

Brandeis University
Department of Economics

Econ 171
Financial Economics

Summer 2021
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SYLLABUS

This course is a ten week asynchronous online course covering topics related to financial economics, including investors' attitudes toward risk, capital allocation, portfolio selection, asset pricing models (Capital Asset Pricing Model and Arbitrage Pricing Theory), the efficient market hypothesis, and fixed income markets.

Lectures will consist of covering the theory, going over in-class examples, and online discussion. Problem sets will focus on real world applications of the lecture material and will be assessed for both the accuracy and presentation quality. Students should have a basic understanding of microeconomics, statistics, and algebra (see also prerequisites below). Most of the course's activities will be asynchronous, but we will have some synchronous participation components. Finally, this course will require analysis in Microsoft Excel or a similar program, and students will be expected to follow in-class examples and practice independently as a means to develop some basic proficiency.

LEARNING GOALS:

By the end of the course you will be able to:

- Explain the fundamental principles of investment in financial markets
 - how investors make investment decisions
 - what determines returns and asset valuations
- Develop quantitative models to inform decisions involving
 - capital allocation
 - fixed income securities and bond markets
- Apply principles and theories related to financial economics to current events in financial markets.
- Develop a professional and persuasive presentation based on research and synthesis of learning materials.

PREREQUISITES AND CO-REQUISITES:

For this course students are expected to have completed Econ 80a (Microeconomic Theory) and 83a (Statistics for Economic Analysis). While the instructor will review some material from these prerequisite courses during lectures, such review will not serve as substitutes for completing the required courses.

WEEKLY LECTURES

Students are responsible for watching the course lectures provided during each week. These lectures will closely follow the course readings, provide both "pen-and-paper" and Excel examples, and outline weekly discussion topics. Students may watch these videos as many times as they need to throughout the weeks of the course. You are advised to watch the videos in the order that they are posted online.

PROBLEM SETS (20%)

There will be four required problem sets in this course. These problem sets are designed to simulate what students might expect from a first job or internship in finance. Please read all instructions carefully and reserve some time for formatting, proofreading and clear presentation of results. **All problem sets should be completed using the “Summer analyst template” provided on Latte; failure to use this template will result in a 50% deduction in the problem set grade.**

Submitted problem sets are expected to be typed and free from typos, cite any external sources of data or information, and include both the data and the Excel workbooks used to answer any questions. You are strongly encouraged to use Excel or a similar program to complete your assignments. You are also encouraged to discuss problem set questions with other students on the course discussion page.

Note that if you simply copy your answers from one of your classmates, in addition to receiving a zero on the problem set, you will be in violation of Brandeis rules on academic honesty and may not receive credit for the course. Please also be aware that I will not be able to accept *any* late submissions.

Completing problem set assignments consists of three parts:

1. Submitting a typed set of answers to each problem set using the analyst template (posted on the course Latte page).
2. Producing and submitting a video tutorial of one of the problem set questions (these questions will be randomly assigned; see Tutorial Instructions for more information).
3. Participating in your assigned review group’s discussion.

PROBLEM SET TUTORIALS (20%)

Upon submitting each of your problem sets, you will be randomly assigned one section of the problem set for which you are to produce an instructional video. You are to use your Excel book (or spreadsheet software of your choice) and Zoom (or a recording program of your choice) to prepare a tutorial of your assigned problem. These videos will be used for discussion and learning in a problem set review group.

You will have approximately two days to create and submit this video tutorial as an mp4 to the instructor (specific dates to be provided within each assignment). The aim of the tutorial assignment is to deepen your understanding of the course material by teaching and explaining it to someone else. Your grade will reflect how well you do that.

Your target audience for this tutorial assignment is your classmates. You may assume that everyone in the intended audience understands the material from Econ 80a, Econ 83, and what we have covered in class. Your tutorial will be graded for its quality at the instructor’s discretion. See Tutorial Instructions on the course webpage for more information.

ONLINE DISCUSSION FORUM/CLASS PARTICIPATION (5%)

In addition to participating in problem set discussion groups, each week students are expected to both contribute to online discussion questions by mid-week and comment (two times) on other students’ contributions by the end of the week. Other activities that will be included in this grade

component are participation in the class meetings and the completion of any mandatory practice problems.

