MANAGEMENT & SYSTEMS MA/GC (MASY1-GC)

MASY1-GC 1015 Quantitative Methods for Business Analysis (3 Credits)
This foundational course solidifies students' knowledge of basic statistical concepts and applications, which is necessary to development of robust data analytic skills and competencies. It encompasses a review of descriptive univariate statistics, bivariate measures of association, and introductory multivariate analyses; moreover, it also strengthens students' understanding of the concepts of statistical estimation and inference, tests of difference, statistical significance, and hypothesis testing. The course makes extensive use of real life industry data, with the goal of anchoring students' learning in demonstrating how statistical concepts and basic tenets of probabilistic problem solving are used in everyday business contexts.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1115 Management Skills for Technology Professionals (3 Credits)
"This course focuses on specific concepts and critical skills that individuals need to know in order to: work more effectively with others in organizations, work well in teams, and lead teams and organizations successfully. This course will explore traditional and contemporary challenges, practices, and/or events faced by individuals, teams, and leaders in today's organizations, analysis and application of those concepts and theories to real business issues, and participation in skill-building activities designed to enhance individual proficiencies in these areas. We will focus on getting the right work done well by exploring essential personal and interpersonal skills that include: self-awareness, appreciation and mobilization of others, problem-solving, and reaching agreement."
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1200 Managing in a Global Economy (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course examines three facets of a modern economy; markets, government, and international trade, and explores the connections among them. The course covers economic principles that power global businesses and organizations today and discusses how modern economies, markets and governments are no longer contained within national boundaries. Upon completion of this course, students learn how a market-based economy operates in today's global environment.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1210 Quantitative Models for Decision-Makers (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course prepares students to analyze operational and strategic business situations and select appropriate and optimal courses of action. Using quantitative tools, students learn to analyze the firm's operation, employ sound critical decision making to initiate appropriate action and move the organization to creative problem solving. This course provides students with the tools and techniques required to manage these processes efficiently and make decisions effectively.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1215 Data-Driven Decision-Making (3 Credits)
This course prepares students to analyze operational and strategic business situations and select appropriate and optimal courses of action. Using quantitative tools, students learn to analyze the firm's operation, employ sound critical decision making to initiate appropriate action, and move the organization to creative problem-solving. This course provides students with the tools and techniques required to manage these processes efficiently and make decisions effectively.
Grading: Grad Gallatin Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 1015 AND MASY1-GC 1500.

MASY1-GC 1220 Financial Management (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course covers current financial and managerial accounting methods and their function within the information system of decision making. Topics include accounting theory and concepts, financial statement analysis as well as financial analysis for evaluation and decision-making. The course also focuses on capital investment analysis, financial models, and the legal ramifications of technological advances in the finance industry. Students learn to apply financial management principles, techniques, and best practices to analyze a firm's finances. The course prepares students to study financial risk management and entrepreneurship.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1230 Strategic Marketing (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course provides a thorough understanding of the strategic marketing process, from analyzing customer needs, to developing products and services, integrated communications, taking them to market, order fulfillment, and successfully managing customer relationships. Topics include the marketing mix and the holistic marketing concept, marketing research and forecasting, environmental analysis, market segmentation, customer relationship management, brand equity, managing marketing programs, integrated marketing communications, online marketing, and return on marketing investments. In this course, students explore and analyze marketing strategies that are integrated across the organization and its customer touch points, the communications mix across distribution channels, and the customer lifecycle. They also learn how to optimize the core processes of the value chain, analyze the competitive environment, develop and execute an integrated marketing communications mix, and formulate and implement marketing strategies for acquiring and retaining customers.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1240 Information Technology & Data Analytics (3 Credits)
Typically offered Fall, Spring, and Summer terms
In this course, the organization is examined as a system, and the roles of information and computers are explored to facilitate the specification, development, implementation and maintenance of information technology for supporting organization decision-making and strategic planning in today's information age. Students apply the information management principles, techniques, and best practices to analyze and manage an organization's information technology activities. The course examines the role of information within organizations, provides an overview of modern hardware and software platforms and systems development architectures and introduces students to e-commerce databases and data warehouses. It also covers computer crime and forensics and how people and information can be protected through information security and privacy.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1250 Project Management in The Information Age (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course covers the fundamentals of project management and explores the methodologies and techniques for managing technological projects. Throughout this course, students learn to define a business problem, plan the delivery of a solution for that problem, and manage the quality completion of the project deliverables. The course prepares students to plan and manage organizational technology-related projects by applying various project management techniques effectively.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1260 Research Process & Methodology (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course prepares students with the required research skills necessary to successfully conceptualize a research topic and to subsequently develop a proposal to research the topic. Students learn to conduct a literature review, develop a theoretical framework, develop analytical research questions or hypothesis, identify data collection methods, and prepare to analyze and interpret research findings. This course affords students the opportunity to thoroughly explore a specific business topic, as it relates to their area of study and/or professional field, and develop a formal research proposal based on that topic.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1315 Managing Change and Innovation (3 Credits)
The focus of this course is to manage change and innovation and recognize how individuals, teams, and organizations do so. The course explores structural, process, technological, and human change dynamics and how to identify and leverage innovation to facilitate organizational change. Students examine cases from small and large companies that have implemented change strategies. Students learn to apply organizational development / change models and theories and to use readiness and assessment tools for self, individual, and organizational audits. They also develop metrics to benchmark progress and competencies, to identify complacency conflicts, to successfully leverage change, and to foster positive attitudes among workplace professionals toward change. Apply principles of diffusion of innovation and creative destruction.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 1600.

