Management Information Systems (MIS)

MIS 301 Introduction to Information Technology Management 3 Hours
Explores how information technology helps to achieve competitive advantage and improve decision making, business processes, operations, and organizational design. Uses a cross-functional perspective to recognize the role of technology across business activities of management, finance, marketing, human resources, and operations.

MIS 301H Introduction to Information Technology Management: Honors 3 Hours
Explores how information technology helps to achieve competitive advantage and improve decision making, business processes, operations, and organizational design. Uses a cross-functional perspective to recognize the role of technology across business activities of management, finance, marketing, human resources, and operations.

MIS 302F Foundations of Information Technology Management 3 Hours
Explores how information technology helps to achieve competitive advantage and improve decision making, business processes, operations, and organizational design. Uses a cross-functional perspective to recognize the role of technology across business activities of management, finance, marketing, human resources, and operations.

MIS 304 Introduction to Problem Solving and Programming 3 Hours
Programming skills for creating easy-to-maintain systems for business applications. Object-oriented and structured methodologies with Python.

MIS 310 Introduction to Management Information Systems 3 Hours
Basic computer terminology, hardware and software, communications technology, graphics, systems analysis and design, and issues arising out of the rapidly evolving field of information systems. Students are expected to achieve a working knowledge of personal computer software, including operating system software and environments, as well as spreadsheets, analytical graphics, databases, and presentation software. Hands-on experience with the Internet and use of electronic mail.

MIS 119S, 219S, 319S, 419S, 519S, 619S, 719S, 819S, 919S Topics in Management Information Systems 1-9 Hours
This course is used to record credit the student earns while enrolled at another institution in a program administered by the University's Study Abroad Office. Credit is recorded as assigned by the study abroad adviser in the Department of Information, Risk, and Operations Management. University credit is awarded for work in an exchange program; it may be counted as coursework taken in residence. Transfer credit is awarded for work in an affiliated studies program.

MIS 325 Database Management 3 Hours
Beginning and intermediate topics in data modeling for relational database management systems.

MIS 129S, 229S, 329S, 429S, 529S, 629S, 729S, 829S, 929S Topics in Management Information Systems 1-9 Hours
This course is used to record credit the student earns while enrolled at another institution in a program administered by the University's Study Abroad Office. Credit is recorded as assigned by the study abroad adviser in the Department of Information, Risk, and Operations Management. University credit is awarded for work in an exchange program; it may be counted as coursework taken in residence. Transfer credit is awarded for work in an affiliated studies program.

MIS 332F Topics in Foundations of Management Information Systems 3 Hours

MIS 333K Web Application Development 3 Hours
Concepts and practices of information systems. Advanced programming techniques used to generate menu-driven applications.

MIS 140S, 240S, 340S, 440S, 540S, 640S, 740S, 840S, 940S Topics in Management Information Systems 1-9 Hours
This course is used to record credit the student earns while enrolled at another institution in a program administered by the University's Study Abroad Office or the school's BBA Exchange Programs. Credit is recorded as assigned by the study abroad adviser in the Department of Information, Risk, and Operations Management. University credit is awarded for work in an exchange program; it may be counted as coursework taken in residence.

MIS 366P Management Information Systems Practicum 3 Hours
Students apply skills in their major area and focus on additional project management skills through group projects conducted in a professional setting. Students may work with a private or a public enterprise.

MIS 171T Topics in Management Information Systems 1 Hour

MIS 372T Topics in Management Information Systems 3 Hours

MIS 372T.1 Open Innovation 3 Hours

MIS 372T.11 Advanced Analytics Programming 3 Hours
Focus on data analysis using the Python programming language. Explore machine learning tasks such as classification and clustering.

MIS 372T.12 Information Technology for Supply Chains 3 Hours
Learn how information technology is used to coordinate supply chain activities across different industries.

MIS 372T.17 Health Care Analytics 3 Hours
Explore key management challenges and how data may be leveraged to guide decisions and improve operations, with the unifying theme of providing health care services in a manner that leads to lower cost and higher quality.

