Management Information Systems

MIS 6009 Information Systems Internship (0 semester credit hours) Student gains experience and improves skills through appropriate developmental work assignments in a real business environment. Student must identify and submit specific business learning objectives at the beginning of the semester. The student must demonstrate exposure to the managerial perspective via involvement or observation. At semester end, student prepares an oral or poster presentation, or a written paper reflecting on the work experience. Student performance is evaluated by the work supervisor. Pass/Fail only. Prerequisites: (MAS 6102 or MBA major) and department consent required. (0-0) S

MIS 6204 Information Technology for Management (2 semester credit hours) Necessary background to understand the role of information technology and Management Information Systems in today's business environment. Topics include: strategic role of information, organization of information, information decision making requirements, telecommunications and networking, managing information resources, cloud computing distributed processing, and current information systems/technology issues. (2-0) S

MIS 6302 (ACCT 6349) Managing Digital Strategy (3 semester credit hours) This course explores the strategic management issues associated with the transformation of all businesses into digital businesses. It focuses on developing an understanding of how to develop a business models to implement strategies that are based on digital systems across different industries. This includes understanding how to develop business plans, how to align the business architecture with the digital systems architecture, and appropriately managing the digital systems to maximize business value. The course will deal with assessing and developing business strategies by harnessing contemporary phenomena in the digital world, such as the Internet of Things, Mobility strategies, and include applications of emerging techniques based on machine learning, artificial intelligence and semantic analysis to craft appropriate business strategies for firms. Credit cannot be received for both ACCT 6349 and MIS 6302. (3-0) Y

MIS 6305 (HMGT 6334) Healthcare Analytics (3 semester credit hours) The healthcare industry is yet to find ways to make the best use of existing data to improve care, reduce costs, and provide more accessible care. This course introduces the use of business intelligence and decision sciences in the healthcare industry. Students will develop a conceptual understanding of data mining techniques and decision analysis and hands-on experience with several analytics software which may include coding in R, Rattle, and WEKA (as needed and depending on availability). Prerequisite or Corequisite: OPRE 6301 or SYSM 6303 or BUAN 6359 or OPRE 6359. (3-0) Y

MIS 6308 (ACCT 6340) System Analysis and Project Management (3 semester credit hours) Provides the student with an in-depth knowledge of object oriented systems analysis and design procedures. Software project management techniques will be introduced. At the end of the course, the student will be able to analyze business solutions and design computer based information systems using object-oriented methodologies. Prerequisite or Corequisite: MIS 6326 or BUAN 6320

or MIS 6320. (3-0) R

MIS 6309 (ACCT 6309) Business Data Warehousing (3 semester credit hours) This course provides the student with in depth knowledge of data warehousing principles, data warehouse techniques, and business intelligence systems. The course introduces the topics of data warehouse design, Extract-Transform-Load (ETL), data cubes, and data marts. Students will create business intelligence using data warehouses with several OLAP and analytical tools. SAP, Business Objects, Cognos, or other data warehousing tools will be used to illustrate data warehousing concepts. (3-0) Y

MIS 6313 Managing IT in the Analytics Age (3 semester credit hours) This course explores the role of information technology and systems in today's business environment. The course covers topics including strategic role of information, digital transformation, information for decision making, managing information resources, cloud computing, cybersecurity, business analytics for managerial decision making, and current information systems/technology issues. (3-0) S

MIS 6316 Data Communications (3 semester credit hours) This course covers key aspects of data communications - the fundamentals (including models and standards, throughput and capacity, signaling and transmission, media and wireless basics, encoding schemes and error detection/flow control), switching and networking (including multiplexing and switching, impact of packet size, routing, LANS and cellular concepts like CDMA), and security (including threats, security requirements, symmetric and public-key encryption schemes). (3-0) Y

MIS 6317 (HMGT 6323) Healthcare Informatics (3 semester credit hours) Examines the unique challenges of clinical and patient care delivery in the healthcare industry, including the role of data management, emerging data standards and information technology in improving the quality and cost associated with healthcare. The focus of the course will be on healthcare IT including issues related to governance, data integration, and selection and management of healthcare IT. Credit cannot be received for both courses, HMGT 6323 and MIS 6317. (3-0) T

