

## ACCTG185 : Data Analytics for Accounting

### General Information

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Course Code (CB01) :	ACCTG185
Course Title (CB02) :	Data Analytics for Accounting
Department:	ACCTG
Proposal Start:	Fall 2024
TOP Code (CB03) :	(0502.00) Accounting
CIP Code:	(52.0302) Accounting Technology/Technician and Bookkeeping.
SAM Code (CB09) :	Clearly Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000616152
Curriculum Committee Approval Date:	02/28/2024
Board of Trustees Approval Date:	04/16/2024
Last Cyclical Review Date:	02/28/2024
Course Description and Course Note:	<p>ACCTG 185 is an introductory course focusing on the concepts of data analytics used in 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 utilize 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.</p>
Justification:	Mandatory Revision
Academic Career:	<ul style="list-style-type: none"> <li>Credit</li> </ul>

### Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none"> <li>Accounting</li> </ul>
Alternate Discipline:	No value
Alternate Discipline:	No value

### Course Development

Basic Skill Status (CB08)	Course Special Class Status (CB13)	Grading Basis
Course is not a basic skills course.	Course is not a special class.	<ul style="list-style-type: none"> <li>Grade with Pass / No-Pass Option</li> </ul>

Allow Students to Gain Credit by Exam/Challenge

Pre-Collegiate Level (CB21)

Not applicable.

Course Support Course Status (CB26)

Course is not a support course

## Transferability & Gen. Ed. Options

### General Education Status (CB25)

Not Applicable

### Transferability

Transferable to both UC and CSU

### Transferability Status

Approved

## Units and Hours

### Summary

<b>Minimum Credit Units (CB07)</b>	3
<b>Maximum Credit Units (CB06)</b>	3
<b>Total Course In-Class (Contact) Hours</b>	90
<b>Total Course Out-of-Class Hours</b>	72
<b>Total Student Learning Hours</b>	162

### Credit / Non-Credit Options

#### Course Type (CB04)

Credit - Degree Applicable

#### Noncredit Course Category (CB22)

Credit Course.

#### Noncredit Special Characteristics

No Value

#### Course Classification Code (CB11)

Credit Course.

Variable Credit Course

#### Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience Education Status (CB10)

### Weekly Student Hours

	In Class	Out of Class
Lecture Hours	2	4
Laboratory Hours	3	0
Studio Hours	0	0

### Course Student Hours

<b>Course Duration (Weeks)</b>	18
<b>Hours per unit divisor</b>	54
<b>Course In-Class (Contact) Hours</b>	
Lecture	36
Laboratory	54
Studio	0
<b>Total</b>	90
<b>Course Out-of-Class Hours</b>	
Lecture	72

Laboratory	0
Studio	0
<b>Total</b>	<b>72</b>

### Time Commitment Notes for Students

No value

### Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

### Pre-requisites, Co-requisites, Anti-requisites and Advisories

#### Advisory

ACCTG101 - Financial Accounting (in-development)

#### Objectives

- Explain what a system is and how an accounting system is designed to satisfy the needs of specific businesses and users.
- Apply transaction analysis, input transactions into the accounting system, process this input, and prepare and interpret the four basic financial statements.
- 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.
- Summarize the purpose of journals and ledgers.

### Entry Standards

Entry Standards

### Course Limitations

Cross Listed or Equivalent Course

### Specifications

Methods of Instruction

Methods of Instruction                      Lecture

Methods of Instruction                      Laboratory

Methods of Instruction                      Discussion

Methods of Instruction                      Demonstrations

Methods of Instruction                      Presentations

#### Out of Class Assignments

- 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 current business environment)
- Computer lab assignments (for example: perform basic analytics tasks using Excel)
- Lab Project (For example: Gross profit analysis, or transaction analysis from given data sets using Excel)

#### Methods of Evaluation

#### Rationale

Exam/Quiz/Test

Lab projects (For example: Gross profit analysis, or transaction analysis from given data sets using Excel)

Exam/Quiz/Test

Quizzes

Exam/Quiz/Test

Assignments (for example: perform basic analytics tasks using Excel)

Exam/Quiz/Test

Mid-Term

Exam/Quiz/Test

Final examination

#### Textbook Rationale

No Value

#### Textbooks

Author	Title	Publisher	Date	ISBN
Vernon Richardson	Data Analytics for Accounting	Dubuque : McGraw-Hill Education	2019	9781260375190

#### Other Instructional Materials (i.e. OER, handouts)

No Value

#### Materials Fee

No value

# Learning Outcomes and Objectives

## Course Objectives

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

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

Explain the use of XBRL in financial reports.

