BUSINESS TECHNOLOGY (BTE)

BTE 120. Introduction to Computer Information Systems. 3 Credit Hours.
This course covers the fundamentals of computer information systems used in business today. Topics include database management, data organization, relational databases, decision support systems, and the ethical considerations. Prerequisite: Must have a CIS and CSC Major or Minor plan.

Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 210. Fundamentals Of Business Technology & Innovation. 3 Credit Hours.
This course covers the fundamentals of technology 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 220. 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 have a CIS and CSC Major or Minor plan.

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: CIS 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 400. Web-Mobile-Cloud. 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 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; CAE 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 422. 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: CIS 360.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

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.

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. Prerequisites: CIS 324, CIS 361, CIS 423, CIS 430.
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 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.
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 on 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.
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.
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, 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.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 613. Business Intelligence Technologies. 2 Credit Hours.
Course facilitates business decision makers in their understanding of data analysis tools that operate over data warehouses and ‘data marts’ more commonly referred to as Business Intelligence. Course focuses upon using technologies to drive effective data driven decision making through effective mining of corporate data warehouses, thus improving operational efficiency and ultimately increasing profitability. Students are exposed to the concepts, analysis techniques, data cubes, and manipulation of information extracted from a data warehouse that enables the formulation and execution of business strategies. Data analysis case studies are used to reinforce students’ understanding and strategic use of results to accomplish business objectives.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 617. Information Technology Project Management. 2 Credit Hours.
Course covers the identification and development of information technology plans for projects supporting the organization’s business objectives and all activities required in the initiating, planning, executing, controlling, and closing phases of the project’s lifecycle. Course is intended to provide the body of knowledge and best practices necessary for a new Consultant, Business Analyst or Project Manager to successfully perform his/her responsibilities on a wide variety of IT enterprise projects.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 621. Management Information Systems. 3 Credit Hours.
Course is designed to give prospective managers a foundation in MIS sufficient to understand and effectively use information systems. Topics include types of information systems, role of MIS in organizations, CIO issues, ERP systems, and electronic commerce.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 623. Database Management Systems. 3 Credit Hours.
Course covers the fundamental concepts of database management systems using the Oracle DBMS. Topics include database theory and terminology, logical modeling, normalization, SQL language, database design and implementation, database administration, data security, database transaction/concurrency, and data backup.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 624. Mobile Apps Development. 3 Credit Hours.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.
BTE 630. Fundamentals of Local and Wide Area Networks. 3 Credit Hours.
Course provides the graduate student the necessary knowledge to understand the design, integration, technologies, and services of local and wide area networks (LANs and WANs) in the business environment. Topics include signal transmission and propagation, standards and protocols, data communications media and devices, layered/encapsulated communications based on the hybrid TCP/IP-OSI standards, small and large site PC LANs, Frame Relay, ATM, Virtual Private Networking (VPN), Telephony, Internet technologies, and network security.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 631. Computer and Network Security. 3 Credit Hours.
Protection of computers and networks against unauthorized access, access control, encryption, firewalls, proxy, digital certificates, and software security are discussed.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 635. COMP COMMUN SECURITY. 3 Credit Hours.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 640. Data Communications and Networking. 3 Credit Hours.
Course addresses advanced topics in computer networks from the perspective of a business decision-maker. The course begins with a focus on signal propagation, media characteristics, and digital and analog encoding techniques. It continues with a study of datalink, network, and transport layer functions as defined by the OSI and TCP/IP models. The architecture of the Internet is explored and routing algorithms for wired, wireless, and peer-to-peer networks are introduced. Course concludes with a high-level overview of the top OSI layers. After taking the class the students should be able to critically evaluate network solutions based on the capabilities and limitations of the equipment.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 646. IT Planning and Project Management. 3 Credit Hours.
Course covers the development of information technology strategic and tactical plans for projects supporting the organization's business objectives and project management as applied to planning, implementing, controlling networking, information systems and e-commerce projects. Course is intended to provide a body of knowledge necessary for a new Consultant or Project Manager to successfully initiate, plan, manage, control, and report on a variety of project types. People skills required in the areas of team selection, structure, conflict resolution, and leadership is also covered.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 650. 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 660. Computer Information Systems Graduate Internship. 1-3 Credit Hours.
Student is individually assigned to an operating business firm or other organization to gain insight and experience in information technology practice in area of career interest. Periodic reports and conferences are required. This course can only be taken as "satisfactory/unsatisfactory."
Components: THI.
Grading: SUS.
Typically Offered: Offered by Announcement Only.

BTE 665. Applied Software Project Development. 3 Credit Hours.
Advanced concepts and techniques in application project development. Topics include project management, program testing, documentation, application installation, and application maintenance. Students will work on a group project to sharpen their implementation skills. Prerequisite: CIS 223 or 226 or equivalent.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 680. 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 682. 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 684. 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 685. 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 686. 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 687. 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 688. 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 689. 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.

BTE 690. Directed Study in Computer Information Systems. 1-3 Credit Hours.
Investigation and research in special areas of interest. Offered by special arrangement.
Components: THI.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 691. Directed Study in Computer Information Systems. 1-3 Credit Hours.
Investigation and research in special areas of interest. Offered by special arrangement.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 699. Directed Study. 1-3 Credit Hours.
Offered by special arrangement.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.