

**Seattle University**  
**Albers School of Business and Economics**

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**FINC-5910-01 – Introduction to FinTech**

Instructor: Dr. Cathy Xuying Cao, CFA  
Spring Quarter 2022

### **Class Details**

Class Delivery	In-person class under normal situation and virtual learning in special cases
Class Meetings	<b>Thursday 6:00 PM – 8:40 PM Pigott 102</b>
Course Web	Canvas <a href="https://seattleu.instructure.com/">https://seattleu.instructure.com/</a>

### **Instructor Information**

Office Phone	(206)296-5712
Office Location	Pigott 519
Email Address	<a href="mailto:caoc@seattleu.edu">caoc@seattleu.edu</a>
Office Hours	Wednesday 12:45 pm - 1:30 pm (Synchronous Q&A Session) Thursday 4:50 pm - 5:30 pm or by appointment
Other	I strongly urge you to <b>use email to contact me</b> . I will check my email daily on weekdays and occasionally on weekends.

Also, please feel free to post your questions on Canvas Discussions. I will create a Discussion Board for each topics. Your questions posted on Discussions will be beneficial to other students.

### **Required Texts & Materials**

Teaching materials are drawn from research papers, survey reports, articles, news or independent media, and periodicals. There are assigned class materials for each class. I expect you to be well-prepared before our class meeting.

All materials and handouts required for this class will be available via Canvas course website. You are responsible for accessing the appropriate class site and downloading any information or install software that is pertinent to this class.

## Pre-requisites, Co-requisites, & other restrictions

This class will assign assignments on business analysis, stock valuation, and trading strategies. Thus, students are highly recommended to successfully complete FINC5050 before taking this course. Successful completion of FINC5100 is preferable.

You are expected to grasp 1) company or securities analysis and industry analysis and 2) portfolio construction and performance analysis. To understand how technology is being used in these applications, we will apply a variety of tools to analyze real world examples and data. Programming knowledge is not a prerequisite but a desire to acquire that skill is. We will be using *Python* as a tool to conduct financial analysis.

## Course Description

Digital innovations have reshaped the finance industry, leading to the emergence of a unique technology sector in finance, the financial technology (FinTech). FinTech has changed how financial information is disseminated, processed, and analyzed. Individual investors and financial institutions that can leverage these new technologies have a leading edge.

The course provides an overview of the most significant technological advances that radically change the landscape of the financial industry focusing on artificial intelligence, blockchain technology and cryptocurrency, crowdfunding, and data analytics. The course discusses the opportunities and challenges in the development of the FinTech industry from the perspective of a financial technology company, financial institution, consumer, and an investor. Topics include, but not limited to, the developments of FinTech in: (1) blockchain technology and smart contract, (2) wealth management, (3) insurance, (4) lending, (5) capital raising, and (6) machine learning and data analytics using Python.

This course will **NOT** teach you how to trade cryptocurrencies. There are lots of online sources on this topic.

This course will introduce Python in Finance. **If you are reluctant to learn Python**, you may consider alternative course.

## Learning Outcomes

On successful completion of this course, you will be able to reach the following learning outcomes of Seattle University Master of Science in Finance (MSF).

- Justify values for both financial and real assets by applying appropriate valuation methods and principles.
- Evaluate the tradeoff between risks and returns using a variety of appropriate quantitative methods.
- Critique the role of financial markets and institutions in providing the efficient transfer of funds from sources to uses.
- Produce sound financial recommendations by applying financial tools and analytical methods.

- Communicate, in both written and oral form, the results and recommendations of financial analysis to different audiences having various degrees of financial sophistication.

### Course Requirement

Class participation (presentation, discussion, and practice) plays a key role in your learning. It is assumed that you will have reviewed the previous lectures, read the assigned materials, completed pre-meeting assignments, and studied the cases prior to our class meeting.

Students are responsible for all materials and assignments presented in class. If you miss a class, then it is your responsibility to obtain any missed lecture notes from a class peer.

Students are required to complete all scheduled activities (such as quizzes, assignments, presentations, discussions, and readings) on time. There will be no make-up for missing turn-ins. All missing work will earn a grade of zero.

If you cannot attend classes regularly and cannot complete assigned class activities on time, you should take the course in a different quarter. Please pay close attention to the rules of etiquette and class behavior outlined below.

### Assignments & Academic Calendar

This agenda is subject to change. The exact schedule of lectures and content of exams will depend on the flow of the course.

