BUSINESS TECHNOLOGY (BTE)

BTE 120. Introduction to Business Technology and Programming. 3 Credit Hours.
This Course covers the fundamentals of technology focusing on programming logic and structured programming principles including problem solving, algorithm design, and program development using Python The course introduces the student to object-oriented programming through a study of the concepts of program specification and design, algorithm development, and coding and testing using a modern software development environment. Students learn how to write programs in an object-oriented high-level programming language (Python). Topics covered include fundamentals of algorithms, flowcharts, problem solving, programming concepts, classes and methods, control structures, arrays, and strings, data structures and object oriented programming. Throughout the semester, problem-solving skills will be stressed and applied to solving computing problems. Weekly assignments will provide hands-on experience in topics covered in this course.
Components: LEC.
Grading: GRD.
Typically Offered: Summer.

BTE 210. Fundamentals of Business Technology and 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.
Requisite: Miami Herbert Business School.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

BTE 271. Generative AI for Business Technology. 3 Credit Hours.
AI is altering conventional business models in unprecedented ways thanks to recent developments in machine learning, automation, and natural language processing, among others. It is also poised to spur innovation and evolution across industries. Organizations that adopt AI will be empowered to open new opportunities, realize operational efficiency, and drive sustainable development. Generative AI, specifically, is poised to revolutionize the business landscape by offering a transformative competitive advantage to organizations across various sectors. This technology's ability to generate human-like text, images, and even entire applications enables unprecedented levels of automation, personalization, and creativity. Businesses can harness generative AI to streamline content creation, automate customer interactions, and develop hyper-personalized marketing campaigns. Moreover, it facilitates rapid prototyping and innovation, enabling companies to swiftly adapt to changing market dynamics. With the power of generative AI, organizations can unlock new efficiencies, engage customers more effectively, and stay at the forefront of their industries, redefining how they operate and thrive in an increasingly digital world. Several case studies and group projects are introduced to reinforce students' understanding and applicability of the topic.
Prerequisite: BTE 210 or BUS 150 or equivalent.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 320. Python Programming: Fundamentals and Algorithms. 3 Credit Hours.
This course covers the fundamentals of programming logic and structured programming principles in Python 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, lists, tuples, dictionaries, arrays, and strings, pointers, and data structures.
Requisite: Miami Herbert Business School or BTEC Minor.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

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 BTE 420.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 360. Systems Analysis and Design. 3 Credit Hours.
Through systems design and analysis, students will understand how technologies make (or break) companies, which in turn transform industries, which in turn shape the future. The course inculcates an innovative/entrepreneurial mindset, leveraging strong business fundamentals and critical thinking skills, to develop principled leaders who will transform business and society. The case-based approach covers the following: identifying needs, feasibility analysis, requirements modeling, development strategies, data and interface design, process design, designing for future trends, systems implementation, system maintenance and enhancement, anticipating future threats, disaster recovery planning, and scaling.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 361. Design of Information Systems. 3 Credit Hours.
This course develops an understanding of software design methods that range from the mathematical models used for high security systems through to agile, rapid development methods used for commercial business systems. The course discusses many methods practitioners will need to develop and maintain working software systems, their utility, cost to implement and role in the software developer's toolbox. Topics include Agile, SaFE, Formal Methods, Continuous delivery model, dedicated agile and waterfall methodologies.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 371. Foundations of AI for Business Technology. 3 Credit Hours.
The fields of business analytics, data science, decision support system, business intelligence, and artificial intelligence (AI) are evolving rapidly to become more focused on innovative methods. This course focuses on how those fields integrate for enterprise decision support, emphasizing the understanding of core AI methodologies, including robotics, chatbots, natural language processing, & IoT, and how all those are seen as enablers of automation and productivity. AI and analytics support each other by creating the synergy that assists decision-making; businesspeople and entrepreneurs must know what's happening "behind" such systems and be able to recommend AI solutions to real-life problems. Case studies and group projects are introduced to reinforce students' understanding and applicability of the studied strategies and interpret results to accomplish business objectives.
Pre-Requisite BTE 210.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 389. Launching HighTechnology 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 angle investments, innovation and creativity, business plan creation, human capital, ethics, and intellectual property.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 400. Web-Mobile-Cloud. 3 Credit Hours.
This course introduces the basics of the cloud computing paradigm and examines how to implement different algorithms for different web and mobile applications in the cloud. The course covers the principles, systems, and applications of cloud computing that integrate web applications, smart phones, and tablets with cloud computing infrastructure. The student will be introduced to the basics of Infrastructure, Platform, and Software as a Service (IaaS/PaaS/SaaS), as well as to cloud platforms such as Google App Engine, Microsoft Azure, and Amazon Web Services (AWS).
Prerequisite: BTE 320 or BTE 420.
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: Offered by Announcement Only.

