
Information and Decision Systems

In the College of Business Administration

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A Member of AACSB International—The Association to Advance Collegiate Schools of Business.

Faculty

Emeritus: Feeney, Flatley, Gibson, Hatch, Langenbach, Lyons-Lawrence, Norman, Schlesinger, Sherrard, Sondak, Spaulding, Straub

Chair: Reinig

Professors: Beatty, Koster, Lackritz, Penrose, Raafat, Reinig, Shin, Vik, Yang

Associate Professors: Addo, Easton, A., Easton, G., Jennex

Assistant Professor: Plice

Lecturers: Anderson-Cruz, Judge, Kennedy, Lawry, Lund, Shaul

Offered by the Department

Master of Science degree in business administration.

Master of Business Administration.

Major in information systems with the B.S. degree in business administration.

Minor in information systems.

The Major

Good business decisions require good information. The purpose of an information system is to provide management with the information that is essential to decision making and to assist in interpreting that information.

Information Systems. Students interested in using computers to solve business problems and in devising new and more efficient solutions, should consider a major in information systems. The major is intended to prepare students for their first job in information systems, which is normally as a systems analyst. The systems analyst studies problems, designs solutions, and implements those solutions using computer hardware and software. The major will also prepare students for continued growth as a manager in information systems.

The employment outlook for information systems specialists is currently very good. Positive projections continue into the future. Many graduates who major in information systems assume the following positions: systems analysts plan the activities necessary to solve a business problem by structuring the problem in logical form, identifying the data needed, and specifying the procedures to be followed in programming the data processing; information systems specialists represent various departments of a business in assuring that each department's information processing needs are provided for effectively and efficiently; programmers and analysts plan and write computer programs to process business information; computer center managers direct the work of information processing in a company; and technical marketing specialists sell and coordinate the installation of computer systems.

Typical places of employment for information systems graduates include large businesses, government agencies, computer manufacturers, universities, and independent computer service organizations.

Business Honors Program

The Business Honors Program offers excellent upper division business students the opportunity to explore issues in our local, regional, and global business environments focusing on the social and ethical responsibility that business has to the community and society. Honors students will enroll in a one unit business honors seminar each semester. During their enrollment they will participate in activities to promote their academic and personal growth, documenting their work in a written portfolio.

Generally, students should apply to this program at the time of application to upper division business. Applicants must submit an essay with their application. Applicants must have a 3.6 cumulative GPA or good standing in the University Honors Program. Students not meeting these requirements may petition for admission to the program. Successful completion of the Business Honors Program will be recognized at graduation. Contact Dr. Carol Venable, School of Accountancy, for more information about this program.

Statement on Computers

Before enrolling in upper division courses in the College of Business Administration, students must be competent in the operation of personal computers, including word processing and spreadsheets. Business students are strongly encouraged to have their own computers capable of running word processing, spreadsheet, presentation, e-mail, and Internet applications such as those found in packages sold by major software publishers. Availability of on-campus computing resources can be limited due to increasing demand across the University.

Retention Policy

The College of Business Administration expects that upper division students will make reasonable academic progress towards the degree. Students earning less than a 2.0 average in their classes for two or more semesters may be removed from the upper division major and required to declare a non-business major.

Transfer Credit

Lower Division: Courses clearly equivalent in scope and content to San Diego State University courses required for minors or as preparation for all business majors will be accepted from regionally accredited United States institutions and from foreign institutions recognized by San Diego State University and the College of Business Administration.

Upper Division: It is the policy of the San Diego State University College of Business Administration to accept upper division transfer credits where (a) the course content, requirements, and level are equivalent to San Diego State University courses and (b) where the course was taught in an AACSB International—The Association to Advance Collegiate Schools of Business accredited program. Exceptions require thorough documentation evidencing the above standards.

Impacted Program

The information systems major is impacted. Before enrolling in any upper division courses in business administration, students must advance to an upper division business major and obtain a business major code. To be admitted to an upper division business major (accounting, finance, financial services, real estate, information systems, management, or marketing), students must meet the following criteria:

- Complete with a grade of C or higher: Accountancy 201 and 202; Finance 240; Information and Decision Systems 180 and 290 (290 is not required for the accounting major); Economics 101 and 102; Mathematics 120 (or other approved calculus course); and either Statistics 119 or Economics 201. These courses cannot be taken for credit/no credit (Cr/NC);
- Complete a minimum of 60 transferable semester units;
- Have a cumulative GPA of 2.9.

Students who meet all requirements except the GPA may request to be placed on the waiting list. While all spaces are usually filled by eligible students, if there is room in the program after all the fully-

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qualified students have been accommodated, students will be admitted from the waiting list in GPA order. Contact the Business Advising Center (EBA-448), 619-594-5828, for more information.

