



FINA 5522: Financial Technology
MFin Summer 2026

Instructor	Soheil Ahmadi
Email Address	SoheilAhmadi@cunet.carleton.ca
Class Times	Mon 18:00 – 21:00
Modality	In-person
Office Hours	Online Via Zoom-It Requires Booking
Office Location	N/A
TA Name/Email	N/A

Pre-Requisites & Preclusions:

FINA 5502 OR FINA 5505
<https://calendar.carleton.ca/undergrad/courses/BUSI/>

Course Description/Instructor’s Statement

Carleton Calendar Description

Explores emerging technologies in financial markets; and more broadly, examine the role of technological advancement and disruption in markets. Topics include blockchain and cryptocurrencies, robo-advising, peer-to-peer lending, the role of social media in financial markets, algorithmic and high-frequency trading, and artificial intelligence and applications.
<https://calendar.carleton.ca/grad/courses/FINA/>

Instructor’s Course Description:

Financial technology is reshaping the architecture of financial markets, institutions, and intermediation. Innovations such as blockchain, AI, cryptocurrencies and stablecoins, smart contracts, decentralized autonomous organizations(DAOs), decentralized physical infrastructure networks (DePIN), digital payments, peer-to-peer lending, algorithmic trading, social media-driven market activity, artificial intelligence, and the emerging agentic economy are challenging traditional models of finance while creating new opportunities, risks, and regulatory questions.

This course provides a systematic and applied introduction to the major technologies, business models, and economic forces driving the FinTech sector. Rather than treating FinTech as a collection of isolated innovations, the course examines how technological change alters the production, distribution, and governance of financial services. Students will explore how digital platforms, decentralized systems, smart contracts, DAOs, DePIN models, data analytics, AI systems, and autonomous economic agents transform core areas of finance, including payments, lending, investment management, trading, market information, financial decision-making, governance, and infrastructure provision.

The course is designed for Master of Finance students who seek to understand both the technical foundations and financial implications of emerging technologies without requiring an advanced programming or engineering background. Through lectures, case discussions, academic and industry readings, and guest speakers, students will develop a working knowledge of key FinTech concepts while critically evaluating their applications in real-world financial markets.

A central theme of the course is that FinTech is not merely about technology adoption; it is about the redesign of financial intermediation, trust, risk, infrastructure, governance, and market structure. Students will examine why some innovations disrupt incumbent institutions while others become absorbed into existing financial systems. The course also considers the role of regulation, venture capital, consumer adoption, data governance, decentralized infrastructure, autonomous agents, and artificial intelligence in shaping the future of finance.

By the end of the course, students should be able to analyze FinTech innovations not only as technological developments, but also as financial, economic, strategic, and regulatory phenomena.

Course Learning Objectives:

1. **Explain the core technologies and business models underlying major FinTech innovations**, including blockchain, cryptocurrencies, smart contracts, DAOs, DePIN, digital payments, robo-advising, peer-to-peer lending, algorithmic trading, artificial intelligence, financial data analytics, and the emerging agentic economy.
2. **Analyze how technological innovation changes financial intermediation, market structure, risk, trust, governance, and competition** across areas such as payments, lending, investment management, trading, capital formation, and financial infrastructure.
3. **Evaluate the financial, strategic, and regulatory implications of emerging FinTech applications**, with attention to both opportunities and risks for financial institutions, startups, investors, consumers, policymakers, and decentralized communities.
4. **Apply academic and industry frameworks to assess real-world FinTech cases**, including the viability, scalability, governance, and market impact of new financial technologies, decentralized protocols, autonomous-agent systems, and platform-based financial services.

Required/Optional Materials & Prices

- **Students are not required to purchase textbooks for this course.**
- Students are expected to purchase a small **Case Study Package** from Ivey Cases costing approximately 20\$. The instruction on how to create an account and purchase the case pack will be posted on Brightspace.

Grading Scheme

Quizzes	15
Individual Presentation	20
Participation and Attendance	20
Case Study Analysis (Group)	15
Final Project	30
*Final Group Report (15%)	
*Final Group Presentation (15%)	

TOTAL	100%
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Policies & Accommodations

<https://students.carleton.ca/course-outline/>

<https://carleton.ca/pmc/current-students/academic-accommodations/>



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Evaluation Details

1- Participation & Attendance (15%)

Students in higher level courses are expected to participate actively in class discussions, contribute discussion questions for the class to consider. Effective participation in class requires preparation (readings, assignments completed on time, etc.) and regular attendance. Students are expected to be present in class. Regular attendance and participation enhance the learning environment for everyone. Note that the participation component of the course grade is based on regular attendance and active engagement in class. Please be proactive in situations where you will be absent, if you experience an emergency, or anticipate a prolonged absence for any reason, please contact me. Attendance will comprise 7.5% of your overall course grade.