MIS 372T.2 IT Audit and Security 3 Hours

MIS 372T.22 Predictive Analytics and Data Mining 3 Hours
Introduction to data mining problems and tools to enhance managerial decision making at all levels of the organization. Discuss scenarios, including the use of data mining to support customer relationship management (CRM) decisions, decisions in the entertainment industry, financial trading, and even professional sports teams.

MIS 372T.23 Social Media Analytics 3 Hours
Introduction to social network analysis for business value using statistical optimization and decision theory. Analyze online search and conversation data for market sensing, sentiments, product quality, reputation, recommendations, and brand awareness.

MIS 372T.24 Data-Driven Revenue Management 3 Hours
Use data-driven tactics and strategies to predict consumer demand and optimize price and capacity/inventory availability to maximize revenue or profit. Explore demand analytics and revenue management techniques, produce rigorous and practical insights, and develop data analysis and optimization skills, based on business cases, datasets, and exercises. Examine diverse contexts and industries, such as conventional retailing, e-commerce, airline/hotel, and contemporary platform and cloud services (e.g., Uber, Dropbox, Netflix, AWS), by utilizing software (Excel, R, or Python) to build models, conduct optimization, and develop insights for a variety of revenue management examples.

MIS 372T.25 User Generated Content Analytics 3 Hours
Focus on a gamut of questions ranging from strategic to operational matters pertaining to a firm's social media initiatives, metrics to capture relevant outcomes, and predictive analysis to link social media chatter to business performance.

MIS 372T.3 Fundamentals of Health IT 3 Hours

MIS 372T.4 Mobile Apps and Web Services 3 Hours
Explore mobile and web services technology models and architectures.

MIS 372T.9 Enterprise Computing 3 Hours

MIS 374 Business System Development 3 Hours
Provides foundation in business system analysis, project management, planning, design, and implementation using basic business knowledge and computer skills.

MIS 375 Strategic Information Technology Management 3 Hours
Designed to develop an understanding and appreciation for the role of information technology in the context of a firm's strategy. Explores the impact of information technology on the economy and business performance, the emergence of electronic business applications and organizational and market transformation, and the nature of technology-driven business models and strategies.

MIS 179, 379 Independent Research in Management Information Systems 1,3 Hours

MIS 380 Topics in Seminar in Organizational Communication 3 Hours
Selected topics in organizational communication, written and oral.

MIS 380.1 Research Methodology in Business and Organizational Communication 3 Hours

MIS 380.2 Projects, Proposals, and Presentations 3 Hours
Communicating effectively in business using advanced writing and presentation concepts and techniques to increase individual and team effectiveness.

MIS 380.3 Advanced Report Writing, Professional Reports, and Other Scholarly Papers 3 Hours

MIS 180D, 280D, 380D Database Management 1-3 Hours
Explore designing, building, and implementing a relational database to improve company operations and reporting. Examine how databases affect analytics and app development.

MIS 380N Topics in Information Management 3 Hours

MIS 380N.2 Managing Information 3 Hours
Understanding, designing, and controlling the information processing activities of an organization. Complements Business Administration 380C by focusing on information systems rather than information technology. Includes business intelligence, knowledge management, data modeling, group decision support systems, and electronic commerce.

MIS 380N.3 Business Process Excellence 3 Hours
Emerging technology, data and process modeling (flow focus for integrated applications), reengineering, and change management.

MIS 380N.4 Digital Economy and Commerce 3 Hours

MIS 180P, 280P, 380P Problem Solving and Programming 1-3 Hours
Explore programming skills for creating easy-to-maintain systems for business applications. Examine object-oriented and structured methodologies with Python.

MIS 181N, 281N, 381N Topics in Information Systems 1-3 Hours
Selected topics in information technology and management of information systems development.

