (MS) and healthcare administration (MS) have been added, and a graduate certificate in global health management has been added

BACHELOR'S DEGREE PROGRAM

DATA SCIENCE

Data Science

AVAILABLE SPRING 2022

The following degree requirements and recommended curriculum apply to students who begin continuous study on or after 1 January 2022.

Major in Data Science

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

What You'll Learn

Through your coursework, you will learn how to

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

INDUSTRY CERTIFICATION

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

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

Degree Requirements

BS IN DATA SCIENCE

	Credits
General Education Courses	41
Required Major Courses	36
Minor and Elective Courses	43
Total	120

REQUIRED MAJOR COURSES (36 CREDITS)

STAT 200	Introduction to Statistics (3)
DATA 220	Introduction to Data Analytics (3)
DATA 300	Foundations of Data Science (3)
IFSM 330	Business Intelligence and Data Analytics (3)
DATA 335	Data Visualization (3)
CSIA 300	Cybersecurity for Leaders and Managers (3)
DATA 430	Foundations of Machine Learning (3)
DATA 440	Advanced Machine Learning (3)
DATA 445	Advanced Data Science (3)
DATA 450	Data Ethics (3)
DATA 460	Artificial Intelligence Solutions (3)
DATA 495	Data Science Capstone (3)

RELATED REQUIRED COURSES

Note: The following required courses may be applied to general education or elective requirements.

CMIS 102	Introduction to Problem Solving and Algorithm Design (3)
MATH 140	Calculus I (4)

BACHELOR'S DEGREE PROGRAM

DATA SCIENCE

Course Sequencing

The following table is designed to provide an optimal order for taking both required and recommended general education, major, and elective courses for this program. Your plan will be unique to you, based on your previous education. See pp. 41–43 of the 2021–2022 catalog for information on general education and overall requirements for completing a bachelor's degree. Contact an advisor if you have any questions about your academic advisement report.

Major and related requirements are listed in **bold**.

BS IN DATA SCIENCE	
Recommended and Required Courses	Requirement(s) Fulfilled
LIBS 150 Introduction to Research (1)	General education/computing and research
PACE 111T Program and Career Exploration in Technology (3)	General education/computing and research
WRTG 111 Academic Writing I (3)	General education/communications
CMIS 102 Introduction to Problem Solving and Algorithm Design (3)	Related and general education/computing
NUTR 100 Elements of Nutrition (3)	General education/biological and physical sciences
STAT 200 Introduction to Statistics (3)	Major
SPCH 100 Foundations of Oral Communication (3)	General education/communications
MATH 140 Calculus I (4)	Related and general education/mathematics
WRTG 112 Academic Writing II (3)	General education/communications
DATA 220 Introduction to Data Analytics (3)	Major
HIST 125 Technological Transformations (3)	General education/arts and humanities
BIOL 103 Introduction to Biology (4)	General education/biological and physical sciences
BEHS 103 Technology in Contemporary Society (3)	General education/behavioral and social sciences
ARTH 334 Understanding Movies (3)	General education/arts and humanities
Elective (3)	Elective
ECON 103 Economics in the Information Age (3)	General education/behavioral and social sciences
DATA 300 Foundations of Data Science (3)	Major
Elective (3)	Elective
IFSM 330 Business Intelligence and Data Analytics (3)	Major

Elective (3)	Elective
DATA 335 Data Visualization (3)	Major
Elective (3)	Elective
CSIA 300 Cybersecurity for Leaders and Managers (3)	Major
WRTG 393 Advanced Technical Writing (3)	General education/communications
Elective (3)	Elective
DATA 430 Foundations of Machine Learning (3)	Major
Elective (3)	Elective
Elective (3)	Elective
DATA 440 Advanced Machine Learning (3)	Major
Elective (3)	Elective
DATA 445 Advanced Data Science (3)	Major
Elective (3)	Elective
Elective (3)	Elective
DATA 450 Data Ethics (3)	Major
Elective (3)	Elective
Elective (3)	Elective
DATA 460 Artificial Intelligence Solutions (3)	Major
Elective (3)	Elective
DATA 495 Data Science Capstone (3)	Major/capstone
Elective (3)	Elective

Minor in Data Science

The data science minor complements the skills you gain in your major discipline by helping you develop specialized skills in in data science, business intelligence, machine learning, and artificial intelligence.

