"Information is no substitute for thinking and thinking is no substitute for information."
--Edward Debono, Cambridge University

Information systems, computers, telecommunications, networks, total quality management, business process re-engineering. . . . You see these terms daily in newspapers, business literature--and in ISDS textbooks. All these words relate to information, a key commodity in today's global business world. Without the right information, in the right place at the right time, managers risk making the wrong decisions. Ultimately, this costs their companies in productivity, time, and money. To stay competitive, companies have to redesign or re-engineer their business processes.

Because the business environment today is rapidly changing, there is a growing demand for college graduates who have the analytical skills and business background to analyze, understand and re-design business processes to make them more productive. For example, grocery stores today use scanning devices at cash registers. These scanning devices not only allow the check out personnel to compute the total faster and more reliably, but allows the store to control inventory and provide data to the accounting department. To do this, however, someone has to design a software which will do all the data manipulations.

One of the typical employers of our graduates are large health care organizations. These organizations continuously improve their customer service and reduce costs by redesigning their business processes in areas such as telephone answering services, accounts payable, patient scheduling, emergency room staffing, etc.

Petrochemical and paper industries are other large employers of our graduates. Again, they need to constantly redesign and improve their business processes to stay competitive.

The steps involved in re-designing a business process are: 1) identifying processes for re-engineering; 2) identifying change levers; 3) developing process visions; 4) understanding existing processes; and 5) designing and prototyping the new process.

The ISDS graduate is equipped with the tools necessary to help re-design business processes.

ISDS offers two degree programs which directly address the challenges of information control and manufacturing production. One deals with management information systems (MIS), which focuses on the analysis, design, and implementation of computer-based information systems to support the operations and management functions of an organization. Our second program is operations management which focuses on improving manufacturing and production efficiency in plants or operations in service-oriented companies. An ISDS major acquires quite a well-rounded education encompassing the study of many useful disciplines--information systems, production management, quality control, statistics, and an area of specialization in another business field such as internal auditing, accounting, finance,
marketing or management, as well as the general business background which all majors receive.

The ISDS Department with its range and depth of skills in computer science, production management, quantitative analysis, and business administration will also appeal to those who enjoy working in teams using computer and analytical tools to tackle a variety of important business problems.

Computers and ISDS

The ISDS Department maintains a state-of-the-art computer laboratory that consists of 16 networked microcomputers and highly specialized software for quantitative analysis. The laboratory provides ISDS students with the opportunity to develop, implement, and experiment with information systems in a networked environment. ISDS students can gain real-world experience by managing and maintaining a networked computer system in the lab. Computer software is available to assist in the design and implementation of Local Area Networks (LAN). Students can also learn how to strategically evaluate various alternative LAN configurations. Many of the information systems courses utilize the laboratory through in-laboratory hours and course projects. Additionally, Computer Assisted Software Engineering (CASE) tools are used in the lab by students enrolled in the systems design courses.

ISDS majors specializing in operations management also benefit from the specialized hardware/software configurations of the computer laboratory. They can develop top-notch quality management systems that are computer supported. Scheduling and inventory problems can be analyzed with the aid of the computers. Business problems can be simulated in the lab, and a statistical evaluation of the impact of alternative courses of action can be performed. The total quality management and quality assurance courses are also enhanced through use of the lab.

Additionally, the College of Business maintains more than 120 microcomputers in a laboratory for business majors and more than 100 terminals connected to LSU mainframe computers. Recently, a Mosaic-based Tiger system is available for students to do business research on the Internet. ISDS students benefit tremendously from the easy access to these facilities. They can use the word processing, spreadsheet, and database management software of this lab to produce professional papers for all their business courses. The ISDS department is proud to offer all of its students the opportunity to learn about computer systems in an up-to-date hands-on environment.

Job Opportunities in ISDS

The employment outlook for ISDS graduates in all areas is excellent. This is especially true for graduates with strong computing-related backgrounds. With the resurgence of interest in productivity and competitive quality, job opportunities are also excellent in the operations management and management science areas.

In recent years, ISDS graduates have had some of the highest salary offers among graduates from the College of Business Administration, with starting salaries in the mid $20,000 to mid-$30,000 range. Typical jobs include:

**Information Systems Analyst**

A systems analyst tracks a company’s information flow and then designs a system that allows managers to have fast, easy access to this information.