How class works: Each week I will provide you with readings (i.e., articles, book chapters, and/or case studies) related to the course. You will be expected to read the articles and/or case studies prior to coming to class.

2- Quizzes (20%)

During the semester, there will be *four in-class quizzes*. These *3~5 minute quizzes* will be graded and will each be worth 3.75 % of your total course grade. Quizzes will be held at the beginning of class; therefore, being on time is critical. You must be in class, on time, and prepared to receive these points. The only way to ensure you do not miss a quiz is to attend the class. These quizzes are primarily intended to (1) provide an incentive for you to come to the class prepared, and (2) to

provide an opportunity to demonstrate your personal knowledge of theories and concepts related to the class.

3- Individual Presentations (20%) - Selected topic/theory/methodology/Journal Articles

Deliverables:

- 1- Inform me of the date you would like to present your selected topic/paper by May 17, 11:59 p.m.
- 2- Choose a topic/concept from the list provided at the bottom of this section.
*The topics are not limited to this list; therefore, if there is another topic that you are more passionate about and/or have more expertise in, and it still falls under the FinTech umbrella, you are more than welcome to inform me of your topic. After I confirm, you can prepare your presentations.
- 3- You will have 8 minutes to present your work followed by a 2 minutes Q and A
- 4- You must prepare 3 to 5 slides (excluding the reference page) to facilitate your presentation.
 - a. Please ensure your slides are visually professional and cohesive.
 - b. Please ensure your slides are **not text-heavy**.
 - c. Please ensure the references are included as a separate page at the end of your slides.
- 5- For those of you who choose to present a journal article:
 - a. You can use [Google Scholar](#) or Carleton's Library search tools to look for papers on your topic of interest.
 - b. The papers must be published in 2020 or after. You can use filter tools to only see relevant dates.
 - c. Find at least two papers and share those with me no later than **seven days** before your presentation. I will select one of the papers and inform you in less than 48 hours from the point you submitted the papers.
 - d. You will have **Eight Minutes** to present the paper, and the following components of the paper need to be discussed:
 - i. The title/Topic and how it relates to this course
 - ii. The main research question(s) that the paper investigated
 - iii. The research method that was used (survey, interview, etc.)
 - iv. The primary findings of the paper
- 6- Other students are expected to come to class prepared. For each presentation, the class will have two to three minutes to make relevant comments or ask questions.

4- Case Study Analysis (Group) (15%)

The objective of the Team Project is to test the depth of your knowledge of the FinTech concepts and theories while trying to apply them to real world business challenges. Equally important, this is an opportunity for you to enhance your presentation skills.

Each team* of three will be assigned a case study (Case #1, #2, or #3), and the order of presentations will be assigned randomly. The class schedule outlines when each case will be presented and which teams are responsible for each case.

**Teams are assigned by me in our first session.*

The following items are expected to be covered in your presentation:

- a. Clear and concise problem statement
- b. Key points from the analysis of the case
- c. Alternative solutions to address the case issue/problem
- d. Recommendations

Deliverables:

- 1- A slide deck with at least 10 slides is required.
- 2- A 15-minute team presentation is expected.

5- Final Project (Group) (30%)

Final projects are completed in teams of 3-4 people (depending on the enrollment size). They should be from one of the below two options:

Option (i) Explorations of a FinTech startup idea in the form of a preliminary business plan;
or

Option (ii) A quantitative research and data analysis project on a novel FinTech dataset (e.g., blockchain or decentralized marketplaces data), where you obtain, clean and conduct preliminary analysis on the data.

IMPORTANT: By May 18, 11:59 p.m., each group must submit their decision on which type of final project they are choosing to conduct, via email. Only one member should send the confirmation email while Ccing the rest of the group members in that email.

Deliverables:

- 1- Each team will do a 15-minute presentation of their project on June 18th (15% Mark).
 - a. A slide deck with at least 10 slides is required.
 - b. An APA-style reference page with all the sources used is needed.
- 2- A 6-8 page written report that describes your business plan or data-driven research project due on project on June 20th (15% Mark).
 - a. Those who chose Option (ii) must accompany their final report by the coding scripts they developed to obtain the data.

NOTE: The details, including the evaluation criteria for the final project will be provided on Brightspace prior to the first session.