Courses in the Minor (15 Credits)

The minor in data science requires the completion of 15 credits of coursework. STAT 200, IFSM 330, CSIA 300, and all DATA courses apply.

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

MASTER'S DEGREE PROGRAMS

ACQUISITION AND CONTRACT MANAGEMENT

Acquisition and Contract Management

Effective 1 January 2022, students in Europe may earn a Master of Science in Acquisition and Contract Management. (This program is only available for Europe students. For a listing of the Europe locations, please see europe.umgc.edu/locations. Students at our Downrange locations may apply to the program through our Stateside campus. Contact your local UMGC Europe office for more details.)

Master of Science in Acquisition and Contract Management

The graduate program in acquisition and contract management prepares you for careers in government and commercial organizations across multiple industries. The program addresses many challenges faced by government contracting for specialized acquisitions. These acquisitions include contracts for services, research and development, and information technology. You'll learn to navigate on-going demands for the implementation of performance-based contracts and competitive sourcing as competition for resources grows within the government and throughout industry.

What You'll Learn

Through your coursework, you will learn how to

- Create an acquisition strategy based on the life-cycle phases and integrate supply chain management principles, technologies, and processes throughout the acquisitions
- Conduct public, private, and international acquisitions in a legal and ethical manner
- Leverage post-award principles and practices to streamline the acquisition process
- Conduct source selection of products and services strategically
- Devise a comprehensive plan to handle purchasing and logistics for a commodity
- Design an effective acquisition sustainability strategy that incorporates risk management techniques to support product and service delivery

INDUSTRY CERTIFICATION

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

- The Federal Acquisition Certification for Contracting Officer's Representatives (FAC-COR)
- The Federal Acquisition Certification in Contracting (FAC-C)

Preparation Recommended for Success

RECOMMENDATIONS

If you need to improve your computing skills, you should take the noncredit course ASC 605. Taking ASC 601 is recommended to improve writing and analytical skills.

Degree Requirements

MS IN ACQUISITION AND CONTRACT MANAGEMENT

	Credits
Required Foundation Course	6
Required Core Courses	30
Total	36

REQUIRED FOUNDATION COURSE

DCL 600M Decisive Thinking, Communicating, and Leading in Multidisciplinary Fields (6)

REQUIRED CORE COURSES

ACM 610	Fundamentals of Acquisition Planning and Costs Price Analysis (6)
ACM 620	Sourcing Decisions and Legal Considerations in Contracting (6)
ACM 630	Strategic Supplier Relations in Sustainable Supply Environments (6)
ACM 640	Performance-Based Logistics and Asset Management (6)
ACM 670	Acquisition Continuous Improvement and Sustainment Management (6)

COURSE SEQUENCING

Courses must be taken in the order listed.

Criteria for Program Progression

You must complete each course with a grade of B or better to advance to the next course. The grade of C is not available for these courses. Your course syllabus will explain options for and consequences of requesting an Incomplete.

MASTER'S DEGREE PROGRAMS

HEALTHCARE ADMINISTRATION

Healthcare Administration

Effective 1 January 2022, students in Europe may earn a Master of Science in Healthcare Administration. (This program is only available for Europe students. For a listing of the Europe locations, please see europe.umgc.edu/locations. Students at our Downrange locations may apply to the program through our Stateside campus. Contact your local UMGC Europe office for more details.)

Master of Science in Healthcare Administration

Healthcare administrators manage complex organizations that serve diverse individual and community needs. The master's degree program in healthcare administration is designed to develop leaders in this dynamic field that touches all of us. In this program, you can gain the expert knowledge, management skills, and strong professional development you need to seize career opportunities and maximize your potential in this era of rapid healthcare transformation.

