MASTER'S AND POST-BACHELOR'S CERTIFICATE PROGRAM COURSE DESCRIPTIONS

Graduate Course Prefix Abbreviation

ACCT	Accounting	FINS	Finance
CAPS	Capstone	INST	Information Systems
CMSC	Computer Science	MCYS	Management of Cyber Security
CYBR	Cyber Security	MGMT	Management
DATA	Data - Theory & Applications	MKTG	Marketing
ECON	Economics	MSAE	System and Application Engineering
EITE	Educational/Instructional Technology	QANT	Quantitative Studies
		TECH	Technology

All course codes are preceded by four-character abbreviations that are used to represent the area of study. These areas of study abbreviations are followed by three numbers that are used to qualify the level of study. All UoNA Master's level courses are within the range of 500 – 599, except the CAPSTONE course which is identified as 600.

Prerequisites

Prerequisites denote the courses that must have been completed in previous quarters before taking certain courses that require requisite knowledge. No prerequisite course is required unless it is specified in the individual course description below.

Common Core Courses

The two *Master's Degree Common Core Courses, MGMT515 and TECH 515*, are a program sequence requirement for all master's students to be taken in a student's first quarter of study before the student begins his/her declared program core courses. A master's student may request the Director of Education waive the common core sequence requirement and allow him/her to take elective courses in his/her first quarter of study. The director's decision whether to waive the requirement is based on individual student circumstances and is final.

MGMT 515 Management that Transforms 4.5 credit hours

In this course, students explore the differences between managers and leaders, utilizing a framework for understanding issues involved in both managing and being managed. Students will be introduced to the process of decision-making in a variety of business contexts, and develop skills related to managing groups and teams in a changing, global environment.

TECH 515 Technology that Transforms 4.5 credit hours

In this course, students will analyze the need for managers to understand and manage technology to successfully compete in an increasingly sophisticated business environment. Students will explore the evolution of technology, the integration of technology into the organization, and the systems that support business intelligence. Other topics to be discussed include the use of technology in streamlining business operations, innovations in supporting business strategies and the role technology plays in the transformation of organizations.

Program/Core Courses

Each master's degree curriculum has five required program core courses that are listed on each program's curriculum section pages in the catalog. The core courses across all programs are listed in alphabetical order below. Students may take required program core courses from programs they are not enrolled in as electives.

ACCT 520 Accounting for Decision Making 4.5 credit hours
In this course, students will gain an understanding of the principles and analytical techniques relating to corporate financial management. Students will develop, interpret, and apply accounting information used in effective managerial decision making. In addition, students will be exposed to reporting and analysis requirements related to inventory, fraud, internal control and cash, receivables, long-live assets, and liabilities.

CMSC 501 Structure of Programming Languages 4.5 credit hours
In this course, students will develop a foundational understanding of programming languages including programming paradigms, programming language processors, syntax and semantics, data types and structures, recursion, data control, storage management, and operating and programming environments.

CMSC 512 Computer Architecture 4.5 credit hours
In this course, students are introduced to fundamentals of computer architecture and analyze efficiencies associated with computer hardware, systems software, CPU architecture, and memory hierarchies and data concepts. Through an in depth, non-engineering study of the inner workings of modern computer systems, students will gain insight into the organization and structure of computing systems.

CMSC 530 Operating Systems Internals 4.5 credit hours
In this course, students will explore the internal operation of modern computing systems and develop an understanding of Software I/O buffering and concurrent processes, including mutual exclusion, synchronization, deadlock, processor scheduling, memory management, and resource control, Hoare's monitors and file systems. Students will analyze the operating system kernel and its relationship with network and application development.

CMSC 580 System Architecture and Security Design 4.5 Credit Hours
This course presents students with system architecture and enterprise architecture design, and its implementation. Students will examine and apply basic skills required for architectural design for data systems, application systems, technology systems, and for enterprise security. System integration and security implementation, which are the foundation for cybersecurity management, are also investigated.

ECON 520 Managerial Economics 4.5 credit hours
In this course, students develop an understanding of the application of economic theory to managerial decision-making. Students will apply economic tools and techniques to analyze business problems and formulate solutions from both normative and positive perspectives. Students will learn to factor in variables from other social disciplines that affect the process of economic decision-making. Students will investigate present economic problems that impact local and international markets and explore currents of economic thought and strategies currently evolving to address them.