MIS 181N.1, 281N.1, 381N.1 Introduction to Data Management 1-3 Hours

MIS 181N.10, 281N.10, 381N.10 Change Management Practicum II 1-3 Hours
Project-oriented course focusing on implementation of organizational change.

MIS 181N.11, 281N.11, 381N.11 Research in Information Technology 1-3 Hours

MIS 181N.12, 281N.12, 381N.12 Advanced Information Systems Readings 1-3 Hours

MIS 181N.13, 281N.13, 381N.13 Advanced Data Communications 1-3 Hours

MIS 181N.14, 281N.14, 381N.14 Global Information Technology Management 1-3 Hours

MIS 181N.15, 281N.15, 381N.15 Introduction to Electronic Commerce 1-3 Hours

MIS 181N.16, 281N.16, 381N.16 Information Systems Projects 1-3 Hours

MIS 181N.17, 281N.17, 381N.17 Client/Server Development 1-3 Hours

MIS 181N.18, 281N.18, 381N.18 Innovation, Technology, and Commercialization 1-3 Hours

MIS 181N.19, 281N.19, 381N.19 Technology Transfer: Theory and Practice 1-3 Hours

MIS 181N.2, 281N.2, 381N.2 Research in Information Systems: Organizational and Behavioral Perspectives 1-3 Hours

MIS 181N.20, 281N.20, 381N.20 Cross-Cultural Issues in Information Systems 1-3 Hours

MIS 181N.21, 281N.21, 381N.21 Seminar in Multimedia Systems 1-3 Hours

MIS 181N.22, 281N.22, 381N.22 Information Technology Strategy and Services 1-3 Hours

MIS 181N.23, 281N.23, 381N.23 E-Business: Strategy and Policy 1-3 Hours
The responsibilities of the strategist for choosing, developing, and managing an overall e-business firm strategy in uncertain market, technology, and policy environments.

MIS 181N.24, 281N.24, 381N.24 Global E-Business: Theory and Cases 1-3 Hours
Analysis of case studies, incorporating Oracle and other Web-based distributed computing solutions.

MIS 181N.25, 281N.25, 381N.25 E-Security and E-Forensic Frameworks 1-3 Hours
Discussion and hands-on use of current Web and distributed computing security software and e-forensic solutions.

MIS 181N.26, 281N.26, 381N.26 Research Methods in Information Systems 1-3 Hours
Overview of research methods used to study information systems problems. Fundamental concepts and criteria for use with and evaluation of quantitative and qualitative, positivist and interpretive research methods. Current state-of-the-art applications.

MIS 181N.27, 281N.27, 381N.27 Strategies for Networked Economy 1-3 Hours
Analyzes the competitive dynamics of platform-mediated networks; explores innovations like cloud computing in supporting network-based competition, the implications of information technology-enabled global sourcing, and business intelligence for business value and competitive advantage; and discusses the role of information technology in business transformation and making a case for information technology investments.

MIS 181N.28, 281N.28, 381N.28 Data Management 1-3 Hours
Explore general database concepts such as E-R modeling, relational database design, and advanced SQL. Design and develop mission-critical web-based business applications using databases. Explore data warehouse design and advanced analytics functions within SQL.

MIS 181N.29, 281N.29, 381N.29 Digital Strategies for Enterprise Transformation 1-3 Hours
Analyze the competitive dynamics of platform-mediated business models; explore innovations such as cloud computing and Internet of things in supporting platform-based competition; study the implications of information technology-enabled disruption; understand applications of artificial intelligence and machine learning to develop competitive advantage; and discuss the role of information technology in business transformation.

MIS 181N.3, 281N.3, 381N.3 Strategic Analysis for High-Tech Industries 1-3 Hours

MIS 181N.30, 281N.30, 381N.30 Privacy Preserving Analytics 1-3 Hours

MIS 181N.31, 281N.31, 381N.31 Artificial Intelligence and Machine Learning for Managers 1-3 Hours
Discuss artificial intelligence (AI) and machine learning (ML) through a review of AI and ML concepts, tools, and the complete AI/ML lifecycle in the context of tackling business and organizational challenges.