Tentative Course Schedule

This is what we will do together this semester. Little things, like which readings are assigned, may be changed by your instructor. Big changes will be made in consultation with the class. All of this will be posted to Brightspace and any changes will be made to the Moodle site instead of this static document. *Please note the rows highlighted in **Purple** are important tasks that you must pay close attention to.*

#	Dates	Lecture Topic/Readings/Preparation	Tasks/Deliverables/Assessment
1	May 11	<ul style="list-style-type: none"> - Welcoming & Reviewing Syllabus - DeFi, Blockchain, Bitcoin Whitepaper - Guest Speaker: Keith Grossman, President at MoonPay 	<ul style="list-style-type: none"> - Readings: Readings on Brightspace, - Selection of individual presentation date and topic, deadline, May 17th, 23:59 p.m. - Inform me of your plan for the final project. deadline, May 18th, 23:59 p.m.
2	May 25	<ul style="list-style-type: none"> - Decentralization, Smart Contracts, DAOs, DePIN, Building in Public - Case Study #1 Presentation - Guest Speaker: Jalil Wahdat, THE Developer at Visuals Value (VV) 	<ul style="list-style-type: none"> - Readings: Readings on Brightspace, Case Study #1 - Quizz#1 - Individual Presentation #1-3
3	Jun. 1 st	<ul style="list-style-type: none"> - Stablecoins and payments, Regulatory Landscape - Case Study 2 Presentation - Guest Speaker: Maja Lapcevic, SVP Digital Assets and Blockchain Commercialization, Mastercard 	<ul style="list-style-type: none"> - Readings: Readings on Brightspace, Case Study #2 - Quizz#2 - Individual Presentation #4-6
4	Jun. 8	<ul style="list-style-type: none"> - Agentic Economy, AI in Finance - Case Study #3 Presentation - Guest Speaker: TBA 	<ul style="list-style-type: none"> - Readings: Readings on Brightspace, Case Study #3 - Quizz#3 - Individual Presentation #7-9
5	Jun. 15	<ul style="list-style-type: none"> - Peer-to-peer lending, Automated Market Makers (AMMs), Prediction Markets - Guest Speaker: TBA 	Readings: Readings on Brightspace
6	Jun. 18	<ul style="list-style-type: none"> - Tokenizes Stocks, Hyperliquid - Final Project Presentations 	<ul style="list-style-type: none"> - Readings: Readings on Brightspace - Quizz#4

			- Final Projects Reports Due June 20 th , 11:59 p.m.

***Refer to Academic Calendar for dates University Closed Dates and Holidays**
<https://calendar.carleton.ca/academicyear/>

Appealing Grades

Despite my efforts to be fair with the grades, some of you will not be happy with some of the marks you receive. However, a poor mark is not sufficient to appeal your grade. Please only appeal a mark if you genuinely believe the given grade does not accurately reflect the quality of the work (please note that quality and effort are not the same). To appeal, you must write a memo outlining why you think your assignment or answer answered the question better than the mark you received indicated. You should not include any additional information (such as what you know now, or what you meant at the time). Simply explain how the original answer you wrote answers the question better than I thought it did. Appeals can be no longer than 1 PAGE, DOUBLE SPACED and should state your argument as succinctly as possible. Memos should be submitted no earlier than 1 WEEK AFTER the assignment or exam has been handed back and no later than 2 WEEKS from that point to submit. After receiving your appeal, I first read your reasons; if they are compelling, then I will re-mark the exam or assignment in its entirety. This means that your overall mark could go up or down.

Timeliness of Submitting Deliverables

Assignments are to be submitted to Moodle before the beginning of class that it is due. Late assignments are considered missed. Missed assignments can be submitted for partial marks, if timely communication was done. You can make up for missing assignments with a full mark consideration if the assignment was missed due to incapacitating illness or extenuating circumstances (e.g., family or personal emergency). In such cases, you must provide me with appropriate documentation.

Name Cards

For this class, you will be provided with a name card. For each class, I ask you to sign the back of your card and write a comment about the day's class. The comment could be a question or a general comment about the material, such as what you liked or did not like. Name cards will be collected at the end of each class and returned to you at the beginning of each class. Please note that this is an attendance check, and counts as class participation (10% marks): this helps me to assess your responses to the class, and I will read your feedback after every class to make sure that I am delivering the class in the best possible way. If the name on your name card is incorrect or differs from what you would prefer to be called, please draw a single line through the name and clearly write the correct name in large letters using a Sharpie marker.

Email

I will dedicate several hours per week to responding to students' emails. I do my best to get back to you in less than two business days and during business hours; however, you may not hear from me in the evenings or on weekends/holidays.

In case that several students will ask me similar questions, instead of replying to each of them, I will address the situation in the next class session. That way, I ensure all students will have access to the information.