MASY1-GC 1500 Database Management (3 Credits)
This is an introductory course for data management, applications, and analysis. It presents concepts, methodologies, and techniques important for data extraction, manipulation, analysis, and management. The course focuses on conceptual and applied processes and approaches to working with relational database management systems, instilling in students basic knowledge of data organizational structures, and data manipulation and management processes. The course utilizes a combination of lectures, hands-on computer exercises, examples from widely used databases, and real-world database projects to accomplish the learning outcomes.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1600 Managing Technical Projects (3 Credits)
This course covers the fundamentals of project management and explores the methodologies and techniques for managing technological projects. Throughout this course, students learn to define a business problem, plan the delivery of a solution for that problem, and manage the quality completion of the project deliverables. The course prepares students to plan and manage organizational technology related projects by applying various project management techniques effectively.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1700 Organizational Risk Management and Information Security (3 Credits)
This course focuses on protecting data and information in today's digital world as related to strategy and policy, awareness, data classification, ownership and accountability, monitoring, and reporting. Upon completing the course, students learn to assess the impact of data in the digital world, considering the steps that the Government, Corporations, and the Private Sector take to protect information assets. Students will understand the components that comprise network security and how each component provides protection. They will become familiar with preventative and detective tools such as anti-malware, ACL, virus protection, cryptography, intrusion detection, audit logs, and logical and physical controls and perform information risk assessments.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 1800 Emerging Technologies (3 Credits)
This course explores the current and potential future impacts of new, emerging, and rapidly evolving technologies on organizations and their operations across a range of industries and sectors. Students will gain insights into these technologies and how these organizations are coping (or not) with the resulting disruption. In addition to tools and best practices, students examine the challenges and opportunities in designing projects implementing new and emerging technologies. Other topics include managing change in organizations due to disruption, the benefits and challenges of adapting new technologies, and legal and privacy issues. A case study project throughout the course investigates how to identify and implement a new technology to solve an organization's problem.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 1015 AND MASY1-GC 1315.

MASY1-GC 2000 Foundations of Business Analytics (3 Credits)
This course prepares students to turn business data into actionable information and communicate insights through visualizations. Students use analytical and data visualization software to clean, manage and prepare data for analysis, and analyze real-world data sets to develop strategic recommendations for managerial actions. They apply techniques to convert data to information, explore datasets, analyze, summarize, and visualize data, creating interactive exploratory analytics and preliminary predictive analytics to develop actionable insights. Students will learn through a hands-on approach. Guided by the instructor, they will prepare and analyze real-world data sets to learn how to develop strategic recommendations for managerial actions. Students who complete the course requirements will be able to manage data, including data access, data cleansing, and data preparation. They will also be able to apply techniques for converting data to information, including data exploration, summarization, visualization, interactive exploratory analytics, and introductory predictive analytics.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 1015 AND MASY1-GC 1500.