MIS 6319 (OPRE 6390) Intelligent Enterprise Systems with SAP (3 semester credit hours) This course provides students with an understanding of intelligent enterprise systems using the SAP S/4 HANA platform. The course focuses on managing enterprise-wide business processes such as Design to Operate, Record to Report (Core Finance), Lead to Cash, Source to Pay, and Hire to Retire, and integrations among them in large organizations. The course also introduces enterprise-wide analytics, enterprise system development methodologies, project management, and cloud solutions (Ariba, Concur, SuccessFactors, and Fieldglass). The course relies heavily on hands-on experience and case studies that utilize SAP Fiori and SAP GUI. (3-0) Y

MIS 6320 (ACCT 6320 and OPRE 6393) Database Foundations (3 semester credit hours) The course provides database knowledge for non-MIS business students to function effectively in their functional area. The course covers conceptual data modeling with the entity-relationship diagram, the fundamentals of relational data model and database queries, and the basic concepts of data warehousing. Structured Query Language will be used extensively. Applications of databases for accounting, finance, marketing, and other areas of business will be emphasized. May not be used to fulfill degree requirements in MS Information Technology and Management. Credit cannot be

received for more than one of the following: ACCT 6320 or ACCT 6321 or BUAN 6320 or MIS 6320 or MIS 6326 or OPRE 6393. (3-0) Y

MIS 6323 Object Oriented Programming in Java (3 semester credit hours) This course discusses software development concepts and the development of object oriented systems. Topics covered include problem solving techniques, algorithm specifications, debugging, and testing of computer programs. Students solve small programming problems and write their solutions as high quality programs in Java. Credit cannot be received for both course, MIS 6323 and MIS 6382. (3-0) Y

MIS 6324 (BUAN 6324 and OPRE 6399) Business Analytics With SAS (3 semester credit hours) This course covers theories and applications of business analytics. The focus is on extracting business intelligence from firms' business data for various applications, including (but not limited to) customer segmentation, customer relationship management (CRM), personalization, online recommendation systems, web mining, and product assortment. The emphasis is placed on the 'know-how' -- knowing how to extract and apply business analytics to improve business decision-making. Students will also acquire hands-on experience with business analytics software in the form of SAS Enterprise Miner. Credit cannot be received for more than one of the following: BUAN 6324 or BUAN 6356 or MIS 6324 or OPRE 6399. Prerequisite or Corequisite: OPRE 6301 or OPRE 6359 or BUAN 6359. (3-0) Y

MIS 6326 Data Management (3 semester credit hours) Database theory and tools used to manage accounting data and other information are introduced. Topics include relational database theories, Structured Query Language (SQL), database design and conceptual/semantic data modeling. A client/server database environment is developed with a selected SQL server and a database application development tool. MIS 6320 and MIS 6326 cannot both be used to satisfy degree requirements. Prerequisite: MS ITM Major. (3-0) Y

MIS 6330 (ACCT 6313) Cybersecurity Fundamentals (3 semester credit hours) This course prepares business decision makers to recognize the threats and vulnerabilities present in current information systems and how to design and develop secure systems. This course introduces the concept of defense-in-depth and covers different layers in a typical security architecture. Topics include security risk management, cyber laws related to security and privacy, access controls, network security, host security, detective controls, cryptography, and communications security. (3-0) Y

MIS 6332 (OPRE 6352) Intelligent Enterprise Systems Configurations and Implementation with SAP (3 semester credit hours) The course focuses on Intelligent Enterprise System business processes and configuring an Intelligent Enterprise System from start up with hands-on experience with configuring Sales, Material Management, Production, Financial Accounting, and Management Accounting Modules on the S/4HANA platform. Several case studies are provided by which students can configure the Intelligent Enterprise System to meet the requirements so that products can be produced, purchased, sold, and generate reports - analytics. Prerequisite or Corequisite: MIS 6319 or OPRE 6390. (3-0) Y