MIS 181N.32, 281N.32, 381N.32 Artificial Intelligence Strategies for Digital Transformation 1-3 Hours

MIS 181N.33, 281N.33, 381N.33 Artificial Intelligence in Business and Society 1-3 Hours

MIS 181N.34, 281N.34, 381N.34 Artificial Intelligence in Healthcare 1-3 Hours

MIS 181N.35, 281N.35, 381N.35 Modern Data Management 1-3 Hours
Explore modern data management practices, with a strong focus on design and implementation of scalable, cloud-native data systems. Learn to manage diverse data types--structured, semi-structured, and unstructured--across their full lifecycle. Examine the role of cloud infrastructure in enabling agile, secure, and scalable data solutions.

MIS 181N.4, 281N.4, 381N.4 Decision Support Systems 1-3 Hours

MIS 181N.5, 281N.5, 381N.5 Information Systems Design and Implementation 1-3 Hours

MIS 181N.6, 281N.6, 381N.6 Research Seminar 1-3 Hours

MIS 181N.7, 281N.7, 381N.7 Information and Knowledge Management 1-3 Hours

MIS 181N.8, 281N.8, 381N.8 Managing Disruptive Innovations 1-3 Hours
Focuses on the management of disruptive technologies, including analyzing whether an emerging technology is sustaining or disruptive, identifying new markets for disruptive technologies, justifying investments in disruptive technologies, implementing disruptive technologies, and appropriating value from them.

MIS 181N.9, 281N.9, 381N.9 Change Management Practicum I 1-3 Hours
Project-oriented course focusing on design of organizational change.

MIS 382N Topics in Information Management 3 Hours

MIS 382N.1 Managing Financial Information 3 Hours
Data modeling and information management for investment analysis and financial systems.

MIS 382N.10 Data Mining for Marketing 3 Hours

MIS 382N.11 Business Intelligence Capstone 3 Hours
Explores foundations of business analytics related to database management, data analysis techniques, and business decision making to solve a business problem of a client.

MIS 382N.12 Social Media Analytics 3 Hours
An introduction to social network analysis for business value using statistical optimization and decision theory, including the foundation for analyzing online search and conversation data for market sensing, sentiments, product quality, reputation, recommendations, and brand awareness.

MIS 382N.13 Predictive Analytics and Data Mining 3 Hours

MIS 382N.14 Business Data Science 3 Hours
An introduction to basic concepts, methodology, algorithms, and technology used in business analytics and decision making. Explore concepts from probabilistic modeling, analysis and experimental design. Examine the basics of modern regression and classification, clustering, visualization, dimensionality reduction, A/B Testing and an introduction to deep learning.

MIS 382N.15 Business Analytics Capstone 3 Hours

MIS 382N.16 Fundamentals of Neural Networks and Machine Learning 3 Hours
Explore an introduction to fundamental concepts, methodology, algorithms, and technology used in business analytics and decision making covering the most powerful concepts and algorithms from probabilistic modeling, analysis and machine learning.

MIS 382N.18 Digital Health Innovation 3 Hours
Focus on digital innovation in the healthcare industry that is driven by advances in information technology and artificial intelligence. Learn about different types of IT-enabled innovations that are revolutionizing healthcare delivery, develop technology-enabled strategies to enhance innovation, and evaluate how new types of AI-enabled innovations create value for patients and other stakeholders.

MIS 382N.2 E-Business Change 3 Hours

MIS 382N.3 E-Business Application Development 3 Hours

MIS 382N.4 Cross-Functional Systems Integration 3 Hours

MIS 382N.5 Managing Complexity 3 Hours

MIS 382N.6 Computer Auditing and Systems Security 3 Hours

MIS 382N.7 Project Management in Fast-Cycle Environments 3 Hours

MIS 382N.8 Balanced Scoreboard: An Information Systems Perspective 3 Hours
Theory and tools that support the design and implementation of balanced scoreboard evaluation systems.