EITE 510 Principles of Learning/Teaching Strategies and Methods 4.5 credit hours
In this course, students will review the principles of teaching methods and strategies that motivate learning. Students will investigate, interpret, and apply techniques used in effective classroom knowledge acquisition and management decision making. A range of approaches and their effectiveness will be explored, including individual student and group techniques and instructor-driven methods.

EITE 520 Transformational Education/Instruction 4.5 credit hours
This course builds an understanding of innovative practices that transform instruction by utilizing learner-centered practices and technology in a range of educational environments. Applications of available digital tools and media for various levels of learners are examined. The impact of the integration of innovative practices with current methods is explored.

EITE 530 Contemporary Classroom Approaches 4.5 credit hours
In this course, students demonstrate the application of contemporary classroom theory to knowledge management decision making. Modern tools and techniques, including learner-centered and digital resources, to address a range of challenges and formulate solutions are presented. Students will investigate and evaluate best practices for various classroom settings.

EITE 540 Integrating Technology in the Classroom 4.5 credit hours
Students will develop an understanding of how to integrate technology in specific classrooms and learning environments. Applications and techniques to motivate learners and to collect, measure, and analyze learner outcomes are investigated. Students will explore practical methods to engage learners who are immersed in a technology- and media-driven society.

EITE 550 Ethical Considerations for Educational / Instructional Technologies 4.5 credit hours
This course emphasizes the impact of technology on the values and behaviors of learners and teachers. The accountability and responsibility of digital users in learning / teaching contexts are considered. Students explore the effect of technology on interactions with others in and outside of the classroom, including online environments, and ways to promote ethical behaviors.

FINS 520 Finance for Decision Making 4.5 credit hours
In this course, students will develop an understanding of essential concepts in finance and apply them to decision-making. Students will explore how to link together strategic decision-making concepts with day-to-day management decisions. The course provides a practical approach as students examine risks and returns within organizations and in capital markets, budgeting and cost management, and investments for short- and long-term goals. Topics include key areas required to build and grow a fiscally healthy organization.

INST 534 Computer and Information Networking 4.5 credit hours
In this course, students embark on a systematic examination of computer networking, including an overview of the history and development of computer networks, network topologies, analog and digital transmission, switching multiplexing, and protocols and algorithms. Students will review transmission media including connection management, flow control, and buffering.

INST 569 Data and System Security 4.5 credit hours
In this course, students examine the basic principles of data and information system security in the business enterprise. Students will explore topics such as identification, confidentiality, authentication, and integrity. Students will also focus on risk management including intrusion detection and mitigation. In addition, students will evaluate issues of organizational security and the attendant policy, legal, and ethical concerns.

INST 574 Management Information Systems 4.5 credit hours
In this course, students gain an overview of information systems in the business world. Students will study hardware; software; databases; telecommunication systems; the development and strategic use of information systems; and the social, legal, and ethical issues involved with information systems.

MKTG 571 Marketing Management 4.5 credit hours
In this course, students will develop an understanding of the marketing resources, activities and personnel required to identify customer requirements for products and services. Students will analyze marketing opportunities through new product or service development, strategic planning, electronic commerce, product strategies, and product mix. Students will also examine the relationship of marketing to overall organization planning.

QANT 510 Statistics for Decision Making 4.5 credit hours
This course provides an introduction to the fundamentals of statistics and quantitative methods for decision making. Students will be given an overview of the basic elements of statistics including measurement, error, sampling and analysis, and will learn how to detect unreliable statements backed by faulty statistical methods. Students will apply their knowledge of statistics to various areas of business decision making and management including creating surveys and applying statistics to marketing, forecasting, and quality management

TECH 540 Database Management Systems 4.5 credit hours
In this course, students will be introduced to the fundamental concepts of database management including aspects of database design, languages, and implementation. Students will explore topics such as relational databases, database design, data storage and querying, transaction management, and system architecture. Students will also be given a brief overview of data warehousing, data mining and information retrieval.

TECH 580 Technology in the Business Enterprise 4.5 credit hours
In this course, students will investigate the value and uses of information systems and technology for business operations, management decision making, and strategic operations. Students will assess how managers can utilize information systems to facilitate planning, operations, and growth. Students will explore the role that technology currently plays and will increasingly play in enterprise operations.

