

FINANCIAL DATA MANAGEMENT AND ANALYSIS

Spring 2026

ACCT-GB.2350 (Sections M1 and M2)



Instructor

Travis Ringger

Email: tringger@stern.nyu.edu

Phone: 801-367-3513

Office Hours: Wednesdays from 4PM - 6PM, in room 10-160

Office Location: 10-83

Course Description

The practice of accounting is fundamentally tied to data and our ability to analyze them. Whether the data reside in spreadsheets, databases, documents, or web sites, we can use them to gain valuable insights into the financial performance of a business. You may also hear popular terms like data science, big data, machine learning, or generative AI and wonder what they mean for a career in industry or professional services. This course provides concepts and skills necessary to translate accounting business problems into actionable proposals and to perform data analysis. Data analysis calls for (1) asking the right questions, (2) acquiring and transforming data, (3) analyzing data, and (4) effectively presenting results.

We introduce concepts in data management and analysis including Excel VBA, SQL (Structured Query Language), Python, and tools for visual analytics and programming. We discuss how to apply these skills to accounting-related areas such as fundamental analysis, management consulting, and auditing. In addition, we survey topics such as machine learning, generative AI, and unstructured data analytics, considering the impact of data analytics in industry and on the accounting profession. The course concludes with a final project to demonstrate end-to-end data analysis and presentation skills.

The objectives for the course are:

1. Demonstrate knowledge of terms, methods, and tools for data management and analysis
2. Demonstrate knowledge of trends in data management and analysis
3. Demonstrate how to acquire, transform, analyze, and visualize data
4. Demonstrate how to solve problems in accounting using data and analytics

Course Materials

Data Analytics in Accounting 2025 by Richardson et al (DAA): Please do not purchase the physical or electronic textbook on your own. You will need to **purchase directly** McGraw-Hill CONNECT using the assignment links provided within NYU Brightspace.

All course software will be available on Apps@Stern, but you may also install them on your own computers. Due to rapid advances in technology and subject to the availability of software licenses, this list may change during the semester. The goal is to learn concepts, not tools.

- Microsoft Excel (Mac & PC)
- SQLite (Mac & PC, open source)
- Power BI Desktop (free, Windows only Mac users: Use Apps@Stern)

- Notepad++ (open source, Windows only - Mac users: TextMate is a good alternative)
- Python & Jupyter Notebooks - available in Google Colab (Mac & PC)

Brightspace: I will be using Brightspace regularly to post class materials such as lecture slides, data, code, and homework assignments, and to communicate with you throughout the term. Please make sure you are correctly registered and checking the course site on a regular basis.

Grading Policy

Final grades will be determined as follows:

Assignments, Quizzes	35%
Midterm	20%
Final Project	35%
Class Participation	10%

Assignments & Quizzes: There will be assignments and a midterm to practice the application of key tools (Excel, SQL, Python, and Power BI) to data analysis problems. You must submit your completed work via Brightspace prior to the beginning of class; late work will not be accepted. I will not accept assignments in my mailbox, over the web, through email, etc. Solutions to assignments will be posted to Brightspace. Quizzes and assignments will be announced at least one week before they are assigned.

Midterm & Final Project: For the midterm, students will be assessed on their understanding of data analytics techniques. For the final, students will collaborate on a final project that demonstrates end-to-end data analysis skills. Details of this project will be introduced in the final weeks of the semester. Students can expect that successful projects will involve the following:

- Data preparation on a sample data set
- Execution of analytics on a sample data set
- Original analysis of the sample data set
- Presentation of novel insights based on the team's analysis
- Supporting documentation, scripts, and files

The individual assessment will build on the topic and content you explore in the group assignment.

