

# Department of Computer Information Systems

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**Business and Aerospace Building N333C**

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The mission of the Department of Computer Information Systems is to provide programs to prepare students to solve business problems through the use of computer information systems, computer tools, and techniques; to prepare students in the management of computer information systems; to provide foundation courses to students in other fields; to encourage intellectual contributions that advance the state of knowledge in the application of information technology and quantitative methods to the solution of business problems; and to promote the involvement of department members in service activities.

The Computer Information Systems program is designed to prepare the student to assume information systems/technology responsibilities in any organization. Exposure to a broad range of business functions coupled with learned information systems concepts and skills will serve the student well in positions such as computer programmer, database designer/administrator, data communications manager/specialist, systems analyst, computer marketing specialist, or information center specialist.

At least 50 percent of the required major hours must be taken in residence at MTSU for a major in Information Systems and 6 hours for a minor. All Information Systems majors have a built-in minor in Business Administration.

**Curricular listings include General Education requirements in Communication, History, Humanities and/or Fine Arts, Mathematics, Natural Sciences, and Social/Behavioral Sciences categories as outlined on pages 64–67.**

## Major in Information Systems

In addition to meeting the business requirements (see page 171), an Information Systems major consists of 30 hours of information systems courses. Majors must earn an overall minimum GPA of 2.00 in their required information systems courses.

The following 21 hours are required of all Information Systems majors:

INFS 2720	COBOL Applications
INFS 3200	Business Application Development
INFS 3700	Systems Analysis and Design
INFS 4760	Advanced Programming
INFS 4790	Database Design and Development
INFS 4900	Business Data Communications
INFS 4980	Information Systems Project

In addition, 9 hours of electives must be chosen from the following courses:

INFS 2200	Introduction to Microcomputing
INFS 2730	Programming Languages
INFS 3500	Decision Support Systems
INFS 3990/4990	Independent Study in Information Systems
INFS 4200	Data Enhanced Internet Applications
INFS 4420	Information Systems Internship
INFS 4500	New Technologies in Information Systems
INFS 4740	Information Resource Management
INFS 4830	Database Programming

The following is the required course outline for the Information Systems major with a minor in Business Administration.

### Required Program

#### Information Systems—B.B.A. Degree

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020 or 2030 or	
MATH 1630 or 1810 (Math)	3	HUM 2610 (Hum/FA)	3
COMM 2200 (Comm)	3	Humanities and/or	
Natural Sciences (2 prefixes)	8	Fine Arts (2 prefixes)	6
ECON 2410 (Soc/Beh Sci)	3	HIST 2010, 2020, or 2030	6
INFS elective	3	Social/Behavioral Sciences	3
Non-business elective	4	ACTG 2110, 2120	6
	<b>30</b>	ECON 2420	3
		Q M 2610	3
			<b>30</b>

JUNIOR		SENIOR	
Q M 3620	3	INFS 3200, 3700, 4760,	
ECON 3210	3	4790, 4900, 4980	18
BLAW 3400	3	INFS electives	6
INFS 3100	3	Q M 4010	3
MGMT 3610, 3620	6	B AD 4980	3
MKT 3820	3		<b>30</b>
FIN 3010	3		
BMOM 3510	3		
INFS 2720	3		
	<b>30</b>		

### Minor in Information Systems

A minor in Information Systems consists of 15 semester hours of coursework in information systems, 6 hours of which must be taken at MTSU. INFS 3100 and 3700 are required. In addition, 9 hours of approved INFS electives are required.

## Combined Minor in Accounting/Information Systems

A student may obtain a combined Accounting/Information Systems minor consisting of 18 semester hours which include ACTG 3000 (or 2110 and 2120), INFS 2200, 3100, and 3700, plus 6 hours of upper-division ACTG electives, not to include both ACTG 3310 and 3020. This is an excellent minor for students pursuing majors outside the Jennings A. Jones College of Business.

## Courses in Information Systems [INFS]

**1000 Introduction to Computers and Related Topics.** Three credits. An overview of the workings of a computer including hardware, software, and applications. Provides hands-on experience with various software packages. (Not open to business majors.)

**2200 Introduction to Microcomputing.** Three credits. Microcomputer applications and the microcomputer environment.

**2720 COBOL Applications.** Three credits. Prerequisite: INFS 2200 or permission of instructor. Systems of commercial computer programming using Common Business Oriented Language in solving business problems.

**2730 Programming Languages.** Three credits. Object-oriented programming methods. Topics include fundamental programming structures, objects and classes, encapsulation, inheritance and polymorphism, exceptions, graphical user-interfaces and event



handling, and file processing. Emphasis on practical applications of object-oriented concepts in business context.

