

UNIVERSITY OF CALIFORNIA, DAVIS

Introduction to FinTech

MGT 490B-5

Professor Keer Yang

In Person (Davis Tuesday 2:10pm-4:00pm)

Spring 2024

General Information

Instructor: Keer Yang

Email: kkeyang@ucdavis.edu

Professor Office hours: TA

COURSE DESCRIPTION

This is an introductory course designed primarily to address the needs of students in an MBA program to understand the financial technology revolution. Technological advancements are reshaping key functions of financial intermediation, such as payments, capital raising, investments, uncertainty and risk management, and market price determination. We will study Fintech from the perspectives of different functional parts in the financial markets. We will incorporate economic analysis in valuating fintech opportunities and hands-on experience in understanding the unique empirical features of different machine learning and artificial intelligence models. This course aims to provide business professionals with a basic understanding of foundational fintech technologies like blockchain, core financial services practices and operations, and to make them comfortable with understanding evolving methodologies like machine learning and artificial intelligence.

(1) Fintech in Lending

Fintech lending works by using digital technology tools and complex credit models to help lenders issue loans online through websites or mobile apps. This includes real estate loans, mortgages, and all types of credit offered by financial institutions. Traditional institutions also incorporate these tools into their services. In this section, our aim is to understand how their new technology is evaluated in the finance sector. We will also attempt to grasp the unique characteristics of their products resulting from the application of digital technology and complex credit models.

(2) Fintech in Trading

New technologies are used by capital market participants. In this section, we hope to understand how asset managers should use different tools to guide their asset management practices. We will also study how other participants, including analysts and CFOs, could or will be adopting to this new era. For example, given the wide application of language models, how do asset managers and analysts utilize their unstructured financial data systematically? Will CFOs communicate with the market differently in the fintech era?

(3) Payment

The payment system is revolutionized by new technology. We will study how payment companies adapt to these changes.

(4) Blockchain and Cryptocurrencies.

In this section, we will study blockchain and cryptocurrencies from a finance perspective. How do these technologies affect the practice of financial services? We will also study the pioneering cryptocurrency Bitcoin and its underlying principles.

(5) Financial Inclusion and Fintech regulation

Technology brings progress but also potential challenges. We will study whether Fintech could foster financial inclusion and how regulators should address these challenges.

PREREQUISITES

This course will incorporate a basic review of fundamental finance concepts at each session. Foundation of Finance or equivalent is highly recommended. Although we will aim to understand some empirical properties of the models used by Fintech firms, we will mainly focus on understanding the characteristics of the products and services provided by the fintech firms, not the models per se. The course is designed to be friendly to students who do not have technical backgrounds.

REQUIRED TEXTS AND COURSE MATERIALS

Textbooks and Lecture Notes: No textbook is required for this course. I will post self-contained lecture notes online. Some supplemental reading links will also be provided.

Cases: We will provide two cases in the course pack.

GUEST LECTURES

There will be 2-3 guest lectures. Leaders in the FinTech industries will be invited to share their insights. The guest lectures provides a complement to what we taught on specific topics.

EVALUATION

Grading will be based on the following four components:

The final grading distribution will be decided at the end of the quarter, after considering all the work. There will not be no “forced curve”, and students will not be competing with one another for a limited number of grades.

Homework assignments	30%
Group Case Writeups	30%
Class participation	10%
Group Final Project	30%

3) HOMEWORK ASSIGNMENTS

There are in total two homework assignments, homework 1 (15%) and homework 2 (15%). Homework is to be submitted via Canvas by specified due date/time. These are to be completed individually, but you may study together with other students before completing it.

Only verifiable medical emergencies will be an excuse (provided that it is submitted promptly). Late homework will be accepted for 50% credit, but only up until when the answers are posted. No assignments shall be accepted after the end of the last class. In completing the assignments, you may not use any materials from previous offerings of the course.

4) CASE WRITEUPS

Two case writeups are to be done in groups of three or four students and submitted via Canvas. All members of the team will receive the same grade on case writeups. Students are responsible for printing names of all students on the cover page of writeups. Students' participation in case discussions in class will be individually assessed and will be part of the students' participation grade (see below). In completing the case writeups, you may not access any case solutions or memos written by anyone other than your team.

In forming teams, students with and without previous finance backgrounds are asked to mix and match so that each team consists of some students with background and some students without. I will post more information on Canvas. **All** team members should make an effort and contribute to the case write-up. To avoid free-riding problems, individual members' grades will be affected if other team members express concerns (with evidence) that a team member has not made sufficient contributions to the case studies.

5) CLASS PARTICIPATION

Students are expected to attend all classes and come prepared by reading the assigned chapters and any activities as announced in the previous week. Highly rated class participation involves being prepared, providing thoughtful comments and questions, engaging actively during in-class problem-solving segments, and contributing insights to case and other discussions (including Canvas posts).

MAKE-UP POLICY

If a student is unable to take an exam or quiz during the scheduled time for personal or professional reasons, that student must provide a written request to make alternative arrangements at least one week prior to the scheduled exam. Students will not be allowed to make up the exam after the scheduled exam has been administered.

RIGHTS AND RESPONSIBILITIES

All participants in the course, instructor and students, are expected to follow the UC Davis [Principles of Community](#), which includes affirmation of the right of [freedom of expression](#), and rejection of discrimination. The right to express points-of-view without fear of retaliation or censorship is a cornerstone of academic freedom. A diversity of opinions with respectful disagreement and informed debate enriches learning. However, in this course, any expression or disagreement should adhere to the obligations we have toward each other to build and maintain a climate of mutual respect and caring.

You are expected to take UC Davis's [Code of Academic Conduct](#) as seriously as we do. You were given this code of conduct with explicit explanations of violations (e.g. plagiarism, cheating, unauthorized collaboration, etc.) and your responsibilities in regard to them during orientation, and you signed a statement affirming that you understand it. Academic conduct violations will not be tolerated, and your

instructor will not hesitate to turn violators over to Student Judicial Affairs. If you are uncertain about what constitutes an academic conduct violation, please refer to the code linked above, contact your instructor, or refer to the Office of Student Judicial Affairs. All material in the course that is not otherwise subject to copyright is the copyright of the course instructor and should be considered the instructor's intellectual property.

ACADEMIC PARTICIPATION REQUIREMENT

Students are required to complete their Academic Participation verification no later than the quarter add deadline. The link for this is provided below:

<https://participate.ucdavis.edu>

STATEMENT ON ACCOMMODATION

UC Davis is committed to educational equity in the academic setting, and in serving a diverse student body. All students who are interested in learning about how disabilities are accommodated can visit the [Student Disability Center](#) (SDC). If you are a student who requires academic accommodations, please contact the SDC directly at sdc@ucdavis.edu or 530-752-3184. If you receive an SDC Letter of Accommodation, submit it to your instructor for each course as soon as possible, at least within the first two weeks of a course.

SAFETY AND EMERGENCY PREPAREDNESS

UC Davis has many resources to help in case of emergency or crisis. While reviewing campus [Emergency Information](#), you may want to register for UC Davis Warn Me and Aggie Alert, which will give you timely information and instructions about emergencies and situations on campus that affect your safety. If there is an emergency in the classroom or in non-Davis locations, follow the instructions of your instructor.