TECH 581 Electronic Business Systems 4.5 credit hours
In this course, students will be introduced to electronic commerce applications in accounting, finance, information systems, computer science, and engineering. Students will examine electronic commerce from a global perspective in order to gain an understanding of applications of electronic commerce.

Elective Courses

Each master's degree curriculum has four elective courses that are listed on each program's curriculum section pages in the catalog. Prerequisites as indicated for specific courses must be completed prior to taking an elective course that requires requisite knowledge. Master's program students have the option to take a core course from a program in which they are not enrolled as an elective ***if*** prerequisites are met. The elective courses across all programs are listed in alphabetical order below.

ACCT 521 Advanced Accounting 4.5 credit hours
Prerequisite: ACCT520. This course builds an understanding of the issues of the provision of relevant operational information to all of an organization's constituents - management, shareholders, auditors, and the public. Strategic cost analysis, firm valuation, and mergers and acquisitions will be discussed.

ACCT 522 Principles of Taxation 4.5 credit hours
This course introduces basic concepts of federal income taxation that are common to all types of taxpayers (i.e., individuals, corporations, and flow-through entities). Topics to be covered include tax policy objectives, tax accounting methods that affect the timing of income and expense recognition, concepts of gross income and trade or business expenses, income character, and tax issues associated with various property transactions.

ACCT 523 Auditing 4.5 credit hours
Prerequisite: ACCT520. In this course, students examine auditing methodology through a study of auditing standards including the nature of evidence, program planning, work papers, internal control evaluation, types of audit tests, the audit process, audit reports and the auditor's role in ensuring that publicly issued financial statements are fairly presented.

ACCT 524 International Accounting 4.5 credit hours
This course focuses on the two major accounting standards in widespread use (International Financial Reporting Standards [IFRS] and U.S. Generally Accepted Accounting Practices [US-GAAP]) and assesses the effect of each on firms doing business internationally. Students will understand the similarities and differences in the two systems and will assess the impact of *each* standard on a firm's financial statements.

CMSC 509 Software Methodology 4.5 credit hours
In this course, students are introduced to the Software Development Life Cycle (SDLC) and the processes related to requirements, analysis, and design. Through class projects, students will apply these principles and analyze real-world needs for business-based applications.

CMSC 583 Software Testing and Integration 4.5 credit hours
Prerequisite: CMSC 509. In this course, students will explore the role of testing within the software development lifecycle. This includes the development and implementation of test plans, as well as the delivery and integration of real-world software solutions. In addition, students will survey state-of-the-art software testing tools including record management tools, user input simulation and load tools.

CMSC 585 Object Oriented Programming 4.5 credit hours
In this course, students will explore the use of modeling support tools and the use of supporting diagrams as they relate to object-oriented analysis and design methods. Students will work through sample case studies in order to solidify their grasp of the underlying concepts, and to give them an understanding of the role of object-oriented design methods in modern software engineering.

CMSC 589 Java Programming 4.5 credit hours
In this course, students advance their utilization of Java programming language; including topics such as memory allocation and the manipulation of variables, objects, and classes. Students will also examine the use of static and dynamic data structures, as well as basic sorting and conditional branching and looping in Java.

CMSC 580 System Architecture and Security Design 4.5 credit hours
This course presents students with system architecture and enterprise architecture design, and its implementation. Students will examine and apply basic skills required for architectural design for data systems, application systems, technology systems, and for enterprise security. System integration and security implementation, which are the foundation for cybersecurity management, are also investigated.

CYBR 501 Cloud and Security Controls 4.5 credit hours
In this course, students investigate cloud computing, which represents a real paradigm shift in the way in which systems are deployed. Students will examine the massive scale of cloud computing systems that were enabled by the popularization of the internet and growth of large service companies. Topics and applications are focused on how cloud computing made the long-held dream of utility computing possible with a pay-as-you-go, infinitely scalable, universally available system and security control. Students also explore how cloud computing continues to revolutionize modern technology.

CYBR 502 System Defense and Network Security 4.5 credit hours
In this course, a variety of system defense technologies and approaches will be presented. Comprehensive concepts and mechanisms of network security will be introduced, including network monitoring and administration, authentication, intrusion detection, internet cryptography, Hash algorithms, and a variety of network security standards and protocols. Weekly lectures are followed by required step-by-step applications of practical hardware, software, network, and internet security configurations. Analyses of contemporary case studies relevant to the theory and applications presented are utilized to reinforce professional competencies.