Class Participation: I encourage you to participate fully and contribute to in-class discussions to get the most out of the curriculum. I will consider your level of participation and professionalism in your final grade. Because this curriculum incorporates in-class exercises, case studies, demonstrations, and discussions, your success depends on your attendance. Although we understand there are times when you may not be able to attend a class, habitual absences will hurt your performance. **During class, please silence all mobile devices and do not use laptops unless necessary.**

STERN POLICIES

We take pride in our well-rounded education and approach our academics with honesty and integrity. Indeed, integrity is critical to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Academic Integrity Policies as well as the NYU Stern Student Code

of Conduct, which includes a commitment to:

- Exercise integrity in all aspects of one's academic work including, but not limited to, the preparation and completion of exams, papers and all other course requirements by not engaging in any method or means that provides an unfair advantage.
- Clearly acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations (which should be designated with quotation marks), paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.
- Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to adversely affect the NYU Stern community.

STERN CODE OF CONDUCT

The Stern Code of Conduct and Judiciary Process apply to all students enrolled in Stern courses. For graduate students, information can be found here: <https://www.stern.nyu.edu/uc/codeofconduct>

To help ensure the integrity of our learning community, prose assignments you submit to NYU Brightspace will be submitted to Turnitin. Turnitin will compare your submission to a database of prior submissions to Turnitin, current and archived web pages, periodicals, journals, and publications. Additionally, your document will become part of the Turnitin database.

GENERAL CONDUCT & BEHAVIOR

Students are also expected to maintain and abide by the highest standards of professional conduct and behavior. Please familiarize yourself with Stern's Policy regarding In-Class Behavior & Expectations for Graduate and Undergraduate students.

<https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/code-of-ethical-conduct.html>

<https://www.nyu.edu/admissions/visiting-students/admitted-students/academic-policies.html>

and the NYU Student Conduct Policy

<https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-student-conduct-policy.html>

STUDENT ACCESSIBILITY

If you will require academic accommodation of any kind during this course, you must notify me at the beginning of the course and provide a letter from the Moses Center for Student Accessibility (212-998-4980, mosescsa@nyu.edu) verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the Moses Center for Student Accessibility, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation. For more information, visit the CSA website:

<https://www.nyu.edu/students/communities-and-groups/student-accessibility.html>

STUDENT WELLNESS

Our aim is for students to be as successful academically as they can, and to help them overcome any impediments to that. Any student who may be struggling and believes this may affect their performance in this course is urged to contact the Moses Center for Student Accessibility (see also the Student Accessibility section of this syllabus) at 212-998-4980 to discuss academic accommodations. If mental health assistance is needed, call the NYU's 24/7 Wellness Exchange hotline 212-443-9999. Furthermore, please approach me if you feel comfortable doing so. This will enable me to provide relevant resources or referrals. There are also drop-in hours and appointments. Find out more at <http://www.nyu.edu/students/health-and-wellness/counseling-services.html>

Graduate students can also reach out to the Academic Advising team at academicaffairs@stern.nyu.edu if you would like to receive more information or further support.

RELIGIOUS OBSERVANCES AND OTHER ABSENCES

NYU's [Policy on Religious Holidays](#) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. You must notify me in advance of religious holidays or observances that might coincide with exams, assignments, or class times to schedule mutually acceptable alternatives. Students may also contact religiousaccommodations@nyu.edu for assistance.

NYU Stern is committed to ensuring an equitable educational experience for all students regardless of identity or circumstances and strives to recognize the obligations its students have outside of Stern. Please review all class dates at the start of the semester and review all course requirements to identify any foreseeable conflicts with exams, course assignments, projects, or other items required for participation and attendance. If you are aware of a potential conflict, please contact me as soon as possible to discuss any potential conflicts to determine whether/how they can be accommodated.

LAPTOPS, CELL PHONES & OTHER ELECTRONIC DEVICES

The use of electronic devices (e.g., tablets or laptops), for the purpose of note-taking and in-class assignments only, is permitted. However, students should make every effort to avoid distracting their classmates or disrupting the class, including arriving early and choosing a seat that is less distracting for peers.