BTE 403. AI Cloud Computing. 3 Credit Hours.
This course explores the integration of artificial intelligence and cloud computing to support scalable, data-driven decision-making. Students will learn the fundamentals of cloud computing architecture, platforms, and tools that enable the deployment of AI solutions in cloud environments. Key topics include cloud infrastructure, APIs, serverless computing, containerization, and cloud-based AI services for business applications. Course labs will focus on the Azure, Google Cloud and AWS cloud platforms, Huggingface, Langchain, and technologies such Pinecone Vector Database on Cloud allowing students to gain practical experience building and managing AI-driven systems demonstrating how cloud-enabled AI transforms operations in areas such as customer analytics, supply chain optimization, and digital strategy.
Prerequisite: BTE 320 or BTE 420.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 412. Foundations of Business Enterprise Technologies. 3 Credit Hours.
This course provides an understanding of the foundations of enterprise technologies. Topics include: Blockchain, cryptocurrency, 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.

BTE 413. Introduction to Machine Learning in Business Technology. 3 Credit Hours.
The course examines the best strategies to design, acquire, and build technologies to use big data to create business intelligence strategies in the areas of marketing, product development, systems deployment, and innovation. The course will also cover the basic concepts of machine learning and demonstrates its application in business technology using Python programming language.
Prerequisite: BTE 320 or BTE 420.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 414. Machine Learning Applications in Business Technology. 3 Credit Hours.
This course covers the statistical concepts and application of supervised and unsupervised machine learning algorithms, including image recognition and natural language processing, in business technology using Python programming language.
Prerequisite: MAS 202 or MAS 311 or ISE 311 or MTH 224 or equivalent.
Components: LEC.
Grading: GRD.
Typically Offered: 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. Python Programming for Fintech. 3 Credit Hours.
The course covers the fundamentals of object-oriented programming, logic and structured programming principles including problem solving, algorithm design, and program development using Python with focus on financial programming applications. Topics covered include fundamentals of algorithms, flowcharts, problem-solving, programming concepts and methodologies, control structures, arrays, and strings, classes and class-methods, data structures and object oriented programming concepts including classes, methods, inheritance and polymorphism.
Requisite: Sophomore Standing.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 421. Blockchain and Distributed Computing. 3 Credit Hours.
The course introduces the foundations of blockchain software development. The development environments of popular blockchain technologies such as Bitcoin, Ethereum and lightning networks will be examined. Topics include: Blockchain software environments, blockchain languages, decentralized application development, smart contracts, cryptographic algorithms, hashing, digital signatures, NFTs and mining software-technologies.
Prerequisite: BTE 320 or BTE 420.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 422. Tech Foundations of Fintech. 3 Credit Hours.
The course covers multiple disciplines of technology and how they are individually and collectively applied in financial systems, transactions, payments, and data lifecycles. The course aims to develop a student's understanding of key technological components such as cloud computing, Internet of Things(IoT), Big Data and Machine Learning, Artificial Intelligence, Blockchain technologies, data security, privacy and technology regulations as they relate to financial transactions, financial institutions, public and private business entities, governments, regulations and an overall monetary system.
Requisite: Sophomore Standing.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

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 or BTE 420.
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: Offered by Announcement Only.