CYBR 550 Cybersecurity Range Lab Simulations and Training 4.5 credit hours
This course uses the Cybersecurity Range Lab Platform to provide students the theory and hands-on exercises for a varieties of cybersecurity threats and responding techniques and tools. Topics and exercises include operating and configuring leading network security tools, testing network security to discover vulnerabilities and harden infrastructure, ethical hacking, forensic investigations of cybercrimes, and incident response performance. The real-world simulation training equips students with strong experiences to perform under pressure in corporate and government cyber network environments.

DATA 521 Tackling Big Data Challenges - Intro to Big Data 4.5 Credit Hours
In this course, students will be introduced to the essential concepts of Big Data, explore big data and its implications in solving business problems, the life cycle of data analytics, and how to translate business issues and hypotheses into analytical problem statements. Students will examine technologies commonly used to obtain, munge, and prepare data sets, and insights into how technology transitions in software, hardware, and delivery models are changing the way data can be used. Students will review the concepts of data warehousing, data mining, and information retrieval.

DATA 522 Solving Big Data Problems – Data Analytics 4.5 Credit Hours
Prerequisite: DATA521. In this course, students will learn the analytical aspects of solving problems involving large data sets and gain an appreciation of the fundamentals of Data Science. The course will cover topics in statistical modeling, parallel processing and machine learning and applications of graph theory to problems involving large sets.

DATA 523 Big Data Technologies 4.5 Credit Hours
Prerequisite: DATA521. In this course, students will explore various technical aspects involved when solving big data problems, challenges posed by the ability to scale, and the constraints of today's computing platforms and algorithms. This course provides general knowledge of the technologies used in big data solutions. Students will review the Hadoop ecosystem, and how to implement big data architecture stack and load large sets, and apply algorithms using software code to define analytical problem statements.

DATA 524 Information Visualization 4.5 Credit Hours
In this course, students will examine the essentials of information display and the role of information visualization when addressing big data problems. Through case studies and projects, students will go through the life cycle of data analytics used to solve problems by employing current versions of visualization tools, including but not limited to, D3, Splunk or Zeppelin, MicroStrategy, Tableau, and Microsoft Power BI.

DATA 526 Advanced Analytics and Modeling 4.5 credit hours
Prerequisites: DATA 524 and QANT 510. In this course, data sets, algorithms, techniques and formats to generate predictions, solve problems, and make business decisions are presented. Students will be assigned advanced practice exercises that model the analytic life cycle. Approaches to visual analytics are explored and geospatial data techniques are introduced. Students will apply analytic skills to current organizational problems including analytic solution scoring and project management techniques.

DATA 530 Demonstrated Solutions with Analytics 4.5 credit hours
Prerequisite: QANT 510. In this course, students will explore data analytics lifecycles, which include data and analytic lifecycles that begin with identifying the objective, goal, and/or problem. Next, students will investigate data quality for the determinant factor in value, applicability of the analytic method, usability of the resulting recommendations, and course of action. Applications of where the data came from, data quality, and how the data work together from different data sources before creating solutions will be assigned to reinforce students' competency.

DATA 540 Deterministic Optimization Models 4.5 credit hours
Prerequisite: QANT 510. Students will investigate optimization models, theory, and algorithms, and will be introduced to a broad scope of key representative models and algorithms. Topics will be closely linked to modern statistical methods, including network analysis, quantile regression, and high-dimensional statistics. Students will be required to program as well as utilize software for optimization formulation and solutions.

ECON 540 Global Markets and Competitive Positioning 4.5 credit hours
In this course, students will explore the emergence, evolution, and current state of the global economy, with an emphasis on the driving forces behind global markets. Students will examine the legal, ethical, and economic issues of international trade, and the effects of various policies enacted by different governments that affect multi-national organizations. Students will consider the strategies and policies employed by governments, multinational and regulatory institutions, and other entities to achieve their objectives in a globalized economy.

EITE 505 Adaptive Teaching and Learning Approaches 4.5 credit hours
Prerequisite or Concurrent: EITE 510. In this course, students examine contemporary active-learning/learner-centered approaches versus traditional passive learning/instructor-centered methodologies. The advantages and disadvantages of instructor- and student-driven strategies are reviewed. The influence of technology and adaptive learning on developing a balanced strategy is assessed within several educational contexts.