What You'll Learn

Through your coursework, you will learn how to

- Demonstrate knowledge of different models in healthcare administration, including contemporary theories, critical perspectives, and best practices for performance excellence in a highly competitive healthcare environment
- Apply strong financial management skills and techniques for responding to uncompensated care, cost increases, increased competition, and increased regulation
- Employ statistical tools to analyze health data and make effective business decisions
- Use decision-making skills for institutional management, organizational development, and intercultural work environments
- Strategically plan, implement, and evaluate information systems
- Evaluate regulatory constraints, provider liability, patient rights, employment law and labor relations, and administrative law for healthcare organizations
- Analyze public health issues and their impact on healthcare organizations
- Solve ongoing problems in healthcare financing and delivery
- Develop a comprehensive business plan for a healthcare product, service, or organization

INDUSTRY CERTIFICATION

This program is designed to help prepare you for the Board of Governors examination for certification as a Fellow of the American College of Healthcare Executives (FACHE).

Preparation Recommended for Success

RECOMMENDATIONS

If you lack a recent background in finance or accounting, you should take UCSP 620 before HCAD 640. If you lack a recent background in statistics, you should take UCSP 630 before MGMT 650. Taking UCSP 605 is recommended to help improve writing skills.

Degree Requirements

MS IN HEALTHCARE ADMINISTRATION

	Credits
Required Management Foundation Courses	6
Required Healthcare Administration Courses	33
Required Capstone Course	3
Total	42

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED MANAGEMENT FOUNDATION COURSES

MGMT 615 Intercultural Communication and Leadership (3)

MGMT 650 Statistics for Managerial Decision Making (3)

REQUIRED HEALTHCARE ADMINISTRATION COURSES

HCAD 600 Introduction to Healthcare Administration (3)

HCAD 610 Information Technology for Healthcare Administration (3)

HCAD 620 The U.S. Healthcare System (3)

HCAD 625 The Business of Healthcare (3)

HCAD 630 Public Health Administration (3)

HCAD 635 Long-Term Care Administration (3)

HCAD 640 Financial Management for Healthcare Organizations (3)

HCAD 645 Strategic Financial Management in Healthcare (3)

HCAD 650 Legal Aspects of Healthcare Administration (3)

MASTER'S DEGREE PROGRAMS

HEALTHCARE ADMINISTRATION

HCAD 660 Healthcare Institutional Organization and Management (3)

HCAD 665 Strategic Issues in Healthcare Leadership (3)

REQUIRED CAPSTONE COURSE

HCAD 670 Healthcare Administration Capstone (3)

COURSE SEQUENCING

- HCAD 600 and MGMT 615 should be taken as the first courses in the program.
- MGMT 650 should be taken in the second or third semester.
- HCAD 620 is prerequisite to HCAD 625.
- HCAD 640 is prerequisite to HCAD 645.
- MGMT 650 should not be taken at the same time as HCAD 640 or HCAD 645.
- You must complete 36 credits before enrolling in HCAD 670.

CERTIFICATE PROGRAMS

GRADUATE

Global Health Management

The graduate certificate in global health management is designed to help you formulate global health services policies, improve quality of care and service delivery within different national health systems, plan health programs within diverse cultures, and manage global health programs. The curriculum covers international health organizations, health systems and policies in low- and middle-income countries, and management and financial skills.

Overall certificate requirements are listed on p. 153 in the 2021-2022 catalog.

INITIAL REQUIREMENT

(to be taken within the first 6 credits of study)

UCSP 615 Orientation to Graduate Studies at UMGC (0)

REQUIRED COURSES

HCAD 630 Public Health Administration (3)

GHMT 620 National and International Approaches
to Healthcare Delivery (3)

(This program is only available for Europe students. For a listing of the Europe locations, please see europe.umgc.edu/locations. Students at our Downrange locations may apply to the program through our Stateside campus. Contact your local UMGC Europe office for more details.)

