Business Information and Analytics (INFO)

Courses
INFO 1010 Analytics I: Data Management and Analysis (4 Credits)
The amount of data businesses are able to maintain and process is growing exponentially, and the ability to manage that data successfully can give a business a tremendous competitive advantage. This course introduces the student to the business data landscape, as well as basic data management and analysis skills through spreadsheet and database applications. Student projects focus on data collection, data cleansing and mining, statistical and graphical analysis, basic modeling, and written presentation skills. No prerequisites.

INFO 1011 Microsoft Office Certification I Lab (0 Credits)
Learning lab and exam with successful completion resulting in award of formal Microsoft Office certification for Excel. BSBA/BSACC degrees only. Prerequisites: INFO 1010.

INFO 1020 Analytics II: Business Statistics and Analysis (4 Credits)
Businesses can never have perfect information; therefore, they must employ statistical techniques to improve the decision-making process. This course introduces students to the basic tenets of probability and statistics, with an emphasis on business applications. Statistical models as decision-support tools are taught. Student projects focus on data collection, data analysis, decision analysis, and written presentation skills. Prerequisites: INFO 1010, MATH 1200, or MATH 1951 and MOS Excel certification.

INFO 1021 Microsoft Office Certification II Lab (0 Credits)
Learning lab and exam with successful completion resulting in award of formal Microsoft Office certification for Word and PowerPoint. BSBA/BSACC degrees only. Prerequisites: MATH 1200 or MATH 1951 and STAT 1400 or INFO 1020.

INFO 2020 Analytics III: Business Modeling and Analysis (4 Credits)
Businesses make decisions and improve processes using a variety of modeling and analytic techniques. This course introduces the student to the techniques of multiple regression analysis, time series analysis, optimization, and simulation for solving a variety of business problems. Applications include economic forecasting, supply chain management, and project management. Student projects focus on using spreadsheet modeling for problem solving, and emphasizes written and oral presentation techniques. Prerequisites: INFO 1020, degree checkpoint 1 and all MOS certifications.

INFO 3100 Automating Business Processes (4 Credits)
This course focuses on using Microsoft Excel to support decision making for managers. This course covers advanced Excel functions and menu options along with basic spreadsheet modeling design and good practices. It also covers automating tasks in Excel using VBA and creating Excel Add-in programs. We finish the class by covering object oriented programming such as Visual Basic. Prerequisite: INFO 1020 and DCB checkpoint 2.

INFO 3110 Applied Nonparametric Statistics (4 Credits)
This course introduces students to the basic statistical techniques one employs in reporting the results of surveys or in analyzing randomly collected data. We have all taken surveys seeking our opinions about various topics; the course evaluations we fill out at the end of each course we take is an example. Non-parametric statistics has become increasingly more important in analyzing data and reporting results. Our course is very applied in nature.

INFO 3140 Foundations of Information Management (4 Credits)
This course introduces the student to database management systems. Specifically, this course focuses on database theory, appropriate database design, modeling tools, and the practical issues of implementation and management. This course consists of four primary components (or modules): (1) database theory, (2) database design tools and techniques (ERD’s), (3) Structured Query Language (SQL), and (4) applying database concepts (using Microsoft Access). Corequisite: INFO 3100. Prerequisite: INFO 1020.

INFO 3200 Business Forecasting and Visualization (4 Credits)
This course explores the concepts of business forecasting and visualizations of business data. It covers the concepts of forecasting and visualization terminology along with all the steps of the forecasting process: define goal, get data, explore & visualize series, pre-process data, partition the data series, apply forecasting method(s), evaluation and compare performance, implement the forecasts/system, and communicate the results. This course also covers the creation and interpretation of real-time business data in terms of dashboards and scorecards. Prerequisite: INFO 2020 and DCB checkpoint 2.

INFO 3240 Enterprise Information Management (4 Credits)
This is the second in the series of two courses designed to expose students to database management systems. This course focuses on advanced topics in database theory, SQL, and an introduction to an enterprise database system using Microsoft SQL server and an integrated development environment using Visual Studio. Prerequisite: INFO 3140.

INFO 3300 Data Warehousing and Data Mining (4 Credits)
Data warehouse components and construction, extraction, transforming, and loading (ETL) and data cleansing, predictive analytics (trees, neural networks), descriptive analytics (drillable/OLAP reports, published reports, SQL queries), cluster and association modeling. Prerequisite: INFO 3240.

INFO 3340 Project Management and Simulation (4 Credits)
Students examine the science, practice the art, and discuss the folklore of project management to enable them to contribute to and manage projects as well as to judge when to apply this discipline. They explore the critical chain approach and probability distributions versus point estimates. Monte Carlo simulation modeling is also covered to explore the benefits and limitations of simulation as a tool for solving business problems, and to present students with the opportunity to build, analyze, and report on Monte Carlo simulations. Prerequisite: INFO 2020 and DCB checkpoint 2.
INFO 3350 Statistical Computing (4 Credits)
This course will provide the student with a base of skills necessary to program in one or more common scripting software packages. No prior programming knowledge is required. After completion of the course the student will be able to independently perform most basic statistical procedures using either software package. The student will also have the tools necessary to learn advanced topics from the software package documentation by themselves. Prerequisites: INFO 1020.

INFO 3400 Complex Data Analytics (4 Credits)
This course explores the concepts of the considerations and management of big data projects. It also explores technical aspects of performing text analytics and natural language processing, network analysis, and geographic data analysis. We focus on social data for many of the examples and also explore how disparate data sources can be combined to provide insight for business decisions. Prerequisite: INFO 3300.

INFO 3440 Optimization Modeling (4 Credits)
This course introduces concepts and techniques for the modeling and solution of business decision problems. It gives broad coverage to the formulation of optimization models and the use of commercially available software tools for solving them. These models include topics such as linear programming, integer programming, the transportation and assignment problems, network optimization models and non-linear programming. Emphasis is placed on the process of analyzing business scenarios, formulating models in spreadsheet software, and presenting oral and written project reports. Prerequisite: INFO 2020 and DCB checkpoint 2.

INFO 3477 Database-Driven Websites (4 Credits)
The programming course provides an in-depth look at the main techniques surrounding the development of dynamic web applications. This intensive lab/lecture course offers a detailed look at building a database-driven website. Databases are not new, but designing and applying them in a web environment presents new challenges, as well as new opportunities for data exploration. Students conceive, build and deploy a website using a database as its core. Topics include: creating database-geared pages with HTML, CSS, and ASP; using SQL combined with modeling languages to build web database schemas, and interfacing the website via VBScript (or JavaScript) and ADO. Prerequisite: INFO 3140.

INFO 3500 Capstone/Senior Project (4 Credits)
This course gives the student an opportunity to apply the knowledge and skills learned in this program to a real-world problem submitted by a partner business. Students take a business problem from problem definition, data collection, and model construction, through analysis and presentation of results to recommendations for specific business decisions. Prerequisite: INFO 3340.

INFO 3700 Topics in Business Analytics (1-4 Credits)
Exploration of various topics and issues related to timely analytics applications. Prerequisites: DCB checkpoint 2.

INFO 3980 Internship (0-10 Credits)
Internship; requires written report.

INFO 3991 Independent Study (4 Credits)
Independent research/study; requires written report.