BTE 440. Advanced Programming with Generative AI. 3 Credit Hours.
This course offers an advanced exploration of programming through the innovative use of generative AI. Designed for students with a foundation in programming, it extends beyond basic coding to apply AI tools in writing, analyzing, and optimizing code across multiple languages, including Python, Java, Rust, Go, etc. Key projects include i) translating legacy code from languages like Fortran, COBOL, or Pascal into modern, efficient equivalents using AI, and ii) developing production-level code from scratch. The course also emphasizes applying these skills in solving real-world business problems, including automation, data processing, and optimizing business workflows. The course provides step-by-step training on setting up code editors (e.g., VS Code), and APIs to advanced generative AI tools such as OpenAI's ChatGPT and Anthropic's Claude.
Prerequisite: BTE 320 or BTE 420.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & 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: Fall.

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 or BTE 420.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 471. AI Programming for Business Management. 3 Credit Hours.
Artificial intelligence (AI) is the science and engineering of making intelligent systems and machines. It is a field rooted in the discipline of computer science while drawing on insights from philosophy, mathematics, psychology, neuroscience, and more. This course introduces AI findings, techniques, and programming. The curriculum for this class has been designed to cover a moderately broad range of foundational topics, including heuristic search, logical reasoning, planning, reasoning under uncertainty, machine learning principles, and their application to business problems. This course's general educational goal is to familiarize students with the significant problems and methods addressed within these foundational areas, allowing students to recognize system development situations in which these techniques might be fruitfully applied. In addition, this course is designed to make students capable of working with programming solutions to such AI problems.
Prerequisite: BTE 210 and BTE 320 or BTE 420 or equivalent.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 496. Directed Studies in Business Technology. 1-3 Credit Hours.
Supervised readings, individual research project, or independent investigation of selected non-STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.
Components: THI.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 497. Directed Studies in Business Technology. 1-3 Credit Hours.
Supervised readings, individual research project, or independent investigation of selected STEM related problems in the discipline. Offered only by special arrangement with supervising faculty member, who approves topic and evaluation process at time of registration.
Components: THI.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 498. Special Topics in Business Technology. 3 Credit Hours.
Special topics in selected non-STEM areas of Business Technology.
Requisite: Sophomore Standing or Higher.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 499. Special Topics in Business Technology. 3 Credit Hours.
Special topics in selected STEM areas of Business Technology.
Requisite: Sophomore Standing or Higher.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

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 or BTE 420 and BTE 324.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 535. Cybersecurity. 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. Additional topics include ethical hacking, social engineering strategies, and other approaches to managing vulnerabilities.
Requisite: Sophomore Standing or Higher.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 550. Business Technology 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: Offered by Announcement Only.

BTE 555. Business Technology Departmental Honors Research Project. 3 Credit Hours.
Research project to fulfill requirements for Departmental Honors in Business Technology.
Components: THI.
Grading: SUS.
Typically Offered: Offered by Announcement Only.