COURSE INFORMATION

UNDERGRADUATE COURSE DESCRIPTIONS

Computer and Information Science

CMIS 102 Introduction to Problem Solving and Algorithm Design (3)

A study of techniques for finding solutions to problems through structured programming and step-wise refinement. The objective is to design programs using pseudocode and implement them in an appropriate programming language. Hands-on practice in debugging, testing, and documenting is provided. Topics include principles of programming, the logic of constructing a computer program, and the practical aspects of integrating program modules into a cohesive application. Algorithms are used to demonstrate programming as an approach to problem solving.

Cybersecurity

CSIA 300 Cybersecurity for Leaders and Managers (3)

(Designed in part to help prepare for the EC-Council Secure Computer User [CSCU] certification.) Prerequisite: Any CMIS, CMSC, CMIT, CMST, CSIA, DATA, IFSM, or SDEV course. Recommended: IFSM 201. A survey of the cybersecurity principles, practices, and strategies required by leaders and managers to become strategic partners in the establishment, management, and governance of an enterprise's cybersecurity program. The aim is to develop both an understanding of how cybersecurity supports key business goals and objectives and the essential skills necessary for success in a leadership or managerial role. Topics include the fundamentals of cybersecurity practices and principles; enterprise IT governance processes and security controls; data security; the information life cycle; intellectual property protections; privacy laws and regulations; security education, training, and awareness; and the need for cooperation and collaboration between business units and the organization's cybersecurity program.

Data Science

DATA 220 Introduction to Data Analytics (3)

Prerequisite: STAT 200. A practical introduction to the methodology, practices, and requirements of data science to ensure that data is relevant and properly manipulated to solve problems and address a variety of real-world projects and business scenarios. Focus is on the foundational statistical concepts applied to describing data sets with summary statistics, simple data visualizations, statistical inference, and predictive analytics. The objective is to use data to draw conclusions about the underlying patterns that drive everyday problems through probability, hypothesis testing, and linear model building.

DATA 300 Foundations of Data Science (3)

Prerequisites: CMIS 102 and DATA 220. An examination of the role of data science within business and society. The goal is to identify a problem, collect and analyze data, select the most appropriate analytical methodology based on the context of the business problem, build a model, and understand the feedback after model deployment. Emphasis is on the process of acquiring, cleaning, exploring, analyzing, and communicating data obtained from variety of sources. Assignments require working with data in programming languages such as Python, wrangling data programmatically, and preparing data for analysis using libraries like NumPy and Pandas.

DATA 335 Data Visualization (3)

Prerequisites: DATA 220 and IFSM 330. An overview of data visualization principles in the context of business and data science. Focus is on visualization of different data types, including time-series, multidimensional data, dynamic tables, heatmaps, infographics, and dashboards. Hands-on projects require exploring data visually at multiple levels to find insights to create a compelling story and incorporating visual design best practices to better communicate insights to the intended audience, such as business stakeholders. Projects are selected from a wide range of content areas such as retail, marketing, healthcare, government, basic sciences, and technology.

DATA 430 Foundations of Machine Learning (3)

Prerequisite: DATA 300. A hands-on introduction to machine learning principles and methods that can be applied to solve practical problems. Topics include supervised and unsupervised learning, especially linear regression, logistic regression, decision tree, naïve Bayes, and clustering analysis. Focus is on using data from a wide range of domains, such as healthcare, finance, marketing, and government, to build predictive models for informed decision making. Discussion also covers handling missing data, performing cross-validation to avoid overtraining, evaluating classifiers, and measuring precision.

DATA 440 Advanced Machine Learning (3)

Prerequisites: DATA 430 and MATH 140. A project-based study of advanced concepts and applications in machine learning (ML), such as neural networks, support vector machines (SVM), ensemble models, deep learning, and reinforced learning. Emphasis is on building predictive models for practical business and social problems, developing complex and explainable predictive models, assessing classifiers, and comparing their performance. All stages of the machine learning life cycles are developed, following industry best practices for selecting methods and tools to build ML models, including AutoML.