**The course contents and timelines are subject to change at the discretion of the Professor.**

### Tentative Class Schedule

<b>Date</b>	<b>Topics/ Readings</b>
3/31	Course Overview; Introduction to FinTech
4/7, 14, 21	Blockchain Technology and Bitcoin
4/28	Blockchain Application DeFi and Smart Contract
<b>5/5</b>	<b>Midterm (Everything covered so far)</b> Blockchain Business Application
5/12	Alternative Data & Credit Scoring
5/19	Machine Learning

5/26	WealthTech—FinTech in Wealth Management InsureTech—FinTech in Insurance
6/2	Fintech Lending & Crowdfunding FinTech Ethics and Risks
6/9	<b>Final Exam</b> <b>Everything after midterm</b>

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## Course Policies

Your performance in the components of this course will be weighted as follows:

<u>Assignments</u>	<u>Weight</u>
Class Participation (Including discussion, quiz proposal, class engagement, coding preparation, survey engagement, and etc.)	8%
Presentation	12%
FinTech Writing Assignment	12%
Python Coding Assignment	12%
Two Exams	56%
Midterm Exam	27%
Non-cumulative Final Exam	27%
Exam with highest grade	2%
Total	100%

Grades will be assigned based on the overall section performance, adjusted for overall section performance. It is expected that the median grade in this course will be a B.

Your course grade depends on the distribution of the weighted average scores. Normally, a weighted average score of 95 or above is an A, 90 and above is A-, between 80-89 is (B+, B, B-), 65-79 is (C+, C, C-). The actual demarcation line for each letter grade depends on the actual distribution of all weighted average scores. If the distribution warrants, plus or minus grades may not be given.

## Quiz/Exam Question Proposal

Please propose **2-4** FinTech quiz/exam questions—Multiple Choice Questions only, covering: 1) Lecture Note; 2) Class discussion; and 3) Suggested Reading(s).

There is no make-up for missing or late question proposal turn-in.

### Reading summary/ note

Reading is one of the essential activities of our course and key to your deep understanding of the up to date fintech subjects.

There is no make-up for missing or late turn-in.

### FinTech Writing Assignment

This is individual work. The goals of the FinTech Writing Assignment are 1) to foster and undertake research in the financial services realm empowered by deep tech and data analytics, 2) to explore the applications of novel technological solutions, and 3) to analyze the impact of the industry implementation of such technological innovations on consumers, firms, industry, and society.

Students are expected to conduct in-depth analysis on a given FinTech company/ sector and produce an in-depth research report on that company/ sector. The project grading is mainly based on 1) the thoroughness of analysis to help understand the practice of financial innovations, the transformations of business models, the financial and social impacts, and the challenges and barriers to sustainable adoption, 2) convincing arguments to defend conclusions/ investment proposals, and 3) the quality of professional writing.

The instructor may provide suggested questions or aspects to guide your writing report. Please note that your report contents should cover these suggested questions or aspects but please do NOT explicitly include questions and your responses in the report. In other words, please do NOT write the article in the format of Q&A. Your article should be in the **typical format of WSJ or Forbes articles**.

The grading is mainly based on 1) depth and relevance of analysis, 2) the unique but reasonable argument with proper justification (effective use of qualitative and quantitative evidence, with proper reference citations (**APA style citations**), to support argument and conclusion); and 3) quality of professional writing.

There is no make-up for missing or late question proposal turn-in.

### Python Coding Assignment

This is individual work. The purpose of the use of Python Coding Assignment is to promote students' learning of Python programming, to help students grasp data analytics in finance field, and to encourage students to adopt Python for quantitative financial and investment analysis.

The grading is mainly based on 1) the degree of fulfilling the assigned goals using Python coding, 2) reader- or user-friendliness of Python coding with descriptions, comments, and markdown; 3) the post-analysis on the implications of analytical outcomes, and 4) quality of professional writing.

Please see [HERE](#) to learn **why and how to write comments** in Python. [THIS](#) website provide information on how to write **Markdown in Jupyter Notebook**.

There is no make-up for missing or late assignment turn-in.

## Midterm and Final Exam

Each exam has **limited time** to complete.

The format of each exam includes 1) True and False Questions; 2) Multiple Choices Questions; 3) Essay Questions; and 4) Python Coding Questions.

The fintech questions are based on your proposed questions, combined with some questions from the instructor. The difficulty level of Python coding questions in exams is similar to that of Python-related lecture notes and Python coding assignments. Please do all your own work, keep practice, and you will learn more. The alternative is not worth the risk.

Makeup exams will not be given except in a dire emergency with a proof and only if I am notified prior to the scheduled exam time.

Grades are not negotiable and will only be changed in case of a math or grading error on the instructor's part or Canvas online grading system.

## Presentations

**Graded presentation** can be done by group or individual as required. The graded presentation will be about 8 minutes, followed by a Q&A session or a panel discussion.

In some cases, there are **non-graded class presentations**. Details will be announced in class.

## Class attendance and Classroom Etiquette

Regular and punctual class attendance is expected. Following are rules that should guide your behavior in class:

1. Regular class attendance is expected during the term. Leaving early from any class and/or coming in 30 minutes late will count as absence for half a class. **Irregular class attendance will lead to reduction from your final grade.** There is no make-up for missing classes.
2. Students are expected to take all reasonable measures to arrive to class on time.

