Financial Economics
ECO453 & ECO553

Section: **1**
Term: **Fall 2020**
Department: **School of Economics**
Credit: **3 Hours**
Class Meeting Location: **Face-to-Face Neville Hall room 101**
Class Meeting Time/Date: **Monday & Wednesday 3:30-4:45pm**
Instructor: **Dr. Thomas F. P. Wiesen**
Office: **Winslow Hall 207C**
Office Hours: **By appointment via Zoom or in-person if need be (afternoons generally available)**
Email: **thomas.wiesen@maine.edu**

Class Details

Textbook and Materials

Primary Optional Textbook:
Intermediate Financial Theory, 3rd edition by Danthine and Donaldson[1] ISBN: 9780123865496

Secondary Optional Textbooks:
The Economics of Financial Markets, by R. E. Bailey[2] ISBN: 0521612802
Principles of Financial Economics, 2nd edition by LeRoy and Werner[3] ISBN:110767302X

I will not directly follow any particular textbook, as my lectures will draw from a collection of materials and other texts. With that said, the textbook that most closely aligns with the general organization of this class will be Danthine and Donaldson's textbook. Bailey's textbook is more concept driven and less mathematical (calculus typically only shows up in the chapter appendices), perhaps more suitable for undergraduates. LeRoy and Werner's textbook is more mathematical, perhaps more suitable for graduates. Danthine and Donaldson's textbook is arguably somewhere in the middle in terms of mathematical rigor. These three textbooks are completely optional, but you might want to have one on hand as a reference.

I primarily convey lecture materials by writing on the white board (or using the document camera), so please bring paper (or some type of notebook) and a writing instrument to every class. Students will need a basic calculator for the tests. Sharing calculators will not be allowed on tests, and you will not be able to use your cell phone as a calculator on the tests. Depending on how far we get in the course content, students may also need access to a spreadsheet software such as Microsoft Excel.

Course Details according to MaineStreet

Examines the economics of financial markets, asset pricing, risks, and decision making in the face of uncertainty. Topics include the time value of money, the efficient market hypothesis, optimal portfolio allocation, and the capital asset pricing model. Traditional A-F grading. This class is typically offered once every other year.
Prerequisites: C- or better in each of the following; ECO120, ECO121, and either MAT116 or MAT126, or permission from instructor

[1] https://www.amazon.com/Intermediate-Financial-Academic-Advanced-Finance/dp/0123865492
[2] https://www.amazon.com/Economics-Financial-Markets-Roy-Bailey/dp/0521612802
[3] https://www.amazon.com/Principles-Financial-Economics-Stephen-Leroy/dp/110767302X

Course Description

The financial industry as a whole constitutes an ever growing and important segment of the global economy. While other classes focus on financial market structures and financial institutions, this graduate/advanced undergraduate calculus-based course will cover the economic fundamentals and economic theory behind financial economics. This will include the ability to construct, mathematically solve, and understand models utilized by financial economists.

Learning Outcomes

By the end of the class, students will be able to:

- create an optimal consumption bundle across time and with uncertainty using the LaGrange method of constrained optimization
- calculate the present value of an asset and understand the time value of money
- utilize an overview of techniques for pricing securities with certain or uncertain future cash flows
- explain the Efficient Market Hypothesis, why asset returns are so hard to predict, and why is it so hard to consistently "beat the market"
- create an optimal portfolio consisting of multiple assets: one risky asset and one safe asset; two risky assets with different levels of risk
- articulate the nuances of economic decision making in the face of uncertainty
- measure risk and risk aversion
- explain the relationship between risks and expected returns
- utilize the capital asset pricing model and Arrow-Debreu pricing models

General Course Outline:

1.) Mathematical Introduction
   -Unconstrained optimization review
   -Graphical review of consumer preferences
   -Constrained optimization
   -Consumer optimization
   -Intertemporal consumer optimization
   -Intertemporal consumer optimization with uncertainty
2.) Overview of Asset Pricing
   -the time value of money and present value
   -pricing assets with guaranteed future cash flows
   -pricing assets with uncertain future cash flows
3.) Risk
   -Decision making with uncertainty
   -Measuring risks
   -Measuring risk aversion
4.) The Market for Financial Securities
   -Demand for securities
   -Investment decisions
   -Portfolio theory
5.) The Capital Asset Pricing Model
6.) Arrow-Debreu Pricing Models
   -Arrow-Debreu equilibrium
   -Arrow Debreu no-arbitrage

Grades

Grades for students enrolled in the undergraduate course (ECO453) will be determined by homework, two tests, and a cumulative final exam. Grades for students enrolled in the graduate course (ECO553) will be determined by homework, two tests, a cumulative final exam, and a scholarly journal article presentation. The weights are as follows:

ECO453:		ECO553:	
Homework	32%	Homework	29%
Test 1	18%	Test 1	15%
Test 2	18%	Test 2	15%
Cumulative Final Exam	32%	Cumulative Final Exam	29%
		Journal article presentation	12%

The table below gives the grade distributions. These are minimum scores and if need be, I will introduce a "curve." The curve will consist of lowering the minimum percentages required for a particular grade. For instance, a typical curve may consist of making the minimum score for an "A" 92% instead of 93.3%. However, you should in no way depend on the curve since the curve is NOT guaranteed, and if I do implement it, it may be very small. All questions regarding grades will be directed to this syllabus section.

Total Points	Letter Grade	Transcript GPA points
100-93.3%	A	4.00
93.2-90.0%	A-	3.67
89.9-86.7%	B+	3.33
86.6-83.3%	B	3.00
83.2-80.0%	B-	2.67
79.9-76.7%	C+	2.33
76.6-73.3%	C	2.00
73.2-70.0%	C-	1.67
69.9-66.7%	D+	1.33
66.6-63.3%	D	1.00
63.2-60.0%	D-	0.67
59.9-0%	F	0.00

Homework

Thirty-two percent of undergraduate students' grades and twenty-nine percent of graduate students' grades will be based on out-of-class homework. Students are encouraged to work together (but, be sure to maintain social distancing). However, students should think for themselves; do not simply copy what your peers are doing. Each student should submit their own homework individually. Late homework will not be accepted for any student. For undergraduate students only, your lowest homework assignment will be dropped. For graduate students, all homework assignments should be completed (none will be dropped).

Tests and Final Exam

There will be two in-person tests, the dates for which are in the course calendar below. Students must physically attend class during these test days. However, exceptions will be made if a student tests positive for COVID-19, is showing COVID-19 symptoms, or is otherwise in quarantine. Arrangements will be made for the student to make up the test either in-person or remotely.

The final exam will be a "take-home" final. As described in the course calendar below, students will have 48 hours to complete the test. The final will be posted online at noon on Wednesday, December 16. Students must submit their completed final exams online by noon on Friday, December 18. Students must complete their final exams individually. Conferring with your classmates during the final exam is a violation of academic honesty.

Journal Article Presentation

Twelve percent of graduate students' grades will be based on a journal article presentation. Students will pick a scholarly journal article to read and present to the class via Zoom. Students should either pick a paper from the list below (most of which are highly cited "classic" papers) or find a paper on a financial economic topic that they are interested in. If a student wishes to find their own paper to present from the literature, they must get the paper approved by the professor. As a suggested starting point, you may want to look through some articles published in the *Journal of Finance*, the *Journal of Financial Economics*, the *Review of Financial Studies*, and/or the *Journal of Banking & Finance*.

These presentations should last approximately 25 minutes and should be accompanied by presentation slides (emailed to the professor beforehand). Students will be graded on the accuracy and clarity of the article content as well as the delivery of the presentation. A good way to tell if you understand something is if you are able to explain it to someone else in your own words.

