

# ACCT4399 – CURRENT CONCEPTS IN ACCOUNTING

PRACTICAL ANALYTICS|  
UNIVERSITY OF TEXAS AT EL PASO  
COLLEGE OF BUSINESS ADMINISTRATION

## GENERAL INFORMATION:

### Instructor

Paulette D. Rodriguez, CMA, MAcc

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- Office Hours:
  - By appointment: <http://www.calendly.com/paulette-CMA>
  - MW, 12noon- 1:30pm, CoBA Third Floor Calc Lab
  - TR, 10:30am – 12noon, CoBA Third Floor Calc Lab

### Class Times/Location

- TR 09:00am –10:20am; CoBA 311

## COURSE DESCRIPTION:

Overview of the process of data analysis. Data analytics have moved out of the academic world of statisticians to the practical world of technology. A variety of user friendly technologies bring powerful analytical capabilities to end users. Three major areas that comprise analytics are reporting, visualization and prediction. This course uses the latest in technology to show the practice of data analytics in the real world. You will experience practical applications of analytics through guided exercises and case studies.

## COURSE OBJECTIVES:

Data analytics has become a highly sought after skill in business, engineering, economics, government, services, science, health care and other domains. This course will explore the technology and practice of data analytics.

After completing the course, students will be able to

- Analyze data to generate information and knowledge that lead to informed decisions for businesses
- Author enterprise dashboards that are used to summarize and visualize data in a way that supports insight into trends and “what-if” analysis in real time.
- Show how business intelligence can be derived from data warehouses
- Create standard reports for business users
- Derive insightful trends using data mining techniques
- Apply the latest in analytics technology in real world case studies in the areas of business, entertainment, climate change etc.

## PREREQUISITES

- Basic computer literacy
- An introductory course in information technology covering information systems, internet, technology-enabled business, spreadsheets, databases, digital representation of data, basics of hardware and software, and business processes.
- Basic skills in Microsoft Excel – working with tables, formulae, sorting, filtering and charting
- Introductory course on statistics

## Course Outline

### Module 1– Course Introduction

Course objectives and outcomes  
 Making the case for analytics  
 Data driven decision making  
 Introduction to data analytics

### Module 2 – Slicing and Dicing

Basics of slicing and dicing  
 Pivot tables  
 Working with aggregation functions, hierarchies  
 Exceptions and conditions  
 Slicing and dicing multidimensional data (from cubes)

**Assignment:** Answer business questions by slicing and dicing multidimensional data from a data warehouse data source.

### Module 3- Reporting

What are reports? Where are they used?

**Assignment:** Create a formatted report based on live financial data (from SAP ERP) using SAP Crystal reports. Use SAP Crystal Reports to connect to a data warehouse, then author a monthly report that show the accounts receivables from customers.

Building reports from one or more data sources  
 Formatting reports  
 Creating summaries

### Module 4 – Data Visualization: Basic Charts

Visualization as a powerful tool for analytics  
 Types of charts  
 How to choose the right chart for displaying data  
 Multi variable data display

**Assignment:** Use data visualizations to gain insights into team performance from the ERP Sim business simulation.

### Module 5 – Dashboards:

What are dashboards, cockpits, scorecards?

**Assignment:** Model and implement a dashboard for key performance indicators for a company. Build an analytics mobile app based on data from a data warehouse. Test it on your mobile device.

How to author dashboards?

Adding interactivity  
 Deploying dashboards  
 Mobile Apps for Analytics

### Module 6 – Advanced Visualization:

Advanced chart types  
 Infographics: How to tell a data driven story  
 Mashups

**Assignment:** Build an infographic based on data of your choice. Infographic should communicate findings in a compelling way.

### Module 7 – Knowledge Discovery

Data mining

Accuracy in data mining

Data mining process

Machine learning

Descriptive vs. predictive analytics

**Module 8** – Descriptive data mining

Models for descriptive data mining

Clustering

Association analysis

**Module 9** – Predictive data mining

Models for predictive data mining

Regression

Decision trees

Classification

Forecasting, time series analysis

**Module 10** – Big data: Hype or helpful?

What is big data?

Challenges and promises of big data

Limitations and missteps of big data

**Module 11** – Analytics in the Decision Cycle

How does data analysis support decision making?

Automating analysis using advanced technologies.

Business cases using manual and semi-automated analysis

**Assignment:** Use SAP Predictive Analytics to model a data mining process from data acquisition to model validation.

**Assignment:** Use SAP Predictive Analytics to analyze various real world scenarios

**Assignment:** Analyze the multibillion row database from Walmart provisioned by University of Arkansas.

**Assignment:** Research a big data use case.

**Assignment:** Use skills from the previous 13 chapters to analyze data and make recommendations to improve business operations.