COURSE INFORMATION

UNDERGRADUATE COURSE DESCRIPTIONS

DATA 445 Advanced Data Science (3)

Prerequisites: DATA 335 and DATA 430. A project-based introduction to the concepts, approaches, techniques, and technologies for managing and analyzing large data sets in support of improved decision making. Activities include using technologies such as Spark, Hive, Pig, Kafka, Hadoop, HBase, Flume, Cassandra, cloud analytics, container architectures, and streaming real-time platforms. Discussion covers how to identify the kinds of analyses to use with big data and how to interpret the results.

DATA 450 Data Ethics (3)

Prerequisite: DATA 430. Recommended: CSIA 300. A study of ethics within the context of data science, machine learning, and artificial intelligence. Emphasis is on examining data and model bias; building explainable, fair, trustable, and accurate predictive modeling systems; and reporting responsible results. Topics include the technology implications of human-centered machine learning and artificial intelligence on decision making in organizations and government and the broader impact on society, including multinational and global effects.

DATA 460 Artificial Intelligence Solutions (3)

(Designed to help prepare for the AWS Certified Machine Learning or Microsoft Designing and Implementing an Azure AI Solution exam.) Prerequisite: DATA 430. A hands-on, project-based study of artificial intelligence and machine learning solutions to complex problems. Topics include natural language processing, computer vision, and speech recognition.

DATA 495 Data Science Capstone (3)

Prerequisites: DATA 440, DATA 445, and DATA 450. A project-based, practical application of the knowledge, technical skills, and critical thinking skills acquired during previous study designed to showcase the student's data science expertise. Individually selected projects include all phases of machine learning life cycles and a peer-reviewed final report and presentation. Topics are selected from student-affiliated organizations or employers, special government/private agency requests, or other faculty-approved sources in a wide range of domains, such as healthcare, financial services, marketing, sciences, and government.

Information Systems Management

IFSM 330 Business Intelligence and Data Analytics (3)

Recommended: IFSM 201 or IFSM 300. A hands-on, project-based introduction to databases, business intelligence, and data analytics. The aim is to design secure industry-standard databases and utilize business intelligence and data analytics techniques and technologies to support decision making. Topics include data and relational databases, SQL queries, business intelligence tools and alignment with business strategy, data analytics, and visualization techniques.

Mathematics

MATH 140 Calculus I (4)

Prerequisite: MATH 108 or MATH 115. An introduction to calculus. The goal is to demonstrate fluency in the language of calculus; discuss mathematical ideas appropriately; and solve problems by identifying, representing, and modeling functional relationships. Topics include functions, the sketching of graphs of functions, limits, continuity, derivatives and applications of the derivative, definite and indefinite integrals, and calculation of area.

Statistics

STAT 200 Introduction to Statistics (3)

An introduction to statistics. The objective is to assess the validity of statistical conclusions; organize, summarize, interpret, and present data using graphical and tabular representations; and apply principles of inferential statistics. Focus is on selecting and applying appropriate statistical tests and determining reasonable inferences and predictions from a set of data. Topics include methods of sampling; percentiles; concepts of probability; probability distributions; normal, *t*-, and chi-square distributions; confidence intervals; hypothesis testing of one and two means; proportions; binomial experiments; sample size calculations; correlation; regression; and analysis of variance (ANOVA).

COURSE INFORMATION

GRADUATE COURSE DESCRIPTIONS

Acquisition and Contract Management

ACM 610 Fundamentals of Acquisition Planning and Costs Price Analysis (6)

Prerequisite: DCL 600M. Serve as a contract manager and explore three major segments of the acquisition process—acquisition planning, acquisition management, and contract pricing—through pre-award, negotiation preparation, and post-award stages. Complete an acquisition plan using quantitative techniques to quantify and facilitate decision making. Apply various cost analysis techniques and quantitative tools to evaluate a contractor's cost proposal and develop a negotiation range and objective.

ACM 620 Sourcing Decisions and Legal Considerations in Contracting (6)

Prerequisite: ACM 610. Serve as a contract manager, and apply legal, administrative, and ethical requirements and principles to procurement and contract management. Explore a broad array of legal issues applicable to acquisition as well as the Federal Acquisition Regulation and the American Bar Association model procurement code for state and local governments.