MIS 283M, 383M Supply Chain Management for Executives 2-3 Hours
Examine frameworks for understanding how to transform supply chain strategy in the face of pressures from technological, social, and political disruption.

MIS 383N Topics in Information-Intensive Business Processes 3 Hours
Topics in management of information in specific industries or application areas.

MIS 383N.1 Health Care Management 3 Hours

MIS 383N.10 Practicum in Multimedia Systems Development 3 Hours

MIS 383N.12 E-Business Innovation 3 Hours

MIS 383N.13 Managing Innovation in a Global Company 3 Hours
Examines innovation-based business strategies that rely on internal and external sources, processes in different organization forms, and market structures.

MIS 383N.2 Health Services Seminar 3 Hours

MIS 383N.3 Customer Insights 3 Hours

MIS 383N.4 Supply Chain Management 3 Hours

MIS 383N.5 Computer Tools for Investment Science 3 Hours

MIS 383N.6 Trading-Floor Technology 3 Hours

MIS 184N, 284N, 384N Topics in Business Analytics 1-3 Hours
Selected topics in business analytics.

MIS 385 Management Information Systems 3 Hours
Overview of hardware and software life cycles; in-depth considerations of program design, including experience programming for large-scale computer systems in COBOL, FORTRAN, and/or BASIC.

MIS 185G, 285G, 385G Machine Learning and Artificial Intelligence for Executives 1-3 Hours
Introduction to artificial intelligence (AI) and machine learning (ML) through a review of AI and ML concepts, tools, and the complete AI/ML lifecycle in the context of tackling business and organizational challenges.

MIS 185N, 285N, 385N Topics in Information Technology and Management 1-3 Hours
Selected topics in information technology and management.

MIS 185N.1, 285N.1, 385N.1 Big Data and Distributed Programming 1-3 Hours
Explore a range of subjects required for developing modern applications that operate over vast data sets that are potentially distributed in nature. Consider alternative technologies and architectures for working with big data, examining the pros and cons of the different approaches.

MIS 185N.10, 285N.10, 385N.10 User Generated Content Analytics 1-3 Hours
Generate business and social insights from user-generated content (e.g., text, images, video, etc.) through the use of text analytics, sentiment analysis, visualization techniques, etc.

MIS 185N.11, 285N.11, 385N.11 Advanced Data Mining and Web Analytics 1-3 Hours
Examine a variety of data mining and machine learning techniques for descriptive, predictive and prescriptive analytics. Explore approaches to analyzing different types of information from the Web (web structure, content, usage).

MIS 185N.12, 285N.12, 385N.12 Healthcare IT and Analytics 1-3 Hours
Design new healthcare solutions using emerging information technologies such as Internet of Things, cognitive computing, artificial intelligence, the cloud, mobile, and 3D and 4D printing.

MIS 185N.13, 285N.13, 385N.13 Emerging Technologies II 1-3 Hours
Build a strong business and technical foundation for blockchain. Discuss business inefficiencies that can be addressed by blockchain technology. Examine cryptology and distributed computing that blockchain systems rely on, including an overview of Bitcoin. Explore current research problems, perform programming assignments, lead discussions, and hear presentations from industry and academic researchers.

MIS 185N.14, 285N.14, 385N.14 Programming Blockchain 1-3 Hours
Cover the development of the bitcoin protocol from scratch. Explore basic libraries to build the protocol using a step-by-step approach. Examine the primary and secondary aspects of scaling, mining and operating a bitcoin protocol based system.

MIS 185N.15, 285N.15, 385N.15 Unstructured Data Analytics 1-3 Hours
Generate business and social insights from user generated content (e.g., text, images, video, etc.) through the use of text analytics, sentiment analysis, visualization techniques, etc.