ONLINE MEETINGS

Students will be required to participate in two online class meetings in weeks 2 and 3 of the course and one one-on-one meeting with the instructor in week 7. We will meet on Wednesday, June 9, 2020 at 9am EDT and on Wednesday, June 16 at 9am EDT. You can attend these class meetings by entering my Zoom meeting room: <https://brandeis.zoom.us/j/8133530881>. Please sign in promptly and exercise good online etiquette (sign into the meeting on-time; mute your microphone unless you are speaking; raise your hand if necessary; introduce yourself before you make comments or questions, etc.). If you are having trouble getting into the Zoom meeting room, make sure that you are logged in with your Brandeis account.

MARKETWATCH GAME

Students will be invited to participate in a class investment game on the MarketWatch platform. Play during weeks 1-5 is dedicated to students' exploration and experimentation with different allocations. Students should practice as much as possible and take notes about which stocks and assets work well together. Students should prioritize reading the Session Project instructions to ensure this practice play informs a portfolio that is appropriate for the assignment.

During weeks 5-7, students should begin designing a strategy for the portfolio they wish to submit and present during week 10. This strategy should be partially based on what we have covered throughout the course and partially based on outside market research conducted by each student. In weeks 8-9 the game will be restarted for a class competition, and students' investment strategies will be implemented and tweaked as needed. The session project should describe the rationale for the portfolio's design and any tweaks that changed its performance during the two-week competition.

SESSION PROJECT (25%)

Each student will be required to complete a session investment project, based largely on each student's participation in the course's Marketwatch game. **In weeks 5-7, the student will design a portfolio allocation strategy and submit a Philosophy, Process and Portfolio Statement in week 7.** Students should complete a formal report that explains and justifies the strategy to a hypothetical firm's investment committee. Session projects will be submitted through Latte at the end of the course and will be subject to TurnItIn.com review. Your Final Debriefing Report will be due no later than August 8 at 12:00 PM EDT (noon). **NOTE: NO LATE SUBMISSIONS WILL BE ACCEPTED.**

In keeping with the spirit of simulating a real-world work environment, session project grades will partially reflect how each student's strategy ranks compared to those submitted by the rest of the class. That is, the strategy and presentation that make the most compelling case and best rationale to the imaginary firm's investment committee will receive the highest rank, and so on.

REFLECTIONS (20%)

Students will be required to submit five reflection assignments that will cover both topics in the course and current events in the news. These assignments are designed to help students incorporate the course's material into their final project investment strategy and gradually organize their investment strategy's defense. Students are expected to treat the reflection assignments as

small professional writing samples, and the instructor's feedback will aim to help the student better understand the level of organization and writing quality expected in the final paper.

SESSION PROJECT PRESENTATION (10%)

In the beginning of week 10, students are required to submit a recorded presentation of their investment strategy and their Marketwatch game results from implementing such a strategy. This presentation should be uploaded onto Latte on Tuesday, August 3. You are required to watch and comment on all of your classmates' presentations by Thursday, August 5.

POLICY ON LATE SUBMISSIONS

Be advised that I will not be able to accept any late submissions of course assignments; **this includes the final session project**. In the context of an online class, this means building in some extra time for yourself to submit, in case, for example, you should face connectivity or other issues. In other words, DO NOT WAIT UNTIL THE EXACT DEADLINE TO SUBMIT YOUR WORK. In cases where you have difficulties with the Latte course page, I will accept work sent to my email address, so long as it is sent to me before the submission deadline.

POLICY ON CALCULATORS:

You can use any calculator you would like when solving problems on the problem sets, including scientific, programmable, graphing, or financial; however, you are encouraged to use Excel to solve your homework and online quizzes. In most cases, receipt of full credit on assignments will require you to also turn in your Excel workbooks.

TEXT

The required textbook for the course is: Bodie, Kane, and Marcus (BKM) Investments 10th Ed. You may use other editions if you prefer, but the course slides will assume that you are reading the 10th edition. Please also be aware that any reference to book chapters or problems will be for the 10th edition.

Each class has readings in the book associated with it, and I strongly encourage you to read these sections, to supplement each week's lectures. There will often be parts of the chapter that we do not cover in depth or skip entirely. If you are interested in learning material above and beyond the class, those sections of the book are a good place to start.