To complete the major, students must fulfill the degree requirements for the major described in the catalog in effect at the time they are accepted into the premajor at SDSU (assuming continuous enrollment).

Major Academic Plans (MAPs)

Visit <http://www.sdsu.edu/mymap> for the recommended courses needed to fulfill your major requirements. The MAPs Web site was created to help students navigate the course requirements for their majors and to identify which General Education course will also fulfill a major preparation course requirement.

Information Systems Major

**With the B.S. Degree in Business Administration
(Major Code: 07021)**

A minor is not required with this major.

Preparation for the Major. Information and Decision Systems 180, 290; Accountancy 201, 202; Finance 240; Economics 101, 102; Mathematics 120 (or other approved calculus course); and Economics 201 or Statistics 119. (27-29 units)

These prerequisite courses may not be taken Cr/NC; the minimum grade in each class is C. **Additional progress requirements must be met before a student is admitted to an upper division major.**

Graduation Writing Assessment Requirement. Students must have fulfilled the Writing Proficiency Assessment with a score of 8 or above before taking Information and Decision Systems 396W and earn a grade of C (2.0) or better. See "Graduation Requirements" section for a complete listing of requirements.

Major. Forty-three upper division units consisting of Information and Decision Systems 302, 306, 315, 380, 396W, 406, 483, 492; Business Administration 300; Finance 323; Management 350 or Business Administration 404 or Management 405; Marketing 370; six units selected from Information and Decision Systems 301, 375, 460, 481, 482, 515, 520. A "C" (2.0) average is required in the courses stipulated here for the major.

A minimum of 60 units of coursework applicable to the bachelor's degree must be completed outside the areas of business administration, economics, and statistics. This means that at least two units of electives (upper or lower division) must be completed in areas other than business administration, economics, and statistics.

Students must complete all upper division courses in the major within seven years prior to graduation. Students who will have completed any of those courses more than seven years before the projected date of graduation must contact the department chair for information about ways to certify knowledge of current course content.

Information Systems Minor

The minor in information systems consists of a minimum of 21 units to include Information and Decision Systems 180, 306, 315, 375; and nine units selected from Information and Decision Systems 380, 406, 481, 482, 483, 492, 515, 520.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable. A minimum of six upper division units must be completed in residence at San Diego State University. Students with a major in the College of Business Administration, Hospitality and Tourism Management, or International Business may not complete a minor in the College of Business Administration.

Students must officially declare the minor before taking any upper division business courses. **Students must meet the prerequisites for the minor in effect at the time that they declare the minor.** The current prerequisites for admission to the information systems minor include completion of the following courses with a grade of C or better: Economics 101, 102, and a three unit course in statistics (Statistics 119 is recommended); completion of the General Education requirements in Communication and Critical Thinking; completion of an additional nine

units in the department of the student's major, including at least six units of upper division courses. Students must also meet the GPA requirement in effect at the time that they declare the minor. Contact the Business Advising Center (EBA-448) for admissions criteria and procedures.

Courses (IDS)

Refer to Curricula and Courses and University Policies sections of this catalog for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

LOWER DIVISION COURSES

IDS 180. Principles of Information Systems (3)

Applications of computerized systems in business organizations. Basic concepts of computer organization, data processing systems, decision support systems and systems analysis. Solving business problems through use of spreadsheet software.

IDS 290. Business Communication (3)

Prerequisites: Rhetoric and Writing Studies 100 and SDSU Writing Competency requirement.

Effective communication applied to business letters, memos, and long reports. Includes the organization, writing, and presentation of business documents using word processing software. Incorporates basic principles of speaking effectively for business.

UPPER DIVISION COURSES (Intended for Undergraduates)

IDS 301. Statistical Analysis for Business (3)

Prerequisites: Mathematics 120; Economics 201 or Statistics 119. Approved upper division business major, business minor, or another major approved by the College of Business Administration. **Proof of completion of prerequisites required:** Copy of transcript.

Statistical methods applied to business decision making.

IDS 302. Introduction to Operations Management (3)

Prerequisites: Mathematics 120; Economics 201 or Statistics 119. Approved upper division business major, business minor, or another major approved by the College of Business Administration. **Proof of completion of prerequisites required:** Copy of transcript.

Production and operations management. Master scheduling, material requirements planning, inventory management, capacity planning, production activity control, location analysis, automation, computerized systems, layout planning, linear programming, decision making, queuing, simulation, quality control, project planning.

IDS 306. Information Systems Analysis (3)

Prerequisites: Approved upper division business major, business minor, or another major approved by the College of Business Administration.

Systems development life cycle concept, with emphasis on analysis of requirements using structured methodology. Feasibility study, needs assessment, prototyping, application design alternatives.

IDS 315. Business Application Programming (3)

Prerequisites: Approved upper division business major, business minor, or another major approved by the College of Business Administration.