MIS 6333 Digital Forensics and Incident Management (3 semester credit hours) This course discusses methods and techniques for responding to security incidents and breaches and in-depth

coverage of digital forensics of client devices, databases, web servers, application servers, and computer networks. The use and application of data analysis techniques in support of forensic efforts and chain of evidence are also discussed. The course provides students with opportunities to work hands-on utilizing a digital forensics lab. Prerequisite: MIS 6330. (3-0) Y

MIS 6334 (OPRE 6334) Advanced Business Analytics With SAS (3 semester credit hours) This course is SAS based and is part of the 4-course curriculum for the SAS data mining certificate program. It will cover the topics as required by the SAS certificate program including data manipulation, imputation, variable selection, SAS/STA, SAS/ETS, SAS/QC (DOE), and various SAS stat modules. Students will also learn various advanced business intelligence topics including business data analytics, model analytics, customer analytics, web intelligence analytics, business performance analytics, and decision-making analytics. Tool to be used includes SAS. Credit cannot be received for more than one of the following courses: MIS 6334 or OPRE 6334 or BUAN 6357 or MIS 6357. Prerequisites: (OPRE 6301 or OPRE 6359 or BUAN 6359) and (BUAN 6324 or MIS 6324 or BUAN 6356 or MIS 6356 or OPRE 6305). (3-0) Y

MIS 6337 (ACCT 6336 and HMGT 6336) Information Technology Audit and Risk Management (3 semester credit hours) Management's role in designing and controlling information technology used to process data is studied. Topics include the role of internal and external auditors in systems development, information security, business continuity, information technology, internet, change management, and operations. Focus is placed on the assurance of controls over information technology risks and covers topics directly related to the Certified Information Systems Auditor (CISA) exam. (3-0) Y

MIS 6338 (ACCT 6338) Accounting Systems Integration and Configuration (3 semester credit hours) Using SAP or similar cloud-based enterprise system software, this course focuses on accounting information systems as part of integrated enterprise systems. Emphasis will be on integrated business processes and related financial transaction flows, data visualization, and business process control. Systems analysis and design methods in enterprise systems with a focus on configuration methods. Prerequisite or Corequisite: ACCT 6202 or ACCT 6305 or ACCT 6331 or an undergraduate degree in Accounting and adequate foundation/academic performance in a corresponding area. (3-0) R

MIS 6339 (ACCT 6384) Analytical Reviews Using Audit Software (3 semester credit hours) This course introduces the theory and tools used to leverage automated auditing software such as ACL and IDEA. The course includes an analytical review of accounting and operational data for internal auditors and hands-on use of audit software and the development of an audit dashboard. The course also explores ways to leverage the enterprise technology and use available technology to monitor controls and detect fraud. (3-0) R

MIS 6341 (BUAN 6341 and OPRE 6343) Applied Machine Learning (3 semester credit hours) This course covers machine learning models for business data including text mining, natural language processing, non-linear regression models, resampling methods and advanced neural networks and artificial intelligence-based models for data-driven analytics. The course will be taught using either R or Python language. Prerequisites: (BUAN 6356 or BUAN 6324 or MIS 6324 or OPRE 6399) and

(OPRE 6359 or BUAN 6359). (3-0) Y

MIS 6344 (BUAN 6344) Web Analytics (3 semester credit hours) The course examines the technologies, tools, and techniques to maximize return from web sites. The course includes topics related to web site design issues, web data collection tools and techniques, measurement and analysis of web traffic, visitor tracking, search engine optimization, visitor acquisition, conversion and retention, key performance indicators for web sites, and measurement of online marketing campaigns. The use of web analytics tools such as Google Analytics will be an integral part of the course. (3-0) Y

MIS 6345 (BUAN 6345) SAP Analytics (3 semester credit hours) This course provides students with in-depth knowledge of In-memory Business Intelligence tools and In-memory databases using SAP. The course features the SAP Analytics portfolio of solutions that provides a comprehensive set of modern business intelligence, augmented analytics (including predictive analytics), and enterprise planning capabilities that work together to analyze, predict, plan, and report on data wherever it resides. Students learn about different options available to speed up the queries and why In-memory tools are important. The course covers both the semantic layer modeling and front-end visualization aspects of the In-memory BI tool used. The course also covers the DML, DDL, and modeling techniques used for the In-memory database used. Students learn such concepts using hands-on exercises and practical assignments. The course requires a solid understanding of ER and dimensional modeling. (3-0) Y

