

Accounting 455 Audit Data Analytics
Winter 2025

Instructor: Dr. C. Janie Chang (cjchang@ucdavis.edu)
Classroom: Gallagher Hall 1213 (or TLC 2212)
Class hours: Wednesday 1:10-5:00PM
Office hours: Tuesday 1:00-2:00PM (GH 3217) or by Zoom
TA:

BUSINESS NEED/COURSE DESCRIPTION

In the era of “big data”, auditing entities of all types/sizes are analyzing large and diverse amounts of data. As a result, aspects of the financial statement audit need to change, if this service is to remain relevant and valued. This means auditors must use more technology-enabled data analytics in conducting audits.

The American Institute of Certified Public Accountants (AICPA) has stated: “Audit data analytics is the science and art of discovering and analyzing patterns, identifying anomalies, and extracting other useful information in data underlying or related to the subject matter of an audit through analysis, modeling, and visualization for the purpose of planning or performing the audit.”¹

The goal of this course is to synthesize data analytics theory and application to prepare students for the dynamics of real-world audit practice. Topics covered include diagnosing problems and issues (often in the face of uncertainty), analyzing relevant information, making responsible and ethical decisions, and reporting decision results and recommendations. The course focuses on analytical techniques and provides hands-on experience to develop skills with data analytics technologies related to auditing and accounting in general.

COURSE LEARNING OUTCOMES

Upon completing this course, students should be able to:

1. Apply critical thinking to identify and frame business problems for analysis.
2. Solve accounting and business related problems using appropriate analytics tools.
3. Create data visualizations to provide clear insights into accounting and other business data, to effectively communicate those insights, and to support recommendations in conducting audits.

¹ American Institute of Certified Public Accountants, Inc., *Audit Analytics and Continuous Audit, Looking Toward the Future*. (New York: AICPA, 2015), pp 92-93.

4. Recommend appropriate actions to address real-world problems in accounting practice.
5. Write effectively to communicate analysis results in the framework of the business problem.

PREREQUISITE

ACC 253. Accounting Information and Control Systems

TEXTBOOKS

Required

1. *Data and Analytics in Accounting*, 1st Ed., by Dzuramin, Geerts, and Lenk, Publisher: Wiley, 2023, ISBN # 978-1-119-80714-8
2. Articles and links on audit data analytics posted on Canvas

You are required to use **WileyPlus** to complete chapter-end homework. Please purchase **WileyPlus** (for homework) and get the access to the electronic version of the textbook (e-Book) through **UC Davis Equitable Access (EA) Program**.

UC Davis Inclusive Access Program:

- ❖ **Chapter-end problems of this course will be completed in WileyPlus, an online platform which includes the required textbook (as an e-book).**
- ❖ Discounted access for **WileyPlus** is provided through the **UC Davis Equitable Access Program** and will be billed to your student account.
- ❖ You can access all the assigned homework from ACC 455 Canvas site.
- ❖ For more information on Equitable Access, review online at the [Equitable Access Program](#).

UNIVERSITY DATES

January 3 Winter quarter begins

January 6 Instruction begins

March 21 Winter quarter ends

Please see <https://registrar.ucdavis.edu/calendar/quarter.cfm> for other key dates.

USE OF TECHNOLOGY

This is not a computer-skills course. However, it does require extensive use of the computer, as a tool, which all class assignments will involve. To achieve the course objectives, you will spend time (in/out of class) learning and using applications that support audit data analytics.

A PC-based computer is preferable to those with Apple/Mac operating systems as some of the software will work better on a PC or will not work on an Apple machine at all. However, if you still must use a Mac (due to the time/costs of switching to a PC, etc.), **you can install a Windows virtual machine on your computer such as Parallels or VMWare Fusion**. The virtual machine (VM) will simulate the Windows operating system on your Mac so you can run programs that are only available for PCs. VM software (e.g., Parallels) can be obtained from a site such as estore.onthehub.com.