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 or BTE 420 and BTE 324.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 601. Python Programming. 2-3 Credit Hours.
This course covers the fundamentals of programming logic and structured programming principles including problem solving, algorithm design, and program development using Python. The course introduces the student to object-oriented programming through a study of the concepts of program specification and design, algorithm development, and coding and testing using a modern software development environment. Students learn how to write programs in an object-oriented high-level programming language Python. Topics covered include fundamentals of algorithms, flowcharts, problem solving, programming concepts, classes and methods, control structures, strings, and data structures. Throughout the semester, problem solving skills will be stressed and applied to solving computing problems. Weekly assignments will provide hands-on experience in topics covered in this course.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 603. Data-Driven Decision Making. 2-3 Credit Hours.
Course is designed to provide prospective managers and employees a deep understanding of the principles of data-driven decision making and the relevant tools. Topics include information architecture of a modern organization, data-driven business models, analytical paradigms, analytical thinking, decision making biases, and analytical tools for business decision making. This class combines lectures, discussions, and hands-on exercises that in tandem help students understand the data-driven decision-making lifecycle and toolkits.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 608. Technology and Innovation. 1 Credit Hour.
The focus of this course is two-fold. First, it deals with some of the digital innovations shaping our businesses. We look into some of the core technologies such as blockchain and machine learning. We examine closely the way by which such technologies become the basis for innovation processes with the potential to change companies and even industries. In doing this, platforms and platform architectures are covered. Second, the course covers the strategic management of technology innovation. It deals with the industry dynamics of technological innovation as it is expressed in terms of standards battles, modularity, and platform competition. It furthermore deals with how to formulate and implement technological innovation strategies.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 609. Artificial Intelligence for Business. 1-3 Credit Hours.
The unprecedented improvement in the performance-price ratio of computer processing technology and data storage and management, as well as the use of more advanced algorithms, has moved machine learning from IBM's Pughkeepsie Laboratory in the 1950s to the heart of today's most successful platform businesses. Examples such as GE Healthcare's Edison, Skype's recommendation engine, and IBM Watson witness of new interesting applications of artificial intelligence, promising to shape our future businesses. We are indeed increasingly recognizing how this potential is turning into a new business reality. The pervasive use of artificial intelligence as reflected in, for instance, self-driving cars, robotic technology, and language technology is impressive in itself. It promises to challenge what we know about transportation, service work, intellectual activity, and so on. In this regard, digital technology is no longer merely a way of more efficiently supporting business processes, but also something that will strategically shape the core of what companies do. At the same time, for the individual firm, turning the promise of artificial intelligence into successful business application can be challenging. The firm needs to develop its AI capability and use that capability to improve its products and services. This course deals with the factors that facilitate business use of artificial intelligence including AI capability, data management, user-centered design, and platform governance.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 610. Digital Transformation. 2 Credit Hours.
Course is designed to give prospective managers and line employees an understanding of how technology can be used to transform business and how organizational change occurs in that context. Topics include technology platforms and solutions, design thinking, technology-business models, technology leadership issues, managing technology change, and innovation through technology.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 611. Blockchain and the Internet of Value. 1-3 Credit Hours.
The course deals with blockchain technology and its promise for a variety of business applications. It offers basic knowledge of blockchain as it manifests in its business models, use cases, and technology. It then covers themes such as decentralized finance, the crypto ecosystem, on-chain analysis, regulation, tokenization, non-fungible tokens, and global perspectives on blockchain adoption and diffusion.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 612. Cloud Technologies. 2-3 Credit Hours.
Course addresses the needs of business students who wish to expand their understanding of cloud technology fundamentals. Focusing upon their use in today's enterprises, the course aims to provide students with knowledge of a variety of technological cloud concepts commonly used in the IT Organization's systems development initiatives and enables students to understand the implications of deploying such technologies within the enterprise.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

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: Fall & Spring.

BTE 614. Launching a High Tech Venture. 2-3 Credit Hours.
This course develops an understanding of the entrepreneurial processes as they apply to new technology ventures. Topics include: venture formation, venture and angle investments, innovation and creativity, business plan creation, human capital, ethics, and intellectual property.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 615. Enterprise Analytics. 2-3 Credit Hours.
This course aims to create an understanding of how organizations create, develop and maintain enterprise analytics. The course follows the literature of thought leaders such as Tom Davenport and shows strategies for integrating analytics across organizational silos, developing leadership structures in the technical group, identifying the best targets for results in the expanding data landscape, managing scarce human and technical resources and maintaining an analytical focus.
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: Offered by Announcement Only.