ACM 630 Strategic Supplier Relations in Sustainable Supply Environments (6)

Prerequisite: ACM 620. Serve as an acquisitions manager, and learn techniques, methodologies, and strategies designed to enhance organizational procurement and acquisition efficiency and manage supply chain issues. Explore integrated supply chains, including the integration of information, supplies, and materials flows across multiple supply chain channels; the role of information systems and technology in supply chain management; e-commerce strategies; and the development and maintenance of supply chain partnerships and other relationships.

ACM 640 Performance-Based Logistics and Asset Management (6)

Prerequisite: ACM 630. Serve as an acquisitions manager, and explore logistical issues, techniques, methodologies, and strategies designed to enhance organizational efficiency with the acquisition life cycle. Apply specific concepts, including planning and implementation, systems relationships and integration, the total cost approach to logistics, and demand forecasting to solve logistical and asset management issues that arise within the acquisition life cycle.

Decisive Communication and Leadership

DCL 600M Decisive Thinking, Communicating, and Leading in Multidisciplinary Fields (6)

(Applicable to the Acquisition and Contract Management, Learning Design and Technology, Strategic Communications, and Transformational Leadership programs.) Prepare for academic and professional success by developing skills that employers want in their employees. Explore your area of study to learn how it connects with your career aspirations, create a professional social network presence, and use critical thinking to inform decisions. Improve and refine your skills in communication, critical thinking, quantitative reasoning, and team leadership. Hone your professional writing and oral communication skills to produce effective presentations, and become proficient with spreadsheets, collaboration tools, and other professional software. Students may receive credit for only one of the following courses: CBR 600, DCL 600M, DCL 600T, or PRO 600.

Global Healthcare Administration

GHMT 620 National and International Approaches to Healthcare Delivery (3)

A project-based application of the concepts, theories, and principles of global health to the practical challenges facing global health professionals. Assignments focus on a specific global health priority for a given national or geopolitically defined population. Needs assessment methodologies, including epidemiological methods; mapping local, national, and global policy processes; identifying strategies for building infrastructure and workforce capacity; analyzing financial opportunities and limitations; and assessing the impact of macro changes in the global economy, political environment, and human rights and legal systems, are applied. Findings regarding the scope, options, and outcomes of these assessments, as well as a recommended action plan for improving the health status of the population group of interest, are summarized in the final project.

COURSE INFORMATION

GRADUATE COURSE DESCRIPTIONS

GHMT 640 Strategic Management of Global Health Services (6)

The development of strategic management skills for growing and operating health organizations and health systems in low- and middle-resourced countries. Focus is on building strategies for organizing global health prevention, treatment, care, and capacitybuilding initiatives. Strategic management skills are applied to create global health missions and goals, core functions and organizational structures, clinical and administrative workforces, budgets and financing, and communication messages.

Healthcare Administration

HCAD 600 Introduction to Healthcare Administration (3)

An introduction to the principles of management and leadership as the foundations for the administration of healthcare products and service delivery. The evolution of management principles and practices are traced and the bases for healthcare administration are analyzed. Emphasis is on the management of global healthcare systems in technological societies and the need for innovation and creativity in healthcare administration. Focus is on mastering graduate-level critical-thinking, writing, and ethical decision-making skills.

HCAD 610 Information Technology for Healthcare Administration (3)

An overview of information technology (IT) from a managerial perspective and how healthcare administrators can use IT to maximize organizational performance. Fundamental principles of IT and data management and their implications for healthcare administrators are reviewed. Discussion explores the use of technology, databases, and other analytical tools to structure, analyze, and present information related to healthcare management and problem solving. Topics also include strategic information systems planning, systems analysis, system design, evaluation, and selection. Current applications, such as patient care, administrative and strategic decision support, managed health, health information networks, and the internet, are examined to determine how they may be used to meet the challenges facing healthcare administrators today and in the future. Focus is on the legal and ethical issues related to IT and their practical implications for the healthcare administrator.

