BUSINESS TECHNOLOGY

Department Code: BTE

Introduction

The Department of Business Technology serves the University as the focus for employing business technology and information management in the efficient solution of the entire range of business problems.

Today’s business and government organizations rely heavily upon information management for efficient administration and management. Collection, storage, and retrieval of data by computers are involved in the wide range of business activities including daily operations, management decision-making, and long-range planning. As the dependence of management on business technology grows, so does the need for business technology specialists. The courses and degree programs are described below.

Educational Objectives

The Business Technology major is designed to provide the student with the key information technology and management skills needed in today’s business environment, plus a firm grounding in the primary business areas in which these skills will be applied. Graduates of the program may qualify for entry-level positions as systems and/or information analysts, information security specialists, consultants, user support analysts, programmers, or other information management positions.

BTE 120. Introduction to Computer Information Systems. 3 Credit Hours.
An introduction to computers and information processing, with emphasis on application software. The course material includes: spreadsheet design and analysis, as well as the use of spreadsheet tools in facilitating decision making; relational database design and the development of database management tools; basic Internet terminology and Web design; development of team-work, presentation, and communication skills through presentation software; and the use of advanced word processing features to create a more efficient and productive working environment, as well as software application integration.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 210. Fundamentals Of Business Technology & Innovation. 3 Credit Hours.
This course covers the fundamental technologies used in business today. Topics include information technology platforms; enterprise technology concepts; network infrastructure; enterprise resource planning; information security; technology architectures; internet; cloud, mobile, and web platforms; analytical technologies; business intelligence; expert systems, and Big Data. Students work on an innovation project to create a specification/business canvas for a new technology product.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 230. Web-Mobile-Cloud. 3 Credit Hours.
Prerequisite: BTE 320.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 320. Introduction to Programming. 3 Credit Hours.
This course covers the fundamentals of programming logic and structured programming principles— including problem solving, algorithm design, and program development— using a high level programming language. Topics covered include fundamentals of algorithms, flowcharts, problem solving, programming concepts, classes and methods, control structures, arrays, and strings, pointers, and data structures. Requisite: Must be in School of Business Or have a CIS and CSC Major or Minor.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 324. Object-Oriented Programming. 3 Credit Hours.
This course introduces the concepts and fundamental techniques of object-oriented programming. Topics include: data abstraction, encapsulation, inheritance, polymorphism, class library, graphics/GUI, exception handling, multithreading, multimedia, files and streams, Internet applets, application development, integrated development environment, interactive program debugging and the eXtensible Markup Language (XML).
Prerequisite: BTE 320 or equivalent.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 360. Systems Analysis and Design. 3 Credit Hours.
This course introduces the techniques of systems analysis and design. Topics include: the Software Development Life Cycle (SDLC), Agile Programming, Extreme Programming, lean software development, Universal Modeling Language (UML), requirements modeling, data modeling, user interface design, data design, normalization, systems architectures, implementation methods, and testing methodologies.
Prerequisites: CIS 320 or CSC 120 or ECE 118 or equivalent.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 361. Design of Information Systems. 3 Credit Hours.
Continuation of CIS 360. Topics include concepts, tools, and techniques of systems design, prototyping, file/database design, and physical process modeling. Students work in groups to design an application system for a business related problem.
Prerequisite: CIS 360.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 389. Launching High Technology Ventures. 3 Credit Hours.
This course develops an understanding of the entrepreneurial processes as they apply to new technology ventures. Topics include: venture formation, venture and angel investments, innovation and creativity, business plan creation, human capital, ethics, and intellectual property.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 400. Web-Mobile-Cloud. 3 Credit Hours.
Prerequisite: BTE 320.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.
BTE 401. Computers In An Inter-Networked Society. 3 Credit Hours.
This course provides students with fundamental knowledge of the technology and tools that integrate big data, cloud, and mobile computing within a business and social context. Students will study these technologies and their impact on socioeconomic, political, organizational, and personal environments. The course covers the cultural components of a social media society and examines the systems and processes that need to be developed for effective management of that environment.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 410. Information Systems and Technology. 3 Credit Hours.
Course develops an understanding of the role of information technology within an organizational perspective. The course focuses upon the basic building blocks of information technology architectures and examines the issues facing a Chief Technology Officer in developing systems solutions. Topics include enterprise systems, database, decision support, intelligent systems, the Internet and e-business, as well as the ethical policy issues that affect systems architectures and their use.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

BTE 412. Foundations of Business Enterprise Technologies. 3 Credit Hours.
This course provides an understanding of the foundations of enterprise technologies. Topics include: making the business case for technology, distributed architectures, customer relationship management systems (CRM), enterprise resource planning systems (ERP), requirements modeling and design for enterprise systems, software development and outsourcing for the enterprise, enterprise productivity technologies (RFID, internet of things, machine data), 3D-design technologies, cloud technologies, and technologies for the global enterprise.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 413. Big Data Strategy. 3 Credit Hours.
This course provides an introduction to the area of business intelligence termed Big Data. The concepts of high volume, velocity, and variety data are examined. The course examines how big data can be used to create business intelligence strategies in the areas of marketing, product development, systems deployment, and innovation. The course utilizes business intelligence software and Structured Query Languages (SQL) to analyze data. Other Big Data topics covered include the ethics, security, streaming data, sourcing, emergent technologies, and international data regulations.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 417. Fundamentals of Tech Project Management. 3 Credit Hours.
This course is designed to provide the fundamental project management knowledge necessary for a business manager, consultant, project manager, IT professional, and/or team member to successfully initiate and plan IT and other business projects. It is structured to provide principles, methodology, and practical information through a combination of lectures, group collaboration and hands-on exercises. Emphasis is placed on the importance of standardization and best practices as defined by the PMI’s Project Management Body-of-Knowledge (PMBOK®).
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 420. Analysis of Information Systems. 3 Credit Hours.
Overview of the systems development life cycle (SDLC). Topics include concepts, tools, and techniques of systems analysis; data modeling; process modeling; CA SE tools; and the role of the systems analyst in the organization. Students will work in groups to analyze an application system for a business related problem. Prerequisite: Knowledge of a high level programming language.
Components: LEC.
Grading: GRD.