**LAN Administrator**

A LAN administrator could help his company manage and control its network. This person could provide support in the design of the network as well as in the day-to-day maintenance of the system.
Data Communications Analyst

A data communications analyst might analyze the current network of data communications and, using the historical usage data, recommend methods for designing a more efficient system.

Programmer Analyst

A number of ISDS graduates accept programmer analysts jobs upon graduation. An ISDS degree provides them with the skills necessary for programming advanced business systems in a variety of programming languages.

Internal Auditor

The MIS program coupled with a minor in internal auditing provides a unique blend that can prepare students for a management position. Internal auditing is the right arm of top management and is the best area in the organization to acquire an overall perspective of company operations.

Quality Control Management Specialist

Quality results from understanding and controlling the production process. If America is going to remain competitive in today’s global economy, managers who understand how to design and manage systems which ensure quality production are absolutely necessary. Quality control specialists use a variety of logical, statistically-based tools to ensure that the best possible product is shipped to the customer.

Production Management Specialist

Many young ISDS graduates with specialties in production, land supervisory jobs in manufacturing companies early on in their careers. This is challenging because it may require younger people to manage workers who are older and more experienced on the production line.

Business Analyst

A business analyst might analyze and plan the activities needed to solve business problems. Necessary skills include the ability to simplify and define the problem, an understanding of a number of approaches that might be used, and the ability to choose and implement the best one.

Comments of our students on why they have chosen ISDS:

"I switched my major from Accounting to ISDS/MIS after my sophomore year. I have always had an interest in computers and the computer industry. I searched for a new major and chose ISDS/MIS over Computer Science. The reason I chose ISDS/MIS was that I liked the business aspect of the degree. I like the business aspect of corporations as well as the computer aspect. I am also interested in networks, telecommunications and databases. ISDS/MIS provides me the opportunity to explore my interests."

"I chose ISDS/MIS because while I have always been interested in programming, I did not want to go into computer science because it is too limiting. I chose ISDS/MIS because I am interested in the business applications of computer science and because there are diverse job opportunities for ISDS/MIS majors."

"I chose ISDS/MIS because of my strong interest in the field of computing in the business environment. I originally planned to change my major from accounting to computer science but decided on ISDS/MIS to take advantage of the business courses I had received credit for."

"I chose ISDS/MIS because it contained a computer science background with business applications. I would like to work with computer related applications that are business oriented, not just technicalities. I enjoy working with people, not many technical majors involve as much on-hands communication with end-users. ISDS/MIS offers opportunities in many different areas, especially information systems."

"This is the way the world is moving. Information technology is the basis behind everything, especially in the
future. ISDS offers a wide variety of business courses along with opportunity to take programming classes."

**Employers Who Have Recently Recruited ISDS Majors**

Shell  
Exxon  
IBM  
International Paper  
Andersen Consulting  
EDS  
Cintas (Baton Rouge)  
Sprint  
Texaco  
Federal Reserve Bank (New Orleans)  
Conoco  
Mobil  
Houston Lighting and Power  
Motorola (Illinois)  
Pennzoil  
American General  
Ingersoll-Rand Company  
J.C. Penney  
CCI Manufacturing (Texas)  
Encore Associates (Baton Rouge)  
Riverwood International  
Carolina Freight Carriers (Georgia)  
Deloitte & Touche (Georgia)  
Software Group (Texas)  
Burlington  
Frito Lay  
Campbell Soup  
Panhandle Eastern

**The Mission of ISDS**

The ISDS Department is committed to continually produce graduates who are capable of participation in a changing competitive business environment. By emphasizing research and including its results in lectures and teaching material, the department will keep its students informed on current topics in the related fields. The ISDS Department strives to establish and maintain a close working relationship with industry leaders, to use latest technology, to recruit outstanding faculty, and to accept capable students into the program. By accomplishing these goals, the ISDS department will better serve the students at LSU, the business community of Louisiana, and the community at large.
CURRICULUM IN
INFORMATION SYSTEMS & DECISION SCIENCES -
MANAGEMENT INFORMATION SYSTEMS

TOTAL SEMESTER HOURS 129-128

If ROTC is selected, see "Degree Requirements
of the College."

