

Department of Systems and Technology

The Department of Systems and Technology prepares students for careers involving the planning, analysis, and execution of processes related to the movement of passengers, product, and information. The professional programs within the Department are designed to provide students with the technical skills and knowledge needed to be effective decision makers for their organizations. The professional programs available are Business Analytics (BUAL), and Information Systems Management (ISMN). Information regarding careers, internships, scholarships, and student organizations is available through the program coordinators. College of Business pre-requisites are strictly enforced. Junior standing and compliance with College of Business academic standards are required for all 3000 and above level courses.

Business Analytics

The Business Analytics Program prepares students for careers that use data to support solve problems and exploit opportunities in a data-driven manner. Students learn skills in a natural progression that goes through formulating a problem, identifying and cleaning data, uncovering patterns in data, developing predictive models, using these models to make recommendations, and communicating the results in a manner appropriate to executives or clients. Business Analytics skills are in demand across a wide range of industries including healthcare, marketing, finance, consulting, transportation, and information technology. Students are encouraged to develop expertise in a functional business discipline such as marketing or finance using elective coursework.

Information Systems Management

The Information Systems Management program provides education and training so that students can help lead organizational change projects in transforming and improving business processes and in designing and creating new, innovative digital products and services. The program is designed to enable students to meet the challenges that are poised by Information Technology Management in both public sector and for-profit organizations. Because information systems are critical to all aspects of every organization, Information System Management majors are in great demand in the marketplace. Information systems students can focus their study in the areas of business analytics, information security, and/or technology infrastructure.

Majors

- Business Analytics (http://bulletin.auburn.edu/undergraduate/collegeofbusiness/departementofaviationandsupplychainmanagementavsc/businessanalytics_major/)
- Information Systems Management (http://bulletin.auburn.edu/undergraduate/collegeofbusiness/departementofaviationandsupplychainmanagementavsc/informationssystemmanagement_major/)

Minors

- Business Analytics (http://bulletin.auburn.edu/undergraduate/collegeofbusiness/departementofaviationandsupplychainmanagementavsc/businessanalytics_minor/)
- Business-Engineering-Technology (http://bulletin.auburn.edu/undergraduate/collegeofbusiness/departementofaviationandsupplychainmanagementavsc/businessengineeringtechnology_minor/)
- Information Assurance (http://bulletin.auburn.edu/undergraduate/collegeofbusiness/departementofaviationandsupplychainmanagementavsc/informationassurance_minor/)
- Information Systems Management (http://bulletin.auburn.edu/undergraduate/collegeofbusiness/departementofaviationandsupplychainmanagementavsc/informationssystemmanagement_minor/)

Business Analytics Courses

BUAL 2600 BUSINESS ANALYTICS I (3) LEC. 3. Pr. (MATH 1610 or MATH 1617 or MATH 1680 or MATH 1683). Introduction to analytics in business including use of data to make business decisions, basic predictive business modeling, and communication of analytical results.

BUAL 2650 BUSINESS ANALYTICS II (3) LEC. 3. Pr. BUAL 2600 or STAT 2610 or STAT 2010 or STAT 2017 or STAT 2510 or STAT 3010 or STAT 2513. A second course in quantitative analysis in business including statistical inference, classification analysis, predictive modeling, forecasting, introduction to data mining.

BUAL 3010 PROFESSIONAL DEVELOPMENT IN BUSINESS ANALYTICS (1) LEC. 1. SU. Pr. P/C BUAL 2650 and P/C BUSI 2010. Career planning and preparation for employment as an analytics professional.

BUAL 4910 PRACTICUM (1-3) PRA. SU. Supervised practical application of business analytics theory and methods. Course may be repeated for a maximum of 3 credit hours.

BUAL 4920 BUSINESS ANALYTICS INTERNSHIP (1-6) INT. SU. The internship program represents an opportunity for students to be exposed to analytics environments first-hand and to integrate this experience with their formal education. The practical nature of the internship facilitates the educational process and provides valuable work experience. Course may be repeated for a maximum of 6 credit hours.

BUAL 5600 PRINCIPLES OF PREDICTIVE MODELING (3) DSL/LEC. Pr. BUAL 2650. Introduction to linear models including multiple linear regression and model building in business decision making and applications. Credit will not be given for both BUAL 5600 and BUAL 6600/6606.