EITE 515 Tools for Digital-Age Learning Strategies 4.5 credit hours
Prerequisite: EITE 530. A variety of tools, applications, and other technologies are introduced, which support digital-age learners. The availability and feasibility, including an emphasis on cost and budget restrictions, of utilizing such tools are analyzed. In addition, students consider the impact on instructor training and continuing education to effectively integrate the tools and applications in their classrooms.

EITE 525 Data-Driven Instruction for Individualized Learning 4.5 credit hours
This course focuses on data-driven instruction that is based on the continuous loop of introducing new and deeper content and assessing individual learner outcomes. Technologies that support compiling data and the analysis of information within this loop are examined. Students will evaluate the similarities and differences of data-driven instruction versus traditional approaches and the impact of each method.

EITE 535 Outcome-Based Instructional Applications 4.5 credit hours
Prerequisite: EITE 530. Students will be introduced to the differences among standards, outcomes, and competencies, and their progression with an emphasis on outcome-based strategies. Topics include developing frameworks for competencies to outcomes and aligning standards with competencies and then outcomes. Students will examine and then create outcome-based methods utilizing modern classroom management approaches that are supported by technology.

EITE 545 Active Learning in the Collaborative Classroom 4.5 credit hours
Prerequisite: EITE 530. Students will investigate active learning and technology tools used to provide collaborative approaches between learners and instructors, and among learners. Topics include individual and group approaches, assessment of learner outcomes, and related techniques for applying recently acquired knowledge while building content and strengthening mastery.

EITE 555 Strategies for Adapting System-Wide Technologies 4.5 credit hours
Prerequisite: EITE 520. Students are introduced to the key elements for developing a plan to implement uses of technologies in educational systems for learning and the assessment of learning. Plans to address individual stakeholders and departmental challenges are examined. Through analyses of the usefulness of applications and digital resources in a range of contexts, students will be prepared to initiate and implement the adoption of technologies to advance the effectiveness and efficiency of educational systems.

FINS 530 Financial Data / Statistics Management 4.5 credit hours
Prerequisite: QANT 510. Students will investigate decision making and technology tools used to manage financial data/statistics and their applications. Research topics include qualitative and quantitative approaches, validity and reliability testing, and related practices for financial analyses and reporting.

FINS 540 Investment Portfolio Management **4.5 credit hours**
Prerequisite: FINS 520. Students will review principles of investment used to develop financial plans for individuals and businesses. Through analyses of financial forecasting in a dynamic environment, students will be prepared to create limited risk solutions. They will also examine accountability of financial managers to their clients in a range of markets, including volatile markets.

FINS 550 Case Studies in Financial Analysis and Reporting **4.5 credit hours**
Prerequisite: FINS 520. Students will examine contemporary case studies in which financial solutions were developed for private and public companies to exemplary corporate and government organizations. They will analyze the effectiveness of the solutions and work in teams to evaluate simulated outcomes created by changing several key variables, including non-financial factors.

INST 518 Technology and Operations Management **4.5 credit hours**
In this course, students increase their perspective of the technical link between information systems and business operations. Students will examine management issues including managing productivity, production planning, forecasting, and scheduling, inventory management including just-in time systems, and overall project management.

INST 522 Database Design and Processing **4.5 credit hours**
In this course, students gain a solid understanding of database system concepts and architecture; data models, schema, and instances; data independence and database language and interface; data definition languages; and overall database structures. Students will explore relational data model concepts, integrity constraints, data manipulation, functional dependencies, transaction processing concepts and concurrency control techniques.

INST 523 Database Administration **4.5 credit hours**
Prerequisite: INST522. In this course, students will be introduced to a broad range of topics related to administering databases. Students will explore database concepts such as data modeling; database design and creation; database performance and tuning; and database maintenance, backup, restoration, and recovery. Students will also examine the role and responsibilities of the database administrator, including the use of various DBA tools. Students will study programming in SQL, and Oracle database solutions will be employed to demonstrate concepts and for student exercises.

INST 524 Big Data and the Enterprise **4.5 credit hours**
In this course, students will explore big data and its implications in solving business problems. Students will be exposed to IBM analytic tools used for unlocking big data and examining it at rest and in motion. Lastly, students will evaluate requirements for governance and integration of big data in the enterprise.