HCAD 620 The U.S. Healthcare System (3)

A comprehensive examination of the complex, dynamic, rapidly changing healthcare system in the United States. The healthcare system's major components and their characteristics are identified. Emphasis is on current problems in healthcare financing and delivery. Social, economic, and political forces that have shaped and continue to influence the system are traced. The healthcare system in the United States is compared with systems in industrialized and developing nations. Analysis covers current trends in healthcare and prospects for the future.

HCAD 625 The Business of Healthcare (3)

Prerequisite: HCAD 620. A detailed exploration of operational issues unique to the dynamic and highly regulated realm of healthcare. Discussion covers challenges presented by regulatory mandates, market forces, and multiple interconnected matrix organizations, as well as defining and meeting the needs of the community.

HCAD 630 Public Health Administration (3)

An in-depth study of the field of public health, emphasizing leadership and management. 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. Topics include the history and current status of public health, core functions, legislation, ethics, accountability (including assessment and evaluation), and the politics and financing of public health, particularly in light of the increased utilization of evidence-based budgeting. 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)

A study of the different components of the long-term-care service delivery system. Topics include residential settings (such as skilled nursing facilities, assisted living facilities, and continuing care retirement communities), home care services, community-based service programs, and hospice care. The goal is to apply contemporary management theory, concepts, and models to the entities that make up the long-term-care service delivery system. Specialized case studies are used to supplement course materials and examine best practices for fostering performance excellence.

COURSE INFORMATION

GRADUATE COURSE DESCRIPTIONS

HCAD 640 Financial Management for Healthcare Organizations (3)

An in-depth study of healthcare economics and the financial management of healthcare organizations. The economic principles underlying the American healthcare market and the financial management of health services organizations within that market are examined. Analysis covers free market and mixed market economies; barriers to free market economies; healthcare industry regulation, licensure, and certification; and various coverage and healthcare payment mechanisms. Topics also include reimbursement mechanisms and their effect on healthcare provider organizations, managed care, capitation, and per case or per diagnosis payment, as well as how these financial strategies are utilized by third-party payers. Focus is on financial challenges, such as uncompensated care, cost increases, increased competition, and increased regulation, and how healthcare providers should respond to them. Ratio analysis, cost analysis, working capital, capital budgeting and investment in relation to net present value and value added to the organization, and other financial management techniques are also explored.

HCAD 645 Strategic Financial Management in Healthcare (3)

Prerequisite: HCAD 640. An in-depth study of the concepts and competencies needed to plan the usage and management of enterprise financial resources to achieve long-term organizational objectives and return maximum value in a volatile healthcare finance environment. Emphasis is on identifying and quantifying available or potential resources, devising a plan for utilizing finances and other capital resources to achieve goals, and capital budgeting and management. Topics also include risk analysis, multiple financing methods, supply chain costs, valuation, and mergers and acquisitions. Current accounts and working capital management are explored, as are strategic planning and financial forecasting.

HCAD 650 Legal Aspects of Healthcare Administration (3)

A comprehensive analysis of the more significant legal issues encountered by healthcare administrators and the ramifications of those issues. Both theoretical and practical applications of law are addressed with an analytical focus on the prompt identification of legal and bioethical issues arising from and affecting various healthcare employment settings. The intersection of law, ethics, and bioethics is scrutinized in various contexts. The principles of healthcare law in a complex constitutional system are examined in relation to current proposals and policy developments in areas such as privacy, contracts, tort reform, and the regulation of the healthcare marketplace. Topics include legal and regulatory constraints imposed on the healthcare industry, the liability of healthcare providers, the rights of patients, employment law and labor relations, and administrative law for healthcare organizations.

HCAD 660 Healthcare Institutional Organization and Management (3)

A study of the nature of management and how it is applied in various healthcare settings. Contemporary theories, critical perspectives, models, and best practices designed to foster performance excellence in the highly competitive healthcare environment are examined. Discussion also addresses the complexities and challenges of health systems.

HCAD 665 Strategic Issues in Healthcare Leadership (3)

Prerequisite: HCAD 660. An examination of strategic issues driving the future of healthcare. Focus is on identifying and preparing to meet the needs of changing communities, integrating rapid technological and scientific advances, and ensuring institutional viability. Topics include development and dissemination of strategic goals and shaping organizational values.

