ACCT A220: DATA ANALYTICS FOR ACCOUNTING

Item	Value
Curriculum Committee Approval Date	12/02/2020
Top Code	050200 - Accounting
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), • Pass/No Pass (B)

Course Description

The advent of data analytics offers both challenges and opportunities for CPAs. The challenges include undertaking appropriate training to develop the skills needed to initiate and support data analytics activities, as well as altering the present audit model to include appropriate audit analytics techniques. The opportunities include a technology rich audit model that provides for greater thoroughness, efficiency, and accuracy, as well as new business opportunities to provide data analytics expertise to CPAs' clients and organizations. CPAs, whether working in public practice or industry, will enhance their career opportunities through the acquisition of additional data analytics expertise. ADVISORY: ACCT A101 or ACCT A101H. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Demonstrate different techniques of storing, manipulating, and analyzing data.
2. Assess the design, implementation and management of databases.
3. Compare and contrast the purpose, context, and relevance of data analytic tools for decisions making.

Course Objectives

- 1. Demonstrate knowledge of big data analytics.
- 2. Demonstrate the ability to think critically in making decisions based on data and deep analytics.
- 3. Demonstrate the ability to use technical skills in predicative and prescriptive modeling to support business.
- 4. Demonstrate the ability to translate data into clear, actionable insights.
- 5. Demonstrate effective communication skills that facilitate the effective presentation of analysis results.
- 6. Demonstrate analysis of various financial transaction data and how data analytics can help the audit and financial processes.
- 7. Demonstrate why businesses change their strategies and the way they operate.
- 8. Demonstrate why CFOs and finance leaders use Big Data to find patterns in customer behavior and market trends to drive company strategy.
- 9. Demonstrate why the human element of data analytics is the most critical factor in building a successful program.

Lecture Content

A. Data analytics in Accounting and Business 1. Data analytics Skills Needed by Analytic Minded Accountants. 2. How Data Analytics Affects Accounting B. Data Preparation and Cleaning 1. How data are used and stored in the accounting cycle 2. Extraction, Transformation, and Loading of data C. Modeling and Evaluation: Going from Defining Business Problems and Data Understanding to Analyzing Data and Answering Questions. 1. Performing the Test Plan: Defining Data Analytics 2. Data Reduction D. Visualization: Using Visualizations and Summaries to Share Results with Stakeholders. 1. Further Refining your chart to communicate better 2. Communication: More than Visuals - Using Words to Provide Insights E. The Modern Audit and Continuous Auditing 1. Continuous Auditing Techniques 2. Electronic Working Papers and Remote Audit Work F. Audit Data Analytics 1. Descriptive Analytics 2. Creating Advanced Predictive and Prescriptive Analytics G. Generating Key Performance Indicators 1. Master the Data and Perform the Test Plan 2. Communicate Insights ad Track Outcomes F. Financial Statement Analytics 1. XBRL and Ratio analysis 2. Text Mining and Sentiment Analysis

Method(s) of Instruction

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

Instructional Techniques

A. Lecture including handouts, Power Point slides, text readings, problems application and discussion of important concepts. B. Written assignments in and out of class including problem solving and analysis. C. Individual and group problem solving activities. D. Current event readings and presentations. E. Guest Speakers. F. Assignments from the Homework Management System.

Reading Assignments

Students will spend approximately 2 hours per week on reading. Their required reading is a textbook on data analytics used in the classroom, another book describing how data analytics has affected some of the largest companies in the world (Big Data in Practice), Journal of Accountancy articles that feature data analytics used in public accounting. They will be required to research most recent articles about data analytics.

Writing Assignments

Students will spend approximately 2 hours per week on assignments. Writing assignments include end of chapter questions that will be submitted with their Excel assginments. The students will also research a company that use data analytics and present a written report at the end of the semester to the class outlining their findings.

Out-of-class Assignments

Students will spend approximately 2 hours per week on assignments. The students will have assignments outlined to them in the syllabus from the textbook that will need to be completed on their home computer which will involve somewhat complicated Excel 2016 pivot tables and production of reports from those pivot tables. Students will also be

encouraged to find and read the latest current events that include data analytics.

Demonstration of Critical Thinking

Completion of processing transactions and report preparation.

Required Writing, Problem Solving, Skills Demonstration

Analysis of financial data. Completion of student projects.

Eligible Disciplines

Accounting: Master's degree in accountancy or business administration with accounting concentration OR bachelor's degree in business with accounting emphasis or business administration with accounting emphasis or economics with an accounting emphasis AND master's degree in business, business administration, business education, economics, taxation, or finance OR the equivalent. Master's degree required. (NOTE: A bachelor's degree in accountancy or business administration with accounting concentration, with a CPA license is an alternative qualification for this discipline)

Textbooks Resources

1. Required Richardson, V.J., Teeter, R.A., Terrell, K.L. Data Analytics for Accounting, First ed. New York: McGraw Hill, 2019 2. Required Marr, B. Big Data in Practice, First ed. West Sussex, United Kingdom: Wiley, 2016

Other Resources

1. Class should be held in a computer lab or similar arrangement to enhance the course lecture.