MIS 6346 (BUAN 6346) Big Data (3 semester credit hours) This course covers topics including (1) understanding of big data concepts, (2) manipulation of big data with popular tools, and (3) distributed analytics programming. It is a project-oriented course; thus, students will be required to establish a big data environment, perform various analytics, and report findings in their projects. Though concepts and theoretical aspects are addressed, more emphasis will be on actual operations of a big data system. Students will not only manipulate the basic big data software/system, but also use various dedicated big-data tools and perform distributed analytics programming with popular computer languages. Prerequisite: BUAN 6320 or MIS 6320 or MIS 6326. (3-0) Y

MIS 6347 (BUAN 6358) AWS Cloud Analytics (3 semester credit hours) This course aims to help students learn how to use cloud services to build an enterprise platform for data analytics and machine learning. The course will help students develop skills with AWS services that are critical for conducting an analysis of big data problems. Through a series of hands-on labs, students will learn how to use AWS services and build a data pipeline to source data from other systems as well as streaming data, ingest, store, process, and visualize data. Additionally, students will be able to select and apply machine learning services to resolve business problems. They will also be able to label, build, train, and deploy a custom machine learning model through a guided, hands-on approach. Finally, the course will help students prepare for AWS certifications in Data Analytics and Machine Learning. Corequisite or Prerequisite: MIS 6363. (3-0) Y

MIS 6349 Digital Consulting Project (3 semester credit hours) Students in this course will learn a consulting methodology and how to apply the methodology to a digital project provided by a local

firm. Topics include service delivery frameworks like ITIL, agile methods, working effectively in small groups, project success metrics, and customer facing communication skills. (3-0) Y

MIS 6356 (BUAN 6356 and OPRE 6305) Business Analytics With R (3 semester credit hours) This course covers theories and applications of business analytics. The focus is on extracting business intelligence from firms' business data for various applications, including (but not limited to) customer segmentation, customer relationship management (CRM), personalization, online recommendation systems, web mining, and product assortment. The emphasis is placed on the 'know-how' -- knowing how to extract and apply business analytics to improve business decision-making. Students will also acquire hands-on experience with business analytics software in the form of R. Credit cannot be received for both courses, MIS 6324 and MIS 6356. Prerequisite or Corequisite: BUAN 6359 or OPRE 6359. (3-0) Y

MIS 6357 (BUAN 6357) Advanced Business Analytics with R (3 semester credit hours) This course is based on the open-source R software. Topics include data manipulation, imputation, variable selection, as well as advanced analytic methods. Students will also learn various advanced business intelligence topics including business data analytics, modeling, customer analytics, web intelligence analytics, business performance analytics, and decision-making analytics. Tools to be used include R. Credit cannot be received for both courses, (MIS 6334 or OPRE 6334) and (BUAN 6357 or MIS 6357). Prerequisites: (BUAN 6356 or MIS 6356 or OPRE 6305) and (OPRE 6359 or BUAN 6359). (3-0) Y

MIS 6360 Agile Project Management (3 semester credit hours) Provides an in depth examination of project management principles and agile software development practices. The five process groups and ten knowledge areas of the Project Management Body of Knowledge (PMBOK) are examined in the context of agile systems development life cycles. (3-0) Y

MIS 6363 Cloud Computing Fundamentals (3 semester credit hours) This course is designed as a primer for cloud computing which many believe is the third major wave of computing, after mainframe and client-server computing. The course examines this technology from a business perspective. The course is designed to deliver a holistic and balanced view of business model, technological infrastructure, and security issues of cloud computing useful for the technology student to understand the business challenges and the business student to understand the technology challenges. (3-0) R