MIS 185N.16, 285N.16, 385N.16 Math Foundations of Artificial Intelligence 1-3 Hours
Explore the mathematical foundations of AI including probability theory and linear algebra, concepts necessary as foundational knowledge for other AI related courses in program.

MIS 185N.17, 285N.17, 385N.17 Advanced Programming and Application Development II 1-3 Hours
Learn fundamentals of modern cloud native applications, including how to design, develop, and operate them, as well as distributed programming fundamentals. Examine machine learning design patterns for big data and distributed programming concepts.

MIS 185N.18, 285N.18, 385N.18 Problem Solving Unstructured Data Generative Artificial Intelligence 1-3 Hours
Explore how modern enterprises can harness the combined power of GenAI and traditional unstructured data analytics to unlock business value. Learn a broad range of business questions and analytics driven use cases, spanning decision-making, process optimization, and innovation.

MIS 185N.19, 285N.19, 385N.19 Strategic Information Technology and Digital Transformation 1-3 Hours
Examine information technology-enabled digital transformation and explore how digitalization impacts firm competition and enables industry transformation. Learn the role of digital business models, how firms can compete in disruptive ecosystems, to think critically about the benefit and challenge of strategic AI implementations and change management in real-world applications.

MIS 185N.2, 285N.2, 385N.2 Emerging Technologies I 1-3 Hours
Explore all aspects of the Internet of Things (IoT) product life-cycle. Interface with the devices (sensors/actuators) that collect data and affect the environment. Explore network protocols for communication with these constrained devices. Examine programming of the back-end services that host, manipulate and disseminate the collected data. Study the development of apps that facilitate human interaction with these devices and the analysis of the data they produce. Examine security, privacy and performance considerations specific to IoT.

MIS 185N.20, 285N.20, 385N.20 Risk Governance Artificial Intelligence and Intelligent Automation 1-3 Hours
Explore how to govern and control the complex cybersecurity, privacy, and IT risk organizations face in an era increasingly shaped by artificial intelligence (AI) and intelligent automation technologies. Discuss privacy-enhancing technology and ethical decision-making framework that help address the novel challenge posed by intelligent systems.

MIS 185N.21, 285N.21, 385N.21 Artificial Intelligence in the Enterprise 1-3 Hours
Explore how to design and deploy artificial-intelligence (AI) capability across the enterprise, including mapping AI solutions to specific business requirements and align them with strategic goals. Learn how to identify, assess, and prepare high-quality data essential for AI success and how to select and scale a suitable model and integrate with existing systems and processes. Examine governance and continuous-improvement practices that keep AI initiative reliable and effective over the long term.

MIS 185N.22, 285N.22, 385N.22 Generative Artificial Intelligence I 1-3 Hours
Explore a basic working knowledge of the latest algorithms, business applications and limitations of what data science and AI can accomplish. Learn about attention mechanism and the transformer, image and language embeddings, large language models, multi-modal models, and the important latest idea in reasoning, as well as some of the key emerging issues in security and reliability.

MIS 185N.23, 285N.23, 385N.23 Generative Artificial Intelligence II 1-3 Hours
Learn about state-of-art Generative AI (GenAI) models for image, video and language generation and how they are used in a business setting. Explore their architecture and mathematical foundation. Learn about machine learning models for decision-making.

MIS 185N.24, 285N.24, 385N.24 Managing Data Production For Artificial Intelligence 1-3 Hours
Explore the emerging discipline of managing data products designed to power GenAI applications. Learn how to curate, package, and deliver reusable datasets and APIs optimized for retrieval-augmented generation, synthetic data generation, and LLM prompt engineering. Examine fitness for use, economic value, and continuous improvement of data assets.

MIS 185N.25, 285N.25, 385N.25 Data Governance and Responsible Artificial Intelligence 1-3 Hours
Apply data governance framework to ensure the integrity, transparency, and fairness of GenAI system. Learn how to embed observability into AI workflows--tracking provenance, bias, quality metrics, and access rights across the AI lifecycle. Connect the socio-technical principles of data governance with the operational reality of GenAI to implement trust-by-design practices within enterprise AI programs.

