Management Information Systems

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. May not be used to fulfill degree requirements in MS Information Technology and Management. (2-0) S

MIS 6302 (ACCT 6349) Information Technology Strategy and Management (3 semester credit hours) This course explores the strategic management and control issues associated with information technology. It provides a framework to understand how IT strategy aligns with business strategy and focuses on developing an understanding of the key information requirements for developing an IT strategy and systems architecture. This includes conducting IT sourcing analysis, and managing IT investments effectively to maximize business value. The course will consist of a mix of real-world case studies on IT strategy development across different industries. Credit cannot be received for both ACCT 6349 and MIS 6302. (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 6320 or MIS 6326. (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 6311 (ACCT 6312) Cybersecurity Fundamentals (3 semester credit hours) The course provides an overview of various technical and managerial issues associated with cybersecurity. The topics include risk assessment and management, cybersecurity programs, IT security controls and technologies, security standards and laws, IT auditing, cyber insurance, and other cyber risk mitigation strategies. (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 Enterprise Resource Planning (3 semester credit hours) Examines the role of enterprise systems in organizations. It will focus on business processes, business process integration, and information technology for enabling the integration. The course also covers selection and implementation of ERP systems. A part of the course will be set aside for demonstration and 'hands on' exercises with one of the available ERP software. (3-0) Y

MIS 6320 (ACCT 6320 and BUAN 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 both courses, MIS 6320 and MIS 6326. (3-0) Y

MIS 6323 Object Oriented Programming (3 semester credit hours) This course includes the fundamentals of Java programming, writing applets for web-based systems, and business application programming using Java. (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 both courses, MIS 6324 and MIS 6356. (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 or instructor consent required. (3-0) Y

MIS 6330 Information Technology Security (3 semester credit hours) With the advances in information technology, security of information assets has become a keenly debated issue for organizations. While much focus has been paid to technical aspects of the problem, managing information security requires more than technology. Effective information security management demands a clear understanding of technical as well as socio-organizational aspects of the problem. The purpose of this course is to prepare business decision makers to recognize the threats and vulnerabilities present in current information systems and who know how to design and develop secure systems. This course (1) uses lectures to cover the different elements of information security, (2) utilizes business cases and academic research studies to discuss information security issues faced by today's businesses, (3) keeps in touch with the security market and practices through webcasts, and (4) presents strategies and tools to develop an information security program within the organization. (3-0) Y

MIS 6332 Advanced ERP: Configurations (3 semester credit hours) The class focuses on advanced process and configuration issues related to ERP implementation. The functional side of sales, distribution, delivery, and billing as well as integration with materials management, production, financial, and management accounting is emphasized. SAP is currently used to discuss and provide hands-on experience with key ideas. Some sales theory will also be discussed. Prerequisite: MIS 6319 or instructor consent required. (3-0) Y

MIS 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 both courses, MIS 6334 and MIS 6357. Prerequisites: OPRE 6301 and MIS 6324. (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 software, this course focuses on accounting information systems as part of integrated enterprise systems and modern systems analysis and design of integrated accounting systems and related internal control. Emphasis will be on integrated business processes and related financial transaction flows, system analysis and design methods in SAP with focus on configuration methods. ACCT 2302 will also be counted as a prerequisite or corequisite. Prerequisite or Corequisite: ACCT 6202 or ACCT 6305 or equivalent or instructor consent required. (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 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) High Performance Analytics (3 semester credit hours) This course provides students with in-depth knowledge of SAN HANA implementation modeling techniques and SAP data services. The course covers HANA architecture, graphic and SQL modeling tools in SAP HANA using text search and analysis, managing modeling content, security and authorizations, and using data services to bring data into SAP HANA as well as non-SAP, data warehouse concepts and sources. Students learn such concepts using hands-on exercises and practical assignments and the data services focused on bringing data into SAP HANA. Prerequisite: MIS 6309. (3-0) Y