BTE 620. Database Development for High Performance Computing. 2 Credit Hours.
Course enables software developers to understand the fundamental database concepts, practice, and emerging trends in relational database design and implementation for high performance computing. Formal query languages are covered including SQL, No SQL and relational object-orientated databases are examined. Other topics include database performance tuning and query optimization, distributed database systems, administration and security.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 621. Management of Digital Transformation. 2-3 Credit Hours.
Course is designed to give prospective senior managers an understanding of how technology can be used to transform business. Topics include technology platforms and solutions, design thinking, technology-business models, technology leadership issues, managing technology change, and innovation through technology.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 622. High Performance Computing. 2 Credit Hours.
The course is designed to introduce HPC and Big Data Compute environments. Topics include: Cloud concepts, container concepts, distributed file systems, dockers, fundamentals of the ETL process, introduction to the Hadoop environment, Pig, Hive and JAQL, BigSQL, and SQL.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 623. Database Management Systems. 2-3 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.
The course covers the programming languages associated with the iPhone application. Topics include the development platform, the libraries used, memory management, communication and power systems, APIs and tools associated with application development for the mobile environment.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 625. Managing Smart Contracts. 2-3 Credit Hours.
The course provides an introduction to Ethereum including programming smart contracts. The course will give students a good grasp of using the fundamental tools of Ethereum. With this course, students will become technically enabled to enter the world of blockchains and start creating decentralized applications (dapps). In addition to the skills developed in this course, students will also learn about key concepts including blockchain-based apps, contracts, and transactions that will allow them as a future entrepreneur or manager to envision and lead blockchain-based innovation and transformation initiatives.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 635. Cybersecurity. 2-3 Credit Hours.
The course covers technical and managerial aspects associated with the deployment of mobile communication platforms such as phones and tablets. The course investigates and introduces some of the security measures that can be employed to safeguard these devices and explores some of the tools used in designing these measures. Topics includes: Ethical Hacking, social engineering strategies, and other approaches to managing these vulnerabilities.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 646. Product Management in the Digital Age. 2-3 Credit Hours.
This course offers the fundamentals of product management and the variety of skills that a product manager needs to succeed across the digital product innovation process. The course deals with the exploration, execution, and business model phases of product management. As such, it covers the role of a product manager, the changing nature of products, customer-centric inquiry, data analytics for product development, prototyping, product releases, product road mapping, management of cross-functional teams, project management metrics and execution, agile work, product scaling, product ecosystem, product design ethics, and so on.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

BTE 650. Introduction to Health Informatics. 2-3 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: Offered by Announcement Only.

BTE 652. Business Technology Capstone. 2 Credit Hours.
The Business Technology Capstone course provides students with practical, hands-on research experience and gives them an opportunity to apply the skills learned throughout the degree to a real-world technology related project. Working either through a meta-study of data and methods from the research literature or closely with a sponsor organization, student teams will solve a relevant business problem using the methods, tools and techniques from business technology. Students can expect to be exposed to the entire spectrum of Business Technology topic areas; from digital transformation, platform systems, ethical issues, data systems and architectures, crypto-blockchain and AI. As part of their study students will practice effectively communicating with stakeholders involved in the research data, methods, subject problem area and outcome metrics.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 661. Artificial Intelligence: Principles and Techniques. 2-3 Credit Hours.
This course will teach the foundations of AI, giving students a technical but practical understanding of the field. The course covers the core concepts of AI, including but not limited to heuristic search, knowledge representation and reasoning, prediction, cognitive computing, natural language processing, vision, robotics, and IoT as a platform for AI applications.
Components: LEC.
Grading: GRD.
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: Offered by Announcement Only.