BUAL 5610 BUSINESS DECISIONS WITH PREDICTIVE MODELING (3) DSL/LEC. Pr. BUAL 2650. Basic data mining techniques including neural networks, decision trees, clustering algorithms, linear programs, text and web mining in business setting. Credit will not be given for both BUAL 5610 and BUAL 6610/6616.

BUAL 5650 ENTERPRISE MANAGEMENT OF THE BIG DATA ENVIRONMENT (3) LEC. 3. Pr. BUAL 2600 or BUAL 2603. Management and governance of the big data environment that is necessary to support extracting, merging, and preparing large data sets for analysis.

BUAL 5660 TECHNICAL ASPECTS OF BIG DATA MANAGEMENT (3) LEC. 3. Pr. BUAL 2600 or BUAL 2603. Advanced topics in big data management, with emphasis on various technical environments used in the big data environment. Credit will not be given for both BUAL 5660 and BUAL 6660/6666.

BUAL 5700 BIG DATA INFRASTRUCTURE AND APPLICATIONS (3) LEC. 3. Pr. ISMN 5650. Advanced topics related to big data infrastructure and using these technologies to create data science applications. The course provides deep understanding of various state-of-art data science approaches using different distributed and (or) cloud computing environments. Credit will not be given for both BUAL 5700 and BUAL 6700/6706.

BUAL 5710 ADVANCED DATA AND TEXT ANALYTICS (3) LEC. 3. Pr. (BUAL 5700 or BUAL 6700 or BUAL 6706) and (P/C BUAL 5660 or P/C BUAL 6660 or P/C BUAL 6666). This course covers advanced approaches used for writing crawlers and spiders, text analytics, sentiment analysis, social media analytics, network analytics, and deep learning for solving business and organizational problems. The course provides conceptual and hand-on understanding of such state-of-art analytics approaches using various python libraries. Knowledge of python programming is necessary to do well in the course.

BUAL 5860 COMMUNICATING QUANTITATIVE RESULTS IN BUSINESS (3) LEC. 3. Pr. BUAL 5610 and BUAL 5660. A case-based, project-oriented approach to business decision making based on company's mission and strategic objectives. Credit will not be given for both BUAL 5860 and BUAL 6860/6866.

BUAL 5900 DIRECTED STUDIES (1-3) IND. SU. Faculty led individualized or group-oriented in-depth study of a topic in business analytics. May include literary research, algorithm development, programming, data analysis, or a combination of these. Course may be repeated for a maximum of 6 credit hours.

BUAL 5960 SPECIAL PROBLEMS (3) DSL. This course may be either a self-learning course or a lecture course designed to enhance the student's knowledge of a selected topic. If self-learning, the course will be designed individually for each student with agreement between the student and the professor. Coursework may include traditional exams, readings, papers, or more specific projects and tasks depending on the material and the course objectives. Course may be repeated for a maximum of 6 credit hours.

BUAL 6600 PRINCIPLES OF PREDICTIVE MODELING (3) DSL/LEC. Pr. BUAL 2650. Introduction to linear models including multiple linear regression and model building in business decision making and applications. Credit will not be given for both BUAL 5600 and BUAL 6600/6606.

BUAL 6610 BUSINESS DECISIONS WITH PREDICTIVE MODELING (3) DSL/LEC. Basic data mining techniques including neural networks, decision trees, clustering algorithms, linear programs, text and web mining in business setting. Credit will not be given for both BUAL 5610 and BUAL 6610/6616.

BUAL 6650 ENTERPRISE MANAGEMENT OF THE BIG DATA ENVIRONMENT (3) LEC. 3. Managing, governing, extracting, merging, and preparing large data sets for analysis.

BUAL 6660 TECHNICAL ASPECTS OF BIG DATA MANAGEMENT (3) LEC. 3. Advanced topics in big data management, with emphasis on loading and cleansing the data for analysis. May count either BUAL 5660 or BUAL 6660/6666.

BUAL 6700 BIG DATA INFRASTRUCTURE AND APPLICATIONS (3) LEC. 3. Pr. ISMN 5650 or ISMN 6650 or ISMN 6656. This course covers advanced topics related to big data infrastructure and using these technologies to create data science applications. The course provides deep understanding of various state-of-art data science approaches using different distributed and (or) cloud computing environments. Credit will not be given for both BUAL 5700 and BUAL 6700/6.