- 3100 Principles of Management Information Systems.** Three credits. Prerequisite: Junior standing. The role of information technology in organizations.
- 3200 Business Application Development.** Three credits. Prerequisites: INFS 2200 or foundation knowledge of microcomputer applications; junior standing. An applications-oriented course; extensive laboratory work and development of projects.
- 3500 Decision Support Systems.** Three credits. Prerequisite: Junior standing. Focus on three subsystems of computer-based information systems: decision support systems (DSS), expert systems (ES), and executive information systems (EIS).
- 3700 Systems Analysis and Design.** Three credits. Prerequisites: 6 hours of information systems; junior standing. Applied system analysis and design (concepts and techniques) including problem definition, feasibility analysis, various modeling methods, hardware and software selection, documentation, physical design, and auditing procedures. Appropriate automated technologies used throughout the course.
- 3990 Independent Study in Information Systems.** One to three credits. Prerequisites: Junior standing and consent of department chair. Assigned research or projects in contemporary problem areas in the information systems discipline under direct faculty supervision. Aggregate credits allowable toward a degree may not exceed 3 hours under 3990 courses.
- 4200 Data Enhanced Internet Applications.** Three credits. Prerequisite: INFS 3200 or permission of instructor. Focus on database system design, deploying, maintaining, and querying a database using appropriate hardware and software. E-commerce applications in a microcomputer environment.
- 4420 Information Systems Internship.** Three credits. Prerequisites: Junior standing, consent of advisor, and a plan of activities with the associated firm prior to registration. Active employment with a governmental agency or business firm for information systems/accounting fieldwork; credit given for experience and research upon completion of acceptable work and formal report. Aggregate credits allowable toward a degree in information systems may not exceed 3 hours under 4420 courses.
- 4500 New Technologies in Information Systems.** Three credits. Prerequisites: 12 hours of information systems credit; senior standing. Future technological advances including automating the creation and maintenance of systems with CASE tools, systems engineering packages, and integrated CASE technologies.
- 4740 Information Resource Management.** Three credits. Prerequisites: 6 hours of information systems; junior standing. Information technologies utilizing computers as a competitive tool in a global environment.
- 4760 Advanced Programming.** Three credits. Prerequisites: INFS 2720; junior standing. Functional programming experience in structured programming techniques; top-down design; advanced file handling and maintenance techniques to include sequential, indexed sequential, direct, and relative file organization; interactive, menu-driven applications; and uploading/downloading programs to a central site. Requires extensive laboratory work.

**4790 Database Design and Development.** Three credits. Prerequisites: INFS 3200; junior standing. Fundamental concepts: conventional data systems, integrated management information systems, database structure systems, data integration, complex file structure, online access systems. Emphasis on total integrated information systems database and database management languages.

**4830 Database Programming.** Three credits. Prerequisites: INFS 2200, 3700, and junior standing. Operational database design and implementation. Includes the development of the interfaces that enable end users to query the database contents and transform data into information. Requires each student to participate fully in a group project.

**4900 Business Data Communications.** Three credits. Prerequisites: 6 hours of information systems; junior standing. Practical explanation of data communications technologies and basic applications for business. Includes projects to develop a prototype network in a lab environment for hands-on experience.

**4980 Information Systems Project.** Three credits. Prerequisites: Senior standing and 12 hours of information systems credit including INFS 3200 and 3700. Systems Development Life Cycle (SDLC) design and implementation. Appropriate automated technologies used throughout the course.

**4990 Independent Study in Information Systems.** One to three credits. Prerequisites: Senior standing and consent of department chair. Assigned research or projects in contemporary problem areas in the information systems discipline under direct faculty supervision. Aggregate credits allowable toward a degree may not exceed 3 hours under 4990 courses.

## Courses in Quantitative Methods [Q M]

**2610 Statistical Methods I.** Three credits. Prerequisite: MATH 1630 or 1810. Identification, interpretation, and use of statistical data. Topics include measures of central tendency, variation, probability theory, point and interval estimation, and hypothesis testing. Computer applications emphasized.

**3620 Statistical Methods II.** Three credits. Prerequisites: Q M 2610; junior standing. More advanced methods of statistical analysis including simple and multivariate tests of hypotheses, non-parametric methods, correlation, regression, and time-series analysis. Computer applications emphasized.

**3640 Introduction to Operations Research.** Three credits. Prerequisites: Q M 3620; junior standing. Optimization techniques used in business decision making.

**4010 Decision Science Techniques.** Three credits. Prerequisites: Q M 2610 and MGMT 3620; junior standing. Current topics of quantitative management decision analysis and modeling. Computer application emphasized.

## Graduate Study

Requirements for the Master of Science in Accounting/Information Systems and for the Master of Business Administration degrees and a list of the courses offered for graduate credit are published in the Graduate Catalog.