HCAD 670 Healthcare Administration Capstone (3)

Prerequisite: Completion of 36 credits of program coursework. A capstone study of healthcare administration that integrates knowledge and skills gained from previous study in the development of a systems approach to healthcare administration. Focus is on public and private healthcare delivery systems, alliances with internal and external environments, and strategic decision making and implementation in the rapidly evolving global arena of healthcare administration.

Management

MGMT 610 Organizational Theory (3)

An overview of the fundamental concepts of organizational theory and design in the context of a postindustrial and increasingly global society. The study of organizations encompasses 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, 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. Discussion addresses essential concepts in organizational theory and design, including measuring effectiveness, organizational life cycles, options for organizational structure, and becoming the learning organization.

COURSE INFORMATION

GRADUATE COURSE DESCRIPTIONS

MGMT 615 Intercultural Communication and Leadership (3)

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 to organizational communication across cultural groups. Team development and leadership are explored in an intercultural environment.

MGMT 650 Statistics for Managerial Decision Making (3)

Prerequisite: Knowledge of the fundamentals of statistical methods, techniques, and tools. An examination of how managers organize, analyze, and interpret data for decision making. Focus is on developing skills in using statistical tools to make effective business decisions in all areas of public- and private-sector decision making, including accounting, finance, marketing, production management, and human resource management. Topics include collecting data; describing, sampling, and presenting data; probability; statistical inference; regression analysis; forecasting; and risk analysis. Microsoft Excel is used extensively for organizing, analyzing, and presenting data.

Special Topics

UCSP 605 Effective Graduate Writing (0)

(Recommended preparation for students who want to improve their writing skills.) An introduction to the writing skills needed for effective academic writing. Skills addressed include using accurate grammar and punctuation, summarizing and synthesizing texts, developing well-organized and well-supported essays, integrating sources into writing, formatting academic papers using APA guidelines, and revising writing to produce clear, concise documents.

UCSP 615 Orientation to Graduate Studies at UMGC (0)

(Required within the first 6 credits of graduate study for all new graduate students, except those in programs requiring CBR 600, DCL 600M, DCL 600T, or PRO 600.) An overview of the skills needed for academic and professional success. Focus is on enhancing communication and critical-thinking skills. Assignments provide familiarity with tools such as library and information resources. APA style and resources are also addressed.

UCSP 620 Introduction to Accounting and Financial Management (0)

(Recommended as preparation for MGMT 640 or ACCT 610 for students with little or no background in accounting and finance.) A basic study of accounting and financial management concepts and their application in analyzing financial statements and estimating the value of long-lived capital projects and investments. The financial statements of actual companies are analyzed using financial ratios. Future and present value of financial and real assets/investments are calculated based on the time value of money. Emphasis is on gaining an appreciation for how financial management and accounting information can be used to support financial analysis, valuation, and decision making in various contexts.

UCSP 630 Introduction to Research Methods (0)

(Recommended as preparation for MGMT 650 or HIMS 650 for students who lack a background in statistics.) A presentation of basic research techniques and methodologies used in organizational research and evaluation studies to make business decisions. Focus is on applying basic research techniques to assess the performance of individuals, work groups, and organizations. Topics 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. Discussion emphasizes basic approaches and beginning skills necessary to evaluate research materials and their use in decision making.

UCSP 635 Essentials of Computer Programming (0)

(Recommended preparation for bioinformatics, database technology, and software engineering students with little or no programming experience.) An applied approach to creating computer programs. Discussion covers all aspects of basic programming, including variables, arrays, conditions, and input/output.

UCSP 636 Structure of Computer Programming (0)

(Recommended preparation for bioinformatics, database technology, and software engineering students with some programming experience, typically with older languages such as PRG and COBOL.) Prerequisite: UCSP 635. An applied approach to creating computer programs. Discussion covers aspects of programming related to the structure of the program, including loops, procedures/functions, and leveraging other software libraries/packages.



ACCREDITATION

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