MASY1-GC 2100 Advanced Business Analytics (3 Credits)
Machine learning brings together computer science and statistics to harness the predictive power of data. It's a must-have skill for all aspiring data analysts and scientists or anyone else who wants to wrestle all that raw data into refined trends and predictions. This class will teach you the end-to-end process of investigating data through a predictive machine-learning lens. It will lead you to extract and identify useful features that best represent your data. It covers the essential machine learning algorithms and how to evaluate the performance of your machine learning algorithms. Through a series of practical case studies, you will gain applied experience in major areas of supervised and unsupervised machine learning, including prediction, classification, and text analytics. You will learn to analyze large and complex datasets, create systems that adapt and improve over time, and build intelligent applications that can make predictions from data.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1 - GC 2000.

MASY1-GC 2200 Foundations of Risk Analytics (3 Credits)
This course introduces students to the importance of recognizing business risks and the skills needed to manage them. It covers the high-level game plan to identify and mitigate risks and the policies and guidelines, the roles and responsibilities, ownership and accountability, monitoring, reporting, and resolution of technological risks. The focus of the course is on managing technology risk and the establishment of controls within the context of the COSO Internal Control Integrated and the COSO Enterprise Risk Management frameworks. Students conduct a risk assessment and understand the different types of risks that challenge businesses throughout the course. They also learn how organizations balance risks and rewards, what kinds of controls they use to mitigate these risks, and how they keep abreast of current best practices in the enterprise.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 1015.

MASY1-GC 2300 Advanced Risk Analytics (3 Credits)
This course focuses on protecting data and information in today's digital world related to strategy and policy, awareness, data classification, ownership and accountability, monitoring, and reporting. The course covers network components that comprise the environment, where the data are input, processed, stored, and how the data travel through the Intranet, Extranet, and Internet. Upon completing the course, students learn to assess the impact of data in the digital world, considering the steps that the Government, Corporations, and the Private Sector take to protect information assets. Students understand the components that comprise network security and how each component provides protection. They become familiar with preventative and detective tools such as anti-malware, ACL, virus protection, cryptography, intrusion detection, audit logs, and logical and physical controls and perform information risk assessments.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 2400 Foundations of Business Informatics (3 Credits)
This course investigates the concepts and techniques used in business informatics, with emphasis on the development of business information systems. Topics include building a business case, eliciting, documenting, validating, and managing business requirements, developing functional requirements, interviewing /testing techniques, software quality assurance, and project planning and control. Students create and analyze business requirements, estimate project work, develop a business case, and analyze data flow diagrams and models. Upon completing this course, students will understand the key system development lifecycle approaches to business analysis and how to prioritize, select, plan, analyze, test, implement, and maintain modern application systems. Students receive a dynamic experience in understanding and performing business systems analysis in the enterprise through collaborative learning approaches, lectures, peer learning activities, and real-world projects.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 1015 AND MASY1-GC 1600.

MASY1-GC 2500 Advanced Business Informatics (3 Credits)
This course prepares students to meet strategic planning demands in a technology-driven organization. It addresses optimizing the technology adoption cycle, smooth transition from proof of concept to pitot trials and production roll-out, innovation streams, and technology integration with business strategy. Focusing on case studies, students learn real-world technology decision-making strategies, including allocation of resources, managing complex technology adoption initiatives, and managing technology teams. The course examines the role technological innovations play in the competitive dynamics of industries and the use of metrics to evaluate innovation adoption effectiveness and innovation performance. Students create individual proposals for applications of technological innovations to address business needs.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1 - GC 2000.

MASY1-GC 2600 Research Process and Methods (3 Credits)
This course prepares students with the required research skills to successfully conceptualize a research topic and subsequently develop a proposal to research the topic. Students learn to conduct a literature review, develop a theoretical framework, develop analytical research questions or hypotheses, identify data collection methods, and prepare to analyze and interpret research findings. This course allows students to thoroughly explore a specific business topic related to their area of study and professional field and develop a formal research proposal based on that topic.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 1015 AND MASY1-GC 1600.

MASY1-GC 2700 Applied Research Thesis (3 Credits)
Upon approval of a proposal, the student works with a qualified faculty member to research and write a thesis on a topic in their selected concentration area. The finished thesis must demonstrate the student's ability to conduct comprehensive research and articulate original ideas and thought processes that make a practical contribution to the existing body of knowledge in the fields of management and systems. All final papers must be of an academic and research standard consistent with the requirements of current journals and publications. The student's supervisor, one other reader from either academe or industry, and the department must approve the thesis to complete the project.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1 - GC 2600.

