

Information and Decision Sciences (IDS)

Courses

IDS 400. Advanced Business Programming Using Java. 0-4 hours.

Visual extended business language capabilities, including creating and using controls, menus and dialogs, objects and instances, mouse events, graphics, file-system controls. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 331 or a programming course in mathematics or computer science, or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

IDS 401. Business Object Programming using Java. 0-4 hours.

Basic concepts in object-oriented programming such as objects, classes, class inheritance and interfaces, data abstraction and encapsulation, polymorphism, and dynamic binding. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or the equivalent. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

IDS 403. Information Security. 3 or 4 hours.

Examine the field of information security to prepare students for their future roles as business decision-makers. Presents a balance of the managerial and technical aspects of information security. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 200 or the equivalent.

IDS 405. Business Systems Analysis and Design. 3 or 4 hours.

Theory of analysis, design and development of information systems; information management and database management systems; data management and analysis; case studies in systems implementation and evaluation. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 331.

IDS 406. Business Systems Project. 3 or 4 hours.

Project experience in a business setting. Analysis, design, development and evaluation of computer-based business information systems. Project planning, scheduling and management. Project work at an outside company or University office. Course Information: 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Knowledge of programming and databases; or consent of the instructor. Recommended background: Familiarity with systems analysis and design (IDS 405).

IDS 410. Business Database Technology. 3 or 4 hours.

Computer software techniques used in business with emphasis on information management and database management systems. Data management and analysis. Major types of database management systems, query languages. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 331.

IDS 412. Distributed Business Systems. 3 or 4 hours.

Organizational aspects and underlying concepts of distributed business systems, decentralization versus centralization issues, costs of distributed computing, and performance evaluation measures. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 201 or IDS 330; and credit or concurrent registration in IDS 410.

IDS 413. Internet Technology and Management. 3 hours.

The technologies of World Wide Web development. Topics include: TCP/IP, HTTP, HTML, HTML authoring, XML, ASP programming, client-side programming, and Web 2.0, web servers, database servers, business application servers and Internet. Course Information: Credit is not given for IDS 413 if the student has credit for IDS 424. Extensive computer use required. Prerequisite(s): IDS 201 or IDS 331; and IDS 410.

IDS 420. Business Model Simulation. 3 or 4 hours.

Simulation analysis of strategic business decision models for investment, marketing, product introduction, and operational policies concerning inventory, production planning, quality assurance and supply chain management. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Credit or concurrent registration in IDS 355; or credit or concurrent registration in IDS 331 or the equivalent.

IDS 422. Knowledge Management Systems. 3 or 4 hours.

Computer-based methods for decision support. It aims at providing exposure and insights into a range of approaches and tools for decision aiding, and how they can be utilized in supporting various managerial decision processes. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 410 or consent of the instructor.

IDS 435. Optimization Models and Methods. 3 or 4 hours.

Linear, nonlinear, dynamic programming, combinatorial methods. Use of spreadsheet and other software tools. Duality, sensitivity analysis. Models for business operations and planning, computer systems, transportation, finance. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 355; and IDS 371 or the equivalent. Business Administration students must have declared a major.

IDS 437. Stochastic Methods. 3 or 4 hours.

Stochastic processes and other applications of probability theory. Use of spreadsheet and other software tools for analysis, simulation and decision theory. Models for business operations and planning, computer systems, transportation, finance. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 355 and IDS 371.

IDS 446. Decision Analysis. 3 or 4 hours.

Prior and posterior distributions; conjugate priors; value of information; applications to decision making in business. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.

IDS 450. Advanced Operations Management. 0-4 hours.

Application of management science to the operation and control of production, distribution, and service systems. Emphasis on inventory management, production planning, capacity expansion, and demand forecasting. Course Information: 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): IDS 355 or the equivalent. Business administration students must have declared a major. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

IDS 451. Enterprise Operations and Supply Chain Systems. 0-4 hours.

Provides an overview of how enterprise business systems operate and are used to manage operations and supply chains in order to make effective business decisions. Course Information: 3 undergraduate hours. 4 graduate hours. May be repeated. Extensive computer use required. Shows students how business processes integrate within an enterprise and across the supply chain. Prerequisite(s): IDS 200 and credit or concurrent registration in IDS 355; or credit or concurrent registration in IDS 532. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

IDS 454. Introduction to Supply Chain Management. 3 or 4 hours.