MIS 6368 (BUAN 6368) Applied Cybersecurity Analytics and Risk Management (3 semester credit hours) Students will explore IT Security and Analytics, perform hands-on exercises identifying security gaps with simulated data (application logs, network monitor logs, firewall logs, etc), and create predictions about potential security threats that could exploit the gaps. This course allows students to get an in-depth exposure to cybersecurity concepts and topics including security and risk management (legal, regulatory compliance), asset security (data classification, ownership, data security, and privacy), security engineering (security architecture, design, and security models), telecommunication and network security (perimeter protection, network attacks, IDS, IPS, firewalls), identity and access management (authentication, authorization, identity as a service), security assessment and testing, security operations (business continuity, disaster recovery,

incident management, vulnerability and patch management), cryptography, and software development security. They will evaluate simulated data to identify security flaws and predict an organization's security position. (3-0) S

MIS 6369 (OPRE 6369) Supply Chain Software with SAP (3 semester credit hours) The course introduces planning and execution of supply chains with software such as SAP's S/4 HANA and Advanced Planning and Optimization (APO) with case discussions and lab exercises. Students also get exposure to the new GUI SAP Fiori. This software is used in lab exercises that provide students with hands-on, experiential learning. The focus is on the supply planning function of supply chain management. Topics include: fundamentals of ERP and SAP, master and transaction data, MRP, forecasting, supply and demand matching, and integration of ERP and APO modules. This course is intended for graduate students with interests in software-based supply chain management or digital supply chains. No SAP experience is required. (3-0) S

MIS 6371 (BUAN 6386) SAP Cloud Analytics (3 semester credit hours) The course allows students to learn about the capabilities of SAP Analytics Cloud that combines business intelligence, planning, predictive, and augmented analytics capabilities into one cloud environment to support business processes. Students also learn about SAP AI technologies and an in-memory database, which are part of the SAP Analytics Cloud. Students will also learn about Augmented Analytics which helps users ask questions in a conversational manner and get instant results explained in natural language, detect drivers of a KPI and take the best action using automated machine learning that discovers unknown relationships in data and predict outcomes, generate forecasts and automate predictive planning. Students also learn about the modeling environment to create planning models and import data, as well as the standard planning features available in the story. Advanced planning capabilities like value-driver trees, data actions, advanced formulas, and allocations, combined with Smart Predict, an environment to create and train predictive models. (3-0) S

MIS 6373 Social Media Business (3 semester credit hours) Social Media represents most of the global Internet traffic and mobile apps. This course discusses the landscape of social media, processes and tools and how to leverage these environments through insightful uses of data and analytics to build a business strategy and get closer to customers. Major social media platforms are also examined along with an integrated entrepreneurial project and third-party tools. (3-0) R

MIS 6374 (HMGT 6374) Internet of Things (3 semester credit hours) The Internet of Things (IoT) is the key to digital transformation. By 2025, more than 25 billion devices in homes, factories, oil wells, hospitals, cities, and cars will be connected to the Internet. Companies are looking for students who are skilled in developing IoT solutions that connect devices, collect, store, and analyze device data. This course provides students with knowledge of IoT components and management of IoT ecosystems. First, students will gain an understanding of digital transformation and Industry 4.0. Next, students will learn about the components of IoT (Sensors, Communication Technology, Networks, Security, Cloud, and Data Analytics). Students will also be exposed to how companies implement solutions on an IoT platform (such as AWS, Azure, or Google). Finally, students will learn about the management of IoT ecosystems in the context of a few use cases (e.g., predictive maintenance, smart transportation, healthcare, or other). (3-0) Y

MIS 6375 (ENTP 6375 and OPRE 6394 and SYSM 6332) Technology and New Product Development (3 semester credit hours) This course addresses the strategic and organizational issues confronted by firms in technology-intensive environments. The course reflects six broad themes: (1) managing firms in technology-intensive industries; (2) forecasting key industry and technology trends; (3) linking technology and business strategies; (4) using technology as a source of competitive advantage; (5) organizing firms to achieve these goals; and (6) implementing new technologies in organizations. Students analyze actual situations in organizations and summarize their findings and recommendations in an in-depth term paper. The course also introduces concepts related to agile engineering. Case studies and class participation are stressed. (3-0) Y