- Black and Scholes (1973) The Pricing of Options and Corporate Liabilities
- Campbell and Cochrane (1999) By force of habit: A consumption-based explanation of aggregate stock market behavior
- Carhart (1997) On Persistence in Mutual Fund Performance
- Chordia, Roll, and Subrahmanyam (2005) Evidence on the speed of convergence to market efficiency.
- Diebold and Yilmaz (2014) On the network topology of variance decompositions: Measuring the connectedness of financial firms
- Engle, Ito, and Lin (1990) Meteor Showers or Heat Waves? Heteroskedastic Intra-Daily Volatility in the Foreign Exchange Market
- Fama (1970) Efficient Capital Markets: A review of theory and empirical work
- Fama (1998) Market efficiency, long-term returns, and behavioral finance
- Fama, Fisher, Jensen, and Roll (1969) The adjustment of Stock Prices to New Information
- Fama and French (1992) The cross-section of expected stock returns
- Fama and French (1993) Common risk factors in the returns of stocks and bonds
- Graham and Harvey (2001) The theory and practice of corporate finance: evidence from the field
- Grossman (1976) On the efficiency of competitive stock markets where trades have diverse information
- Kahneman and Tversky (1979) Prospect Theory: An analysis of Decision under risk
- King and Levine (1993) Finance and growth: Schumpeter might be right
- Lamoureux and Lastrapes (1990) Heteroskedasticity in Stock Return Data: Volume versus GARCH Effects
- Lamoureux and Lastrapes (1993) Forecasting Stock-Return Variance: Toward an Understanding of Stochastic Implied Volatilities
- Malkiel (1995) Returns from Investing in Equity Mutual Funds from 1971 to 1991
- Malkiel (2003) The efficient market hypothesis and its critics
- Malkiel (2005) Reflections on the efficient market hypothesis: 30 years later
- Pukthuanthong and Roll (2009) Global market integration: An alternative measure and its application
- Schwert (2003) Anomalies and market efficiency
- Sharpe (1964) Capital Asset Prices: A theory of market equilibrium under conditions of risk
- Sharpe (1966) Mutual Fund Performance
- Shleifer and Vishny (1997) A Survey of Corporate Governance
- Xu and Malkiel (2003) Investigating the Behavior of Idiosyncratic Volatility

The above links should work on UMaine campus computers. To access these articles off campus, you may have to sign into the UMaine library and use the "OneSearch" tool. When accessing these articles, I

recommend you download the PDF. For some of the older papers, publishers have converted the PDFs into web text, which sometimes introduces typos into the equations.

What to Expect in Class

I primarily convey course content through writing on the board or using the document camera. I very strongly recommend that students take notes in class and write down anything I write on the board. With the exception of showing tables/figures, I do not typically use PowerPoint slides.

Tentative Calendar and Important Dates

Monday, August 31	live lecture; first day of class
Wednesday, September 2	live lecture
Sunday, September 6	add/drop ends
Monday, September 7	No class; Labor Day
Wednesday, September 9	live lecture
Monday, September 14	live lecture
Wednesday, September 16	live lecture
Monday, September 21	live lecture
Wednesday, September 23	live lecture
Monday, September 28	live lecture
Wednesday, September 30	live lecture; last day to drop without appearing on transcript
Monday, October 5	live lecture
Wednesday, October 7	live lecture
Monday, October 12	No class; Indigenous Peoples' Day
Wednesday, October 14	Test 1 (in-person)
Monday, October 19	live lecture
Wednesday, October 21	live lecture
Monday, October 26	live lecture
Wednesday, October 28	live lecture
Monday, November 2	live lecture
Wednesday, November 4	live lecture
Monday, November 9	live lecture
Wednesday, November 11	No class; Veterans' Day
Friday, November 13	last day to withdraw from class and receive "W" grade
Monday, November 16	live lecture
Wednesday, November 18	Test 2 (in-person)
Monday, November 23	live lecture
Wednesday, November 25	No class; Thanksgiving Break
Monday, November 30	asynchronous video lesson will be posted to Brightspace
Wednesday, December 2	asynchronous video lesson will be posted to Brightspace
Monday, December 7	Zoom class for grad student article presentations*
Wednesday, December 9	Zoom class for grad student article presentations*; last class
Wednesday, December 16 (noon)	"Take-home" Final Exam posted online
Friday, December 18 (noon)	"Take-home" Final Exam due

Homework assignments and due dates will be announced in class.