Prepare an entity-relationship diagram.

## SLOs

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

Expected Outcome Performance: 70.0

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*ILOs* Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions;  
*Core* cultivate creativity that leads to innovative ideas.  
*ILOs*

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

Expected Outcome Performance: 70.0

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*ILOs* Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions;  
*Core* cultivate creativity that leads to innovative ideas.  
*ILOs*

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Demonstrate depth of knowledge in a course, discipline, or vocation by applying practical knowledge, skills, abilities, theories, or methodologies to solve unique problems.

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## Additional SLO Information

**Does this proposal include revisions that might improve student attainment of course learning outcomes?**

No

**Is this proposal submitted in response to learning outcomes assessment data?**

No

**If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.**

No Value

**SLO Evidence**

No Value

## Course Content

### Lecture Content

#### **Data Analytics in Accounting and Business (2 hours)**

- Demand for analytics
- Overview of Accounting Analytics
- Big Data
- Data mining

#### **Data Understanding and Preparation (3 hours)**

- Entity-Relationship Diagrams
- Database structure & REA (resources, events, and agents)
- Data requests

#### **Modeling and Evaluation (6 hours)**

- Predictive modeling
- Probability
- Classification
- Linear regression
- Evaluating models
- Profiling Clustering

#### **Communicating Results (6 hours)**

- Data Visualization
- Sorting
- Pattern recognition
- Categorization
- Outlier detection

#### **The Modern Audit and Tests of Controls (3 hours)**

- Working papers
- Continuous auditing
- Data timing and frequency
- Re-performance and recalculation
- Segregation of duties and the authorization matrix
- Field checks

#### **Substantive Testing and Tests of Transactions (3 hours)**

- Automatic confirmations
- Inventory valuation
- Statistical analysis
- Clustering and outlier detection

#### **Generating key performance indicators (3 hours)**

- Why firms use key performance indicators
- The balanced scorecard and finer metrics

#### **Dashboard design & Visualizations (2 hours)**

- Financial Statement Analysis Dashboard

- Financial Performance Dashboard for Decision Making
- Budgeting and Forecasting Visualization Tools

#### **Using financial statement data (3 hours)**

- Calculating financial ratios

#### **Sentiment analysis in management disclosure and analysis (3 hours)**

- Overview of text mining
- Sentiment dictionaries
- Performing sentiment analysis

#### **Tax Analytics Discussion (2 hours)**

- Trends of a hypothetical tax return data
- Patterns of a hypothetical tax return data
- Anomalies of a hypothetical tax return data

**Total Hours: 36**

### **Laboratory/Studio Content**

#### **Microsoft OneDrive (6 hours)**

- Cloud Storage and Configuring
- Uploading and Managing Files
- Collaborative Features in OneDrive
- Version Control and File History
- Sharing and Permissions in OneDrive
- Offline Access to OneDrive Files
- Integrating OneDrive with Microsoft Office Applications
- Security and Privacy Considerations in OneDrive

#### **Excel's Internal Data model, PivotTables (10 hours)**

- Excel's data model feature
- Analyze data from different sources
- Build PivotTables in Excel
- Group, sort, reorganize, summarize, count, total or average data stored in database

#### **Structured Query Language (SQL) (10 hours)**

- Database queries
- Access
- Excel

#### **Waikato Environment for Knowledge Analysis (WEKA) (5 hours)**

- Data analysis tool
- Open-source software
- Tools for data preparation, classification, regression, clustering,
- Association rules mining, and visualization

#### **Intro eXtensible Business Reporting Language (XBRL) (9 hours)**

- Financial reporting information
- XBRL software standard
- Communicate business information including financial data

#### **Data visualization (7 hours)**

- Tableau software
- Interactive visual dashboards
- Convert data into interactive graphics

#### **Uses of eXtensible Business Reporting Language (XBRL) (7 hours)**

- Analyst
- Exploring XBRL
- Accessing financial facts from reports

**Total Hours: 54**

### **Additional Information**

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

**GCC Major Requirements**

No Value

**GCC General Education Graduation Requirements**

No Value

**Repeatability**

Not Repeatable

**Justification (if repeatable was chosen above)**

No Value

**Resources**

**Did you contact your departmental library liaison?**

No

**If yes, who is your departmental library liaison?**

No Value

**Did you contact the DEIA liaison?**

No

**Were there any DEIA changes made to this outline?**

No

**If yes, in what areas were these changes made:**

No Value

**Will any additional resources be needed for this course? (Click all that apply)**

- No

**If additional resources are needed, add a brief description and cost in the box provided.**

No Value