Department of Computer Information Systems and Quantitative Methods

Phone: (512) 245-2291   Office: McCoy Hall 404
Fax: (512) 245-1452   Web: http://www.cis.txstate.edu

Degree Program Offered

- BBA, major in Computer Information Systems

The mission of the Department of Computer Information Systems and Quantitative Methods is to provide optimal educational opportunities to students wishing to pursue professional careers related to information systems and information technology. The department strives to create an environment for preparing individuals for a lifetime of learning and growth by producing graduates who understand the concepts and uses of information technology and are capable of applying these concepts to business and government.

The computer information systems curriculum provides a strong foundation in the concepts and applications of information systems and technology in organizations. It gives CIS majors the opportunity to study enterprise design, business intelligence, database development, network and security administration, programming languages, and the integration of hardware and software systems with management practices. Students completing the prescribed program of study earn the Bachelor of Business Administration degree with a major in Computer Information Systems. CIS graduates pursue careers as IT integrators, global enterprise system architects, database administrators, network administrators, information security analysts, business systems analysts, application developers, digital-business solution developers, and information systems managers. Graduates work for technology companies, government agencies, accounting firms, oil companies, financial and insurance institutions, retail firms, manufacturing concerns, and consulting companies. Many of these are global enterprises.

Bachelor of Business Administration
Major in Computer Information Systems
Minimum required: 120 semester hours

General Requirements:
1. CIS advanced electives are to be chosen from: CIS 3360, 3372, 3375, 3389, 3390, 4318, 4322, 4332, 4348, 4349, 4350, 4358 and 4360.
2. Restricted advanced business electives: ACC 3313, BLAW 3362, ECO 3335, FIN 3313, MGT 4336, 4350, 4375, MKT 3370, 3387, and 4310.
3. Nine hours of designated "writing intensive" (WI) courses must be completed at Texas State to satisfy degree requirements.
4. See University College section for courses that satisfy literature and natural science components.

Freshman Year-1st Semester	Hours	Freshman Year-2nd Semester	Hours
ENG 1310	3	ENG 1320	3
HIST 1310 (WI at Texas State)	3	HIST 1320 (WI at Texas State)	3
MATH 1329	3	ART, DAN, MU, OR TH 2313	3
Natural Science Component	3-4	Natural Science Component	4
Physical Fitness & Wellness (PFW)	1	Physical Fitness & Wellness (PFW)	1
US 1100	1	CIS 1323 (Can test out for a fee)	3
Total	**14-15**	**Total**	**17**

Sophomore Year-1st Semester	Hours	Sophomore Year-2nd Semester	Hours
ACC 2361	3	ACC 2362	3
ECO 2314	3	ECO 2315	3
ENG 2310, 2320, 2330, 2340, 2359, or 2360	3	CIS 2324	3
POSI 2310	3	POSI 2320	3
QMST 2333	3	COMM 1310	3
Total	**15**	**Total**	**15**

Junior Year-1st Semester	Hours
BLAW 2361	3
CIS 3325	3
CIS 3374 (WI at Texas State)	3
CIS 3380	3
MGT 3303	3
Total	**15**

Junior Year-2nd Semester	Hours
QMST 3334	3
CIS 3382	3
FIN 3312	3
MGT 3353 (WI at Texas State)	3
MKT 3343	3
Total	**15**

Senior Year-1st Semester	Hours
Restricted Business Advanced Elective	3
CIS Advanced Electives	6
PHIL 1305 or 1320 (WI at Texas State)	3
Free Elective	3
Total	**15**

Senior Year-2nd Semester	Hours
CIS Advanced Electives	9
MGT 4335 (WI at Texas State) (Capstone)	3
Free Elective	1-2
Total	**13-14**

Courses in Computer Information Systems (CIS)

To enroll in upper-division computer information systems courses, students must satisfy all prerequisites, be classified as a junior or senior, and be in good academic standing.

1323 (BCIS 1305) Introduction to Microcomputer Applications. (3-0) This course develops advanced information technology skills, focusing on office productivity software. Primary emphasis is placed on spreadsheet, database, and presentation software. Advanced techniques are presented for use in data analysis and decision-making. Students will be expected to demonstrate mastery of these techniques in a hands-on environment. (MC)

2324 (BCIS 2316) Visual Programming I. (3-0) An introduction to application program development to include requirement analysis, design, implementation, and testing. A blend of structured and object-oriented concepts is used to form solutions to business problems using a visual programming language. Prerequisite: CIS 1323.

3317 E-Business. (3-0) Explores the constantly changing world of e-Business from an international perspective. This course will emphasize e-Business challenges and opportunities in the worldwide marketplace, while focusing on global issues of management, implementation, and integration of IT resources. Does not count for CIS advanced elective credit. (MC)

3325 Visual Programming II. (3-0) An advanced visual programming course covering topics related to the design and implementation of user interface, business logic and data access in a tiered architecture. The emphasis is on techniques that take advantage of a development framework through the use of forms, classes, and objects. Prerequisite: CIS 2324.

3360 e-Business Applications Design and Development. (3-0) The course focuses on designing effective e-business applications to support the e-business strategy of a company. It covers e-business models, business solution delivery strategy, web required architectures, and development and deployment of dynamic, multi-tiered, transaction-oriented, e-business applications in a business -to- business environment. Prerequisite: CIS 3325 and ACC 2362.

3372 Database Management and Retrieval. (3-0) Concepts and methods in design, establishment, and maintenance of the database for a management information system. Included are one-way lists, two-way lists, circular lists, trees, queues, tables, stacks, and directories. Emphasis is on construction of file organizations and retrieval methods for accessing the database. Prerequisite: CIS 3325.