INST 525 Business Intelligence and Data Warehousing **4.5 credit hours**
Prerequisite: INST522. In this course, students will gain an overview of data warehousing and business intelligence, including the role of data in an organization, and the need for developing a data warehouse and business intelligence strategy. Students will explore topics such as components of data warehouse architecture, enterprise data models, data governance, data marts, and data quality. Topics include components and different alternatives involved in building a data warehouse, and how to weigh the advantages and disadvantages in choosing one option over another.

INST 540 Principles of Information Security 4.5 credit hours
In this course, students explore the domains of information security as established by the (ISC International Information System Security Certification Consortium) Common Body of Knowledge (CBK). Students will use the domains of CBK as a framework to critically analyze security awareness issues and evaluate best practices in implementing security systems within the enterprise.

INST 541 Information Security Policy 4.5 credit hours
In this course, students examine the role of security policies, standards, and procedures in addressing business and technical risks. Students evaluate the importance of information assurance policies and deployment plans as part of the comprehensive strategic plan and operational objectives of the enterprise.

INST 542 Information Security Risk and Vulnerability Assessment 4.5 credit hours
Prerequisite: INST540 or INST541. In this course, students research leading tools, technologies and methodologies used in identifying, prioritizing, and mitigating information system threats and vulnerabilities; identify and evaluate security controls; and formulate risk mitigation strategies.

INST 543 Forensics and Incident Response 4.5 credit hours
Prerequisite: INST540 INST541. In this course, students identify and analyze the nature of security incidents, methods of discovery and forensic evaluation, the source of potential threats, and approaches used in incident management and mitigation. Students analyze the technical and business issues which affect the actions of an enterprise in responding to a security incident.

INST 560 Internet of Things 4.5 credit hours
This course introduces the concept of Internet of Things (IoT), and its daily impact on our lives. IoT describes the connection of devices to the internet using embedded software and sensors, to communicate, collect, and exchange data between devices and the internet. As IoT connects more devices, machines, and humans, there are many opportunities as well as some significant risks and challenges including security, privacy, ethical, legal, technical, and standardization issues, and scalability. The primary focus of this course is on basic theory and technical concepts, marketing, and the future of loT.

INST 570 Information Security Ethics and Legal Aspects 4.5 Credit Hours
In this course, students will examine the ethical principles, issues, and responsibilities associated with information systems security, cyber warfare, and ethical hacking. This course introduces students to many laws and regulations, and compliance programs that have direct impact on information security practices, including GLBA, FERPA, HIPAA, FISMA, and PCI-DSS, SOX, FedRAMP, which will enable them to comprehend both individual and corporate responsibilities.

MGMT 541 International Business 4.5 credit hours
In this course, students examine international commerce, trade, and business, and the impact of worldwide cultural and economic influences. Students will assess a range of business structures and legal systems, and examine major world trade agreements, including The World Trade Organization (WTO), The European Union (EU), and The North American Free Trade Agreement (NAFTA). Students will evaluate various national approaches to the management of risk and to importing and exporting goods and services, competition, investments, licensing, franchising, and the availability of global venture capital.

MGMT 542 Principles of Global Management 4.5 credit hours
In this course, students investigate the global environment facing all organizations today. A major focus is on the pervasiveness of globalization and its impacts on all aspects of a business. Students will explore topics such as global trade policy; international political actions including diplomacy and conflict; institutional, ethical, and legal variations among societies; and capital, human, and technology transfers across national boundaries.

MGMT 560 Human Resource Management 4.5 credit hours
In this course, students will explore the nature and management of human behavior in organizations through an assessment of the principles, policies, and practices related to procurement, development, maintenance, and utilization of this resource. Students will evaluate the need to integrate employee and organizational goals, including intercultural and international aspects of human resource management for diverse populations in the workforce.

MGMT 561 Organizational Behavior and Ethics 4.5 credit hours
This course addresses the crucial issue of ethics in business. Students explore the concepts of ethics and social responsibility in the context of many stakeholders involved in business today. Topics include responsibilities of a business organization and the constituencies to which it is responsible. Students will explore the US legal environment and ethical issues, with a focus on major legislative initiatives such as the Americans with Disability Act (ADA), The Family and Medical Leave Act, and civil rights laws. Students will also review US regulatory agencies such as FDA and OSHA, and their impact on employer and workplace responsibilities.

