4313 Internal Audit and Controls. (3-0) A study of the theory and practices relating to internal auditing. The course emphasizes the procedures used to evaluate and improve the effectiveness of risk management and control processes, including prevention and detection of fraud. Pre-requisites: ACC 3314 and 3385 with a grade of "C" or higher

4328 Survey of Income Tax. (3-0) An introduction to Federal income tax provisions, concepts and issues concerning individuals, business and property transactions. The coursework focuses on income and expense recognition as well as tax planning opportunities. Prerequisite: ACC 3313.

Department of Computer Information Systems and Quantitative Methods

McCoy Hall 404
T: 512.245.2291 F: 512.245.1452
www.cis.txstate.edu

DEGREE PROGRAM OFFERED
Bachelor of Business Administration (BBA), major in Computer Information Systems

CERTIFICATES OFFERED
Computer Information Systems

The mission of the Department of Computer Information Systems and Quantitative Methods is to provide relevant 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.

<table>
<tr><td colspan="2" align="center">Bachelor of Business Administration (BBA)
Major in Computer Information Systems
Minimum required: 120 semester hours</td></tr>
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General Requirements:
1. CIS advanced electives may be chosen from: CIS 3360, 3375, 3389, 3390, 4318, 4319, 4320, 4321, 4322, 4332, 4348, 4349, 4350, 4358, 4360, 4373, 4395 and 4399.
2. Restricted advanced business electives: ACC 3313, BLAW 3360, ECO 3335, FIN 3313, MGT 3360, 4375, MKT 3370, 3387, and 4310.

Freshman Year - 1st Semester		Freshman Year - 2nd Semester		Sophomore Year - 1st Semester		Sophomore Year - 2nd Semester	
Course	Hr	Course	Hr	Course	Hr	Course	Hr
ENG 1310	3	ENG 1320	3	ACC 2361	3	ACC 2362	3
POSI 2310	3	HIST 1310 (WI at Texas State)	3	ECO 2314	3	ECO 2315	3
MATH 1329	3	PHIL 1320 (WI)	3	ENG 2310, 2320, 2330, 2340, 2359, or 2360	3	CIS 2324	3
Life and Physical Sciences Component	3	Life and Physical Sciences Component	3	HIST 1320 (WI at Texas State)	3	POSI 2320	3
COMM 1310	3	CIS 1323 (Can test out for a fee)	3	QMST 2333	3	BLAW 2361	3
US 1100 (PACE Only)	1						
Total	16	Total	15	Total	15	Total	15

Junior Year - 1st Semester		Junior Year - 2nd Semester		Senior Year - 1st Semester		Senior Year - 2nd Semester	
Course	Hr	Course	Hr	Course	Hr	Course	Hr
ART, DAN, MU, or TH 2313	3	QMST 3334 or QMST 4373B	3	Restricted Business Elective	3	CIS Advanced Electives	9
CIS 3325	3	CIS 3382	3	CIS Advanced Electives	6	MGT 4335 (WI at Texas State) (Capstone)	3
CIS 3374 (WI at Texas State)	3	FIN 3312	3	Free Electives	6	Free Electives	1-2
CIS 3380	3	MGT 3453 (WI at Texas State)	4				
MGT 3303	3	MKT 3343	3				
Total	15	Total	16	Total	15	Total	13-14

Certificate in Computer Information Systems

Students who wish to pursue the Computer Information Systems Certificate are required to be a Texas State University Undergraduate degree seeking or post-baccalaureate student.

The certificate requires 18 hours. Students must complete CIS 2324, 3325, 3374, 3382, and 6 hours of electives from 3000/4000 level CIS courses excluding CIS 3317.

Courses in Computer Information Systems (CIS)

1323 (BCIS 1305, COSC 1301) 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.

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/MP)

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.

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. (WI)

3375 Enterprise Computing Skills using 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 or equivalent, and QMST 2333. (MC).

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 completion of or concurrent enrollment in CIS 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 Enterprise System Development and Application Security. (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 CIS 3325 or 3389.

4319 Mobile Application Development for Windows. (3-0) This course introduces the concepts, methodology, and toolset for designing business applications. Students will learn the MVC development framework and .Net programming environment for Windows to create interactive business applications. Prerequisite: CIS 3325.

4320 Mobile Application Development for Apple-iOS. (3-0) This course introduces the concepts, methodologies, and toolset for designing business applications for mobile devices such as iPhone and iPad. Students will learn the MVC development framework and Objective-C programming environment for Apple-iOS to create interactive business applications. Prerequisite: CIS 3325.

4321 Mobile Application Development for Android. (3-0) This course introduces the concepts, methodology, and toolset for designing business applications for mobile devices. Students will learn the MVC development framework and Java programing environment for Android to create interactive business applications. Prerequisite: CIS 3325.

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. Multidimensional 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. Prerequisite: CIS 4348.

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 and 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) This one-semester course involves 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.

Courses in Quantitative Methods (QMST)

2333 Business Statistics. (3-0) This introductory course covers 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 or equivalent. (MC)

3334 Statistical Modeling. (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.

4373 Special Topics in Quantitative Methods. (3-0) This course studies the advanced concepts and techniques of quantitative methods. Content will vary according to the needs and interests of the students, and according to the latest applicable mathematical concepts. Prerequisite: Consent of instructor and department chair.

4373A Applied Time Series. (3-0) This course will teach the fundamentals of time series methods to be applied on real-life data. The course focuses on application, however the methodology behind the models will also be discussed. Students will learn how to pick the appropriate method for the time series of interest. Prerequisites: Consent of instructor and department chair.

4373B Advanced Data Mining Topics. (3-0) This course will teach advanced techniques of data mining such as fuzzy approaches, memory-based reasoning, vector machines and genetic algorithms. Techniques will be applied to data sets expected in the business environment. Prerequisites: Consent of instructor and department chair.

Department of Finance and Economics

McCoy Hall 504
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www.fin-eco.mccoy.txstate.edu

Degree Programs Offered
Bachelor of Business Administration (BBA), major in Finance
Bachelor of Business Administration (BBA), major in Economics
Bachelor of Arts (BA), major in Economics

Minor Offered
Economics

The mission of the Department of Finance and Economics is to provide students involved in its educational programs an opportunity to recognize the importance of the life-long pursuit of truth, acceptance of individual responsibility, and contribution to the common good of society. Departmental programs seek to develop informed, critically thinking citizens capable of functioning in a highly complex, interdependent, global society. Majors are prepared for service, technical analysis, and management positions found in corporate, financial and public institutions. Majors also are prepared for financial planning services, teaching, and various graduate school programs.

The Department includes two closely related disciplines-finance and economics. Economics studies the use of scarce resources to satisfy unlimited wants. The department's introductory courses meet the need for basic economic and legal understanding in a complex modern society. Upper-division economics and business law courses build upon this foundation. Finance addresses the behavior and determinants of securities prices, portfolio management, and the management of corporate and public funds. In addition, the relationships among monetary policy, the banking system, and financial markets are analyzed.

Students completing one of the three curricula offered by the department earn a Bachelor of Business Administration with a major in either economics or finance, or they may earn a Bachelor of Arts with a major in economics. Finance graduates pursue careers in financial management, banking and other financial institutions, the securities industry, financial planning, and real estate. Economics graduates follow career paths similar to finance majors. Those with the BA degree often enter graduate or law school.