BTE 680. Topics in Business Technology. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 682. Topics in Business Technology. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 684. Topics in Business Technology. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 685. Topics in Business Technology. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 686. Topics in Business Technology. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 687. Topics in Business Technology. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 688. Topics in Business Technology. 3 Credit Hours.
Topics in selected areas of specialization.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 689. Topics in Business Technology. 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 Business Technology. 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 Business Technology. 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 692. Digital Innovation: Emerging Business Technologies. 3 Credit Hours.
The objective of the course is to familiarize the student with recent developments in research at the intersection between digital innovation and emerging technologies such as artificial intelligence, blockchain technology, and platforms. The course is intended to generate an understanding of the theoretical, empirical, and methodological foundations of digital innovation research across emerging business technologies.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 693. Computational Methods and Field Experiments. 2-3 Credit Hours.
The use of computational methods for collecting and analyzing data is becoming increasingly important in the social sciences in general and business technology in particular. The objective of the course is to familiarize the student with computational methods in business technology research and beyond. The focus is on methods and practices that help the researcher to design experiments, develop technologies to collect data, and deploy novel methods to analyze such data.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 694. Phenomenon-Driven Theory Development. 3 Credit Hours.
The objective of the course is to familiarize the student with theory development in business technology research and beyond. The focus is on methods and practices that help the researcher to develop theories that are interesting, rigorous, and valid.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

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

BTE 751. Empirical Faculty Research Design and Applications. 3 Credit Hours.
This course is designed to provide a fundamental understanding of methodological concepts as well as up-to-date skills in applying various experimental and non-experimental analytical techniques for designing empirical studies. The course is designed broadly for PhD students in business schools, and the concepts and applications covered in this course are useful for both micro and macro empirical (experimental and observational) studies that require causal inference.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 752. Doctoral Seminar on Artificial Intelligence in Business Research. 3 Credit Hours.
The advancement of artificial intelligence (AI) in recent years has attracted much research attention across multiple disciplines in business research, including but not limited to Information Systems, Marketing, Finance, Accounting, Management and Organizations, Operations, and Economics. This doctoral seminar provides a comprehensive exploration of AI research in business scholarship, with a focus on the extant literature in Information Systems and related disciplines. Upon completion of the seminar, students will have acquired knowledge on the key topics related to AI in business research, such as the historical evolution of AI, its economic, managerial, and societal implications, AI's role in firm strategy, human-AI collaboration, and ethical considerations in AI-driven decision-making.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