Supply Chain Management is studied as an information-intensive, integrated system for managing material flows, logistics and inter-organizational partnership to deliver products and services. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 355.

IDS 460. Survey Sampling: Theory and Methods. 3 or 4 hours.

Planning and analyzing surveys. Topics include simple random sampling, stratified sampling, systematic sampling, ratio estimation, and cluster sampling. Case studies with applications to real situations. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.

IDS 462. Statistical Software for Business Applications. 3 or 4 hours.

Statistical software in business applications and data mining. SAS and other packages such as SPSS, MATLAB, Maple, Splus, B34S, SCA. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or consent of the instructor.

IDS 470. Multivariate Analysis. 3 or 4 hours.

Introduction to the structure and analysis of multivariate data. Emphasis on the multivariate normal model. Regression; tests concerning multivariate means, classification; discriminant analysis, principal components. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371; or MATH 310; or MATH 320.

IDS 472. Business Data Mining. 3 or 4 hours.

Searching for relationships between variables in databases. Decision trees, cluster analysis, logistic regression, path analysis. Applications to marketing, quality assurance, operations management, human resources. Course Information: 3 undergraduate hours. 4 graduate hours. Credit is not given for IDS 472 if the student has credit for IDS 572. Prerequisite(s): IDS 371 or the equivalent.

IDS 473. Introduction to Risk Management. 3 hours.

Introduction to risk management. Loan and credit management; credit scoring. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events and catastrophic event insurance. Financial contracts and hedging. Course Information: Same as FIN 473. Prerequisite(s): FIN 300 and IDS 371.

IDS 474. Quality and Productivity Improvement Using Statistical Methods. 3 or 4 hours.

Directed experimentation for quality and productivity improvement, quality surveillance, design and analysis of two-level factorial experiments and multi-level experiments, data transformation. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or consent of the instructor.

IDS 475. Database Accounting Systems. 3 or 4 hours.

Concepts and principles of designing database systems to perform accounting functions, applications of microcomputer accounting software packages systems design tools, and computerized transaction cycles. Course Information: Same as ACTG 475. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): A passing grade in both ACTG 211 and IDS 200.

IDS 476. Business Forecasting Using Time Series Methods. 3 or 4 hours.

Autoregressive, moving average, and seasonal models for time series analysis and business forecasting. Forecasting using multi-variable transfer function models is also included. Course Information: Same as ECON 450. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or ECON 300 or ECON 400; or consent of the instructor.

IDS 478. Regression Analysis. 3 or 4 hours.

Data collection and exploration; model building; variable least squares; residual analysis; variable selection; multicollinearity; ridge regression; nonlinear regression; nonparametric regression. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.

IDS 479. Enterprise Risk Management. 3 or 4 hours.

Overview of enterprise-wide risk management strategies and techniques: strategies that firms employ to enhance value and minimize exposure; techniques used to identify, measure, reduce, and transfer risk. Course Information: Same as FIN 479. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): FIN 300; or consent of the instructor. Recommended background: IDS 473 or FIN 473.

IDS 494. Topics in Information and Decision Sciences. 3 or 4 hours.

Topics vary; selected readings; case analysis. Course Information: 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

IDS 495. Competitive Strategy. 4 hours.

Multidisciplinary analysis of organizational strategy and policy using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Course Information: Prerequisite(s): Senior standing or above Senior standing in the College of Business Administration and completion of all other CBA core courses.

IDS 499. Research Experience. 1-3 hours.

Research experience under the supervision of a faculty member. The faculty member and student will determine the research project. Each student must submit a written report and each student must participate at a research event on campus. Course Information: May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the department and the instructor.

IDS 500. Information Systems in Organizations. 4 hours.

Use of information technology in business; planning, management, and strategic use of information technology including the role of enterprise-wide systems, the Internet, and electronic commerce.

IDS 504. Introduction to Electronic Commerce. 4 hours.

Addresses issues on electronic commerce for businesses and consumers, considering topics such as competition, distribution, infrastructure on the Internet, shopping, and product characteristics.

IDS 505. Business Information Systems Analysis and Design. 4 hours.

Analysis, design and development of information systems. Management concerns in systems design, development, and evaluation. Course Information: A student who has taken IDS 405 must see an adviser to determine whether another graduate course from IDS, MATH, or CS must be substituted for IDS 505. Prerequisite(s): IDS 500; or consent of the instructor.

IDS 506. Survey of Healthcare and Information Technology. 4 hours.