MASY1-GC 3020 Enterprise Risk: Assessment & Mitigation (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course introduces students to the importance of recognizing business risks and the skills needed to manage them. It covers the high-level game plan to identify and mitigate risks as well as the policies and guidelines, the roles and responsibilities, ownership and accountability, monitoring, reporting and resolution of technological risks. The focus of the course is on managing technology risk and establishment of controls within the context of the COSO Internal Control Integrated and the COSO Enterprise Risk Management frameworks. Throughout the course, students conduct a risk assessment and understand the different types of risks that challenge businesses. They also learn how organizations balance risks and rewards, what types of controls they use to mitigate these risks, and how they keep abreast of current best practices in enterprise.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3030 Syntax Language Programming (3 Credits)
This course is for students with basic computer skills, including some Python and/or R fundamentals, who want to further coding skills. After reviewing language fundamentals, the course delves deeply into languages' powerful advanced features, such as user-defined classes, object-oriented design, decorators, and generators. Students learn to employ the most widely used algorithms and libraries to solve common problems in the field, and develop skills with statistical analysis and visualization using applications such as Pandas, NumPy, R Shiny. Students learn to solve practical data processing problems, and to apply industry standard tools and techniques for working within development teams, such as Git for versioning or code review. They also learn to benchmark, profile, optimize, and test programs for memory efficiency. The course concludes with a discussion of common interview questions and pathways for gaining experience and eventually securing a position in the field.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3100 Application-Based Programming (3 Credits)
This course is for students with basic computer skills, including some data manipulation fundamentals, who want to further their data manipulation and analysis skills using graphical user interface (GUI) based systems, such as SPSS or SAS/JMP. The course begins with data wrangling and preparation fundamentals, delving deeply into advanced data engineering, data table restructuring, and data file amalgamation features. Students learn to solve common data problems to create analysis-ready data files. The second part of the course focuses on descriptive, associative, and predictive functions used to accomplish common data analytic goals, such as classification or regression. Here, students gain working familiarity with how application-based programming tools can be used to carry out common business analyses, such as fitting and validation of predictive regression, decision tree models, using statistical or machine learning focused techniques. Lastly, students also learn how to use the point-and-click interface to create re-usable syntax.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3210 Systems Development & Analysis (3 Credits)
Typically offered Spring
This course investigates the concepts and techniques used in the analysis and design of business information systems. Students learn to assess business requirements, use interviewing and testing techniques, determine the feasibility of software products, and estimate system development costs. They design data flow diagrams, data models, file designs, interface designs, and software designs. The course introduces students to key elements of the system development life cycle (SDLC) applied to system analysis and design. They learn how to select, plan, analyze, design, implement, and maintain modern information systems and create business systems analysis and design documents to communicate with system stakeholders.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3215 Information Systems Auditing (3 Credits)
Typically offered Spring and Summer
This course focuses on the standards and techniques employed in information audit and control within an organization. Students study, analyze, and discuss the fundamental concepts of internal, operational, value-based, investigative, technology, and systems auditing. Students learn the ethical responsibilities of auditors to business and regulatory stakeholders.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3220 Information Security Management (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course focuses on the importance of protecting data and information in today's digital world as related to strategy and policy, awareness, data classification, ownership and accountability, monitoring and reporting. The course covers network components that comprise the environment, where the data are input, processed, stored and how the data travel through the Intranet, Extranet, and/or Internet. Upon completion of the course, students learn to assess the impact of data in the digital world, considering the steps that the Government, Corporations and the Private Sector take to protect information assets. Students gain an understanding of components that comprise network security and how each component provides protection. They become familiar with preventative and detective tools such as anti-malware, ACL, virus protection, cryptography, intrusion detection, audit logs, and logical and physical controls and perform information risk assessments.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3245 Application,Architecture Design, & Development (3 Credits)
Typically offered Fall and Spring
This course examines the concepts and principles of designing and developing applications in the context of the Internet and the web. Students explore the protocols and languages supporting web applications development along with the techniques underlying the design and development of efficient and well-designed applications systems for today's Internet environment. The course covers Internet protocols, software components, markup languages, and future technology directions. In this course, students acquire the skills and software tools to build advanced web-based applications systems and apply the techniques that render efficient, scalable, and supportable systems in business.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 3210.