*****Journal article presentations are only required for students enrolled in ECO553. However, students enrolled in ECO453 are still expected to attend the Zoom class during the journal article presentations.

Class Policies

How this class will be different due to the COVID-19 Pandemic

Reasonable precautions will be taken to ensure we can safely hold a live face-to-face class during these unusual times. Students must follow all university mandated COVID-19 guidelines. This includes, but is not limited to, staying 6 feet away from other individuals, washing your hands frequently, and wearing a cloth face mask that covers your mouth and nose.

If you experience COVID-19 symptoms—even the slightest cough—stay home. If you were in contact with someone who may have COVID-19, stay home. In many cases, the responsible thing to do is stay home and self-quarantine. In order to not penalized students who are responsibly self-quarantining, all lectures will be recorded and posted online.

See UMaine's COVID-19 policies at the end of this syllabus for more information.

Attendance

Due to the pandemic, I will have a flexible attendance policy. If you miss class, be sure to watch the lecture recording online.

Classroom conduct

You are expected to act professionally in the classroom. This expectation includes, but is not limited to: being quiet, silencing your cellular device, respecting other students, respecting the professor, and asking questions by raising one's hand. If you are acting disorderly to the point where you are impeding other students' ability to learn, I reserve the right to ask you to leave the classroom.

Laptop computers are allowed in class only if there are used for legitimate class-related tasks, such as taking notes. If I find you using your laptop computer for tasks not related to class, then I will ask you to put your laptop away. Note that scrolling through social media on your laptop is extremely distracting to students sitting behind you.

Office Hours

The university has deemed Winslow Hall offices as too small for multiple people to safely be in them at the same time. Consequently, the usual way of doing office hours where I'm in my office and people simply show up if they want to, will no longer work. Thus, office hours will be by appointment only. The preferred method is over Zoom, but if need be, we can set up a face-to-face appointment outside or in a larger space where we can safely socially distance. Given the circumstances, I will do what I can to be flexible in accommodating meeting requests. Please don't hesitate to ask for a meeting appointment. I am generally available in the afternoon.

Class Communication

I will periodically use Brightspace to communicate announcements and distribute course materials. I strongly recommend you set up your Brightspace settings to automatically email you when a new announcement is posted. It is a good habit to periodically check Brightspace and your UMaine email.

Syllabus

This syllabus should be considered a contract between me (the professor) and you (the student). However, there may come a time when a change to the syllabus becomes necessary. In such an event, the change will be announced in class and posted online.

Additional Requirements for ECO 553 Students

Students enrolled in ECO553 will receive credit for a graduate level course. Therefore, course expectations will differ from the students enrolled in ECO453.

Students registered for ECO553:

- will read and report on a scholarly journal article about financial economics from a suggested list. If students find an article not on the suggested list that they are interested in, it must be approved by the professor. Searching for articles that interest students is encouraged.
- will prepare a professional presentation analyzing, summarizing, and potentially critiquing a scholarly journal article about financial economics. Students will present this to the class via Zoom on an assigned day.
- will be held to a higher standard in the grading of their homework and tests.
- will complete and be graded on all homework assignments. This is in contrast to undergraduate students whose lowest homework score will be dropped.

Non-COVID-19 University Policies

University Academic Honesty Statement

Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University. Please see the University of Maine System's Academic Integrity Policy listed in the Board Policy Manual as Policy 314:
https://www.maine.edu/board-of-trustees/policy-manual/section-314/

University Students Accessibility Services Statement

If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, 581-2319, as early as possible in the term. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with me, Thomas Wiesen, privately as soon as possible.