Impact, use and trends of information technology in healthcare. Healthcare systems technology and stakeholders. Analysis of strategic, economic, operational, ethical, privacy and security considerations. Course Information: Prerequisite(s): Introductory information systems course is required. Recommended background: Advanced information system courses such as databases and system analysis.

IDS 507. Advanced Systems Analysis and Design Project. 4 hours.

Principles and concepts of analysis, design and development of information systems including project management. Includes a project at an outside company or University office. Course Information: Prerequisite(s): Completion of three MS in MIS core courses or completion of two core MS in MIS and concurrent enrollment in third core course.

IDS 508. E-Commerce Project. 4 hours.

Electronic commerce project initiated by local small and medium enterprises, teaming students with technical or entrepreneurial skills/interests, supervised by faculty on board of directors. Course Information: Prerequisite(s): IDS 504 or MGMT 558 or MKTG 558; and consent of the instructor.

IDS 509. Business Process Analysis and Modeling. 4 hours.

Principles and concepts for the analysis and design of business processes and for the development of information systems that support such processes. Course Information: Prerequisite(s): IDS 401 or consent of the instructor.

IDS 510. Organizational Data Resources. 4 hours.

Data as a competitive resource. Understanding, organizing and utilizing data in enterprises. Data resource development and management. Leveraging data assets. Exploiting the power of data. Understanding regulatory requirements. Course Information: A student who has taken IDS 410 must see an advisor to determine whether another graduate course from IDS, MATH, or CS must be substituted for IDS 510. Prerequisite(s): IDS 500.

IDS 511. Query Processing in Database Systems. 4 hours.

Query processing in deductive databases and in distributed/parallel databases systems. Course Information: Same as CS 580. Prerequisite(s): CS 480.

IDS 512. Information Systems Project & Program Management. 4 hours.

Theory and practice of managing IS projects based on a life-cycle management model. Technology, organizational behavior, team dynamics and economic analysis in the context of larger organizational strategies. Project plans, budgets, and schedules. Course Information: Extensive computer use required. Prerequisite(s): Introductory information systems course. Recommended background: Advanced information system courses such as databases and system analysis.

IDS 513. Enterprise Components and Web Services. 4 hours.

Exposes students to advances in the technical aspects of electronic business. Topics include WSDL, UDDI, SOAP, Service Quality, Security, and Queuing Models. Course Information: Extensive computer use required.

IDS 514. Management of Information Systems. 4 hours.

Administration, control, and management of computer-based information systems, projects, and relationships with the organization. Scheduling of operations; management of computer professionals; planning and control of the systems activity. Course Information: Prerequisite(s): IDS 505 or IDS 510.

IDS 515. Information Systems Strategy and Policy. 4 hours.

Examines how businesses can leverage IT and digital technologies to maximize business performance. Covers IS strategy formulation, strategy implementation, e-business transformation, Inter-organizational and multi-organizational IS strategies. Course Information: Prerequisite(s): Consent of the instructor.

IDS 516. Data Warehousing and Decision Support. 4 hours.

Analysis, design and development of data warehousing. Related methods and tools in the provision of decision support and business analytics/intelligence. Course Information: Prerequisite(s): IDS 505 or IDS 510 or consent of the instructor.

IDS 517. Enterprise Application Development. 4 hours.

The course explores the choices available for building an enterprise application. Topics such as advanced applications design and development tools, methodologies and technologies are covered. Course Information: Extensive computer use required. Prerequisite(s): IDS 201 or IDS 400 and IDS 401 and IDS 410 or the equivalent.

IDS 518. Electronic Marketing. 4 hours.

Overview of the electronic marketing value chain. Internet and web technologies, system design, payment systems, business requirements for e-marketing, design and ethical issues. Course Information: Same as MKTG 518. Prerequisite(s): MKTG 500 or MBA 506 or consent of the instructor.

IDS 519. Topics in Information Systems. 4 hours.

Selected topics in information systems, information management and information technology. Content varies. Topics will be announced. Course Information: May be repeated if topics vary. Prerequisite(s): IDS 505 or IDS 510; and consent of the instructor.

IDS 520. Enterprise Information Infrastructure Planning & Security. 4 hours.

This course introduces students with methods and practices involved in the planning, design and security of information infrastructure commonly found in large and medium enterprises. Course Information: Recommended background: IDS 401, IDS 410 and IDS 405 or equivalent.

IDS 521. Advanced Database Management. 4 hours.

