BUS G160: INTRODUCTION TO BUSINESS ANALYTICS

Item	Value
Curriculum Committee Approval Date	11/19/2025
Top Code	050600 - Business Management
Units	3 Total Units
Hours	54 Total Hours (Lecture Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

This course introduces students to the basics of data analysis and its significance in today's business environment across multiple industries. Students will learn practical concepts, skills, and tools used in data analytics. This course is appropriate for students exploring pathways into business analytics, marketing, and data science careers. ADVISORY: CS G130. Transfer Credit: CSU; UC.

Course Level Student Learning Outcome(s)

1. Course Outcomes
2. Examine how data analysis is used in business throughout different industries.
3. Identify ethical issues surrounding the collection and distribution of data.
4. Analyze real world dataset examples by using common analytics tools within the industry.
5. Organize data and produce visualizations of the results.

Course Objectives

- 1. Formulate business decisions using data analysis in areas such as marketing, finance, and supply chain management.
- 2. Describe the data analysis lifecycle, types of data, and databases.
- 3. Discuss the application of data in a variety of industries such as healthcare, sports, automotive, education etc.
- 4. Explain how data analysis and data science is used in applications such as AI and machine learning.
- 5. Use the basics of statistics to conduct statistical analysis.
- 6. Use Excel and data visualization software to create interactive dashboards and visualizations.
- 7. Use SQL (Structured Query Language) to query a database use.
- 8. Use Python as a tool to analyze datasets.

Lecture Content

Introduction What is data analytics How data analytics is used across industries Healthcare Biology Sports Automotive Retail Education Modern applications that use data analytics and data science AI Machine learning Data Analytics Life Cycle Exploratory Business Analytics Descriptive analytics Diagnostic analytics Confirmatory Business Analytics Predictive analytics Prescriptive analytics Applying Analytics within a Business Marketing Sales Customer service Product development Product testing Shipping and logistics Human resources Data Sources How is data collected Ethics of data collecting Data formats, storage, and databases Basic Mathematical Statistics Descriptive statistics Predictive statistics Retrieving and Cleaning Data Using SQL to query databases Language basics Table creation Basic queries Intro to Using Excel for Data Analysis Excel basics (review) Tables Filtering data Formulas and functions Exporting data Data Visualization Using Charts Using Graphs Visualization in Excel Pivot tables Power queries Pivot charts Pivot graphs Visualization in Power BI Importing data Creating charts Creating graphs Using dashboards to tell a story Programming Tools for Data Analysis Programming languages Python overview Using Python to Analyze Data Jupyter notebooks Performing calculations Using SQL commands in Python Using Python to Visualize Data Creating charts Creating graphs

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)

Reading Assignments

Assigned textbook. Topical readings from the Internet and library database resources. Additional materials as provided by the instructor.

Writing Assignments

Assignments using spreadsheet, database, and visualization software. Discussions boards and/or research paper on data analytics.

Out-of-class Assignments

A library/internet research paper will promote further study and research practice in a selected area of data analytics.

Demonstration of Critical Thinking

Students will be presented with problems and required to devise solutions in the form of business decisions. They will complete projects in model construction and data visualization of what-if problems. Discussions and writing assignments will further demonstrate the students critical thinking and problem solving abilities.

Required Writing, Problem Solving, Skills Demonstration

Provide written analyses based on a given business data scenario. Create a formal business presentation based on analysis from a given data set.

Eligible Disciplines

Business: Master's degree in business, business management, business administration, accountancy, finance, marketing, or business education OR bachelor's degree in any of the above AND master's degree in economics, personnel management, public administration, or Juris Doctorate (J.D.) or Legum Baccalaureus (LL.B.) degree OR bachelor's degree in economics with a business emphasis AND master's degree in personnel management, public administration, or J.D. or LL.B. degree OR the equivalent. Master's degree required. Computer science: Master's degree in computer science or computer engineering OR bachelor's degree in either of the above AND master's degree in mathematics, cybernetics, business administration, accounting or engineering OR bachelor's degree in engineering AND master's degree in cybernetics, engineering mathematics, or business administration OR bachelor's

degree in mathematics AND master's degree in cybernetics, engineering mathematics, or business administration OR bachelor's degree in any of the above AND a master's degree in information science, computer information systems, or information systems OR the equivalent. Note: Courses in the use of computer programs for application to a particular discipline may be classified, for the minimum qualification purposes, under the discipline of the application. Master's degree required. Management: Master's degree in business administration, business management, business education, marketing, public administration, or finance OR bachelor's degree in any of the above AND master's degree in economics, accountancy, taxation, or law OR the equivalent. Master's degree required. Marketing: Master's degree in business administration, business management, business education, marketing, advertising, or finance OR bachelor's degree in any of the above AND master's degree in economics, accountancy, taxation, or law OR the equivalent. Master's degree required.

Textbooks Resources

1. Required AbdulHussein, A. Data Analytics and Decision Making, ed. eCampusOntario (OER), 2022

Other Resources

1. Microsoft 365: Excel and Power BIPython