MASY1-GC 3250 Enterprise Application Integration (3 Credits)
Typically offered Fall
This course addresses some of the major technology issues facing enterprises today, namely how to manage the integration of disparate data and applications that are resident on diverse platforms, owned by different business units, and residing in widely separated locations. Students learn the techniques of Enterprise Application Integration, work with structured and unstructured data sources, and build applications integrated across disparate data sets. They also learn to use enterprise application integration development tools and techniques. The course covers data federation, service oriented architectures (SOA) and go to The course covers the elements of information management, providing applications and business process access to structured and unstructured data; structured and unstructured data integration tools, extract-transform-load, replication, data federation; operational and dimensional data; well-managed information; levels of service; metrics and controls; service oriented architecture; propagating data and executing business processes across the enterprise network.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 3210.

MASY1-GC 3255 Business Analysis in the Enterprise (3 Credits)
Typically offered occasionally
This course investigates the concepts and techniques used in business analysis throughout the development of business information systems. Topics include building a business case, eliciting, documenting, validating and managing business requirements; developing functional requirements; interviewing /testing techniques; software quality assurance; and project planning and control. Students create and analyze business requirements, estimate project work, develop a business case, and analyze data flow diagrams and models. Upon completion of this course, students will understand the key system development lifecycle approaches to business analysis and how to prioritize, select, plan, analyze, test, implement, and maintain modern application systems. Through collaborative learning approaches, lectures, peer-learning activities, and real-world projects, students receive a dynamic experience in understanding and performing business systems analysis in the enterprise.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3260 Advanced Data Warehousing Applications (3 Credits)
Data warehousing is essential in business decision-making in an increasingly competitive information age. This course teaches students concepts, methods, and skills for working with data warehouses and mining data from these warehouses to optimize competitive business strategies. In this course, students develop analytical thinking skills required to identify effective data warehousing strategies, such as when to use outsourced or in-source data services. Students also learn to Extract, Transform and Load data into data warehouses (the ETL process.) and use the CRISP approach to data mining to extract vital information for data warehouses. The course also teaches students how to secure data and covers the ethical issues associated with data and data models for business decisions.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3300 Technology Team Leadership (3 Credits)
Typically offered Fall and Spring
This course introduces students to a a set of tools and practices to set up, run, evaluate, and continuously improve technology teams. Students learn how to build teams, improve teamwork and collaboration, and sustain team performance through continuous learning and improvement. The course covers best practices for composing a team and aligning individual and team goals, establishing roles, building structures, and managing decision making so that teams can excel. Students learn to manage critical team processes such as conflict resolution and harness the productive potential of teams while mitigating the risks associated with teamwork.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3305 Knowledge Management (3 Credits)
Typically offered Spring
This course aims to provide students with the opportunity to explore current issues affecting the creation and management of business knowledge in the information age. It involves a review of the theory and practice of Knowledge Management (KM) in relation to the current social, organizational, and industrial environments. Taking an organizational learning-centric approach, this course emphasizes the continuous acquisition and application of knowledge. It also introduces students to the impact of KM issues in resolving problems and taking advantage of opportunities. Students practice knowledge management by researching the KM literature, developing a knowledge repository, evaluating the knowledge created, and publishing the information to a website. In this course, students experience the creation of a community of KM practice and maximize the experience of cooperation, knowledge creation, and trust in the learning environment.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3310 Strategic Management of Technological Innovation (3 Credits)
Typically offered Fall and Spring
This course prepares students to meet the demands of strategic planning in a technology-driven organization. It addresses optimizing the R&D (Research and Development) cycle, smooth transition from design to production, innovation streams, and integration of technology with business strategy. Focusing on case studies, students learn real-world technology decision-making strategies, including allocation of resources, managing complex technology initiatives, and management of technology teams. The course examines the role technological innovations play in the competitive dynamics of industries and the use of metrics to evaluate new product effectiveness and innovation performance. Students create individual proposals for applications of technological innovations to address business needs.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3325 Business Strategy & Ethics (3 Credits)
Typically offered Fall
This course introduces students to classic strategy paradigms such as differentiation, brand creation, core competency expertise, speed to market, and value migration and leadership in cost reduction. Students evaluate the strategic value of technology-driven business change initiative. Students learn to analyze competitive forces and the value chain and make recommendations for change in organization goals. They also create a plan of action, integrating marketing, human resources, organizational design, finance, and information technology, that includes the business case and a business plan. The course examines ethical dilemmas that confront managers due to advances in technology, greater access to information, and more collaborative ventures that break down traditional proprietary boundaries.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3330 Managing Complex Change Initiatives (3 Credits)
Typically offered Spring and Summer