Midterm and Final Exam

*This course has only four in-person quizzes accounting for 15% of your final grade.

*No Midterm or final exam is scheduled for this course.

e-Proctoring

If e-Proctoring is implemented for digital exams, please note that tests and examinations in this course will use a mandatory remote proctoring service provided by Scheduling and Examination Services. You can find more information at <https://carleton.ca/ses/e-proctoring/>.

Students are responsible for ensuring that the application is working properly on your computer during the exam. Failure to ensure proper functioning of CoMaS will constitute a violation of the exam rules and may be grounds for an allegation that you have violated the Academic Integrity Policy.

The minimum computing requirements for this service are as follows:

Hardware: Desktop, or Laptop

OS: Windows 10 or higher, Mac OS 10.14 or higher

Internet Browser: Google Chrome, Mozilla Firefox, Apple Safari, or Microsoft Edge

Internet Connection (High-Speed Internet Connection Recommended)

Webcam (HD resolution recommended)

Note: Tablets, Chromebooks, Smartphones and Windows-based tablets are not supported at this time.

Deferred In-Class Tests:

In the event that you are unable to write a midterm, test, or other scheduled assessments due to extenuating circumstances (such as a death in the family, illness, etc.), you must provide appropriate supporting documentation to your professor. Upon review, a deferred test may be offered. Please note that students who do not provide valid documentation or fail to offer a reasonable explanation for missing an assessment will receive a grade of 0% for that test.

Use of Generative Artificial Intelligence

This is an AI-forward course. Students are expected to use generative-AI tools (e.g., ChatGPT, Claude, Copilot) as thought partners and assistants to enhance the quality of their work. Assignments will be graded assuming students had full access to AI support. Use these tools responsibly. That is, verify outputs, apply your own judgment, and cite AI use when relevant. The goal is not to outwit AI but to elevate your learning through it. You can access resources related to citing Generative AI on the [MacOdrum Library website](#). Additional resources are also available on Carleton's [Artificial Intelligence Hub](#).

Contribution to Program Learning Goals (MFin):

MFin Learning Goal	Not Covered	Introduced	Taught but Not Assessed	Taught <u>and</u> Assessed
MF1 Ethical and Professional Conduct <i>Graduates will conduct themselves in alignment with the CFA Code of Ethics and Standards of Professional Conduct.</i>		✓		
MF2 Financial Markets, Institutions, and Instruments <i>Graduates will demonstrate an understanding of financial markets, instruments, and institutions.</i>				✓
MF3 Portfolio Management <i>Graduates will understand the motivations of investors and manage an investment portfolio that achieves those objectives.</i>		✓		
MF4 Data Analysis <i>Graduates will be proficient in data management, analytics, and modeling.</i>		✓		
MF5 Communication <i>Graduates will be effective communicators.</i>			✓	

ADDITIONAL INFORMATION

Course Sharing Websites:

Materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

Group work

The Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership, and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

Grading

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:
WDN = Withdrawn from the course
DEF = Deferred

Academic Regulations

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

Requests for Academic Accommodation

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical*

and Other Extenuating Circumstances, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

Pregnancy Accommodation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please review the [pregnancy academic accommodation process](#).

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please review the [religious academic accommodation process](#).

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Centre website](#).

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit the [Equity and Inclusive Communities website](#).

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the [Senate Policy on Accommodation for Student Activities \(PDF, 25 KB\)](#).

Academic Consideration for Medical and Other Extenuating Circumstances

Due to medical and other extenuating circumstances, students may occasionally be unable to fulfil the academic requirements of their course(s) in a timely manner. The university supports the academic development of students and aims to provide a fair environment for students to succeed academically. Medical and/or other extenuating circumstances are circumstances that are beyond a

student's control, have a significant impact on the student's capacity to meet their academic obligations, and could not have reasonably been prevented. Students may request Academic Consideration for Coursework or Other Academic Deliverable. For further information please review the [Procedure for Academic Consideration](#) and the [FAQ page](#).

Scheduling and Examination Support

Scheduling and Examination Services provides various supports for both in-term and end-of-term tests and exams. Details can be found on the [Exam Support website](#).

Academic Integrity:

Violations of academic integrity—presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student—are a serious academic offence, weaken the quality of the degree, and will not be tolerated. Penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>

Centre for Student Academic Support:

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: <https://carleton.ca/csas/>

Other Important Information:

- Students must always retain a copy of all work that is submitted.
- All final grades are subject to the Dean's approval.
- For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton cmail account. If you do not have or have yet to activate this account, you can do so by visiting <https://carleton.ca/its/get-started/new-students-2/>