

# INFORMATION SYSTEMS

*College of Business Administration*

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Faculty

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For all degree requirements see Business Administration.

## Courses in Information Systems (I S)

### Lower Division

233. Introduction to Computer Systems and Applications (3) F,S

An introduction to the use of DOS and word processing, spreadsheet, and database applications; BASIC programming; basic computer literacy. Credit/No Credit grading only.

240. Management Information Systems (3) F,S

An introductory course in management information systems (MIS). MIS concepts and overview of computer technology. Development of information systems and its use in organizations. "Hands-on" experience with PC-based operating systems, Word processing, Spreadsheet, and Database management software packages.

### Upper Division

301. Business Communications (3) F,S

Analysis of the principles of collecting, organizing and presenting business data. Oral and written reports involving problem solving in the administrative management process. Traditional grading only.

310. Business Statistics (3) F,S

Prerequisites: MATH 114, and 115. Application of statistics to business problems. Topics include data collection and organization, probability theory, measures of central tendency and dispersion, hypothesis testing and estimation, simple regression, and correlation. Use of statistical software. Traditional grading only.

320. Quantitative Analysis for Business Decisions (3) F,S

Prerequisite: IS 310. Application of quantitative analysis and computer software for solving business problems. Topics include linear programming, integer programming, PERT and CPM, inventory control, queuing models, quality control, number basis, transportation and assignment models, and simulation. Use of computer software. Traditional grading only.

340. Business Application Programming (3) F,S

Prerequisites: IS 240 or equivalent and familiarity with Windows. Visual programming systems. Object-oriented programming (OOP). Simple concepts to advanced topics, including labels, buttons and text boxes, menus, dialog boxes and multiple forms, arrays, and drag-and-drop functions. Traditional grading only.

341. Structured Cobol Programming (3) F,S

Prerequisite: IS 240 or equivalent. Introduction to the COBOL programming language. Structured programming techniques, and design of structured programs. Development of programs ranging from simple Input-output to control breaks and Single-level tables. Traditional grading only.

355. Introduction to Business Telecommunications (3) F,S

Prerequisite: IS 240 or equivalent. Introduction to concepts and technology of telecommunications and networking in business and organizations. Basics of voice, data, image, and video transmission; fundamental of networking; use of Internet technology; telecommunication regulation and standards. Traditional grading only.

375. Computer-Based Knowledge Delivery Systems (3) F,S

Prerequisite: IS 240 or equivalent. Systems for using computers to make knowledge available. Technology used to create on-line help systems and multimedia training systems used in business. Other types of computer-based knowledge delivery systems. Traditional grading only.

380. Database I (3) F,S  
Prerequisite: IS 240 or equivalent. Introduction to database requirements analysis and specification. SQL query formulation. Database implementation using database management system software, such as Microsoft Access. Design of computerized business forms and reports. Traditional grading only.

385. Systems Analysis and Design (3) F,S  
Prerequisite: IS 240 or equivalent. Broad introduction to the concepts, methods, current and emerging practices of systems analysis and design. Topics include development process models, requirements analysis and system modeling, conceptual and physical design, systems implementation and maintenance, project management and teamwork, and the roles and responsibilities of systems analysts. Traditional grading only.

410. Probability and Decisions (3) F  
Prerequisites: MATH 114, and 115. Probability theory with emphasis on logical applications of probability models for business problems and decision making. Topics include elements of probability, distribution and density functions, random variables, and their properties.

411. Statistical Decision Theory (3) S  
Prerequisite: IS 410. Statistical tools for the analysis of data and for business decision making. Topics include sampling and sampling distributions, hypothesis testing, and estimation.

445. Internet Applications in Business (3) F,S  
Prerequisites: IS 355, permission of instructor. Design, management, and applications of Internet-based electronic business transaction systems. Special emphasis on Web home page design. Internet applications in functional areas including accounting, finance, marketing, and management. Intranet and groupware. Lecture, hands-on, software project, and case studies. Traditional grading only.

455. Networks in Information Systems (3) F,S  
Prerequisite: IS 355. Technology and system development of local and wide area networks including Internet. Network requirement analysis, design, implementation, and operation from user and network administrator perspectives. Network control and security as well as Internet server management. Traditional grading only.

460./560. Operations Research: Deterministic Models (3) F  
Prerequisites: MATH 114 and 119B or 123, IS 410, or consent of instructor. Theory and applications of operations research as an aid to management decision making. Emphasis on the application of deterministic models such as linear programming, network analysis, PERT/CPM, duality, sensitivity analysis and parametric programming.

463./563. Operations Research: Probabilistic Models (3) S  
Prerequisite: IS 410, or consent of instructor. Theory and applications of operations research as an aid to management decision making. Emphasis on the application of probabilistic models such as inventory, queuing theory, dynamic programming, markov chains and simulation.

464./564. Network Modeling and Simulation (3) F,S  
Prerequisites: IS 310 and 355. Fundamentals of simulation methodology and its use in performance measurement and feasibility study of business models of real systems. Topics include; basic probability distributions, random number generation, model formulation, evaluating results, validations, waiting-line simulation, network fundamental, and computer network performance measurement via simulation, and use of computer software simulation packages. Traditional grading only.