Data analysis for database design; logical data modeling, transaction modeling; implementation models; physical database design; database tuning and performance evaluation; database decomposition; distributed database; database security. Course Information: Prerequisite(s): IDS 410 or equivalent.

IDS 523. Audit and Control of Information Systems. 4 hours.

Modeling and analysis of information systems application in organizations; measurement of effectiveness; strategies for implementation and updating; interface with other management control systems.

IDS 524. Strategic Emergency Management and Continuity Planning. 3 hours.

Introduction to frameworks and methods for designing, developing, implementing, and evaluating for emergency management and business continuity strategies in the public and private sectors. Course Information: No graduation credit given to students enrolled in the Master of Business Administration program. Students who are not in the EMCP program should contact External Education at emcp@uic.edu for approval to register for this course.

IDS 526. Computer Performance Evaluation and Modeling. 4 hours.

Probabilistic, simulation and statistical techniques for modeling computer systems with a view to evaluating their performance. Models of multi-programming systems, multi-access systems input/output systems, priority queues, and paging systems. Course Information: A student who has taken IDS 426 must see an adviser to determine whether another graduate course from IDS, MATH, or CS must be substituted for IDS 526. Prerequisite(s): IDS 532; and IDS 505 or IDS 510.

IDS 529. Seminar on Management Information Systems. 4 hours.

Special research topics in management information systems. Topics vary from term to term depending on the interests of the instructor and students. Course Information: May be repeated if topics vary.

IDS 532. Introduction to Operations Management. 4 hours.

The management of operations for the production and delivery of goods and services. Topics include the management of projects, production, supply chain, inventory, and quality. Course Information: Credit is not given for IDS 532 if the student has credit in MBA 507 and MBA 509. Prerequisite(s): Admission to the MBA Program.

IDS 540. Marketing Analytics. 4 hours.

Introduces concepts, data analysis techniques and software tools for making key marketing decisions including segmentation, targeting, positioning, forecasting, new product design and resource allocation. Course Information: Same as MKTG 562. Extensive computer use required. Prerequisite(s): MKTG 500 or MKTG 360; or consent of the instructor. Recommended background: MKTG 563.

IDS 541. Disaster Response and Recovery Operations. 3 hours.

Designed to provide the student with the requisite skills to create effective operations, preparedness, and response plans to manage and coordinate private, institutional, and public health emergencies and complex disasters. Course Information: Extensive computer use required. No graduation credit given to students enrolled in the Master of Business Administration program. Students who are not in the EMCP program should contact External Education at emcp@uic.edu for approval to register for this course.

IDS 542. Global Innovation Management. 4 hours.

Provides the student with a survey and case studies of successful innovations, their components, strategies and financial structure. Course Information: Same as MGMT 582. Prerequisite(s): Graduate or professional standing; and consent of the instructor.

IDS 551. Operations Management in the Service Sector. 4 hours.

Comparison of service and manufacturing operations; analysis of effects of capacity, quality, and service firm life cycle on operations. Course Information: Prerequisite(s): Credit or concurrent registration in IDS 532 or the consent of the instructor.

IDS 552. Supply Chain Management. 4 hours.

Structure of inventory decision and operating procedures; single event and continuous systems for both single and multiple products; order quantity and periodic review models; demand forecasting. Course Information: Prerequisite(s): Credit or concurrent registration in IDS 532 or the consent of the instructor.

IDS 553. Production Process Management and Control. 4 hours.

Project scheduling and resource allocation; capacity planning; aggregate planning, scheduling and dispatching; plant layout; material requirement planning; production flow and line balancing. Course Information: Prerequisite(s): IDS 532.

IDS 560. Analytics Strategy and Practice. 4 hours.

Projects and case studies on how to apply analytic skills developed in the MS Business Analytics curriculum to practical problems. Analytics related issues in the context of organizational strategy. Course Information: Prerequisite(s): Completion of all three MS in Business Analytics core courses. Or completion of at least two of the MS in Business Analytics core courses and concurrent registration in the third core course.

IDS 561. Analytics for Big Data. 4 hours.

Fundamental concepts of distributed algorithms to analyze large-scale data in various domains; data mining on large data (Mahout, Hadoop) and applications; data storage, query and business intelligence with distributed databases (Hive). Course Information: Extensive computer use required. Prerequisite(s): IDS 572.

IDS 564. Social Media and Network Analysis. 4 hours.

