GLENDALE
COMMUNITY COLLEGE

COURSE DISCIPLINE :   ACCTG

COURSE NUMBER :   185

COURSE TITLE (FULL) :   Data Analytics for Accounting

COURSE TITLE (SHORT) :   Data Analytics for Accounting

ACADEMIC SENATE DISCIPLINE: Accounting

CATALOG DESCRIPTION

ACCTG 185 is an introductory course focusing on the concepts of data analytics used in a business and provides students with a basic understanding of data analytic thinking and terminology as well as hands-on experience with data analytics tools and techniques. Accountants and managers need to understand the implications for decision-making and tap into the data to provide better insights. While there will be some use of tools in this course (programs such as Excel or SAS), the focus of this class is on concepts and critical thinking.

Total Lecture Units:2.00

Total Laboratory Units: 1.00

Total Course Units: 3.00

Total Lecture Hours:36.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 90.00

Total Out-of-Class Hours: 72.00

Recommended Preparation: ACCTG 101.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ACCTG	101	Financial Accounting	explain what a system is and how an accounting system is designed to satisfy the needs of specific businesses and users; summarize the purpose of journals and ledgers;	Yes
2	ACCTG	101	Financial Accounting	apply transaction analysis, input transactions into the accounting system, process this input, and prepare and interpret the four basic financial statements;	Yes
3	ACCTG	101	Financial Accounting	explain the content, form, and purpose of the basic financial statements (including footnotes) and the annual report, and how they satisfy the information needs of investors, creditors, and other users;	Yes

EXIT STANDARDS

1 Use software to manage data, perform test analyses and communicate findings and insights useful to decision making;

2 Explain how data analytics can be used in accounting, auditing, managerial accounting and financial accounting to address accounting issues;

3 Explain the use of XBRL in financial reports;

4 Prepare an entity-relationship diagram.

STUDENT LEARNING OUTCOMES

1 Apply data analytics techniques and recognize how it creates value for accountants.

2 Compare types of test approaches that accountants use to gather insights for decision-making.

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Data Analytics in Accounting and Business • Demand for analytics • Overview of Accounting Analytics • Big Data • Data mining	2	0	2
2	Data Understanding and Preparation • Entity-Relationship Diagrams • Database structure & REA (resources, events, and agents) • Data requests	3	0	3

3	Modeling and Evaluation • Predictive modeling • Probability • Classification • Linear regression • Evaluating models • Profiling Clustering	6	0	6
4	Communicating Results • Data Visualization • Sorting • Pattern recognition • Categorization • Outlier detection	6	0	6
5	The Modern Audit and Tests of Controls • Working papers • Continuous auditing • Data timing and frequency • Re-performance and recalculation • Segregation of duties and the authorization matrix • Field checks	3	0	3
6	Substantive Testing and Tests of Transactions • Automatic confirmations • Inventory valuation • Statistical analysis • Clustering and outlier detection	3	0	3
7	Generating key performance indicators • Why firms use key performance indicators • The balanced scorecard and finer metrics	3	0	3
8	Dashboard design & Visualizations	2	0	2
9	Using financial statement data • Calculating financial ratios	3	0	3
10	Sentiment analysis in management disclosure and analysis • Overview of text mining • Sentiment dictionaries • Performing sentiment analysis	3	0	3
11	Tax Analytics Discussion (e.g. discussion on the trends, patterns, and anomalies of a hypothetical tax return data)	2	0	2
12	Microsoft OneDrive	0	6	6

13	Excel's Internal Data model, PivotTables (learn how to use Excel's data model feature to analyze data from different sources, and build PivotTables in Excel that allow to group, sort, reorganize, summarize, count, total or average data stored in database)	0	10	10
14	SQL (Structured Query Language is used to communicate with a database) queries in Access and Excel	0	10	10
15	WEKA data analysis tool (Waikato Environment for Knowledge Analysis is an open source software that provides with tools for data preparation, classification, regression, clustering, association rules mining, and visualization)	0	5	5
16	XBRL on financial reporting information (XBRL is a software standard that is used to communicate business information including financial data)	0	9	9
17	Data visualization tool Tableau (a software that creates interactive visual dashboards to convert data into understandable, interactive graphics)	0	7	7
18	XBRLAnalyst (new Excel function for accessing financial facts from reports in XBRL format).	0	7	7
				90

OUT OF CLASS ASSIGNMENTS

1   Reading and writing assignments (for example: reading articles about recent developments in data analytics, write a report about the trends of the data uses in curent business environment)
2   Computer lab assignments (for example: perform basic analytics tasks using Excel)
3   Lab Project (For example: Gross profit analysis, or transaction analysis from given data sets using Excel)

METHODS OF EVALUATION

1   Lab projects (For example: Gross profit analysis, or transaction analysis from given data sets using Excel)
2   Quizzes
3   Assignments (for example: perform basic analytics tasks using Excel)
4   Mid-Term
5   Final examination

METHODS OF INSTRUCTION

☑ Lecture

☑ Laboratory

☐ Studio

☑ Discussion

☐ Multimedia

☐ Tutorial

☐ Independent Study

☐ Collaboratory Learning

☑ Demonstration

☐ Field Activities (Trips)

☐ Guest Speakers

☑ Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
Data Analytics for Accounting	Required	Dubuque : McGraw-Hill Education	1	Print Book	Vernon Richardson	978-1-260-37519-0	2019