

MSBA 6030: “Financial Accounting” for Data Scientists

Syllabus

Section 1 Tuesday 1:00 - 4:30 PM Room: CSOM 2-215

Section 2 Tuesday 8:30 - 12:00 PM Room: CSOM 2-215

Last updated: September 14, 2018

1 Course Overview

1.1 Contact

- **Instructor:** Paul Ma (paulma@umn.edu). I use an email **whitelist**. To reach me, please use “6030” in the subject. Email best for administrative or logistics or other simple yes/no -like questions. For course content or more involved discussions, please visit me for office hours or talk after class.
- **Office Hours:** Use <https://calendly.com/paulma> to make an appointment at least 24 hours in advance; office located in Carlson 3-115. The TA for this course is Xinyuan Shao (shaox201@umn.edu): office hours are Fridays 1:00 to 3:00 pm located in CSOM 4-143.
- **Casual Fridays:** I host a lunch for students on select Fridays; to sign up go to <https://calendly.com/paulma>

1.2 Course Objectives

1. The intended objectives of this course
 - a. to help you develop intuition in asking the appropriate business question
 - b. to think critically about the data generation process and how domain knowledge intersects with model building
 - c. to provide you opportunities to analyze data about real firms (with their quirks) and answer meaningful questions
 - d. to not make you become an accountant
2. The intended takeaways of this course
 - a. a critical assessment of economic reality and the difficulties of objective evaluation of subjective data
 - b. the core principles of accounting (accruals and materiality) and their strengths and weaknesses in capturing economic reality relative to a bank account statement
 - c. the impact of incentives in creating biases in the data
 - d. the fundamental difference between prediction and causality and thinking of causality as a missing data problem
 - e. awareness that methodology is not enough — creativity in collecting data also critical
 - f. the future of analytics and the need to continuing learning and improving one’s self

1.3 Course Requirements and Grading Policy

There is no textbook. I will provide all course notes or supplementary material on Canvas (canvas.umn.edu). Certain concepts rely on statistics peripheral to this course that I provide reference resources. For data assignments, we will be using Python+R. Your grade will be determined based on the following components:

Participation	15%
Homework	35%
Midterm	25%
Project	25%
<hr/> Total	<hr/> 100%

1. Participation refers to a) in-class participation, b) self-assessment at the end of each class, and c) case discussions
2. Homeworks/midterms/presentations are due at **12:01 am** local time on Tuesdays to ensure that you have some sleep.¹ There are 5 case homeworks + 2 data homeworks + midterm + project. You are encouraged to work in groups of 4 or less for the case homeworks and project (designate a single person to turn it in), but you are individually responsible in case discussions. Both the midterm and data homeworks are individual assignments.
3. The midterm is take-home due within a week of assignment date.
4. The project is a group assignment where you will be asked to provide a data-driven assessment of a company's fundamentals (strengths and risks) to help your client (investor) make an investment decision. It will require a) data collection b) analysis using techniques developed in this course and c) interpretation with business domain knowledge. The final output will be a white paper + in class presentation in the final class in front of your peers.
5. Questions regarding grading may be directed to the TA. Late assignments of any kind will be penalized unless a documented emergency applies.

2 Course Policies

2.1 No Electronics

A growing body of evidence indicates that students learn less when they use computers or other smart devices during lectures.² Laptops and other devices not only harm the student, but also distract nearby classmates as well.³ Based in part on this evidence, I have instituted a no electronics policy in all of my classes. You are free to check on your devices during breaks. For certain activities, this restriction will be lifted, and I will inform you ahead of time if this is the case.

2.2 CSOM Course Grading Policy

In 2005, the results of a comprehensive study of grading in the Carlson School were presented to the faculty. In response to the conclusions of the study, the Carlson School faculty developed and approved a grading policy that mandates the following: the median grade for this course must be a B+.

2.3 Academic Misconduct

Academic integrity is essential to a positive teaching and learning environment. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else's work as your own, can result in disciplinary action.

The Carlson School defines academic misconduct as any act by a student that misrepresents the student's own academic work or that compromises the academic work of another. Academic misconduct includes but is not limited to: cheating on assignments or examinations, plagiarizing, misrepresenting as one's own work any work by another, submitting the same paper or substantially similar papers to meet the requirements of more than one course without the approval and consent of the instructors, or sabotaging another's work. Within this general definition, however, instructors determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct face penalties ranging from a grade reduction to suspension from the University.

I understand this statement to mean that (1) you must not misrepresent someone else's work as your own, (2) you must not interfere with another student's academic efforts and (3) you must not aid another student in committing either of these two acts.

The standard response to a violation of this statement is that I will assign such students the course grade of "F".

¹Credit to the 6030 alumni who made this suggestion.

²<https://journals.sagepub.com/doi/abs/10.1177/0956797614524581>

³<https://www.sciencedirect.com/science/article/pii/S0360131512002254?via%3Dihub>

3 Course Schedule (preliminary)

Class	Date	Lecture	Case	Guest	Due
1	6-12-2018	Course overview			
2	6-19-2018	Performance evaluation and limitations	Kansas City Zephyrs		HW1
	6-26-2018	No class			
3	7-3-2018	Incentives and governance	General Electric		HW2
4	7-10-2018	Beyond GAAP	Iphone		HW3
5	7-17-2018	To disclose or not to disclose?	Molex		HW4
6	7-24-2018	Earnings management	Biovail		HW5
7	7-31-2018	Fraud detection			Midterm
8	8-7-2018	Valuation and stock returns prediction			Data HW1
9	8-14-2018	Future of accounting and analytics		Jack Kramer	Data HW2
10	8-21-2018	Presentations			