(WI) **3374 System Analysis & Design.** (3-0) The analysis and general design phases of the system development life cycle are reviewed. Emphasis on techniques and tools for determining systems requirements that lead to the development of logical design models using structured and object-oriented methodologies.

3375 File Processing with COBOL. (3-0) Basic features of the COBOL language. Emphasis is on structured program development and file processing. Topics include file processing, sort feature, and subprograms. Prerequisite: CIS 3325.

3380 Enterprise Information Technology and Business Intelligence. (3-0) Students will extend their ability to effectively use integrated software applications to identify and provide access to various information sources. The course will focus on applying information and Internet Technologies that span normal business functions for the development and implementation of solutions to managerial problems. Prerequisites: CIS 1323, MATH 1329, and QMST 2333.

3382 Computer Data Base Systems. (3-0) Concepts and methodology of planning, design, development, and management of the computerized data base. The emphasis is on logical database design and a study of relational implementation. A relational DBMS with a relational query language is used for the development of a business application system. Prerequisites: CIS 3374 and 3380.

3389 Business Application Programming III. (3-0) This course will continue the study of business-oriented software development using an object-oriented programming language. Topics covered will include client/server object relationships, inheritance, polymorphism, encapsulation, inner classes, threads, GUI design, and the use of event models. Prerequisite: CIS 3325.

3390 Project Management for Business Professionals. (3-0) An introduction to project management body of knowledge as applied to Information Technology with emphasis on the management of scope, costs, schedules, quality and risks. Program management, system methodologies, material procurement, human, and international issues will be examined from the perspective of their impact on functional disciplines in the organization.

4318 Advanced Business Application Development. (3-0) Advanced use of information technology in the design and implementation of business applications to support electronic commerce. Concepts, methodology, and toolsets for designing, implementing, and management of applications in Business-to-Business paradigm. Prerequisites: CIS 3382 and 3325 or 3389.

4322 Computer System Development and Design. (3-0) A course that integrates systems development with analysis, design, project management, and the systems development life cycle. Object-oriented methods and UML models will be used to develop a project for a client. Students will select methodology, platform, and development technology based on client requirements. Prerequisites: CIS 3325 and 3382.

4332 Enterprise Resource Planning Systems. (3-0) The use of advanced information technology for integrating business functions in an enterprise through distributed databases is emphasized. Methodology and tools for the selection and implementation of Enterprise Resource Planning (ERP) systems are discussed. Students will use available ERP software to create, track and communicate enterprise information. Prerequisite: CIS 3380.

4348 Fundamentals of Data Communications. (3-0) A course oriented to the technical concepts of data communications and network designs and how they relate to contemporary computer end-user environments. It incorporates the systems approach for understanding, designing, managing, securing, and implementing data communication networks. Students will analyze and design data communication networks for various business situations.

4349 Advanced Database Management Systems. (3-0) This course introduces advanced concepts and database processes to support applications for Business Intelligence. Multi-dimensional modeling along with database, reporting, and analysis capabilities of a modern database environment will be used to design and develop stored procedures, views, user-defined functions, reports and multi-dimensional information cubes. Prerequisite: CIS 3382.

4350 Information Systems Security. (3-0) This course focuses on the technology and managerial issues related to information systems security. Topics include: Attack methods, access control, authentication, firewalls, incident and disaster response, disaster recovery, security function management, and cryptography. Prerequisite: CIS 4348.

4358 Network Administration. (3-0) This course provides students with an understanding of the responsibilities assigned to network administrators. Students will acquire a working knowledge of these responsibilities and skills using tools and technologies for administering enterprise networks via network operating systems commonly used in modern business enterprises.

4360 Developing Business Solutions for the Enterprise. (3-0) An introduction to the concepts, methodology, and toolsets for the architecture, design, implementation, and deployment of business solutions for the enterprise in a services-oriented computing environment. Topics include services-oriented architecture, "Software as a Service" framework, n-tier development of business and data services, and application security. Prerequisites: CIS 3325; CIS 3382.

4373 Special Topics in Computer Information Systems. (3-0) The study of advanced concepts and techniques of computer information systems. Content will vary according to the needs and interests of the students, and according to the latest state-of-the-art in computing. Prerequisite: Consent of the chair of the department.

4395 Independent Study in Computer Information Systems. (3-0) An in-depth study of a single topic or related problem solved through computer information systems research. May be repeated once for credit with a different emphasis. Prerequisite: Consent of instructor and department chair.

4399 Computer Information Systems Internship. (0-15) A one-semester course involving an internship in business information systems. Emphasis is on the application of computer information systems theory to business problems in the area of computer based management information systems. Prerequisite: Specified by employer with consent of instructor and department chair; Junior or senior standing.

Courses in Quantitative Methods (QMST)

2333 Business Statistics. (3-0) A basic introductory course covering descriptive and inferential statistical techniques for business and economic decision making. Topics include measures of central tendency and dispersion, probability distributions, sampling distributions, confidence intervals, hypothesis testing, simple linear regression, and correlation analysis. Prerequisites: CIS 1323; MATH 1329.

3334 Intermediate Business Statistics. (3-0) Students will learn to apply a broad range of statistical analysis techniques using statistical software in business decision-making. Topics include applied modeling techniques, such as regression modeling, time-series modeling and analysis of variance; non-parametric methods; quality control; and simulation. Prerequisite: QMST 2333.