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: Archer, Chen, Feeney, Galbraith, Gibson, Hatch, Langenbach, Norman, Schlesinger, Sherrard, Sondak, Spaulding, Straub
Chair: Penrose
Professors: Beatty, Flatley, Koster, Lackritz, Penrose, Raafat, Vik, Yang
Associate Professors: Addo, Amoroso, Easton, A., Easton, G., Lyons-Lawrence, Reinig
Assistant Professors: Jennex, Shin, Shu
Lecturers: Maunu, Smolensky, Tyler

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.
Teaching major in business for the single subject teaching credential.
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.

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 is concerned that each individual upper division student makes reasonable academic progress toward earning a degree. To this end, the College will counsel students who have earned less than a "C" (2.0) average each semester. Further, such students will be warned that continued poor performance may result in their removal from any 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—The International Association for Management Education accredited program. Exceptions require thorough documentation evidencing the above standards.

Impacted Program

The information systems major is impacted. Students must apply to enter the University under the business administration premajor code (05011). To be admitted to the upper division information systems major, students must meet the following criteria:

a. Complete with a grade of C or higher: Accountancy 201 and 202; Finance 240 (formerly 140); Information and Decision Systems 180 and 290; 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);
b. Clear the lower division competency requirement in writing. Refer to Graduation Requirements section of this catalog for details;
c. Complete a minimum of 56 semester units;
d. Have a cumulative and SDSU GPA of 2.90;
e. Students who meet all requirements except the GPA may request to be placed on the waiting list. Students on the waiting list will be admitted on space-availability basis only. Contact the Business Advising Center (BA 448), 619-594-5828, for more information; and
f. To gain entry into the major, students must fulfill the premajor requirements described in the catalog in effect at the time they declare the premajor at SDSU (assuming continuous enrollment).

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).

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 and 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.**

Upper Division Writing Requirement. Information and Decision Systems 396W with a grade of C (2.0) or better.

Major. Forty-two upper division units consisting of Information and Decision Systems 302, 306, 315, 375, 396W, 406, 480, 492; Finance 323; Management 350 and 405 or Business Administration 404; Marketing 370; six units selected from Information and Decision Systems 301, 407, 460, 482, 483, 515, 520. A "C" (2.0) average is required in the courses stipulated here for the major.

Of the 128 units required for the degree, at least 60 units must be at the upper division level. This includes the 42 units listed above, nine units of upper division General Education, and at least nine units of upper division electives, chosen from within or outside of Business Administration. A minimum of 64 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 nine units of electives (upper or lower division) must be completed in areas other than business administration, economics, and statistics. A maximum of six lower division units of accountancy courses may be used to satisfy degree requirements.

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.

Business Major

In preparation for the Single Subject Teaching Credential
With the B.S. Degree in Business Administration

SDSU does not have a program that meets the California Commission on Teacher Credentialing requirements for subject matter competency in business. Students wishing to obtain a single subject credential in business must take and pass the SSAT in business in order to meet subject matter competency requirements.

All candidates for the single subject teaching credential in business must complete all requirements for the applicable specialization as outlined in this section of the catalog under Policy Studies or Teacher Education. Qualified students may complete the requirements of a major in one of the five departments within the College of Business Administration in preparation for the SSAT examination. In addition, Finance 300, Personal Finance, is strongly recommended.

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 406, 407, 480, 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 SDSU lower division writing competency requirement; 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 (BA 448) for admissions criteria and procedures.

Courses (IDS)

LOWER DIVISION COURSES

180. Principles of Information Systems (3) I, II

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.

290. Business Communication (3) I, II

Prerequisite: 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)

301. Statistical Analysis for Business (3) I, II

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.

302. Introduction to Operations Management (3) I, II, S

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.

306. Information Systems Analysis (3) I, II, S

Prerequisite: Approved upper division business major, business minor, or another approved major 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.

315. Business Application Programming (3)

Prerequisite: Approved upper division business major, business minor, or another approved major 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.

375. Information Systems Technology (3)

Prerequisite: Approved upper division business major, business minor, or another approved major 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.

390W. Reporting Techniques for Accountants (4)

Prerequisites: Credit or concurrent registration in Accountancy 321; fulfillment of Writing Competency requirement, completion of 60 units, and the General Education requirement in Communication and Critical Thinking. Satisfies University Upper Division Writing requirement as specified in the Graduation Requirements section. **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.

396W. Reporting Techniques for Business Professionals (3) I, II

Prerequisites: Information and Decision Systems 290; fulfillment of Writing Competency requirement, completion of 60 units, and the General Education requirement in Communication and Critical Thinking. Satisfies University Upper Division Writing requirement as specified in the Graduation Requirements section. **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.

406. Information Systems Design (3) I, II

Prerequisites: Information and Decision Systems 306 and 375, and credit or concurrent registration in Information and Decision Systems 480.

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

407. Artificial Intelligence Applications in Business (3)

Prerequisite: Information and Decision Systems 375.

Basic artificial intelligence concepts, knowledge acquisition and representation, automated problem-solving and goal-seeking techniques, applications of artificial intelligence in business, expert systems, differences between data processing and artificial intelligence methodologies.

460. Project Management (3)

Prerequisite: 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.

461. Operations Planning Strategy (3)

Prerequisite: Information and Decision Systems 302.

Operations and manufacturing decisions analyzed with respect to process technology, system capacity, location, inventory, and quality assurance. Cases from U.S. and non-U.S. companies used to explore these issues.

462. Logistics and Material Management (3)

Prerequisite: Information and Decision Systems 302.

Tracking material flow from vendor to customer. Supply chain management, forecast error analysis, plant scheduling, control and distribution requirements planning.

464. Quality and Productivity (3)

Prerequisite: Information and Decision Systems 302.

Applications of operations management techniques to improvement of quality and productivity. Total quality control and just-in-time systems. Cases from American and Japanese companies.

480. Data Management Systems (3) I, II

Prerequisite: Information and Decision Systems 375.

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.

482. Information and Decision Systems Practicum (3)

Prerequisite: Completion of at least eighteen units of upper division information and decision systems courses.

Information system design or development project applying knowledge gained in previous coursework done under joint supervision of course instructor and an information systems manager.

483. Networks and Data Communications (3) I, II

Prerequisite: Information and Decision Systems 375.

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.

492. Management of Information Systems (3) I, II

Prerequisite: Information and Decision Systems 306 and 480. **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. Examination of management issue related to systems development and implementation. Management of computer operations and the computer center.

496. Selected Topics in Information Systems (1-4) I, II

Prerequisite: 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.

498. Investigation and Report (1-3) I, II

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.

499. Special Study (1-3) I, II

Prerequisite: Consent of instructor.

Individual study. Maximum credit six units.

UPPER DIVISION COURSES
(Also Acceptable for Advanced Degrees)

515. Advanced Programming for Business (3) I,II

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

Advanced programming for business applications in widely used programming languages. Advanced concepts of data structures used in business programming, control structures, and program structures. Selection of programming languages for particular purposes. Not open to students with credit in Information and Decision Systems 383 or 384.

520. Java Programming for Business Applications (3)

Prerequisite: A course in C/C++ programming.

Comprehensive coverage of both Java applications and applets with emphasis on business application programs using graphical user interfaces. Business applications include multimedia programs, network processing, and database connectivity.

GRADUATE COURSES
Refer to Bulletin of the Graduate Division.