CONTACT INFORMATION

My Brandeis email address is alaski@brandeis.edu. My online office hours are Thursdays at 9am EDT via Zoom: <https://brandeis.zoom.us/j/8133530881>.

INFORMATION DISSEMINATION AND REQUIRED SOFTWARE

I will maintain a course website through the University's Latte system. You will be responsible for checking the website frequently as lectures, problem sets, and all other course materials will be posted there and available for you to download. The website can be accessed from Latte.brandeis.edu and new content for each week will be opened for access on Sundays.

For remote meetings we will be using the Zoom platform; please sign in and be punctual to the three required meetings of the course. For your end of session presentations, you will need to set up a Voicethread through the Latte website.

Most documents from the course website will be found as PDF files. To read such files you will need to have Adobe Acrobat Reader installed on your computer. In addition, many of the problem sets will require Microsoft Excel or a similar program, such as Google Sheets, LibreOffice, Numbers (for Mac users), or SoftMaker FreeOffice (Note: not all of these may have the full functionality, i.e. Solver, that MS Excel has).

SPECIAL ACCOMMODATION

If you are a student with a documented disability at Brandeis University and if you wish to request a reasonable accommodation for this class, please see me right away. Please keep in mind that reasonable accommodations are not provided retroactively.

ACADEMIC HONESTY

You are expected to be honest in your academic work. The University policy on academic honesty is distributed annually as section 4 for the Rights and Responsibilities handbook. Students will be required to submit work to TurnItIn.com software to verify originality. **Using answer sites such as Chegg and Course Hero are a violation of this policy.** I will enforce a zero-tolerance policy toward cheating and plagiarism. Instances of alleged dishonesty will be forwarded to the Director of Academic Integrity for possible referral to the Student Judicial System. Potential sanctions include failure in the course and suspension from the University. Citation and research assistance can be found at LTS-Library guides. If you have any questions about my expectations, please ask. Academic Dishonesty will not be tolerated and will be rigorously prosecuted.

Please note that all assignments should be submitted to the University's Turnitin.com service; accepting the terms of this service implies that you are responsible for the content you submit.

COURSE OUTLINE

Week	Topic	Assignments
1	Overview of course, Review of statistical and mathematical concepts	PS 1 assigned
2	Introduction to Financial Securities, Review of Financial Arithmetic	
3	Risk and Return, Risk Preferences and Capital Allocation	PS 1 due, PS 1 tutorial and group response due PS 2 assigned Reflection 1 assigned and due
4	Capital Allocation, Portfolio Selection	Mandatory practice problems PS 2 due, PS 2 tutorial and group response due PS 3 assigned Reflection 2 assigned and due
5	Markowitz Portfolio Selection	Portfolio Philosophy Outlines due Mandatory practice problems
6	The Single Index Model	PS 3 due, PS 3 tutorial and group response due PS 4 assigned Reflection 3 assigned and due

7	Capital Asset Pricing Model (CAPM)	Philosophy, Process and Portfolio Statement due
8	Arbitrage Pricing Theory, Market Efficiency	Reflection 4 assigned and due
9	Fixed Income Securities, Bond Pricing	PS 4 due, PS 4 tutorial and group response due
10	Project Presentations and Feedback	Final Virtual Stock Exchange Debrief Presentation Final Virtual Stock Exchange Debrief Report

Econ 171 Summer 2021
Problem Set and Optional Instructional Tutorials

Completing problem set assignments consists of three parts:

1. Submitting a typed set of answers to each problem set using the analyst template (posted on the course Latte page).
2. Producing and submitting a video tutorial of one of the problem set questions (these questions will be randomly assigned; see below). **Note submitting problem set tutorials are a mandatory component of completing the course's assignments.**
3. Participating in your assigned review group's discussion.
 - We will be using a Latte feature called Voicethread to do the group discussion. I encourage you to complete the Voicethread practice on the Latte course page to familiarize yourself with this feature.

Problem Set Tutorials

Upon submitting each of your problem sets, you will be randomly assigned one section of the problem set for which you are to produce an instructional video. You are to use your Excel book (or spreadsheet software of your choice) and Zoom (or a recording program of your choice) to prepare a tutorial of your assigned problem. These videos will be used for discussion and learning in a problem set review group.

You will have approximately two days to create and submit this video tutorial as an mp4 to the instructor (specific dates to be provided in the assignment). The aim of the tutorial assignment is to deepen your understanding of the course material by teaching and explaining it to someone else. Your grade will reflect how well you do that.

