Information Systems & Analytics (ISA)

ISA 2010. Business Computer Proficiency. 3 Hours.
Required of all students in the College of Business and open to other interested students. This hands-on course covers fundamentals and advanced concepts necessary to prepare students to pass the Microsoft Office Specialist (MOS) Excel Expert Certification. Students will take the MOS Excel Expert Certification as part of the course. Covers beginning Structured Query Language (SQL) commands used in most relational database management systems for joining and extracting data to solve business problems. Skills in this course will be critical for several upper division courses in the College of Business. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Create spreadsheet models that include advanced formulas, functions, charts, pivot tables, and macros. 2. Prepare valid data analysis spreadsheet models to aid in decision making. 3. Demonstrate an understanding of the basic SQL syntax useful to typical business users. 4. Develop SQL queries that extract and join data from multiple tables to solve a business problem. 5. Identify and defend personal, ethical, and organizational issues related to the use and misuse of spreadsheet models and SQL commands. FA, SP, SU.

ISA 2011. Microsoft Office Specialist (MOS) Excel Expert Certification. 0 Hours.
Will post a Pass on student transcript if student can show they have met Microsoft Office Specialist (MOS) Excel Expert Certification. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate certification in Microsoft Office Specialist (MOS) Excel Expert.

ISA 2050. Management Information Systems. 3 Hours.
Designed for students to gain an understanding of the application of technology in business. Covers information systems solutions to business problems and accounting systems concepts fundamental to the support of business processes in the operational, strategic, and decision making roles of management. Includes systems design and development, enterprise resource planning, control issues, system security, and maintenance. Emphasizes end-user applications of management information systems (MIS), challenges of managing information technology, and using MIS as a strategic management tool. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate proficiency in the fundamentals of Information Systems. 2. Describe and identify the key elements of Global Information Systems. 3. Analyze a complex business situation, identify relevant functional business and technological issues and defend viable courses of action. 4. Articulate strategies for implementing and/or improving information systems to create value for an organization. 5. Demonstrate the skills needed for working effectively in teams. 6. Identify and defend personal, ethical, and organizational issues in Information Systems. Prerequisites: ISA 2010; ENGL 1010 or ENGL 1010D; MATH 1010 or MATH 1000 or higher. FA, SP.

ISA 3020. Structured Query Language for Business Users. 1 Hour.
This course seeks to introduce students to the basic Structured Query Language (SQL) commands that can be used in most relational Database Management Systems (DBMS) such as Oracle, SQL Server, mySQL, Microsoft Access, SAP, DB2, and PostgreSQL. This course will not only provide a theoretical foundation, but also hands-on practice executing and experimenting with those commands in multiple DBMS with a focus on business user’s needs to solve business problems or aid decision making. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate proficiency in the fundamentals of the basic structure of relational databases and the relevance of SQL in any relational DBMS. 2. Show an understanding of the basic SQL syntax useful to typical business users. 3. Create SQL code in at least two different DBMS and illustrate similarities and differences in the code between these DBMS. 4. Use SQL to analyze a complex business situation, and identify how the SQL results can lead to better decision making, and suggest viable courses of action. 5. Identify and defend personal, ethical, and organizational issues related to the use and misuse of SQL. FA, SP.

ISA 4060. Big Data Analytics. 3 Hours.
Course focuses on a theoretical and hands-on exploration of business intelligence and analytics. It covers current best practices in statistical and quantitative analysis using large-scale data sets, exploratory and predictive models, and evidence-based methods to improve business decisions and actions. Dual listed with IT 4060 (students may only take one course for credit). **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Identify the key components and concepts associated with big data analytics. 2. Apply big data and statistical best practices to collect, cleanse, transform, and store large-scale data for subsequent analysis. 3. Analyze large-scale data sets to identify hidden patterns. 4. Evaluate data models using best practices. 5. Create recommendations for improving business decisions based on the data analysis. Prerequisites: STAT 2040 (Grade C- or higher). FA.

ISA 4070. Data Visualization and Storytelling. 3 Hours.
A focus on the methods, tools and processes to effectively visually encode and present insights discovered from previously analyzed data. It includes practice transforming simple and complex data analysis outputs into relevant, accurate, and effective visual displays to improve communication and decision making. Dual listed with IT 4070 (students may only take one course for credit). **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Identify the key components and concepts associated with data visualization. 2. Recognize the ethical and financial consequences of poor data visualization techniques. 3. Differentiate between effective and ineffective methods in data analysis reporting. 4. Create graphically encoded data into useful formats from previously analyzed data. 5. Demonstrate the accurate communication of statistical findings for real world big data problems to decision makers with diverse skill levels. SP.
ISA 4450. Project Management. 3 Hours.
The project management course introduces students to the main stages of effectively managing the work of a team to achieve desired objectives. These stages include: initiating, planning, executing, controlling, and closing. It covers common pitfalls and best practices for successful management of a project. Software tools to facilitate the process will also be introduced. Finally, students will practice relating with stakeholders and team members in a professional manner. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Describe best practices for managing projects of various sizes including quality, time, cost, scope, risk, and success factors. 2. Identify common project pitfalls and strategies for avoiding them. 3. Identify resources needs, constraints, and estimate costs for each stage of the project life cycle. 4. Articulate roles to team members and clearly identify responsibilities and accountability. 5. Use good project management skills in a real-world scenario including alignment with the organization’s strategic plan, resolving differences, tracking progress, and making adjustments as necessary. 6. Analyze software tools to enhance the project management process. 7. Collaborate with stakeholders and project members in a professional manner. Course fee required. Prerequisite: MGMT 3100 (Grade C- or higher). SP.

ISA 4600. Senior Project. 3 Hours.
Capstone course requiring the completion of an aggressive information systems and analytics project. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Plan, identify, and design an ISA related project using industry standard techniques. 2. Communicate effectively with stakeholders on project progress and produce professional quality written and oral ISA reports that meet their needs. Prerequisite: Senior Standing, OR Instructor Permission. SP.