The focus of this course is to manage change and recognize how individuals, teams, and organizations do so. The course explores structural, process, technological, and human change dynamics. Students examine cases from small and large companies that have implemented change strategies. Students learn to apply organizational development/change models and theories and to use readiness and assessment tools for self, individual, and organizational audit. They also develop metrics to benchmark progress and competencies, to identify complacency conflicts, to successfully leverage change, and to foster positive attitudes among workplace professionals toward change.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3335 Strategic Communications (3 Credits)
Typically offered Fall
A vital function of any professional is to be able to communicate accurately and effectively. This course will focus on interdisciplinary activities including strategic communications planning, crisis avoidance and crisis communications planning, and an overview of Integrated Communications. Students will learn how to approach one of the most difficult tasks facing corporate communicators today: how to pull together all the internal and external communications initiatives, from press releases to advertising, that impact various constituencies in terms of their awareness, attitudes and behavior. Governance and disclosure principles are overviewed. This is a highly practical course that begins with an evaluation of student-submitted writing samples and a benchmark oral presentation. Students will learn and practice proven techniques for writing e-mails, memoranda and policy documents. In addition, they will learn, practice and integrate the key components of making powerful and persuasive oral presentations. Key topics for oral presentations include body energy (stance, posture, eye contact and gestures), vocal energy (voice volume, pace and voice inflection) and content (message text and use of visual aides such as graphs, charts and slides). Key topics for written communications include developing your personal tone and style, planning and organizing your written message, identifying and clarifying the strategic message, creating sentences that are clear and readable, and reviewing and editing your writing. Upon successful completion of this course, students should be able to focus on the key strategic message; manage work and business relationships using the written word; write in clear language; and make the writing process faster and more comfortable. In addition, students will be able to design, create and deliver oral presentations to a small group and manage the ensuing question and answer session.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3415 Special Topics in Management and Analytics (3 Credits)
This seminar will enhance the curriculum by identifying, analyzing, and applying special topics pertinent to the Management and AnalyticsSystems degree. Each seminar's specific titles and content will change to reflect emerging areas of interest, which can only be determined when offered. The course may be used to satisfy the elective degree requirement. Applicability to specific concentrations will be noted in the course schedule and is at the department's discretion.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3500 Database Design & Management (3 Credits)
Typically offered Fall, Spring, and Summer terms
This is an introductory course for database management systems and applications. It presents concepts, methodologies, and techniques important for database analysis, design, implementation, and management. The course focuses on the logical, conceptual and physical implementation of relational database management systems so that students can assimilate a basic knowledge of database design as it relates to business rules. The course utilizes a combination of lectures, hands-on computer exercises, examples from Oracle and other leading databases, and real-world database projects to accomplish the learning process.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3505 Data Process and Structure (3 Credits)
Typically offered Spring
This course examines database models from a managerial perspective with an in-depth focus on business data requirements, operational rules, procedures, and logical structure. The course covers relational algebra and calculus, SQL queries, and business rules; database applications and Internet applications; indexing, disks and files; query evaluation; external sorting, evaluating relational operators; the query optimizer; transactional management and concurrency control; and data recovery. Students research and present real-world scenarios; develop automated business process solutions through evaluation and discussion to gain a comprehensive knowledge and understanding of data process and structures, database design, and database management.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3510 Data Mining and Data Warehousing (3 Credits)
Typically offered Fall, Spring, and Summer terms
In an increasingly competitive information age, data mining and data warehousing are essential in business decision-making. This course teaches students concepts, methods and skills for working with data warehouses and mining data from these warehouses to optimize competitive business strategy. In this course, students develop analytical thinking skills required to identify effective data warehousing strategies such as when to use outsource or in-source data services. Students also learn to Extract, Transform and Load data into data warehouses (the ETL process) and use the CRISP approach to data mining to extract vital information for data warehouses. The course also teaches students how to secure data and covers the ethical issues associated with the uses of data and data models for business decisions.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3520 Database Applications (3 Credits)
Typically offered occasionally
This course introduces a variety of databases and database technologies. It covers the theory, techniques, and technologies that facilitate utilizing these technologies to enable complex data-driven applications. The course includes the basic concepts and skill sets of Sybase, SQL server, DB2, and Oracle, and compares and contrasts the facilities, options, and syntaxes available in each platform. Students learn how to make appropriate business decisions when considering choices among multiple database and database technology options in order to satisfy real-word business and technology considerations and how to create database applications to fulfill business requirements.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3525 Advanced Database Applications (3 Credits)
Typically offered Spring
This course focuses on database language to prepare application developers and system integrators with knowledge of basic relational concepts. The course covers the important features of advanced RDBMS with Internet-oriented, object-relational database features including PL/SQL program tracing and tuning. Students design, develop, and implement advanced relational databases and use those databases for transaction processing, report generation, and queries.
Grading: GC SCPS Graded
Repeatable for additional credit: No
Prerequisites: MASY1-GC 3500.