<table>
<thead>
<tr>
<th>FRESHMAN YEAR</th>
<th>SEM. HRS.</th>
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<tbody>
<tr>
<td>English 1000/1001, 1002 or 1003</td>
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<tr>
<td>Mathematics 1020/1021</td>
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<td>Mathematics 1431</td>
<td>3</td>
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<td>General education natural sciences sequence</td>
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<td>General education arts course</td>
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<td>ISDS 1100</td>
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<tr>
<td>General education humanities course</td>
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SOPHOMORE YEAR

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<th>SEM. HRS.</th>
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<tbody>
<tr>
<td>Accounting 2001</td>
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<td>Accounting 2021 or 2101</td>
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<tr>
<td>Approved speech elective</td>
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<tr>
<td>Computer Science 1250, 1251</td>
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<td>Economics 2010, 2020</td>
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<td>English 2002</td>
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<tr>
<td>General education social sciences courses</td>
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<td>ISDS 2000, 2001</td>
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JUNIOR YEAR

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<td>in Business Administration</td>
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<td>Management 3200</td>
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<td>Marketing 3401</td>
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<td>ISDS 3100, 3110, 3115, 3200</td>
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SENIOR YEAR

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<tr>
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<td>Management 3830</td>
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<tr>
<td>ISDS 4110, 4120, 4125</td>
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<tr>
<td>General education social sciences course</td>
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<tr>
<td>General education humanities course</td>
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<tr>
<td>General education natural sciences course</td>
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<tr>
<td>Approved elective courses (3000 or 4000 level) in Business Administration</td>
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<tr>
<td>Approved ISDS elective</td>
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AREAS OF CONCENTRATION

**Systems Auditing:** Accounting 2021, 3233, 4231, 4234, 4244.

**Business Analysis:** ISDS 4020, 4200, 4501, 4165, 4168.
INFORMATION SYSTEMS & DECISION SCIENCES (ISDS)

3000 Statistical Methods and Models II (3) Prereq: MATH 1435 and ISDS 2000. Continuation of ISDS 2000; statistical inference; additional applications of sampling distribution; the chi-square, student's t, and F distributions; estimation; hypothesis testing; survey sampling; linear regression; simple correlation; analysis of variance; nonparametric tests.

3001 Conceptual Foundation for Statistical Analysis (3) Prereq: MATH 1020/1021 or equivalent. Foundations for advanced work in statistical inference; probability, probability distributions, expected value, sampling distributions; application of sampling distributions to problems of estimation and control.

3002 Conceptual Foundations for Operations Research (3) Prereq: MATH 1020/1021 or equivalent. Not open to undergraduate students in the College of Business Administration. Foundations for work in operations research; fundamentals of analysis, systems of linear equations, selected topics from matrix algebra.

3070 Independent Reading and Research in Quantitative Business Analysis (1-6) Prereq: senior standing. May be taken for a max of 6 sem. hours of credit. Student is responsible for registering with a faculty member and selecting an area of reading and/or research.

3100 Management of Information Resources (3) Prereq: ISDS 1100. Information as a resource; basic issues in information resource management; elements of information systems; developing and maintaining information systems; and controlling information resources.

3110 Database Processing for Management (3) Prereq: ISDS 3100. Structure and function of managerial databases; design options and implementation of database management systems in the firm; laboratory practice includes use of a particular software system.

3115 Introduction to Operations Management (3) Prereq: ISDS 2001. Principles and methodologies concerning productivity and quality of manufacturing and service organizations; production and service systems design; process and capacity design; total quality management; systems for just-in-time and purchasing management; inventory and materials management.

3200 Advanced Business Programming (3) Prereq: ISDS 1100, CSC 1250, and CSC 1251 or permission of instructor. Computer programming methods for business systems emphasizing contemporary programming environments and applications development interfaces.

4000 Introduction to Statistical Theory (3) Prereq: proficiency in basic statistical methods and MATH 1552; or consent of instructor. Concepts or probability distribution and statistical inference; theoretical foundations for estimating and testing hypotheses about means, proportions, and variances; chi-square and F tests.

4010 Basic Forecasting Models (3) Prereq: ISDS 3000 or equivalent. Single-equation multiple regression and time series modeling procedures for business and economic forecasting; using time series data in regression models; time series modeling, including classical decomposition procedures and exponential smoothing; use of computing programs for regression and time series modeling and forecasting.

4011 Sample Survey Methods (3) Prereq: ISDS 3000 or equivalent. Designing sampling systems; alternative sample designs; problems of bias; techniques of interference from alternative designs; criteria for selecting optimal sampling plans; methods and applications of sample surveys.