BTE 771. Theory and Foundations of Scholarly Research. 3 Credit Hours.
This course gives executives a comprehensive understanding of the research process. They will learn how to effectively formulate a research problem and motivate a compelling research question. Furthermore, they are taught to synthesize relevant literature and draw on appropriate theoretical perspectives, enabling them to develop robust hypotheses. Executives are introduced to a curated selection of theoretical frameworks, examining their potential roles in answering applied, practitioner-based questions. The course prioritizes practical application over theoretical discussion, emphasizing theories that are backed by evidence. It explores management and organization theories, applying these to real-world problems across various industries and contexts.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 772. Creating Impactful Business Knowledge. 3 Credit Hours.
This course demonstrates how executive doctorates can create new business knowledge. Sessions discuss cutting edge business and societal challenges and examine both relevant theories and exemplary applied research to illustrate ways to frame research. Executives will present specific research questions related to a cutting-edge topic and discuss ways to collect data, develop frameworks, model problems, and/or test hypotheses to address these challenges. Feedback from faculty and their cohort on their presentations will help executives gain an understanding of how to best utilize research methods to shape a program of study for creating impactful business knowledge. The course will also assess ways of disseminating knowledge through internal channels (e.g., white papers) and external publications (e.g., practitioner or academic journals, books). The course provides early critical insights into the process of developing a dissertation that will create applied scholarship.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 773. Generating Business Insights Using Qualitative Analysis. 3 Credit Hours.
This course introduces executives to qualitative research methods, such as case study research, action research, and grounded theory. It discusses the relative strengths and weaknesses of each approach and provides practical examples of their use. The course also covers several widely used data collection techniques in qualitative research, such as interviews, participant observation, fieldwork, and document analysis. It addresses research design issues specific to qualitative or small sample studies, exploring concepts like reliability and validity. Additionally, the course introduces executives to the Institutional Review Board (IRB) process.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 774. Generating Business Insights Using Quantitative Analysis 1. 3 Credit Hours.
This course introduces executives to quantitative research methods used to glean insights from data that is collected (from surveys, observation, lab, field, or online experiments, business operations, etc.) or obtained from private (e.g. financial market databases) or government (e.g. economic data) databases. The first part of the course focuses on problems that researchers typically encounter in data sets, such as biases created from non-responders of surveys, outliers, and differences between participants and non-participants in standard datasets. The second part of the course introduces executives to statistical tools used to analyze the data and test hypotheses. The course demonstrates how to convert a research question into a testable hypothesis and what assumptions about the data are required to make the test valid. Finally, the course focuses on to what extent the results can be generalized across time, geographic areas, and industries (external validity).
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 775. Introduction to Foundational Business Theories. 3 Credit Hours.
This course explores seven foundational business theories: Scientific Management Theory; Principal-Agency Theory; Supply and Demand; Institutional Theory; Theories of Competition; Organizational Design; and Theories of Leadership. Sessions will discuss readings that detail the basic tenants of each theory, with a focus on assessing how experience and practice align with, or run contrary to, theoretical assumptions and mechanisms. Students will debate prominent business theories to integrate their personal experience with scholarly knowledge to better explore evolving approaches to business and organization that drive competition and organizational performance. Developing an understanding of these foundational business theories will help students develop applied research that is rooted in appropriate theoretical frameworks.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 776. Generating Business Insights Using Quantitative Analysis 2. 3 Credit Hours.
This course introduces executives to advanced quantitative research methods, which are statistical methods that can answer executives' research questions in a more robust and meaningful way. The methods include non-linear regression methods and regression methods used to establish causality and account for unobserved variables.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

BTE 777. Decision Making and Creative Thinking. 3 Credit Hours.
This course will introduce executives to fundamental concepts, theories, and models that underpin decision-making processes. Emphasis is placed on understanding the psychological, social, and cognitive biases that influence decision-making, as well as the tools and strategies to improve decision outcomes in organizational and societal contexts. The first part of the course focuses on theories of judgment and decision-making to understand how people make decision under uncertain conditions, along with common decision-making heuristics and biases. The second part of the course introduces approaches to think creatively to solve real-world problems and to drive innovation and change.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 778. Thinking Strategically in the Global Marketplace. 3 Credit Hours.
This course explores the theory and practice of developing and implementing strategies for today's global context. It reviews and integrates the growing theoretical knowledge in the fields of strategic management and international business. We will explore research on competitive strategy processes, and the institutional contexts that facilitate and impede organizational performance. The class will debate such critical research questions as: How do strategies and environments interact to affect organizational performance? What are the key drivers of competitive advantage? How can competitive advantages be leveraged on a global scale? What factors contribute to long-term success in diverse markets? The course will guide students through the process of developing applied research that integrate theoretical frameworks with practical applications. Reading and discussing assigned scholarly research will provide students a comprehensive understanding of the theories, literature, and empirical studies that drive organizational performance and competitive positioning in today's dynamic global marketplace.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

BTE 830. Pre-Candidacy Dissertation Research. 1-12 Credit Hours.
Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of BTE 830 may be taken in a regular semester, nor more than six in a summer session.
Components: THI.
Grading: SUS.
Typically Offered: Fall, Spring, & Summer.

BTE 840. Post-Candidacy Dissertation Research. 1-12 Credit Hours.
Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in BTE 840 may be taken in a regular semester, nor more than six credits in a summer session.
Components: THI.
Grading: SUS.
Typically Offered: Fall, Spring, & Summer.

BTE 850. Research in Residence. 1 Credit Hour.
Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.
Components: THI.
Grading: SUS.
Typically Offered: Fall, Spring, & Summer.