During the quarter, you will be asked to download data and install software on your computer or to access systems online. Everyone's computer is set up a bit differently and you may experience technical difficulties. Therefore, do not assume that everything will always run smoothly. **Start assignments early to allow enough time to work through any technical glitches.**

Software Tools Used in this Class:

The following is a list of software we may use during the quarter:

- Microsoft Excel 2013 or newer, with Solver and Power Pivot add-ins for data staging and other advanced applications
- PowerBI (from Microsoft 365) and TABLEAU for visualizations (free download for faculty and students at <https://www.tableau.com/academic/students>)
- Alteryx (download at <https://www.alteryx.com/sparked/students> for "Education License" to access one-year free trial; detailed instructions will be provided to students)

EXAM AND QUIZZES

The final exam will be a case study. You will use the audit analytical tools and skills, which you acquired during the quarter, to analyze the case, answer questions, and solve problems.

Quizzes are administered throughout the quarter. Typically, they will ask questions about the reading materials but they may cover other topics as well.

COURSE ASSIGNMENTS

Assignments are designed to reinforce concepts from the lectures, discussions, and reading as well as to exercise your critical thinking and problem-solving skills. Some assignments may be done as part of a team or individually.

Complete all assignments in a professional manner so that the physical appearance is neat and orderly, and your thoughts are organized in a logical sequence. Unless otherwise indicated, handwritten documents are unacceptable.

Follow assignment instructions carefully to maximize your grade. **To receive credit for an assignment you must complete the assignment in the proper format and submit the assignment electronically before the deadline.** Failure to do so will result in a zero score on the assignment. **In general, be sure to support your answers with references, diagrams and figures, tables, and other documentation (to backup findings/results).**

COMPOSITION OF COURSE GRADE

Because activities may be added, changed, or omitted during the semester, the following point allocations are *approximate*. Any changes will be announced in class and on Canvas.

No.	Items	Points
1	Audit Data Analytics Assignments (WileyPlus and Alteryx)	300
2	In-class work	200
3	Term project	100
	<i>Total</i>	600

ACADEMIC INTEGRITY

Any observed or reported instance of academic dishonesty, as defined in the University of California, Davis Student Handbook, will be prosecuted to the fullest extent possible. During **any stage of the quarter**, if you deviate from the standards of academic integrity, you will receive a grade of **F** for the course. The University adheres to a strict policy regarding cheating and plagiarism. These activities will not be tolerated in this class. Become familiar with the policy (see UC Davis Code of Academic Conduct at <http://sja.ucdavis.edu/cac.html>).

STUDENTS WITH DISABILITIES

If you believe you have a disability that requires an accommodation, please contact the Student Disability Center at <https://sdc.ucdavis.edu/> and notify me. I will be happy to work with you to provide a learning environment with reasonable accommodation.

SYLLABUS

Please note that the instructor reserves the right to make changes on the syllabus as the quarter proceeds. The schedule or assignments may be changed during the quarter. Any changes will be announced in class and on Canvas. You are responsible for finding out what happened during class should you have to miss class.

PROPOSED ACC 455 SCHEDULE

Date	Discussion Topics	Assignments*
1/8	Ch 1: Data and Analytics in the Accounting Profession Excel Assignment working session	Excel Assignment
1/15	Ch 2: Foundational Data Analysis Skills Ch 3: Motivations and Objectives for Data Analysis Access Assignments 1 and 2 working session	Access Assignment
1/22	Ch 4: Planning Data and Analysis Strategies	Access Test
1/29	Ch 5: Analysis: Data Preparation	
2/5	Ch 6: Analysis: Information Modeling	Alteryx Assignment 1
2/12	Ch 7: Analysis: Data Exploration	Alteryx Assignment 2
2/19	XBRL Ch 7: Analysis: Data Exploration	Alteryx Assignment 3
2/26	Ch 8: Interpreting Data Analysis Results	Tableau Assignment

Date	Discussion Topics	Assignments*
3/5	Ch 9: Communicating Data Analysis Results	Power BI Assignment
3/12	Term Project	
3/19	Term Project	

*The due dates of chapter-end questions and problems are set in **WileyPlus/Canvas**.