MIS 6378 Customer Relationship Management with Salesforce (3 semester credit hours) This course studies the theory and practice of Customer Relationship Management (CRM) in the modern enterprise. The course explores topics related to strategic customer management, customer analytics, data mining, campaign management, and partner channel management. The course will develop practical skills utilizing the Salesforce.com CRM application and CRM analytics and provides a deep understanding of strategic, operational, analytical, and collaborative CRM. The SAP platform will also be discussed to provide an understanding of Enterprise Systems and CRM. (3-0) R

MIS 6380 Data Visualization (3 semester credit hours) This course studies the technologies, techniques and algorithms for the creation of effective data visualization in the context of data science. The course explores topics related to data wrangling, insight modeling, cognitive science, and graphical communication. The course will develop practical skills using data visualization tools including SAP Lumira, Tableau, Excel Powerview, and D3. The primary course objective will be the creation of data visualizations for strategic communication. (3-0) R

MIS 6381 (HMGT 6327) Electronic Health Records Applications (3 semester credit hours) An interactive, experiential course in which students will utilize hands-on, practice-oriented opportunities to learn the core components of clinical information systems used by major healthcare systems in the United States. The course will include a lab-based component in which students will follow guided exercises and assignments using a leading EMR software as well as case analyses. Prerequisite or Corequisite: HMGT 6323. (3-0) T

MIS 6382 Object Oriented Programming in Python (3 semester credit hours) This course discusses software development concepts and the development of object oriented systems. Topics covered include problem solving techniques, algorithm specifications, debugging, and testing of computer programs. Students solve small programming problems and write their solutions as high quality programs in Python. Credit cannot be received for both course, MIS 6323 and MIS 6382. (3-0) Y

MIS 6384 Preparing for Cybersecurity Threats (3 semester credit hours) Threats from cyber criminals always exist, but the level of preparation and investment in cybersecurity varies greatly between organizations. This course discusses the current threat environment and specific risk mitigation countermeasures that should be deployed. Students learn through hands-on lab and analysis of well-publicized hacks, on how to build and manage secure networks, and specific steps necessary to harden the technology environment and reduce vulnerabilities before they can be

exploited. (3-0) Y

MIS 6385 (BUAN 6385) Robotic Process Automation (3 semester credit hours) This course is intended to provide students with practical literacy on robotic process automation through real-world, relevant data preparation use cases. It will help identify potential uses and the benefits and considerations for robotic process automation. The students will learn the elements of a business process and the basics of developing a BPM application, implementing triggers to automate processes, defining and measuring KPIs. Students will use elements of artificial intelligence (AI) and machine learning capabilities to handle high-volume, repeatable tasks that previously required humans to perform. These tasks can include queries, calculations, and maintenance of records and transactions. Students will be able to use apply analytics to the generated data for a systematic computational analysis of data for the discovery, interpretation, and communication of meaningful patterns in data that will be used towards effective decision making. (3-0) S

MIS 6386 (BUAN 6383) Modeling for Business Analytics (3 semester credit hours) This is a fast-paced course that starts with an introduction covering popular approaches in business analytics (e.g., pre-processing, dimensionality reduction, association rules, clustering, basics of classification), proceeds into advanced methods (e.g., additional classification models, ensemble methods), and concludes with advanced models in customer analytics (e.g., discrete time models, continuous time models, count models, choice models). While the tool of choice will be Python, the focus of the course will be on modeling (i.e., this is not a course intended to teach you Python) - familiarity with Python is assumed. Credit cannot be received for both courses, (MIS 6334 or OPRE 6334 or BUAN 6357 or MIS 6357) and (BUAN 6383 or MIS 6386). Prerequisite or Corequisite: OPRE 6301 or BUAN 6359 or OPRE 6359 (3-0) S

MIS 6389 AWS Cloud Solution Architecture (3 semester credit hours) This course is designed as a primer for graduate students to learn the Amazon Web Services (AWS) cloud computing and security. The course focuses on the AWS Well-Architected Framework and deep dives into the five architectural pillars: operational excellence, security, reliability, performance efficiency, and cost optimization. This course builds a solid foundation for our graduate students in AWS cloud computing architecture design and helps to prepare for the AWS Solution Architecture certifications. (3-0) Y