4012 Applied Nonparametric Statistics (3) Prereq: ISDS 3000 or equivalent. Applied nonparametric statistics including techniques for one-sample problems, comparison of two treatments, paired comparisons, randomized complete blocks, comparison of more than two treatments, tests of randomness and independence, and measures of correlation.

4013 Bayesian Probability and Statistical Methods (3) Prereq: ISDS 3000 or equivalent. Assessment of subjective probability distributions; Bayesian estimation and inference; application of Bayesian techniques to business problems.

4020 Operations Research for Managerial Decisions (3) Prereq: ISDS 2001. Managerial decision making, including decision analysis, linear programming, transportation models, integer programming, project scheduling, and waiting line models; emphasis on basic understanding and evaluation of operations research techniques and their application.

4021 Foundations of Mathematical Programming (3) Prereq: credit or registration in ISDS 4020. Theoretical foundations of linear programming in single and multiple objectives; classical nonlinear optimization of unconstrained and constrained functions; Kuhn-Tucker conditions and quadratic programming.

4031 Applied Linear Models (3) Prereq: ISDS 3000 or equivalent. Development of a unified approach to estimation and hypothesis testing in linear statistical models; emphasis on appropriate specification and interpretation of models and statistical hypotheses, use of available computer routines and interpretation of results;
unbalanced analysis of variance models, linear regression models and analysis of covariance models.

4110 Business Decision Support and Expert Systems (3) Prereq: ISDS 3110 or equivalent. Laboratory practice includes use of a particular software system. Business decision modeling; constructing a decision support system (DSS); DSS development tools; executive information systems; expert systems (ES): process, tools, and strategy; integration of DSS and ES.

4120 Business Data Communications (3) Prereq: ISDS 1100 or equivalent. Telecommunications in business, including both voice and data communication, technical details (hardware, software, protocols, network configurations), network management, and security issues.

4125 Analysis and Design of Management Information Systems (3) Prereq: ISDS 3110, 3200. Design philosophies and techniques for the creation of information systems for management decision making; conceptual design of actual information systems.

4165 Operation of Service and Distribution Systems (3) Prereq: ISDS 3115. Application of operations management concepts and techniques in service and distribution organizations; service system design and control, including location, layout, capacity expansion, staffing and scheduling; special attention to structure design and operational control of distribution systems and interfaces with other functional areas.

4167 Operations Planning and Control (3) Prereq: ISDS 3115 or equivalent. Planning and control of operations in manufacturing and service organizations; aggregate planning, master scheduling, requirements planning, and activity control; emphasis on developing skills through case studies and computer models.

4168 Supply Chain Management (3) Prereq: ISDS 4165. Planning, implementing, and controlling the efficient, cost-effective flow and storage of raw material, in-process products, finished products, and related information in a supply channel; resource/material management; supplier strategy; inventory planning and control; just-in-time systems; customer service; logistics and interfaces with other functional areas; emphasis on concepts, model development, and analysis.

4180 Business Analysis in Practice (3) Prereq: Senior standing or permission of instructor. Contemporary problems encountered by the business analysis professional; emphasis on case analysis and use of business analysis skills and computer technology to solve business problems.

4200 Quality Management (3) Prereq: ISDS 3115. Credit will not be given for both this course and IE 4453. Principles and practices of statistical quality control in industry; control charts for variables and for attributes; process capability analysis; acceptance sampling for variables and for attributes; design of experiments; Taguchi methods and ISO 9000 standards.

4501 Systems Modeling and Analysis I (3) Prereq: ISDS 2001. Final project involves the application of discrete-event simulation to a real world problem. Modeling and analysis of production and service systems using discrete-event computer simulation; discrete-event simulation mechanics, model structure, model building, modeling of complex systems; verification and validation; arrival processes; design of simulation experiments; statistical analysis of terminating and steady-state systems.

4502 Systems Modeling and Analysis II (3) Prereq: ISDS 4501. Final project involves the application of simulation to solve an operations problem in business or government. Advanced application of computer simulation concepts to dynamic systems; alternative approaches to simulation modeling; discrete-event, hybrid discrete/continuous, system dynamics, simulators, and template approach; further development of modeling and analysis skills; advanced analysis concepts including variance-reduction, simulation meta-models, and simulation optimization.

4511 Industrial Simulation (3) Prereq: ISDS 4020. See IE 4511.

MIS - AREA OF SPECIALIZATION

Accounting


3233 Internal Auditing I (3) Prereq: ACCT 2021. Internal auditing standards, ethics, concepts, audit techniques, and reporting practices.