470. Decision Support Systems (3) F,S  
Prerequisites: IS 310, 380. Use of information systems technologies to support decision making by managers. Emphasis is given to individual and group decision support systems, expert systems, and executive information systems.

480. Advanced Database Concepts (3) F,S  
Prerequisite: IS 380. Object-oriented approach to application software development. Use of entity-relationship analysis to identify objects. Development of standard objects for a business. Re-

pository systems and their use in object administration. Application software development project using object-oriented software development system.

485. Information Systems Project (3) F,S  
Prerequisite: IS 380. A comprehensive systems project of moderate complexity for a client-server environment using a team approach for requirements analysis, system design, and prototype creation. Project planning and management techniques. Traditional grading only.

493. Information Systems Internships (3) F,S  
Prerequisites: Classified Business Major, 3.0 GPA in IS, 3.0 GPA overall. Students work in Information Systems or Quantitative Analysis divisions of private industry or governmental agencies to gain experience in real world situations. Class seminar analysis, evaluation of academic theory in terms of real world environment.

495. Selected Topics (1-3) F,S  
Prerequisites: Consent of instructor and GPA of 3.0 or higher in major. Topics of current interest in the field as announced in the *Schedule of Classes*. In the absence of significant duplication, may be repeated for a maximum of six units.

\*497. Directed Studies (1-3) F,S  
Prerequisites: Consent of instructor and Department Chair; student must be on Dean's List and have a GPA of 3.0 or higher in one of the following options: Quantitative Methods, Administrative Information Systems, or Management Information Systems. Individual projects, research, or study in one of the options.

## Graduate Division

500. Management Information Systems (3) F,S  
Prerequisite: MBA standing required. Introduction to management information systems. Topics include information systems concepts, and computer technology, telecommunications, information systems development process, and use of information systems in business. "Hands-on" laboratory work using PC-Based applications software.

501. Applied Statistics and Decision Analysis (3) F,S  
Prerequisite: MBA standing or consent of instructor. Background in finite mathematics and introductory calculus is required, with use of some statistical software packages. Topics include review of probability concepts, distribution functions, measures of central tendency and dispersion, hypothesis testing and estimation, Bayesian decision analysis, and regression and correlation.

502. Management of Information Systems (3) F,S  
Prerequisite: IS 500. Information Resource Management (IRM). Management of information technology and systems development process. Strategic uses of information systems. Use of software to assist management decision making.

550. Business Telecommunications Management (3) F,S  
Prerequisite: IS 500 or equivalent. Introduction to the technologies and applications of telecommunications and networking. Infrastructure planning and operation of organizational telecommunication networks. Management and control of Internet servers and mobile systems. Telecommunication regulation and standards. Traditional grading only.

560./460. Operations Research: Deterministic Models (3) F  
Prerequisites: Graduate standing, MATH 114 and 119b or 123, IS 410, or consent of instructor. Theory and applications of operations research as an aid to management decision making. Emphasis on the application of deterministic models such as network analysis, linear programming, PERT/CPM, duality, sensitivity analysis and parametric programming.

563./463. Operations Research: Probabilistic Models (3) S  
Prerequisites: Graduate standing, IS 410, or consent of instructor. Theory and application of operations research as an aid to management decision making. Emphasis is on the application of probabilistic models such as inventory, queuing theory, dynamic programming, Markov chains, and simulation.

564./464. Network Modeling and Simulation (3) F,S  
Prerequisites: IS 501 and 550. Fundamentals of simulation methodology and its use in performance measurement and feasibility study of business models of real systems. Topics include basic probability distributions, random number generation, model formulation, evaluating results, validations, waiting-line simulation, network fundamental, and computer network performance measurement via simulation, and use of computer software simulation packages. Traditional grading only.

580. Management Support Systems and Database Management Systems (3) F,S

Prerequisite: IS 500 or equivalent. Management Support Systems (MSS) with special emphasis on database management techniques. Use of information and database techniques to support management decision making. Topics include individual and group decision support systems, groupware, expert systems, executive information systems, database management systems (DBMS), database analysis and design, database manipulation languages (SQL and QBE), and data warehousing. Hands-on projects on both MSS and DBMS. Traditional grading only.

584. Electronic Commerce (3) F,S

Prerequisite: IS 500 or equivalent. A comprehensive managerial-oriented examination of the development of various electronic commerce applications on the internet. Major applications include advertisement and marketing, customer service, stocks and commodities, trading, market and product research and standard business-to-business transactions. EDI implementation issues such as security and payment methods. Traditional grading only.

625. Problems in Business Communication (3) F

Prerequisite: Graduate standing. Contemporary business communication thought and research applied in the solving of organizational communication problems.

685. Internet/Intranet Application Development (3) F,S

Prerequisites: IS 500 or equivalent and permission of the instructor. Theory and applications of the Internet. Applications development using tools such as HTML and FrontPage. Use and development of Intranet applications in the Client/Server environment. Issues such as Internet business opportunities, network security, home page maintenance, Internet database interface and cooperative computing. Traditional grading only.

695. Selected Topics (3) F,S

Prerequisites: Graduate standing and consent of instructor. Topics to be announced in the *Schedule of Classes*.

697. Directed Studies (1-3) F,S

Prerequisites: Graduate standing and consent of instructor. Individual study under the direction of the faculty.