MIS 6392 (BUAN 6392) Causal Analytics and A/B Testing (3 semester credit hours) This course focuses on the distinction between correlation and causation in data. This distinction is critical for managers to understand the effect of proposed managerial interventions. For example, an advertiser may want to know whether referral marketing interventions will be effective for its customers, and, if so, what types of messages may be used to implement a referral marketing program with a high degree of success. Similarly, a music service like Spotify may want to know what kinds of promotions will help increase the number of subscribers in the most effective way. The course will focus on the design and analysis of A/B tests to tease out the difference between correlation and causation. It will also focus on statistical techniques that can be used with observational data to achieve reliable causal inferences in the absence of experimental data. The course employs a combination of lectures, cases, and in-class exercises to introduce the course material. It takes a hands-on approach, exposing students to simulated and real-world datasets,

and equipping them with tools they can leverage immediately on the job. Prerequisite: OPRE 6301 or OPRE 6359 or BUAN 6359. (3-0) Y

MIS 6393 Foundations of Digital Product Management (3 semester credit hours) Agile software development methods emphasize rapid user feedback cycles and the importance of a product orientation for the success of a software system. This class covers topics associated with developing and managing software as a digital product. Topics include digital strategy, marketing, and branding of digital products, software development methods, design thinking, innovation, and data-driven decision making. Traditional consumer-based digital products will be examined along with the management of digital products for internal stakeholders. (3-0) Y

MIS 6396 User Experience Design (3 semester credit hours) Understanding how to design effective user experiences is essential for the success of a software system. This class covers topics associated with the design and analysis of user interfaces for software systems and explores human-computer interaction. Topics include physical, cognitive, social, and emotional aspects of computing, user interface models, and usability evaluation. The design of user interfaces and user experiences for mobile, desktop, voice, and augmented reality systems will be examined in depth. (3-0) Y

MIS 6398 Blockchain Technology and Applications (3 semester credit hours) Blockchain is innovating every corner of today's business from privacy, ownership, digital rights, payment, contracts, supply chain finance, to the entire value network of businesses. Understanding the blockchain technology and the new business applications enabled by it is imperative for the upcoming Tokeneconomy and Digital Economy. This class discusses these new opportunities and challenges. Students will get hands-on experience using Blockchain using tools. (3-0) S

MIS 6V98 Information Systems Internship (1-3 semester credit hours) Student gains experience and improves skills through appropriate developmental work assignments in a real business environment. Student must identify and submit specific business learning objectives at the beginning of the semester. The student must demonstrate exposure to the managerial perspective via involvement or observation. At semester end, student prepares an oral or poster presentation, or a written paper reflecting on the work experience. Student performance is evaluated by the work supervisor. Pass/Fail only. May be repeated for credit as topics vary (3 semester credit hours maximum). Prerequisites: (MAS 6102 or MBA major) and department consent required. ([1-3]-0) S

MIS 6V99 Special Topics in Management Information Systems (1-6 semester credit hours) May be repeated for credit as topics vary (6 semester credit hours maximum). Additional prerequisites may be required depending on the specific course topic. Instructor consent required. ([1-6]-0) S

MIS 7220 Colloquium in Management Information Systems (2 semester credit hours) Issues in current information systems research. May be repeated for credit as topics vary (16 semester credit hours maximum). Additional prerequisites may be required depending on the specific course topic. Instructor consent required. (2-0) R

MIS 7310 Advanced Topics in Knowledge Management (3 semester credit hours) The course will discuss knowledge representations and reasoning techniques. It will focus on (1) conceptual

models of knowledge in IT-based systems, (2) automated reasoning mechanisms that are enabled by such representations, and (3) automated discovery of knowledge from data. Applications in decision support systems, expert systems, and personalization and recommendation systems will be discussed. Necessary background in data models and information theory will be provided. Additional prerequisites may be required depending on the specific course topic. (3-0) T

MIS 7420 Seminar in Management Information Systems (4 semester credit hours) Survey of theoretical issues and research in information systems. May be repeated for credit as topics vary (16 semester credit hours maximum). Additional prerequisites may be required depending on the specific course topic. Instructor consent required. (4-0) R