3. Once in class, I expect you to stay in the classroom. Please take care of personal needs prior to class so you won't feel an urgent need to walk out of the classroom in the middle of a lecture. Of course, if there is an emergency, please exit and re-enter the classroom as unobtrusively as possible. This applies for exam periods as well.

4. There will be a short break in the middle of the class period. I will announce when the break begins and I will tell you what time the class resumes. I expect you to be seated and ready to continue at that time.

5. Class does not end until I excuse you. Please do not begin to pack up your papers and books in anticipation of the end of class. Wait until class is adjourned.

6. **Cell phones must be turned off.** If you are expecting an emergency call, let me know and that will be accommodated. If your cell phone rings during class, the points you are allocated for participation will be affected.

Irregular class attendance will automatically reduce your final grade by 5 points.

The first two violations of the rules of etiquette will not have any consequences. The third and fourth violations result in a deduction of 0.5 points from your total grade. Subsequent violations will result in a one increment lowering of your course grade. There's no make-up for the violation of classroom etiquette rules.

### **Class Participation and Discussion Etiquette**

Each student is expected to actively participate in discussion to promote a meaningful and engaging learning experience. **Be respectful** during class discussion. I will initialize a discussion for each topic. **The discussion question may be included in the exams.**

When posting on the Discussion Board, please follow the policy:

- o Make posts that are on topic and within the scope of the course material.
- o Take your posts seriously, and review and edit your posts before sending.
- o Be as brief as possible while still making a thorough comment, including your claim, evidence, and concise analysis.
- o Always reference or quote the source that you cite.
- o Be sure to read all messages in a thread before replying or asking a question. Please do not repeat a similar question asked before.
- o Please do not repeat someone else's post comment without adding something of your own to it.
- o Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point (such as claim, evidence, and concise analysis).
- o Always be respectful of others' opinions even when they differ from your own.

- o When you disagree with someone, you should express your differing opinion in a respectful and non-critical way.
- o Please do not make personal or offensive remarks.
- o Be open-minded.

### Delivery of Course Materials

This class will be held **in-person under normal situation and virtually in some special cases** following university and school policy. Always **check the Canvas** page for class announcements and course information. This site will include online lectures, assignments (with due dates), class discussions, and exams.

If a file or link is not operational, let me know via email ASAP so I can correct the link. If you have any other problems using Canvas, contact the Seattle University technology help desk.

If you have technology needs, please feel free to contact [library@seattleu.edu](mailto:library@seattleu.edu).

### Academic Integrity

Follow the Code of Academic Integrity:

Personal integrity is the key to your success and happiness in business and life. Throughout your life, you will be expected to abide by the ethics of the culture in which you find yourself, and failure to do so can destroy your career or worse. Seattle University does not tolerate any cheating or other dishonesty. **The use of material from previous quarters, other students, and other sources of solutions (e.g., the Internet) is forbidden. Consulting previous students of this class is a violation of the Academic Integrity policy and will be disciplined accordingly.**

Seattle University is committed to the principle that academic honesty and integrity are important values in the educational process. All students must comply with Seattle University policies for conduct and academic honesty at all times during this course. SU's academic integrity policy and the associated tutorial can be found at the following address: <https://www.seattleu.edu/academicintegrity/Default.aspx>.

Lastly, if you are not sure whether a particular action is acceptable according to the Academic Integrity Policy you should check with the instructor before engaging in such an activity.



## Academic Resources

- Library and Learning Commons (Seattle University Learning Commons )

(This includes: Learning Assistance Programs, Research [Library] Services, Writing Center, Math Lab)

- Academic Integrity Tutorial (found on Canvas and SU Online)

## Academic Policies on Registrar website

<https://www.seattleu.edu/redhawk-axis/academic-policies/>

- Academic Integrity Policy
- Academic Grading Grievance Policy
- Professional Conduct Policy (only for those professional programs to which it applies)

## Notice for students concerning Disabilities

If you have, or think you may have, a disability (including an ‘invisible disability’ such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff located in Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.

## Notice Regarding Religious Accommodations

It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, Policy on Religious Accommodations for Students (Seattle University Policy on Religious Accommodations.”

## Office of Institutional Equity

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment. Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.

Seattle U requires all faculty and staff to notify the University’s Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student.

For more information, please visit Seattle University Institutional Equity. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity (email: [oiie@seattleu.edu](mailto:oiie@seattleu.edu); phone: 206.296.2824) University Resources and Policies.

### **Copyright Notice**

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner's rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes "fair use" under the Copyright Act. As a Seattle University student, you are required to follow the institution's copyright policy. For more information for SU copyright policy, see Seattle University Policy on Copyrights.