MIS 185N.26, 285N.26, 385N.26 Human Dimensions Of Cybersecurity 1-3 Hours
Examine emerging security and privacy vulnerability in AI systems, with a focus on human manipulation vectors: prompt injection, phishing via AI-generated content, identity spoofing, and malicious feedback loops. Learn how adversaries exploit both model behavior and user trust, and how to counteract the risk through red teaming, user training, behavior-aware safeguards, and ethical AI design. Evaluate human-AI interaction security and apply layered defense that reinforce public trust in AI systems.

MIS 185N.27, 285N.27, 385N.27 Technical Foundation Artificial Intelligence Driven Cybersecurity 1-3 Hours
Investigate the technical foundation of cybersecurity, with a particular focus on an emerging threat and challenge at the intersection of cybersecurity and artificial intelligence (AI). Explore how AI functions both as an enabler of a cyberattack and as a vulnerable target, requiring robust security defenses.

MIS 185N.28, 285N.28, 385N.28 Advanced Program and Application Development I 1-3 Hours
Learn advanced programming and foundational software engineering concepts essential for developing robust, scalable web applications through practical, hands-on exploration using a traditional approach. Emphasis is on mastering the most popular full-stack framework, while reinforcing critical topics such as source code management, agile methodology, the software development life cycle (SDLC), and common design patterns.

MIS 185N.3, 285N.3, 385N.3 IT Security, Policy, and Compliance 1-3 Hours
Explore the prevention and mitigation of data security and privacy risks in newly designed digital artifacts through IT governance, risk, and control frameworks as well as relevant laws, regulations, and industry standards.

MIS 185N.4, 285N.4, 385N.4 IT Capstone 1-3 Hours
Develop real-life business and social solutions using emerging information technologies. Engage with industry partners to explore business context for IT Capstone projects.

MIS 185N.5, 285N.5, 385N.5 Cognitive Computing 1-3 Hours
An overview of convolutional neural networks, recurrent neural networks and generative adversarial networks. Explore deep learning and artificial neural networks. Applications include computer vision, image and time series modeling as well as computational aspects of deep learning over big datasets. Utilize Python and Tensorflow, among other tools.

MIS 185N.6, 285N.6, 385N.6 Strategic IT and Change Management 1-3 Hours
Explore the strategic management of new IT-embedded product and service innovations and their incorporation into the digital business ecosystems of organizations.

MIS 185N.7, 285N.7, 385N.7 IT and Supply Chain Management 1-3 Hours
Examine the role of Information Technology in managing Supply Chains. Explore the IT capabilities needed by firms to coordinate their operations, collaborate with business partners and manage uncertainty. Illustrate the role of technologies and tools like ERP platform, ABAP programming, XML, web services, distributed computing and machine learning to improve the performance of supply chains.

MIS 185N.8, 285N.8, 385N.8 Design Methods 1-3 Hours
Utilize design tools and methods to understand user needs, frame business opportunities, and design solutions. Examine design from both organizational and technical perspectives. Conduct research with end users, synthesize data, prototype solution ideas, and communicate compelling stories. Undertake design challenges that focus on emerging information technologies, including the internet of things (IoT), cognitive computing, AI, cloud, mobile, and 3D/4D printing.

MIS 185N.9, 285N.9, 385N.9 Advanced Programming and App Development 1-3 Hours
Explore various approaches to modern app development, including required advanced programming and software engineering concepts. Explore approaches to app development ranging from native platform programming through programming frameworks that allow cross-platform development, to high-level approaches based on web frameworks.

MIS 191S, 291S, 391S, 691S Independent Study 1,2,3,6 Hours

MIS 698 Thesis 6 Hours

MIS 398R Master's Report 3 Hours
Preparation of a report to fulfill the requirement for the master's degree under the report option.

MIS 399W, 699W, 999W Dissertation 3,6,9 Hours