Business Information Systems (BIS)

Courses

BIS 044 (BUAN 044) Business Analytics I 1.5 Credit
This course covers the basic concepts of data, including the collection, organization, exploration, and understanding of data with an emphasis on complex business data. The focus is on data as an organizational asset, and how data is structured for use in business to optimize business decisions and processes. Students will implement data analytic techniques through hands on programming.

BIS 111 Introduction to Information Systems 3 Credits
This course examines the fundamental role of information systems in supporting and managing all business functions and enabling firms to compete effectively. Both technical and managerial aspects of information systems are introduced. The course integrates technical infrastructure, database concepts, management decision-making, and business process issues critical to the understanding of operational and strategic information systems. It introduces business applications that support accounting, finance, supply chain management, and marketing.

BIS 244 (BUAN 244) Business Analytics II 1.5 Credit
This course covers techniques and algorithms for creating effective visualizations of complex business data. The emphasis will be on the use of data visualization in business decision making. Students will implement data analysis and visualization through hands on programming and visualization tools.
Prerequisites: BIS 044 and (ECO 045 or MATH 231 or ISE 121)

BIS 300 Apprentice Teaching 1-4 Credits

BIS 311 Managing Information Systems Analysis and Design 3 Credits
This course focuses on managing the requirements analysis and system design methodology and techniques for business information systems. Students learn current methods and techniques for system requirement analysis as well as system design, and apply them to real world projects. It covers cost benefit analysis and risk management of business systems development, JAD and structured walkthroughs, structured and object oriented methodologies, and software package evaluation. It emphasizes the factors for effective communication and integration with users and user systems and encourages interpersonal skill development with client users, team members, and others associated with development, operation, and maintenance of the system.
Prerequisites: ACCT 311 or CSB 311 or BIS 111

BIS 324 Business Data Management 3 Credits
This course covers the fundamentals of database management systems (DBMS), including database development, processing, logical and physical design, access, implementation and administration. Students will gain extensive experience in developing data models, creating relational databases, and formulating and executing complex queries. The focus in the course will be on analyzing the connections between data and business organizational information needs and decisions, and understanding the principles of managing organizational data. A project with hands-on experience with a large scale DB is included.
Prerequisites: BIS 111

BIS 333 Enterprise Security and Risk Management 3 Credits
This course explores the management of enterprise IT solutions. The focus is on the management of applications and infrastructure security. Students will be introduced to frameworks for infrastructure management, system administration, critical security principles that enable them to plan, develop, and perform security tasks. The course will address hardware, software, processes, communications, applications, and policies and procedures with respect to enterprise IT Security and Risk Management. These topics are addressed both within and beyond the organization, with attention paid to managing risk and security within audit and compliance standards.
Prerequisites: BIS 111

BIS 335 Application Development for Business 3 Credits
This course provides an introduction to planning, designing, developing and maintenance of high quality computer applications that solve business problems. Students will learn basic systems development and computer programming concepts by designing, coding, and testing in an object oriented computer language. Emphasis will be placed on learning introductory programming concepts, such as declaring variables, control statements, subroutines, functions, and arrays. Additionally, students will develop event-driven graphical user interfaces. Some previous experience with programming helpful but not required.
Prerequisites: BIS 111

BIS 342 (SCM 342) e-Business Enterprise Applications 3 Credits
Introduction to the implications of key information technologies used within and across businesses to conduct e-business. The course covers the functionality of various enterprise applications and their integration: customer relationship management, enterprise resource planning, supply chain management, supplier relationship management, data warehousing and mining, business intelligence, and product lifecycle management.
Prerequisites: BIS 111

BIS 344 Cloud Computing for Business 3 Credits
This course focuses on understanding risk assessment, security guidance, design and deployment of cloud services solutions. Students will demonstrate an understanding of high availability and business continuity, cloud resource costing, deployment management, network design, data storage, security, scalability and elasticity, cloud migration and hybrid architecture. The applied portion of the course gives students hands-on experience designing and deploying cloud environments and services on platforms such as Amazon Web Services.
Prerequisites: BIS 311

BIS 350 (MGT 350) Project Management 3 Credits
Key processes and tenets of project management including scope, time, cost, quality, human resources, communications, risk, procurement, and integration management. Both technical and behavioral aspects of project management are applied within the context of either IS management, HR management, Supply Chain Process Management, Small Business Management. Topics include: expectations management, change management and consulting engagement management. Introduces both software project monitoring tools and project team collaboration techniques and tools. Must have completion of all other courses in either BIS or Management major.
Prerequisites: BIS 335 and BIS 324

BIS 360 Business Information Systems Practicum 3 Credits
The business information systems practicum provides an opportunity for students to work on an intensive consulting engagement with a business. Students work with client firms on individual or team projects, which focus on information systems activities such as developing requirements, designing, and implementing systems. Students complete written reports and make formal presentations to clients. May not be taken concurrently with MGT 311. Cannot be used to satisfy BIS major or minor requirements.