4234 Internal Auditing II (3) Prereq: grade of "C" or above in ACCT 3233. Operation, organization, and quality control audits; organization theory.
4244 EDP Auditing (3) Prereq: ACCT 3222. Electronic data processing (EDP) control, audit applications, and generalized audit software systems.

4231 Internship in Accounting (3) Prereq: Prior consent of department chair and approval of dean. At least 12 hours per week of learning experience under the general supervision of a faculty member and direct supervision of a professional in accounting. Pass-fail grading based on the faculty member's evaluation, a written report by the professional supervisor, and a written report by the student.

Choose 12 hours

Finance

3632 Bank Administration (3) Prereq: FIN 3715. For students interested in commercial banking careers or in roles of banks within the American enterprise system. Economic role of banks; structure of banking; lending and investment techniques; bank organization and regulation; student involvement in cases and in management of a simulated bank.


4850 Speculative Financial Markets (3) Prereq: FIN 3826 or equivalent. Financial and money markets, financial futures markets, and options markets; valuation models for the instruments in these markets; strategies for hedging and speculation; applications for individual investors, institutional investors, corporate treasurers, and financial institutions.

Plus an additional 3 hours from any 3000 or 4000 level business course.

Management

General Management Area

3111 Entrepreneurship (3) S Prereq: senior standing. Principles of entrepreneurship; feasibility studies; financial and location analysis; marketing; promotion; management; venture capitalism; legal considerations.

4420 Multinational Management (3) Prereq.: MGT 3200 or equivalent. Management concepts and philosophical bases for international management operations; environmental dynamics, multinational business organizations, cultural constraints, organizational structures and processes, and conceptual systems of international operations.

4620 Human Behavior in Organizations (3) Prereq: MGT 3200. Behavioral sciences, applied to understanding human dynamics in organizations; individual, interpersonal, group, and intergroup behavior as organizational dynamics and success.

Plus an additional 3 hours from any 3000 or 4000 level business course.

Entrepreneurship Area

3111 Entrepreneurship (3) S Prereq: senior standing. Principles of entrepreneurship; feasibility studies; financial and location analysis; marketing; promotion; management; venture capitalism; legal considerations.

4113 Small Business Management (3) F Prereq: senior standing. A multidisciplinary approach to small business; business start-ups, accounting, finance, marketing, management, promotion, layout, retail management, location analysis, and international small business.

4114 Franchising Management (3) S Prereq: senior standing. Understanding the franchising process; becoming a franchisor or franchisee; franchisor start-up venture capitalist, finance, legal compliance, disclosure documents, franchise agreements, franchisee start-ups, franchisor-franchisee relationships, anti-trust laws, and international franchising.

Plus an additional 3 hours from any 3000 or 4000 level business course.

Human Resource Management Area

*3320 Human Resource Management (3) Prereq: MGT 3200. Human resource functions, including planning, recruitment, selection, development, maintenance, and reward of employees; relationships with environment and employee associations.

*3500 Introduction to Labor Relations (3) The presence of organized labor in the workplace and management's response; emphasis on the historical development on unionization in the U.S., labor law, union structure, union organizing, union political activity, collective bargaining, and contract administration. I

3513 Labor-Management Conflict and Cooperation (3) Prereq: MGT 3500. In-depth examination of issues important to labor-management relations; possible topics include, but are not limited to, collective bargaining, alternative dispute resolution, union-management cooperation, and/or recent developments in labor-management relations.
4322 Employee Selection and Placement (3) S Prereq: ISDS 2000; or equivalent. Staffing requirements, recruitment strategies, development and validation of selection procedures, classification and placement of employees; problems associated with person-job matching; socialization of new employees.

4323 Compensation Administration (3) F Prereq: MGT 3320. Quantitative and nonquantitative methods of job evaluation; wage level, wage structure, incentive plans; issues of employee compensation.

4523 Government Regulation of Human Resource Management (3) S Prereq: MGT 3320. Impact of federal legislation on human resource managers; hiring, retention, and promotion policies of employers.

*Required
Choose one from 3513, 4322, 4323, and 4523

**Information Systems & Decision Sciences**

4167 Operations Planning and Control (3) Prereq: ISDS 3115 or equivalent. Planning and control of operations in manufacturing and service organizations; aggregate planning, master scheduling, requirements planning, and activity control; emphasis on developing skills through case studies and computer models.

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Revised 7/16/97