Your target audience for this tutorial assignment is your classmates. You may assume that everyone in the intended audience understands the material from Econ 80a, Econ 83, and what we have covered in class. Your tutorial will be graded for its quality at the instructor's discretion.

To receive credit on your tutorials, please adhere to the following guidelines:

- **There is to be no switching or trading of the assigned problems or problem set groups.**
- **You may receive help and work together as you prepare your tutorials, but you should be the only person presenting your tutorial material.**
- **You must be filmed on camera during your tutorial.**
 - If there is some reason why you cannot be filmed in your tutorial, please email the instructor and together we will determine the best means for you to proceed.

Here are some key criteria I will use to determine whether you have prepared a good tutorial:

- Following your instructions and demonstration alone shows the viewer how to arrive at your result. That is, following your step by step guidance would produce the same results.
- You clearly explain the theoretical concept practiced in the problem.
- You explain why you chose your applied approach. You may refer to sections of the lecture or textbook.
- You walk the audience through any equations used in computations and explain their role in the relevant theory. I encourage you to emphasize any intuitive insights you have gained.
- You clearly interpret the results produced for your audience.
- You highlight any pitfalls that your audience should look out for or mistakes to avoid.
- *Note: I am not so concerned about the length of your tutorial, if you are able to explain the question and methods thoroughly and clearly. However, you might consider how well you can follow the course's recorded lecture content after about 15-20 minutes and formulate a target video length that corresponds to what you estimate to be your audience's attention span.*

If you are assigned a question that you did not fully understand or fully complete in your submission, it is fine to say so in your tutorial. Go through as much of the problem as you can. It is likewise encouraged that you tell your audience about sections of your tutorial where you are unsure, but you should explain your approach and why you chose it. Such submissions may not result in perfect score, but being honest in your tutorials will not necessarily result in automatic failure either. In such cases, I encourage you to demonstrate a “valiant effort” and invite your group members to comment on areas you found particularly challenging.

Tips for preparing your tutorials:

- Write out steps as you are completing your assignment. Doing so, you will be halfway finished with any tutorial scripts before you are even assigned your tutorial problem.
- Keep neat, annotated Excel books: make it easy for yourself to replicate any solutions in the future.
- Review sections of the lecture to supplement any explanations or descriptions that are appropriate to explain the problem at hand. These references might be added to your workbook annotations.
- Work together with classmates on problem set assignments. Remember, however, that you must submit a tutorial on the question that you are assigned, and switching is not permitted.

Participating in Your Review Group

For each assignment, you will be assigned to a problem set review group. You are responsible for watching and providing comments, feedback, and questions to your classmates. The deadlines for completing the review activities are posted on the course Latte page.

Examples of satisfactory participation might include:

- Suggesting or explaining an alternative way of approaching a computation.
 - For example, there may be more than one way to arrive at the correct answer or more than one way to set up an Excel formula.
- Helping a classmate when they are “stuck” in their video and explaining how you yourself solved the problem.
- Pointing out mistakes a group member made in Excel that affected their final answer
- Providing an alternative perspective or respectfully disagreeing with a classmate’s interpretation of a question.
- Asking a group member to clarify a step in their explanation.
- Asking a group member where in the lecture or class material they found the technique they used.

If a classmate asks you a question about your tutorial, you should do your best to address it.

Earning Credit Back

Problem set solutions will be posted the day after group discussions close. If you are concerned about how well you performed on an assignment, you may choose **ONE** of the problems and produce additional tutorial video, using what you have learned from the solutions guide. Any extra credit tutorial videos must be submitted to me by 5pm EDT the Tuesday after solutions are posted (specific dates will be provided). Credit will again be rewarded based on the quality of these tutorials, at the instructor’s discretion. To receive credit, you **MUST** discuss the areas of the problem you misunderstood and compare the approach you submitted to that provided in the solutions guide. These extra credit submissions can only be used to replace missed points on the original submissions.

Earning Other Extra Credit

On occasion, there will be opportunities to earn additional extra credit by preparing tutorials on questions not included in the problem sets. Each opportunity will be posted with its own instructions, but the criteria for earning credit will be the same as that explained above for the mandatory tutorials. Some of these tutorials may be publicly posted for the class to watch.