MGMT 572 Strategic Planning and Management 4.5 credit hours
In this course, students investigate the tools of planning and operational management, with an emphasis on the use of technology to facilitate strategic thinking. Students will explore the development, implementation, and evaluation of plans to address the long-term needs of the organization. Of special focus will be the nature of strategic leadership and leaders, including their development and support.

MGMT 573 Project Management and Performance 4.5 credit hours
In this course, students will be introduced to the use of project management technology to accomplish organizational objectives. Students will explore project selection, organization, planning, budgeting, scheduling, management, control, and termination. There is a particular focus on the role of conflict and negotiation in successful project operation. Students will use project management software in their work.

MGMT 574 Project Performance Management 4.5 credit hours
In this course, students will gain an understanding of the role projects play within an organization, and how organizational strategy and the desire for performance improvement drive the creation of projects. Students will explore the functions of project management including managing scope, project organization, quality, cost, time,and risk. Students will examine the stages of the project life cycle and how to manage project start-up, execution and control, and close out.

MGMT 575 Managing Project Risk and Quality 4.5 credit hours
Prerequisite: MGMT573. In this course, students will gain an overview on how to achieve high quality on a project while minimizing risk. Students will develop an understanding of what constitutes good quality in the context of projects. Students will explore project requirements, how to manage customer expectations and satisfaction, and how to ensure that the product meets the specifications, solves the problem, and satisfies the customer. Students will learn how to identify, assess, prioritize, analyze, and reduce and control risks, and will develop a risk management plan.

MGMT 576 Teamwork and Project Management 4.5 credit hours
In this course, students will improve their understanding of the dynamics of team development and interpersonal problem solving. Students will learn to frame the project and team, identify the appropriate project management approach, and develop strategies for accelerating the development of true team effectiveness. Students will gain an understanding of the key technical competencies of project management, as well as the critical dimensions of project scope, time, and cost management. Students will explore a variety of best practices including anticipating, preventing, and overcoming barriers to project success.

MSAE 530 Cloud and Mobile Computing 4.5 Credit Hours
In this course students will examine the basic architecture of cloud and mobile computing, as well as the business and technical models that support cloud and mobile computing deployment. Students will investigate the issues and practices that are associated with mobile cloud computing, as well as their applications in the green environment, sensor industry, and artificial intelligence (AI) development. Topics will also include development and practice in security, privacy, trust, and social areas relevant to mobile cloud computing.

MSAE 550 Emerging Systems and Technologies 4.5 Credit Hours
This course will provide students with a broad view of the latest developments and advances in the information technology (IT) industry. Current advanced topics include big data analytics and algorithms, new development in artificial intelligence (AI), deep learning, drone development, general purpose GPU development, and block chain technology based on up-to-date, evolving technologies. Students will utilize new technologies to stimulate their interest in various innovations and entrepreneurship.

QANT 525 Probabilistic and Stochastic Models 4.5 credit hours
Prerequisite: QANT 510. Students will explore probabilistic and stochastic processes for decision-making. Theoretical concepts and the application of probability and stochastic processes computer and modeling techniques will be applied for a range of business decisions and problems. Topics include random variables, distributions, modes of convergences, classification and properties of stochastic processes, and stationary processes. Discrete and continuous time Markov chains and simple Markovian queueing models will be introduced.

QANT 530 Statistical Estimation and Regression Analysis 4.5 credit hours
Prerequisite: QANT 510. In this course, students will examine the relationship of statistical estimation and linear models with regression, planning and analysis of experiments, and analyses of correlated data. Study includes simple and multiple linear regression, model selection, and advanced regression methods. With an emphasis on data analysis and interpretation, students will utilize regression analysis applications to create models to predict future states.

Capstone Course

CAPS 600 Graduate Capstone 4.5 credit hours
Prerequisites: All core courses for degree; or concurrent. This course provides the student with the opportunity to integrate the broad spectrum of what has been learned in previous courses into a final project of direct relevance to the student's academic and career objectives. Under the guidance of a Capstone Advisor, the student selects an applied project that addresses a defined problem within an organization, develops a strategy to mitigate or resolve the problem, and prepares a formal project report. The report must place the problem/issue and its solution in its cultural and historical context.