Computer programming for business applications. Appropriate data structures, control structures and program structures. Languages widely used in business applications.

IDS 375. Information Systems Technology (3)

Prerequisites: Approved upper division business major, business minor, or another major approved by the College of Business Administration.

Technologies underlying information systems, including computer organization and components, computer arithmetic, I/O and storage, multimedia processing, data communications fundamentals, local area networks, internetworking, and workgroup computing.

IDS 380. Data Management Systems (3)

Prerequisites: Approved upper division business major, business minor, or another major approved by the College of Business Administration.

Methodology for applying data base management systems in design of information systems. Analysis of data base applications from perspectives of system users and systems analysts.

IDS 390W. Reporting Techniques for Accountants (4)

Prerequisites: Credit or concurrent registration in Accountancy 321. Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Writing Proficiency Assessment with a score of 8 or higher (or earned a C or higher in RWS 280, 281, or LING 281 if score on WPA was 7 or lower); and completed General Education requirements in Composition and Critical Thinking. **Proof of completion of prerequisite required:** Test score or verification of exemption; copy of transcript.

Advanced preparation of written and oral reports with application to professional needs of accountants.

IDS 396W. Reporting Techniques for Business Professionals (3)

Prerequisites: Information and Decision Systems 290. Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Writing Proficiency Assessment with a score of 8 or higher (or earned a C or higher in RWS 280, 281, or LING 281 if score on WPA was 7 or lower); and completed General Education requirements in Composition and Critical Thinking. **Proof of completion of prerequisite required:** Test score or verification of exemption; copy of transcript. Must be admitted to the upper division major in business.

Advanced preparation of oral and written reports used in business and other organizations. Individualized study of reports in student's career field.

IDS 406. Information Systems Design (3)

Prerequisites: Information and Decision Systems 306, 315, 380.

Business information systems design, installation, and implementation as part of the systems development life cycle, with emphasis on structured design methodology.

IDS 460. Project Management (3)

Prerequisites: Credit or concurrent registration in Information and Decision Systems 302.

Management of small and large projects. Work breakdown structure milestones, project cost estimating and reporting, and single and multiple resource allocation/leveling. Computerized project management software.

IDS 481. E-Business/Web Development (3)

Prerequisites: Information and Decision Systems 306, 315, 380, and credit or concurrent registration in Information and Decision Systems 406.

Issues and tools related to developing Internet-based applications with database integration through hands-on projects. Developing complex sets of Web pages by linking front-end Web browser languages and databases via back-end server languages, database queries, and middleware.

IDS 482. Information Technology Projects (3)

Prerequisites: Completion of at least 18 units of upper division information and decision systems courses.

Projects with San Diego area client organizations related to information technologies; topics may include: development life cycles, rapid application development, managing teams, client management, group interaction and conflict resolution, software metrics, and quality assurance techniques.

IDS 483. Networks and Data Communications (3)

Prerequisites: Approved upper division business major, business minor, or another major approved by the College of Business Administration.

Fundamental data communications concepts, including voice communications and carrier service offerings, communications hardware, and network design. Global, enterprise, workgroup, and local area networks. Protocols and network operating systems. Network security and control.

IDS 492. Management of Information Systems (3)

Prerequisites: Information and Decision Systems 306 and 380.

Proof of completion of prerequisites required: Copy of transcript.

Role of information systems in organizations from management perspective: strategic information system planning, systems administration, and management of end user computing. Management issues related to systems development and implementation. Management of computer operations and the computer center.

IDS 496. Selected Topics in Information Systems (1-4)

Prerequisites: Consent of department chair.

Selected areas of concern in information systems. See Class Schedule for specific content. May be repeated with new content with consent of department chair. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units.

IDS 498. Investigation and Report (1-3)

Prerequisites: Senior standing and consent of instructor.

A comprehensive and original study of a problem connected with information systems under the direction of one or more members of the information systems staff. May be repeated with new content. Maximum credit six units.

IDS 499. Special Study (1-3)

Prerequisites: Consent of instructor.

Individual study. Maximum credit six units.

**UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)**

IDS 515. Intermediate Programming for Business Applications (3)

Prerequisites: Information and Decision Systems 315 or knowledge of one computer programming language.

Intermediate programming for business applications with Java, C#, or similar languages. Data structures, control structures, and program structures. Use of object-oriented features, classes, subclasses, and inheritance for modeling and processing of business information.

IDS 520. Advanced Programming for Business Applications (3)

Prerequisite: Information and Decision Systems 515.

Advanced object-oriented features using Java (abstract classes, polymorphism, interfaces, generic classes) for business application programs using graphical user interfaces. Use of multithreading for business simulation. Enhancement of business applications with multimedia and database connectivity.

**GRADUATE COURSES
Refer to the *Graduate Bulletin*.**