MASY1-GC 3530 Object-Oriented Systems Design (3 Credits)
Typically offered Summer term
This course addresses the concepts, skills, methodologies, techniques, tools and perspectives essential for project managers, system analysts, business analysts and designers to successfully develop information systems in the object-oriented context. The course presents the concepts of the object-oriented approach and describes a systems development life-cycle framework that is applicable to the analysis and design of object-oriented application systems. Students learn to analyze IT system structures, model information processes, and design/redesign IT systems using object-oriented tools.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3540 Database Technologies for Web Applications (3 Credits)
Typically offered Fall
This course examines critical database and related applications technologies that enable web-based applications for e-commerce in its many variations. It also provides an in-depth study of using database technologies in the context of the Internet, including Oracle, open source variations such as MySQL, and the role of related scripting languages such as PHP. Students are introduced to theory and practice involved in dynamic, database driven web-sites that are controlled using CSS and other web-enabling artifacts. The course covers the features of page scripting languages, presents the database options available for the web-based applications, and explains how these can be combined with each other and with additional web-based tools to create effective web-based applications.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3600 Operational & Financial Risk Analysis (3 Credits)
Typically offered Fall and Spring
Today's business environment requires a far more complex Asset Liability Management (ALM) structure to help quantify and manage risk. This course provides an introduction to what risk management means from a business perspective that employs risk management products and from the perspective of the insurance industry. Throughout the course, students learn the fundamental financial tools and techniques necessary to be an effective risk manager in the insurance industry. They also learn the fundamental concepts of financial products including both cash products and their respective derivatives, asset liability management, and actuarial sciences as well as the operational, legal and regulatory issues that affect the insurance industry.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3605 Financial Services & Trading Institutions (3 Credits)
Typically offered Fall and Spring
This course introduces and analyzes the techniques and tools of financial risk management in the context of market, credit and operational risks for financial services firms and trading institutions including sell-side investment banks and buy side firms such as asset managers and hedge funds. Students learn the fundamental financial tools and techniques necessary to be an effective risk manager. The course covers the absolute and relative valuation of financial instruments using accounting and financial information, the time value of money, risk and return characteristics of financial products, risk management terms and techniques, and operational risk management, key risk measurement metrics P&L attribution, Value at Risk (VaR), and the operational risk issues and their impact on financial and trading institutions.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3610 Enterprise Ethics & Sustainability (3 Credits)
Typically offered Fall
This course will provide an overview of the broad range of Ethical Risks inherent with the explosive growth of the global economy. The core focus of the class is in defining, discussing, and addressing the unique regulatory, cultural, and personal ethical dilemmas confronted by managers in the world economy of the twenty first century. Many nuances and realities of formal (regulatory), global (cultural), and personal ethical risks will be presented for discussion and debate. Case study examples will be addressed, including but not limited to, Lockheed, MCI, the Cuban Embargo, the South African and Israeli trade embargoes, and the Iraq oil for food embargoes. Postulation of example risks will be offered as stimulation for the student?s individual development of avoidance and/or resolution methodologies. Formal and informal student classroom interaction will be crucial to stimulating the sharing of actual day to day business related ethical dilemmas. Classroom discussions will provide the baselines for identifying potential ethical conflicts that can be faced by managers as they manage cross-border, cross cultural and multi-ethnic organizations. Development of possible resolutions will be proposed, dissected, evaluated and debated, within the parameters of both experienced and theoretical, ethically conflicting business situations. Upon successful completion of this course, students will have gained a broad understanding of the existence of Ethical Risks, (regulatory, global and personal), in business, the skills with which to evaluate the impact of conflicting ethics on the geopolitical landscape, and a solid foundation for recognizing the need for both personal awareness of, and adjustment to, ethical risks in a global economy.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3615 Crisis Management & Business Continuity (3 Credits)
Typically offered Fall, Spring, and Summer terms
This course focuses on the business decisions and management processes necessary to anticipate, plan for, manage, communicate about, and recover from crises affecting corporations and other complex organizations. It covers the key component steps for the development of a corporate Business Continuity Plan as a vital part of the day to day operations of enterprises. Additionally, the course examines the way companies in distress, and the constituencies who matter to those companies, predictably behave during crises. Students learn that crisis management is an ongoing process and learn to establish enterprise crisis training. They also create emergency preparedness and response plans such as mitigating hazards, executing crisis communication strategies, and managing business recovery and continuity.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 3910 Internship (3 Credits)
Typically offered Fall, Spring, and Summer terms
Internships provide students with the opportunity to acquire professional experience and add a real-world perspective to their studies. The course consists of on-site work at a corporation, nonprofit or governmental organization, educational institution, or small and medium-sized company that provides an educational experience for the student, under faculty supervision. Students apply the knowledge acquired through their coursework to industry practice and explore career options. This course has GPA and credit completion requirements.
Grading: GC SCPS Graded
Repeatable for additional credit: Yes