Analytic approaches to help organizations utilize massive social media data for making informed business decisions; sentiment identification; social network analysis; customer behavior analysis, social advertising using machine learning methods. Course Information: Extensive computer use required. Prerequisite(s): IDS 572.

IDS 566. Advanced Text Analytics for Business. 2 hours.

Techniques for mining and analyses of textual information. Natural language processing and machine learning approaches for sentiment and opinion analyses, topics extraction, document clustering, and their application for business decisions. Course Information: Extensive computer use required. Meets eight weeks of the semester. Prerequisite(s): IDS 572.

IDS 567. Business Data Visualization. 2 hours.

Introduction to principles of data visualization for business and the optimal presentation of analytics results. Course Information: Extensive computer use required. Meets eight weeks of the semester.

IDS 570. Statistics for Management. 4 hours.

Survey of statistical methods with applications for business and management. Course Information: Prerequisite(s): Admission to any business graduate program or consent of the instructor.

IDS 571. Statistical Quality Control and Assurance. 4 hours.

The importance of quality in products and services, quality surveillance, Deming's management method, Ishikawa's seven tools, control charts, acceptance sampling, quality improvement using directed experiments. Course Information: Same as IE 571. Prerequisite(s): At least one term of statistics.

IDS 572. Data Mining for Business. 4 hours.

Introduction to data mining for business. Applications to marketing, credit scoring, quality assurance, operations management and human resources management. Course Information: Credit is not given for IDS 572 if the student has credit for IDS 472. Recommended background: Background knowledge in statistics and databases.

IDS 573. Risk Management. 4 hours.

Introduction to risk management. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events, catastrophic event insurance, reinsurance. Financial contracts and hedging. Course Information: Same as FIN 573. Prerequisite(s): Credit or concurrent registration in IDS 570 and FIN 500.

IDS 575. Statistical Models and Methods for Business Analytics. 4 hours.

Correlation; regression; generalized linear models; principal components; factor analysis; discriminant analysis; time series analysis. Applications to business areas such as credit scoring, sales and demand forecasting, finance. Course Information: Extensive computer use required. Prerequisite(s): IDS 570.

IDS 576. Advanced Predictive Models and Applications for Business Analytics. 4 hours.

Generalized linear models, hierarchical models, neural networks, support vector machines, Bayesian networks. Application to business problems. Course Information: Extensive computer use required. Prerequisite(s): IDS 572 and IDS 575.

IDS 577. Research Methodology I. 4 hours.

Use of statistics and computers in research. Data collection and organization, survey sampling, questionnaire design, experimental design. Course Information: Prerequisite(s): IDS 532 or the equivalent and admission to the Ph.D. program in Business Administration.

IDS 578. Research Methodology II. 4 hours.

Data analysis, including estimation, hypotheses testing, non-parametric methods, analysis of variance, regression analysis, economic forecasting, and time series. Course Information: Prerequisite(s): IDS 577 or the equivalent.

IDS 582. Business Research and Forecasting I. 4 hours.

The role of research in business; forecasting methods and techniques, including models and their applications. Course Information: Same as ECON 537. Prerequisite(s): ECON 534 and at least one statistics course with regression analysis at the 300-level or above.

IDS 583. Business Research and Forecasting II. 4 hours.

The role of research in business; forecasting methods and techniques, including multivariate time series models and their applications. Course Information: Same as ECON 538. Prerequisite(s): ECON 537 or IDS 582; and graduate standing.

IDS 589. MIS Co-operative Experience. 0-4 hours.

Provides an opportunity for students to apply their learning in a practical real-world setting. Students can work on a MIS project in a business or a non-profit organizational setting. Involves interaction with the industry and professionals. Course Information: Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate or professional standing and approval of the department; at least two core courses in the MIS program and simultaneous registration in the third core course.

IDS 594. Special Topics in Information and Decision Sciences. 1-4 hours.

Intensive study of a selected topic. Content varies. Topics are announced. Course Information: Prerequisite(s): Consent of the instructor.

IDS 595. Seminar in Information and Decision Sciences. 1-4 hours.

Topics vary from term to term depending on the interests of the instructor. May be taken for up to four credit hours depending on the outline of the seminar as determined by the instructor. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the PhD program in Business Administration or the PhD program in Management Information Systems.

IDS 596. Independent Study in Information and Decision Sciences. 1-4 hours.

Independent study under the direction of a faculty member. Course Information: May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing and consent of the instructor.

IDS 599. Ph.D. Thesis Research. 0-16 hours.

Research on topic of the doctoral dissertation. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.