MIS 6346 (BUAN 6346) Big Data Analytics (3 semester credit hours) The course covers topics including: (1) understanding of big data concepts, (2) manipulation of big data with popular tools, and (3) distributed analytics programming. The course is project-oriented, thus students are required to establish a big data environment, perform various analytics, and report on project findings. In addition to concepts and theoretical aspects, the course emphasizes on the actual operations of a big data system. Students manipulate the big data environment, use various dedicated big data tools, and perform distributed analytics programming with popular computer languages. Prerequisites: MIS 6324 and MIS 6326. (3-0) Y

MIS 6352 Web Systems Design and Development (3 semester credit hours) Provides an in depth examination of web application design evaluation practices and web application development techniques. A web application is developed using an agile, team based, software development methodology leveraging a combination of CSS, HTML, JavaScript, XHR, DOM, PHP, and MySQL. Emphasis is given to hands on application of course material through development of a web application prototype under conditions simulating a business environment. (3-0) Y

MIS 6356 (BUAN 6356) 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. (3-0) Y

MIS 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. Tool to be used includes R. Credit cannot be received for both courses, MIS 6334 and MIS 6357. Prerequisites: OPRE 6301 and MIS 6356. (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 (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 6364 Enterprise IT Architecture (3 semester credit hours) Enterprise IT Architecture (EA) provides a roadmap for the analysis and design of an enterprise in its current and future states from a strategy, business, and technology perspective. The emphasis is on the alignment between IT and organizational objectives through the integration of business architectures, data and information architecture, application architecture, technology architecture, interfaces, and infrastructure. While the course introduces many EA frameworks, it uses TOGAF extensively. (3-0) R

MIS 6369 (OPRE 6369) Supply Chain Software (3 semester credit hours) The course teaches planning and execution of supply chains with software such as SAP's ERP (R3) and Advanced Planning and Optimization (APO). This software is used in lab exercises that provide students with hands-on, experimental 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. No SAP experience is required. (3-0) S

MIS 6372 IT Services Management (3 semester credit hours) The purpose of this course is to examine and explain how organizations engage and manage their IT services throughout the IT services lifecycle. The course covers topics related to service strategy, service design, service transition, service operation and continuous improvement. It also includes managing outsourced IT services and the organizational, technological and economical aspects associated with the outsourcing of IT services and functions. The course uses ITIL framework to illustrate various concepts. The course also explores how IT services are marketed by IT service providers. Organizational issues relating to changes in structure and culture are also explored. Perspectives

relating to industry sectors such as telecom, healthcare and cloud service providers are included in the course. (3-0) Y

MIS 6373 Social Media and Business (3 semester credit hours) Social media represents one of the most significant changes on the Internet. This course is to familiarize students with the newly emerging social media and Web 2.0 landscape and its underlying concepts. The course covers essential skills to analyze, evaluate, and develop the Web 2.0 business models as well as marketing strategies. Different social media and Web 2.0 applications (e.g., Flickr, YouTube, Twitter, Facebook, Groupon, and Blogs) and their multi-disciplinary implications will be discussed. (3-0) R

MIS 6378 (MKT 6338) Enterprise Systems and CRM (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 mySAP.com CRM application and CRM analytics and provides a deep understanding of strategic, operational, analytical, and collaborative 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 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). JSOM Internship Coordinator consent required. ([1-3]-0) S

MIS 6V99 Special Topics in Management Information Systems (1-4 semester credit hours) May be lecture, readings, or individualized study. May be repeated for credit as topics vary. Instructor consent required. ([1-4]-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). 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. (3-0) T

MIS 7330 MIS Teaching Practicum (3 semester credit hours) Individual sessions with a supervising coach. The student will have responsibility for handling all of the instructional duties for a course, including designing the syllabus, and all assessment. Feedback and guidance will help the student develop their teaching skills. May be repeated for credit as topics vary (15 semester credit hours maximum). Department consent required. (3-0) S

MIS 7340 Independent Study in MIS (3 semester credit hours) The student studies in depth a topic of interest to them in MIS (Management Information Systems) under the guidance of an instructor. May be repeated for credit as topics vary. Instructor consent required. (3-0) S

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 (12 semester credit hours maximum). Instructor consent required. (4-0) R