BUAL 6710 ADVANCED DATA AND TEXT ANALYTICS (3) LEC. 3. Pr. (BUAL 5700 or BUAL 6700 or BUAL 6706) and (P/C BUAL 5660 or P/C BUAL 6660 or P/C BUAL 6666). This course covers advanced approaches used for writing crawlers and spiders, text analytics, sentiment analysis, social media analytics, network analytics, and deep learning for solving business and organizational problems. The course provides conceptual and hand-on understanding of such state-of-art analytics approaches using various python libraries. Knowledge of python programming is necessary to do well in the course.

BUAL 6800 DATA VISUALIZATION (3) DSL/LEC. This course is designed as a graduate level class in which graduate students will learn the various elements and techniques of data visualization. The focus of the course will be to learn the challenges of big data and how effective utilization of data visualization techniques can help with decision making. Course will cover the principles of effective visualization designs as well as get hands on experience with developing dashboards and present analysis in other visual formats.

BUAL 6860 COMMUNICATING QUANTITATIVE RESULTS IN BUSINESS (3) LEC. 3. Pr. BUAL 6610 or BUAL 6616. A case-based, project-oriented approach to business decision making based on company's mission and strategic objectives. Credit will not be given for both BUAL 5860 and BUAL 6860/6866.

BUAL 6900 DIRECTED STUDIES (3) IND. 3. SU. This course is a self-learning course designed to enhance the student's knowledge of a selected topic. The course will be designed individually for each student with agreement between the student and the professor. Coursework may include traditional exams, readings, papers, or more specific projects and tasks depending on the material and the goal of the student. Course may be repeated for a maximum of 9 credit hours.

BUAL 6960 SPECIAL PROBLEMS (3) IND. 3. This course is a self-learning course designed to enhance the student's knowledge of a selected topic. The course will be designed individually for each student with agreement between the student and the professor. Coursework may include traditional exams, readings, papers, or more specific projects and tasks depending on the material and the goal of the student. Course may be repeated for a maximum of 9 credit hours.

Information Systems Management Courses

ISMN 2140 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (2) LEC. 2. The fundamental principles of the structure and management of information systems. Credit will not be given for both ISMN 2140/2143 and ISMN 3140/3143.

ISMN 3010 PROFESSIONAL DEVELOPMENT IN INFORMATION SYSTEMS (1) LEC. 1. SU. Pr. P/C ISMN 3140 and P/C BUSI 2010. Career planning and preparation for employment as an information systems management professional.

ISMN 3040 BUSINESS TELECOM MANAGEMENT (3) LEC. 3. Pr. ISMN 3140 or ISMN 3143. Voice communications and technology and data communications (LAN, WAN, internet broadband), networks, protocols, standards, legislation and project development and management.

ISMN 3070 BUSINESS SYSTEM LOGIC AND MODELING (3) LEC. 3. Concepts, techniques, and tools for discovering, specifying, and modeling business logic are introduced, explored, and applied.

ISMN 3080 PROGRAMMING AND COMPUTER APPLICATIONS (3) LEC. 3. Visual and object-oriented business programming languages are introduced and explored.

ISMN 3140 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (2) LEC. 2. The fundamental principles of the structure and management of information systems. Credit will not be given for both ISMN 2140/2143 and ISMN 3140/3143.

ISMN 3830 DATABASE MANAGEMENT SYSTEMS (3) LEC. 3. Business applications software in a database environment, complex data, and file structures, systems design consideration of global and distributed databases.

ISMN 3840 ANALYSIS OF BUSINESS SYSTEMS (3) LEC. 3. The study and application of tools, techniques, and methodologies to analyze, understand, and model business systems.

ISMN 4090 DIGITAL BUSINESS DESIGN (3) LEC. 3. Pr. ISMN 3830 or MNGT 3830 or MNGT 3833. Students bring together knowledge of digital technologies and their skills in business design and development to create innovative, leading-edge processes, products, and services for today's modern organizations.

ISMN 4850 COMPETITIVE STRATEGIES THROUGH INFORMATION (3) LEC. 3. Emphasizes how competitive strategies for companies are formulated and implemented using a combination of information technologies.

ISMN 4920 INTERNSHIP (1-6) AAB/INT. SU. Approval by departmental internship program committee. Course may be repeated for a maximum of 6 credit hours.

ISMN 5040 TELECOMMUNICATIONS MANAGEMENT (3) LEC. 3. Pr. ISMN 3140 or ISMN 3143. Discussion of the importance of telecommunications to an organization, including technology required, use strategy, and management.