BTE 421. Design of Information Systems. 3 Credit Hours.
Continuation of CIS 420. Topics include concepts, tools, and techniques of systems design; prototyping; file/database design; and physical process modeling. Students will work in groups to design an application system for a business related problem. Prerequisite: CIS 420.
Components: LEC.
Grading: GRD.

BTE 423. Database Management Systems. 3 Credit Hours.
This course covers the foundations of database management systems (DBMS). Topics include: database systems design, SQL, the relational model, entity-relationship modeling, distributed DBMS, object DBMS, web technology and DBMS, semi-structured data, XML, business intelligence, data warehousing, data warehousing design, introduction to OLAP, and a brief overview of data mining. Students will engage in hands-on exercises for the design and implementation of database business applications. Prerequisite: BTE 320.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 430. Business Networks. 3 Credit Hours.
In this course, students will learn the underlying concepts and technologies in the field of business networks with specific focus on their applications in businesses. Topics covered include: network types, networking standards, protocols, and architectures; the characteristics of physical and logical networking components and technologies; the security issues that affect network systems and their implications on business applications; the technical and organizational issues concerning wireless networks; emerging networking technologies and software tools for designing and troubleshooting various aspects of networks.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.
BTE 450. Introduction to Health Informatics. 3 Credit Hours.
The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 465. Web Application Development. 3 Credit Hours.
This course will explore Internet and mobile application development methodologies. Topics include: HTML 5, CSS3, scripting languages (JavaScript); jQuery, AJAX, web services, Web Servers (IIS and Apache) and relational databases (MySQL/Apache Derby/Java DB)—all the skills and tools needed to create dynamic Web-based and mobile applications. The coverage will be both on the client side and the server side of Web-based applications, and the course will provide instruction on building rich Internet applications that enhance the presentation of online content and give web applications the look and feel of desktop applications. Students in the course will build Web-based, client/server, database-intensive, multi-tier, and mobile business applications.
Prerequisite: BTE 320.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 490. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 491. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 492. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 493. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 494. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 495. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 496. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 497. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 498. Topics in Computer Information Systems. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 499. Directed Study in Computer Information Systems. 1-3 Credit Hours.
Individually supervised investigation or research project in selected topics. Offered by special arrangement only. Approval of supervising professor as to topic and evaluation of project required at time of registration.
Components: THI.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 523. Big Data Development. 3 Credit Hours.
This course covers foundational techniques and tools required for data science and big data analytics. The course delivers a thorough overview of and hands-on experience with Big Data technologies, including: Hadoop, Mapreduce, Association rules, Large scale supervised machine learning, Data streams, Clustering, NoSQL systems (Casadenra, Pig, Hive), and applications, including recommendation systems, Web, and security. Students will also examine current research and publications in Data Science/Big Data Analytics, with emphasis on systems and algorithms for large-scale advanced data analysis.
Prerequisite: BTE 320.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 524. Mobile Apps Development. 3 Credit Hours.
This course covers the fundamentals of programming logic and structured programming principles—including problem solving, algorithm design, and program development for mobile environments—with a focus the Android Platform. The course introduces the requirements and methodologies for developing dedicated and client-server applications that target smartphones, tablet computers, and other mobile devices. Topics include: memory management, communications, power systems, APIs, and among others. The techniques studied are applicable to and can be transitioned to the iOS or Windows 8 platforms.
Prerequisite: BTE 320 And BTE 324.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.
BTE 535. Information Security. 3 Credit Hours.
This course introduces the principles of computer security. Information is an important strategic and operational corporate asset that needs to be protected from data breaches. This course investigates some of the security measures that can be employed to safeguard information and explores some of the tools and techniques used in designing these measures. Students will examine how system designs, network protocols, and software engineering practices can result in vulnerabilities. They will also explore how to detect and mitigate vulnerabilities in existing systems and, so, how to design and implement better future systems. Additional topics include ethical hacking, social engineering strategies, and other approaches to managing vulnerabilities.
Prerequisite: BTE 320.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 550. Computer Information Systems Internship. 1-3 Credit Hours.
Student is individually assigned to operating business firm or other organization to gain insight in information technology practice in the area of career interest. Periodic reports and conferences are required.
Components: THI.
Grading: SUS.
Typically Offered: Fall, Spring, & Summer.

BTE 565. Mobile to Cloud: Developing Distributed Applications. 3 Credit Hours.
This course introduces students to the basics of the emerging cloud computing paradigm. It also examines how to implement different algorithms for different applications in the cloud and how to deploy mobile applications in the cloud. The course covers the principles, systems, and applications of mobile cloud computing that integrates smart phones and tablets with virtualized distributed computing infrastructure. Students will learn the fundamentals of a variety of systems such as virtual machines, the principles and practices of client/server architectures, the concepts and practices of Infrastructure, Platform, and Software as a Service (IaaS/PaaS/SaaS), cloud platforms such as Google App Engine, Microsoft Azure, and Amazon Web Services(AWS), as well as security issues.
Prerequisite: BTE 320 And BTE 324.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 572. Intr Exp Sys For Mgt. 3 Credit Hours.
Components: LEC.
Grading: GRD.

BTE 590. Topics in Computer Information Systems. 1-3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.