

# Department of Computer Science and Information Systems

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## Faculty

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## Mission

The Department of Computer Science and Information Systems' mission is to prepare students for employment or graduate study in computer science or information systems. With a primary focus on teaching, the department emphasizes quality undergraduate and graduate instruction. The educational programs are delivered in an environment that promotes the development of technical skills and encourages a broad understanding of the forces shaping global social, political and economic change. The faculty perform scholarly activity and service consistent with the teaching emphasis of the Department and the mission of the College of Business and Public Affairs.

## B.S. Computer Science Major (4412, 4414)

The general education requirements for the B.S. degree are outlined in the Undergraduate Degrees and Special Programs section of the catalog. The Department of Computer Science and Information Systems offers a wide range of computer science courses to support the B.S. degree with a major in computer science. These courses are designed to prepare students for computing careers in business, education, government, and industry. The courses also provide the foundation for graduate study in computer science or information systems. The courses blend theory and practice to prepare the students for careers in a rapidly changing field.

Majors are advised to select physics as one of the laboratory sciences. If a student is not prepared to enter calculus as the first mathematics course, the elective hours can be used to take college algebra and/or pre-calculus.

<b>Course Requirements for Major</b>	<b>Hours</b>
Mathematics 210 Elementary Statistics and Probability .....	3
Mathematics 251-252 Calculus I, II.....	8
Computer Science 221-222 Program Concepts and Problem Solving I, II .....	6
Computer Science 301 Discrete Systems.....	3
Computer Science 320 Assembler Language and Computer System Organization .....	3
Computer Science 325 Data Structures .....	3
Computer Science 360 Introduction to Computer Networks.....	3
Computer Science 470 Organization of Programming Languages.....	3
Computer Science 495 Senior Seminar .....	2
Option Requirements (see below).....	15
<b>Total Hours</b> .....	<b>48</b>

### Information Systems Option (4412)

<b>Option Requirements</b>	<b>Hours</b>
Computer Science 250 COBOL Programming .....	3
Computer Science 350 Advanced COBOL.....	3
Upper-division computer science electives, not including cooperative education, with at least three hours at the 400-level are required .....	9
The upper-division electives are usually chosen from Computer Science 335, 351, 352, 410, and 485.	
A minor in Business Administration is recommended.	

### Software and Computer Systems Option (4414)

<b>Option Requirements</b>	<b>Hours</b>
Computer Science 226 Intermediate Programming in a Second Language.....	3
Computer Science 420 Computer Organization and Architecture .....	3
Upper-division computer science electives, not including cooperative education, with at least three hours at the 400-level are required. ....	9
The upper-division electives are usually chosen from Computer Science 335, 340, 380, 385, 410, 475, and 485.	
A minor in Mathematics, Statistics, Engineering, or one of the sciences is recommended.	

**Double majors:** Mathematics/Computer Science 340 can only be allowed in the requirements for a mathematics major or computer science major but not both. Either Mathematics 241 or Computer Science 301 may be used to satisfy the requirements for a discrete course since credit is not given for both.

## B.S.B.A. Information Systems Major (4432, 4434)

The Information Systems major is designed to prepare the student for careers working with today's and tomorrow's computer-based information systems. Students interested in designing and developing information systems should select the Management Information Systems Concentration, while students interested in using information systems and/or training others to use information systems should select the Office Information Systems Concentration. Both concentrations build upon a foundation of computer literacy which emphasizes hands-on skills. These skills are practiced and polished in a network environment that encourages the collaborative problem-solving approaches being used in modern organizations.

<b>Course Requirements for Major</b>	<b>Hours</b>
Information Systems 212 Intermediate Spreadsheet Applications .....	1
Information Systems 213 Advanced Spreadsheet Applications .....	1
Information Systems 222 Intermediate Database Applications.....	1
Information Systems 223 Advanced Database Applications .....	1
Information Systems 232 Intermediate Word Processing .....	1
Information Systems 233 Advanced Word Processing.....	1
Information Systems 361 Network Administration .....	3
Option Requirements (see below).....	21
<b>Total Hours</b> .....	<b>30</b>

**Management Information Systems Concentration (4432)**

The Management Information Systems Concentration is designed to prepare the student for organizational roles involving the design, development, and administration of information systems. Typical positions include systems analyst, programmer, network administrator, computer consultant, and computer applications support specialist.

<b>Concentration Requirements</b>	<b>Hours</b>
Computer Science 221 Programming Concepts and Problem Solving I .....	3
Computer Science 222 Programming Concepts and Problem Solving II .....	3
Computer Science 351 Object Oriented System Analysis and Design .....	3
Computer Science 410 Database Management Systems .....	3
Information Systems 491 Current issues in Management Information Systems .....	3
Computer Science or Upper Division Information Systems Electives.....	6
<b>Total Hours</b> .....	<b>21</b>

**Office Information Systems Concentration (4434)**

The Office Information Systems concentration stresses the integration of people, procedures and technology to produce information in the office environment. Emphasis is on computer applications, technology management strategies, software selection, and end-user training/support. Interpersonal, written, and oral communications skills are developed. Possible career paths for graduates include software support specialist, administrative assistant, records manager, office manager, training specialist, and office system analyst.

<b>Concentration Requirements</b>	<b>Hours</b>
Information Systems 251 Office Procedures .....	3
Information Systems 331 Professional Word Processing.....	3
Information Systems 461 End-User Technology Solutions .....	3
Information Systems 462 Office Management.....	3
Information Systems 481 Current Issues in Office Information Systems .....	3
Business Electives .....	6
<b>Total Hours</b> .....	<b>21</b>

## Two-Year Certification Program in Office Information Systems

The two-year program in Office Information Systems is designed to prepare students to gain knowledge and skills in modern office technology in the shortest possible time. The major is intended to enable a student to specialize in a chosen field and still obtain college credits which may all be applied toward a degree in information systems.