MASY1-GC 4000 Research Project: Thesis (3 Credits)
Typically offered Fall, Spring, and Summer terms
Upon approval of a proposal the student works with a qualified faculty member to research and write up a thesis on a topic in his/her selected concentration area. The finished thesis must demonstrate the student's ability to conduct comprehensive research and articulate original ideas and thought processes that make a practical contribution to the existing body of knowledge in the fields of management and systems. All final papers must be of an academic and research standard that is consistent with the requirements of current journals and publications. In order to successfully complete the project, the student's supervisor, one other reader from either academe or industry, and the department must approve the thesis.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 4100 Applied Project (3 Credits)
Typically offered Fall, Spring, and Summer terms
Where academically warranted and subject to departmental approval, the student will undertake and deliver a real-world project for active practitioners in the field. Under the direction of a faculty supervisor, the student will select and explore a topic to be developed. The student will then be required to generate a practical application of his/her findings that demonstrates professional level mastery of the subject matter involved. The project will be reviewed by the faculty supervisor and one other expert in the field.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 4115 Applied Technical Project (3 Credits)
Under the direction of a faculty supervisor, students will select and explore a topic to be developed or undertake a real-world project to complete. Where academically warranted and subject to departmental approval, students will propose, plan and deliver a real-world project for active practitioners in the field. The students will then be required to generate a practical application of his/her findings that demonstrates professional-level mastery of the subject matter involved. The project will be approved and reviewed by the faculty supervisor and one other expert in the field.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 4200 Innovation & Entrepreneurship (3 Credits)
Typically offered Fall, Spring, and Summer terms
Innovation and entrepreneurship can significantly impact the success of every business. Innovative thinking requires the initiation of an idea and converting it to a viable business initiative. An entrepreneur needs to plan for every business function including, but not limited to planning, staffing, fundraising, marketing, and assuring sound financial practices and reporting. This course teaches students how to develop a structured business plan using entrepreneurial best-practices to integrate their innovative concept and capitalize on their opportunity.
Grading: GC SCPS Graded
Repeatable for additional credit: No

MASY1-GC 5000 Special Topics: (3 Credits)
Typically offered Fall and Spring
This seminar will enhance curriculum by identification, analysis and application of special topics pertinent to the Management and Systems degree. The specific titles and content of each seminar will change to reflect emerging areas of interest, which can only be determined at the time of offering. The course may be used to satisfy the elective degree requirement. Applicability to specific concentrations will be noted in the course schedule and is at the department's discretion.
Grading: GC SCPS Graded
Repeatable for additional credit: Yes