INCLUSION STATEMENT

This course strives to support and cultivate diversity of thought, perspectives, and experiences. The intent is to present materials and activities that will challenge your current perspectives with a goal of understanding how others might see situations differently. By participating in this course, it is the expectation that everyone commits to making this an inclusive learning environment for all.

TENTATIVE CLASS SCHEDULE

The following is a tentative schedule of classes, readings and assignments. I will adjust as circumstances and school holidays require.

CLASS #	DATE (M2, M1)	TOPICS	ASSIGNMENT
Unit 1: Data Analytics Tools & Data			
1	February 3, 4	Data Analytics in Accounting and Business <ul style="list-style-type: none"> • Demand for analytics • Overview of accounting analytics • Big data • Data mining • Other techniques 	DAA: Chapter 1
2	February 10, 11	Ask the questions and GenAI <ul style="list-style-type: none"> • Asking accounting questions • Identifying appropriate tools 	Excel: Power Query (Get & Transform) Learning Power BI Desktop
3	February **, 18	Master the Data <ul style="list-style-type: none"> • Data requests • Data quality • Extract, transform, load • Cleaning data 	DAA: Chapter 2 Resolve Common Data Problems Generate Summary Statistics Preview a Subset of Data Using a SQL Query
Unit 2: Data Analytics Models & Visuals			
4	February 24, 25	Perform the Analysis <ul style="list-style-type: none"> • Descriptive analytics • Diagnostic analytics • Predictive analytics • Prescriptive analytics 	DAA: Chapter 3 Descriptive Analytics Diagnostic Analytics Predictive Analytics Descriptive Analytics
5	March 3, 4	Share the Story <ul style="list-style-type: none"> • Data visualization • Sorting • Pattern recognition • Categorization • Outlier detection • Dashboards 	DAA: Chapter 4 Visualize Declarative Data Create Dashboards Visualize Exploratory Data

6	March 10, 11	The Modern Audit and Tests of Controls <ul style="list-style-type: none"> • Working papers • Continuous auditing • Data timing and frequency • Reperformance and recalculation • Segregation of duties and the authorization matrix • Field checks 	DAA: Chapter 5 Create a Common Data Model Create a Dashboard Based on a Common Data Model Setting Scope
MARCH 16 – 20: SPRING BREAK			
7	March 24, 25	Introduction to Python and Advanced Analytics	Midterm
Unit 3: Audit & Managerial Analytics			
8	March 31, April 1	Substantive Testing and Tests of Transactions <ul style="list-style-type: none"> • Automatic confirmations • Inventory valuation • Statistical analysis • Clustering and outlier detection • Benford's analysis 	DAA: Chapter 6 Evaluate Trends and Outliers Diagnostic Analytics Outlier Detection
9	April 7, 8	Generating key performance indicators <ul style="list-style-type: none"> • Why firms use key performance indicators • The balanced scorecard and finer metrics • Queries that generate KPIs • Evaluation of KPI production 	DAA: Chapter 7 Create a Balanced Scorecard Dashboard Advanced Performance Models
10	April 14, 15	Variance Analysis and Cost Prediction <ul style="list-style-type: none"> • Visualizations, continued 	Evaluate Job Costs Analyze Time Series Data
Unit 4: Financial Statement & Tax Analytics			
11	April 21, 22	Using financial statement data <ul style="list-style-type: none"> • XBRL • Calculating financial ratios • Using sparklines and other charts 	DAA: Chapter 8 Create a Horizontal and Vertical Analysis using XBRL Data Create Dynamic Common Size Financial Statements

12	April 28, 29	Natural Language Processing (NLP) in management disclosure and analysis <ul style="list-style-type: none"> • Text mining & NLP Tax Analytics Discussion	DAA: Chapter 9 Analyze Financial Statements Descriptive Analytics: State Sales Tax Receipts Calculate Estimated State Sales Tax Owed Calculate Total Sales Tax Paid
13	May 5, **	Final Exam & Projects	