ISMN 5290 ADVANCED BUSINESS APPLICATION DEVELOPMENT (3) LEC. 3. Programming languages and skills, with emphasis on designing and implementing computer-based business solutions. Credit will not be given for both ISMN 5290/5293 and ISMN 6290/6296.

ISMN 5360 APPLICATION OF GEOSPATIAL INFORMATION SYSTEMS FOR BUSINESS (3) LEC. 3. GIS involves the use of GIS and desktop mapping technology to aid in processes such as disaster recovery, facility planning and management, market segmentation, and community growth. The student will learn how to strategically use GIS to facilitate organizational performance. Credit will not be given for both ISMN 5360/5363 and ISMN 6360/6366.

ISMN 5370 PROJECT MANAGEMENT (3) LEC. 3. Tools and techniques of information technology project management including leading project management software. Credit will not be given for both ISMN 5370/5373 and ISMN 6370/6373.

ISMN 5620 BUSINESS APPLICATIONS WITH OPEN SOURCE SOFTWARE (3) LEC. 3. Overview of business solutions with open source software. Students will have a hands-on opportunity to learn to administer and manage open source software and to become comfortable deploying/employing popular OSS applications as business solutions.

ISMN 5630 CLIENTSIDE INTERNET PGM (3) LEC. 3. Fundamentals of client-side Internet programming using technologies such as HTML, JavaScript, Cascading Style Sheets, and XML. Credit will not be given for both ISMN 5630 and ISMN 6630/6636.

ISMN 5640 SERVERSIDE INTERNET PGM (3) DSL/LEC. Fundamentals of server-side Internet programming using technologies such as PHP, MySQL, and XML.

ISMN 5650 APPLICATION DEVELOPMENT WITH EMERGING TECHNOLOGIES (3) LEC. 3. Fundamentals of developing comprehensive, component-based local and Internet business applications. Credit will not be given for both ISMN 5650 and ISMN 6650/6656.

ISMN 5730 SECURITY AND INFORMATION ASSURANCE (3) LEC. 3. This course covers the fundamentals of computer security and information assurance from a management perspective. The student will be exposed to security and information assurance topics such as security policies, confidentiality, and ethics. Credit will not be given for both ISMN 5730/5733 and ISMN 6730/6736.

ISMN 5740 INFORMATION RISK ANALYSIS (3) LEC. 3. In-depth instruction on the range of skills required of persons engaged in the performance of risk analysis functions. Credit will not be given for both ISMN 5740/5743 and ISMN 6740/6746.

ISMN 5750 INFORMATION TECHNOLOGY AUDITING (3) LEC. 3. Pr. (ISMN 5730 or ISMN 5670). This course presents in-depth instruction on the range of skills required of persons engaged in the performance of IT audit. The skills include those required by but not limited to a technology analyst, data scientist, or CIO. Credit will not be given for both ISMN 5750/5753 and ISMN 6750/6756.

ISMN 5880 MANAGEMENT INFORMATION SYSTEMS PROJECTS (3) LEC. 3. Pr. ISMN 3830. This course synthesizes theory and principles of management information systems (MIS) using real-life, hands-on-projects, through experiential learning.

ISMN 5900 DIRECTED STUDIES (1-3) AAB/IND. SU. Independent study on current topics in information systems management. Course may be repeated for a maximum of 6 credit hours.

ISMN 5960 SPECIAL PROBLEMS (3) IND. 3. Independent study investigating current literature in information systems management. Course may be repeated for a maximum of 6 credit hours.

ISMN 6040 TELECOMMUNICATIONS MANAGEMENT (3) LEC. 3. Discussion of the importance of telecommunications to an organization, including technology required, use strategy, and management. Credit will not be given for both ISMN 5040 and ISMN 6040/6046.

ISMN 6270 CURRENT ISSUES IN INFORMATION SYSTEMS FOR ORGANIZATIONS (3) LEC. 3. This course covers current issues in Information Systems Management and Technology. As such, topics may differ from semester to semester. The objective of the course is to allow students to become familiar with issues such as emerging technologies, information systems and their role in vertical portals, and the role of information systems in industry. Course is designed to enable students to take it twice with subject change. Course may be repeated for a maximum of 6 credit hours.

ISMN 6290 ADVANCED PROGRAMMING APPLICATION DEVELOPMENT (3) LEC. 3. Programming languages and skills, with emphasis on designing and implementing computer-based business solutions. Credit will not be given for both ISMN 5290 and ISMN 6290.

