

DATA MANAGEMENT AND ANALYSIS

Summer 2019

Tuesday and Thursday (5/28-7/2) and Friday (6/28)

ACCT-GB.6416.C1, 9:00-11:55 am, T-UC04

ACCT-GB.6416.C2, 1:00-3:55 pm, T-UC04



Instructor

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Course Description

The practice of accounting is fundamentally tied to data and our ability to analyze them. Whether the data reside in spreadsheets, databases, text documents, or public 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, and advanced analytics and wonder what they mean for a career in industry or professional services. This course provides concepts and tools for making sense of data and performing data analysis. From simple calculations to sophisticated statistical models, data analysis calls for (1) asking the right questions, (2) acquiring, transforming, and analyzing data, and (3) effective presentation of results. We introduce concepts in data management and analysis, review the use of spreadsheets and SQL (Structured Query), and introduce tools for visual analytics and statistical 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 and XBRL (eXtensible Business Reporting Language) and consider the impact of analytics in industry and on the accounting profession. The course concludes with a final project to demonstrate end-to-end data analysis 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

The course will require the following software:

- Microsoft Excel or equivalent spreadsheet software
- DB Browser for SQLite (open source)
- Tableau (academic license)
- Notepad++ or equivalent text editor (open source)
- R (open source)
- Rstudio (open source)

NYU Classes: I will be using NYU Classes regularly to post class materials such as lecture slides, data, codes, 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:

Homework Assignments	40%
Midterm Exam	20%
Final Project	30%
Class Participation	10%

Homework Assignments: There will be 4 homework assignments to practice the application of key tools (Excel, SQL, R, and Tableau) to data analysis problems. You must submit your completed homework via NYU Classes by 9 am on the due date; late homework will not be accepted. I will not accept assignments in my mailbox, over the web, through e-mail, etc. Solutions to homework will be posted to NYU Classes.

Midterm Exam: There will be one midterm exam. The exam will be a combination of multiple choice and short answer/essay questions about data analysis concepts and tools. Material will be taken from class lectures and readings. Participating in class exercises and completing homework assignments will best prepare you for the midterm. The exam is closed book, but you are allowed one sheet of notes (normal 8.5"×11" size, front and back, typed or hand-written).

Final Project: Students will be assigned to groups of 4-5 to collaborate on a final project that demonstrates end-to-end data analysis skills. Details of this project will be introduced following the midterm. Students can expect that successful projects will involve the following:

- 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

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.**

Small Group Lunches: This is completely voluntary. I am treating for lunch once a week (Wednesday 12-1pm) for up to 6 students at a time to chat in an informal setting. We meet in the KMC lobby at noon and go to the NYU Torch Club, which is two blocks from Stern (18 Waverly Place). To sign up, go to NYU Classes and click on the lunch signup link on the left side of the screen. It will open a Google Docs Excel file, where you can write your name for a specific date.

Be sure that your schedule is open before you sign up. If, however, you sign up and later realize that you cannot attend, then you must remove your name from the slot ASAP (at least 24 hours ahead of your scheduled slot) so that someone else may sign up. “No shows” are considered a mark against class participation.

If all slots are filled, then put your name on the waitlist. I will send emails occasionally to people on the waitlist to see if they can make last-minute openings.

STERN POLICIES

General Behavior: The School expects that students will conduct themselves with respect and professionalism toward faculty, students, and other present in class and will follow the rules laid down by the instructor for class room behavior.

Code of Conduct: As a student at Stern, you are expected to conduct yourself as a young business professional. The Stern School does not tolerate cheating, nor does your future employer. Please know that the penalty for cheating is an automatic grade of F for the course and appearance before the Student Disciplinary Committee. I am very strict on this issue. I will do what I can to help you learn the material in this course. All I ask is that you do not cheat yourself, your fellow classmates or the Stern School. Please see www.stern.nyu.edu/uc/codeofconduct for more information.

Students with Disabilities: If you have a qualified disability and will require academic accommodation, please contact the Henry and Lucy Moses Center for Students with Disabilities (CSD) and provide me with a letter from them verifying your registration and outlining the accommodations they recommend. Please see www.nyu.edu/csd for more information. If you will need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least two weeks prior to the scheduled exam time to be guaranteed accommodation.

CLASS SCHEDULE

The following is a tentative schedule of classes, readings and assignments. I may make adjustments as circumstances require. The regular classroom locations are T-UC04 for both Section I (ACCT-GB.6416.C1) and Section II (ACCT-GB.6416.C2). **The two sections will meet together in the afternoon on June 21 (Class# 9) and on June 25 (Class# 10).**

CLASS#	DATE	TOPICS	DUE
1	5/28 (Tuesday)	Introductory Concepts	
2	5/30 (Thursday)	Getting Started with Excel	
3	6/4 (Tuesday)	Relational Databases and SQL	HW1: Excel
4	6/6 (Thursday)	Statistical Programming with R I	
5	6/11 (Tuesday)	Statistical Programming with R II	HW2: SQL
6	6/13 (Thursday)	Big Data, XBRL, and Text Analytics	
7	6/18 (Tuesday)	Visual Analytics and Tableau I	HW3: R
8	6/20 (Thursday)	Visual Analytics and Tableau II	
9	6/21 (Friday)	Industry Perspective on Data Analytics (meet together)	
10	6/25 (Tuesday)	Midterm and Audit Analytics (meet together)	HW4: Tableau
11	6/27 (Thursday)	Project Work	
12	7/2 (Tuesday)	Final Project Presentations	