<b>Courses</b>	<b>Hours</b>
English 111-112 English Composition.....	6
Mathematics 140 College Algebra, 210 Elementary Statistics and Probability.....	6
Computer Science 201 Introduction to Computer Applications.....	3
Communications 230 Public Speaking.....	3
Psychology 110-120 General Psychology.....	6
Accounting 201-202 Fundamentals of Accounting I, II.....	6
Economics 201-202 Principles of Macroeconomics, Microeconomics.....	6
Business Law 201 Legal Environment of Business.....	3
Computer Applications.....	6
(Chosen from the following 1-hr. courses: Information Systems 211, 212, 213, 221, 222, 223, 231, 232, 233, 241)	
Information Systems 151 Fundamentals of Business.....	3
Information Systems 251 Office Procedures.....	3
Electives.....	13
<b>Total</b> .....	<b>64</b>

## Certificate Program in End-user Computing

The certificate program is designed for individuals who wish to enhance their current fields of study by specialized study in End-User Computing. In order for the credit to count toward the Certificate in End-User Computing, a student must earn at least a “C” in each of the following courses:

<b>Course Requirements for the Certificate</b>	<b>Hours</b>
Computer Science 201 Introduction to Computer Applications.....	3
Information Systems 212 Intermediate Spreadsheet Applications.....	1
Information Systems 213 Advanced Spreadsheet Applications.....	1
Information Systems 222 Intermediate Database Applications.....	1
Information Systems 223 Advanced Database Applications.....	1
Information Systems 232 Intermediate Word Processing.....	1
Information Systems 233 Advanced Word Processing.....	1
Information Systems 310 Management Information Systems.....	3
Information Systems 361 Network Administration.....	3
Information Systems 491 Current Issues in Information Systems.....	3
<b>Total</b> .....	<b>18</b>

## **Courses Offered by Department of Computer Science and Information Systems**

Business Administration 444 Practicum in Business (as needed)  
Business Administration 495 Executive Seminar (as needed)  
Business Administration 710 International Study (as needed)  
Business Administration 790-798 Special Topics in Business (as needed)  
Business Administration 799 Independent Study in Business Administration (as needed)  
Computer Science 200 Introduction to Computer Programming (F, Sp)  
Computer Science 201 Introduction to Computer Applications (F, Sp, Su)  
Computer Science 221 Programming Concepts and Problem Solving I (F, Sp)  
Computer Science 222 Programming Concepts and Problem Solving II (F, Sp)  
Computer Science 226 Intermediate Programming in a Second Language (Sp)  
Computer Science 230 FORTRAN Programming (as needed)  
Computer Science 231 Computer Programming for Engineers (as needed)  
Computer Science 250 COBOL Programming (F)  
Computer Science 260 RPG Programming (Sp)  
Computer Science 290 Special Topics in Computer Science (F)  
Computer Science 301 Discrete Systems (Sp)  
Computer Science 320 Assembler Language and Computer Science Organization (F)  
Computer Science 325 Data Structures (Sp)  
Computer Science 335 Object Oriented Programming (as needed)  
Computer Science 340 (540) Numerical Analysis (as needed)  
Computer Science 350 Advanced COBOL (Sp)  
Computer Science 351 Object Oriented System Analysis and Design (F)  
Computer Science 352 Object Oriented Systems Development (Sp)  
Computer Science 360 Introduction to Computer Networks (F)  
Computer Science 380 Artificial Intelligence (as needed)  
Computer Science 385 Parallel Computing (as needed)  
Computer Science 410 (610) Data Base Management Systems (F)  
Computer Science 420 (620) Computer Organization and Architecture (F)  
Computer Science 445 (645) Computer Graphics (F)  
Computer Science 458 Decision Support and Expert Systems (as needed)  
Computer Science 470 (670) Organization of Programming Languages (Sp)  
Computer Science 475 Compilers, Interpreters, and Language Translators (F--even)  
Computer Science 480 Internship in Computer Science (as needed)  
Computer Science 485 (685) Computer Operating Systems (Sp)  
Computer Science 490 (690) Special Problems (as needed)  
Computer Science 495 Senior Seminar Selected Topics: [Title] (F)  
Information Systems 151 Fundamentals of Business (F)  
Information Systems 211 Introductory Spreadsheet Applications (F, Sp)

Information Systems 212 Intermediate Spreadsheet Applications (F, Sp)  
Information Systems 213 Advanced Spreadsheet Applications (F, Sp)  
Information Systems 221 Introductory Database Applications (F, Sp)  
Information Systems 222 Intermediate Database Applications (F, Sp)  
Information Systems 223 Advanced Database Applications (F, Sp)  
Information Systems 231 Introductory Word Processing (F, Sp)  
Information Systems 232 Intermediate Word Processing (F, Sp)  
Information Systems 233 Advanced Word Processing (F, Sp)  
Information Systems 241 Current Productivity Tools (F, Sp)  
Information Systems 251 Office Procedures (Sp)  
Information Systems 310 Management Information Systems (F, Sp)  
Information Systems 331 Professional Word Processing (F)  
Information Systems 351 Business Communications (F, Sp)  
Information Systems 361 Network Administration (F)  
Information Systems 461 End-user Technology Solutions (F)  
Information Systems 462 Office Management (Sp)  
Information Systems 480 Internship in Information Systems (as needed)  
Information Systems 481 Current Issues in Office Information Systems (as needed)  
Information Systems 490 Independent Study in Information Systems (as needed)  
Information Systems 491 Current Issues in Management Information Systems (Sp)  
Information Systems 761 Information Systems (Sp)

*Complete course descriptions can be found in the Course Description section of the catalog.*