ISMN 6370 PROJECT MANAGEMENT (3) LEC. 3. Tools and techniques of information technology project management including leading project management software. Credit will not be given for both ISMN 5370/5373 and ISMN 6370/6376.

ISMN 6380 SOCIAL MEDIA AS A TOOL FOR BUSINESS STRATEGY (3) LEC. 3. Learn how to use social media as a tool to integrate business processes and enhance business performance. Credit will not be given for both ISMN 5380/5383 and ISMN 6380/6386.

ISMN 6620 BUSINESS APPLICATIONS WITH OPEN SOURCE SOFTWARE (3) LEC. 3. Evaluates business solutions with open source software. Students will have a hands-on opportunity to learn to administer and manage open source software and to become comfortable deploying/employing popular OSS applications as business solutions.

ISMN 6630 CLIENTSIDE INTERNET PROGRAMMING (3) LEC. 3. Fundamentals of client-side Internet programming using technologies such as HTML, JavaScript, Cascading Style Sheets, and XML. Credit will not be given for both ISMN 5630 and ISMN 6630/6636.

ISMN 6640 SERVERSIDE INTERNET PGM (3) LEC. 3. Fundamentals of server-side Internet programming using technologies such as PHP, MySQL, and XML. Credit will not be given for both ISMN 5640 and ISMN 6640/6646.

ISMN 6650 APPLICATION DEVELOPMENT WITH EMERGING TECHNOLOGIES (3) LEC. 3. Fundamentals of developing comprehensive, component-based local and Internet business applications. Credit will not be given for both ISMN 5650 and ISMN 6650/6656.

ISMN 6670 SECURITY AND INFORMATION ASSURANCE (3) LEC. 3. This course covers the fundamentals of computer security and information assurance from a management perspective. The student will be exposed to security and information assurance topics such as security policies, confidentiality and ethics. Organizational issues of security and methodologies for information assurance will be discussed from a managerial perspective.

ISMN 6680 ADVANCED DATA BASE ADMINISTRATION AND DEVELOPMENT (3) LEC. 3. Pr. ISMN 3830 or ISMN 7830 or ISMN 7836. Key tasks and functions required of a database administrator in a business environment. Credit will not be given for both ISMN 5680 and ISMN 6680/6686.

ISMN 6690 KNOWLEDGE MANAGEMENT AND ORGANIZATIONAL LEARNING (3) LEC. 3. Introduction to knowledge management and its role in organizational decision-making and learning. Studies of issues related to management, creation, and use of knowledge as well as issues related to system design and implementation. Credit will not be given for both ISMN 5690 and ISMN 6690/6696.

ISMN 6710 INFORMATION RISK ANALYSIS (3) LEC. 3. Departmental approval. In-depth instruction on the range of skills required of persons engaged in the performance of risk analysis functions.

ISMN 6730 SECURITY AND INFORMATION ASSURANCE (3) LEC. 3. This course covers the fundamentals of computer security and information assurance from a management perspective. The student will be exposed to security and information assurance topics such as security policies, confidentiality and ethics. Credit will not be given for both ISMN 5730/5733 and ISMN 6730/6736.

ISMN 6740 INFORMATION RISK ANALYSIS (3) LEC. 3. In-depth instruction on the range of skills required of persons engaged in the performance of risk analysis functions. Credit will not be given for both ISMN 5740/5743 and ISMN 6740/6746.

ISMN 6750 INFORMATION TECHNOLOGY AUDITING (3) LEC. 3. This course presents in-depth instruction on the range of skills required of persons engaged in the performance of IT audit. The skills include those required by but not limited to a technology analyst, data scientist, or CIO. May count either ISMN 5750 or ISMN 6750.

ISMN 6870 BUSINESS INTELLIGENCE APPLICATIONS (3) LEC. 3. Pr. ISMN 3830 or BUAL 5650. Key tasks, tools, techniques and methodologies supporting the application of Business Intelligence Systems in organizations, and related management issues. Credit will not be given for both ISMN 5870 and ISMN 6870/6876.

ISMN 6880 MANAGEMENT INFORMATION SYSTEMS PROJECTS (3) DSL/LEC. Synthesizes theory and principles of management information systems (MIS) using real-life, hands-on-projects.

ISMN 6900 DIRECTED STUDIES (3) DSL/IND. 3. SU. Independent study on current topics in information systems management. Course may be repeated for a maximum of 9 credit hours.

ISMN 6960 SPECIAL PROBLEMS (3) DSL/IND. 3. General information systems management theories, practices, and functions in industry and business. Individual work with a designated faculty member. Course may be repeated for a maximum of 9 credit hours.