BIS 371 Directed Readings 1-3 Credits
Readings and research information systems; designed for superior students who have special interest in some topic(s) not covered by the regularly scheduled courses. Written term paper(s) required. Must have preparation in information systems acceptable to program coordinator.
Repeat Status: Course may be repeated.

BIS 372 Special Topics in Information Systems 1-3 Credits
Special problems and issues in information systems for which no regularly scheduled course work exists. When offered as group study, coverage varies according to interests of the instructor and students. Must have preparation in information systems acceptable to program coordinator.
Repeat Status: Course may be repeated.

BIS 373 Business Information Systems Internship 1-3 Credits
Based on a student's work experience, a sponsoring faculty member shall direct readings, projects, and other assignments-including a "capstone report." It should be noted that the work experience (at least 80 hours per credit), by itself, is not the basis for academic credit. The faculty directed activity must be provided concurrent with the work. Course registration and related arrangements, including designating a sponsoring faculty member, must be made in advance of the work engagement. This course must be taken Pass/Fail,.
Repeat Status: Course may be repeated.
Prerequisites: BIS 311

BIS 396 1-3 Credits
Repeat Status: Course may be repeated.

BIS 411 Storytelling in Business Analytics 1.5 Credit
Focuses on training students to visualize business data and communicate implications from business data through visualization and storytelling. Covers techniques and algorithms for creating effective visualizations of complex business data. Students will implement data analysis and visualization through hands-on programming and visualization tools. Enhances students' business communications related to data. Students will translate data and analysis into narratives that provide context for their messages and make persuasive recommendations in written and oral formats.

BIS 412 Data Ethics and Security in Business 1.5 Credit
Focuses on the management of data security, the frameworks of business data ethics, and the integration of data ethics with data security management. Students will be introduced to critical security principles that enable them to plan, develop, and perform data security tasks. Addresses business ethics as it relates to a variety of data management issues.

BIS 415 Capstone Project 3 Credits
The capstone project course immerses students in projects on how business analytics skills can be applied ethically in an organization to create business value. Built on the foundational courses in business analytics, the capstone integrates classroom lectures with a combination of company visits and externship projects.

BIS 423 Management Information Systems 2 Credits
This course examines the role of information systems (IS) and information technology (IT) in the organization. The focus of the course is the organizational uses of IS and IT to compete effectively. Both technical and managerial aspects of information systems are explored. The course includes technical infrastructure, management decision-making, trends and innovations in IS, and business process issues critical to the understanding of operational and strategic information systems.

BIS 434 Decision Analytics for Managers 3 Credits
This course focuses on the key concepts and methods that relate to information management and business decision making, and how managers can create value and make better business decisions by turning information into competitive advantage. It also introduces fundamental concepts and analytic methods in business analytics. In addition, this course provides an overview of how modern information systems support business decision making as well as technology-enabled business models.
Prerequisites: (ECO 045 or BUEC) and MGT 431
Can be taken Concurrently: MGT 431

BIS 456 Business Analytics for Decision Making 3 Credits
Provides students with a theoretical and practical understanding of core data analytics concepts and techniques, and develops hands-on experience in applying these techniques to practical real-word business problems using R software. As an applied course, the emphasis will be less on the inner working of each method and more on when and how to use each technique and how to interpret the results. Not available to students who have credit for BIS 348, 448, 352 or 452.
Prerequisites: MBA 440 or ECO 045 or ECO 427 or BUEC

BIS 458 Data Management for Managers 3 Credits
Covers fundamentals of database management, including database development, processing, logical and physical design, access, implementation and administration, and design and deployment of cloud services solutions. Students will gain extensive experience in developing data models, creating relational databases, formulating and executing complex queries, and understanding cloud services solutions in cloud resource costing, deployment management, network design, data storage, security, scalability and elasticity, cloud migration and hybrid architecture. Hands-on experiences such as such as Oracle Database and Amazon Web Services are included.