ISMN 7020 BUSINESS TELECOMMUNICATIONS AND NETWORKS (3) LEC. 3. Provides an understanding of voice and data communications, e.g., networks (LAN, internet), protocols standards, legislation and project development, so that managers, might utilize telecommunications effectively.

ISMN 7140 MANAGING END USER COMPUTING (3) LEC. 3. Studies MIS from user's perspective, and compares it with the roles of the professional department. Course covers support of desktop applications, data usage, and communications.

ISMN 7360 INTEGRATING THEORY AND PRACTICE FOR TECHNOLOGY MANAGERS (3) LEC. 3. A study of the technical and non-technical forces that influence the decision-making process in companies by the use of innovative instructional material.

ISMN 7380 INTEGRATING INFORMATION TECHNOLOGIES TO PROVIDE COMPETITIVE ADVANTAGE (3) LEC. 3. How to integrate effectively information technologies in formulating and implementing competitive strategies for companies.

ISMN 7660 INFORMATION SYSTEMS ANALYSIS AND DESIGN (3) LEC. 3. General systems theory, information systems logical and physical analysis, structured and object-oriented methodologies and prototyping, system documentation, general design and use of CASE tools.

ISMN 7730 MANAGEMENT OF INNOVATION (3) LEC. 3. Pr. BUSI 7220 or BUSI 7226. The process of product and service innovation on two levels: managing product design and general strategies for managing multiple innovation streams.

ISMN 7760 QUANT METHODS IN OPS MNGT (3) LEC. 3.

ISMN 7830 DATABASE DEVELOPMENT AND DESIGN (3) LEC. 3. Database management systems using database methodologies to support business applications, including requirements for distributed databases.

ISMN 7870 EXPERT SYSTEMS IN BUSINESS (3) LEC. 3. Pr. BUSI 7220 or BUSI 7226. Study of expert systems and other knowledge-based systems in the organization, including relevant concepts, methodologies, architectures, strategies, and issues.

ISMN 7880 ADV MNGT OF INFO SYS (3) LEC. 3. In-depth inquiry and analysis of advanced information technologies in organizations.

ISMN 7890 INFORMATION RESOURCE MANAGEMENT (3) LEC. 3. Pr. BUSI 7220 or BUSI 7226. Management of information systems resources, unique management problems in a computer information systems environment. Strategic and competitive analysis of information technology.

ISMN 7970 SPECIAL TOPICS IN INFORMATION SYSTEMS MANAGEMENT (1-3) LEC. 1-3. Specialized topics in information systems management not otherwise covered in existing courses. Course may be repeated for a maximum of 6 credit hours.

ISMN 7980 MSIS PROJECT (1-10) DSL/IND. 1-10. SU. Departmental approval. Independent exploration of an approved topic/problem that allows the student to demonstrate the application of knowledge and capabilities gained during the program. Approval of the project and assessment of its deliverables by the student's advisory committee is required. Course may be repeated for a maximum of 10 credit hours.

ISMN 8010 IS MANAGEMENT RESEARCH SEM. I (3) SEM. 3. Departmental approval. Preparation in conceptualization, conduct, and presentation MIS research.

ISMN 8020 IS MANAGEMENT RESEARCH SEMINAR II (3) SEM. 3. Departmental approval. Preparation in conceptualization, conduct, and presentation of applied and case studies research in MIS.

ISMN 8030 DOCTORAL SEMINAR IN INFORMATION SYSTEMS RESEARCH I (3) SEM. 3. Research methodologies used in conducting research with emphasis on empirical research methods.

ISMN 8040 DOCTORAL SEMINAR IN INFORMATION SYSTEMS RESEARCH II (3) SEM. 3. Research methodologies used in conducting research with emphasis on conceptual and empirical research methods.

ISMN 8500 ADVANCED IS MANAGEMENT RESEARCH SEMINAR I (3) SEM. 3. Departmental approval. Theoretical foundations and research directions in the management of technology and technological innovation, with the primary focus on information technology and research.

ISMN 8660 ADVANCED IS MANAGEMENT RESEARCH SEMINAR II (3) SEM. 3. Departmental approval. Theoretical foundations and research directions in the alignment of information technology strategy to business objectives and goals.

ISMN 8990 RESEARCH AND DISSERTATION (1-10) DSL/DSR. Must be degree seeking PhD student in the Business with concentration in IS program.