Course Schedule Disclaimer (Disruption Clause)

In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

Observance of Religious Holidays/Events

The University of Maine recognizes that when students are observing significant religious holidays, some may be unable to attend classes or labs, study, take tests, or work on other assignments. If they provide adequate notice (at least one week and longer if at all possible), these students are allowed to make up course requirements as long as this effort does not create an unreasonable burden upon the instructor, department, or University. At the discretion of the instructor, such coursework could be due before or after the examination or assignment. No adverse or prejudicial effects shall result to a student's grade for the examination, study, or course requirement on the day of religious observance. The student shall not be marked absent from the class due to observing a significant religious holiday. In the case of an internship or clinical, students should refer to the applicable policy in place by the employer or site.

Sexual Discrimination Reporting

The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a teacher about an experience of sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination involving members of the campus, your teacher is required to report this information to the campus Office of Sexual Assault & Violence Prevention or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

- For confidential resources on campus: Counseling Center: 207-581-1392 or Cutler Health Center: at 207-581-4000.
- For confidential resources off campus: Rape Response Services: 1-800-871-7741 or Partners for Peace: 1-800-863-9909.
- Other resources: The resources listed below can offer support but may have to report the incident to others who can help:
- For support services on campus: Office of Sexual Assault & Violence Prevention: 207-581-1406, Office of Community Standards: 207-581-1409, University of Maine Police: 207-581-4040 or 911. Or see the OSAVP website for a complete list of services at https://umaine.edu/titleix/

COVID-19 University Policies

University of Maine COVID-19 Syllabus Statement

COVID-19 is an infectious disease caused by the coronavirus SARS-CoV-2. The virus is transmitted person-to-person through respiratory droplets that are expelled when breathing, talking, eating, coughing, or sneezing. Additionally, the virus is stable on surfaces and can be transmitted when someone touches a contaminated surface and transfers the virus to their nose or mouth. When someone becomes infected with COVID-19 they may either have no symptoms or symptoms that range from mild to severe and can even be fatal. During this global pandemic, it is imperative that all students, faculty, and staff abide by the safety protocols and guidelines set forth by the University to ensure the safety of our campus. All students are encouraged to make the Black Bear Cares Pact to protect the health of themselves, the health of others, and the College of Our Hearts Always.

Black Bears Care Pact

https://umaine.edu/return/black-bears-care/

Symptom checking

The symptoms of COVID-19 can range from mild to severe, and even people with mild symptoms may transmit the virus to others. Students are encouraged to use the symptom checking app each day before attending class or moving about campus and follow the recommendation prompted within the app. Students should monitor for the following symptoms daily: fever (temperature >100.4F/38.0C) or chills, new cough, loss of taste or smell, shortness of breath/difficult breathing, sore throat, diarrhea, nausea, or vomiting, or the onset of new, otherwise unexplained symptoms such as headache, muscle or body aches, fatigue, or congestion/runny nose.

Physical distancing

Students need to make every effort to maintain physical distancing (6 feet or more) indoors and outdoors including within classrooms. The University classrooms and physical spaces have been arranged to maximize physical distancing. Follow the traffic patterns outlined in each building and outdoor space to avoid crowding. If students are in an academic setting (i.e. clinical or lab class) that requires them to reduce physical distancing, they should follow the instructor's guidelines.

Face coverings

Students must wear appropriate face coverings in the classroom. Face coverings must be worn in indoor and outdoor spaces on campus unless people are alone in a room with a door closed or when they are properly physically distanced and do not expect someone to approach them. When face coverings are removed people are placing themselves and those surrounding them at increased risk for COVID-19.

Eating and drinking in classrooms

Students may not eat or drink in the classrooms and are encouraged to take their food or drink into areas designated for these purposes where they can maintain 6 feet physical distance from others.

Hand hygiene

Proper hand hygiene is an effective measure to prevent the spread of COVID-19. Students should wash their hands often with soap and water or use a hand sanitizer with at least 60% alcohol, especially after using the bathroom, before eating or drinking, and before and after going to class or university spaces such as the recreation center, library, or dining halls.

Contingency plans

Classes will be held in various formats to offer flexibility, compassion, and empathy during these unprecedented times. Under certain circumstances, students or instructors may need to miss classes or in-person classes may be disrupted. Students are expected to notify their instructor if they are unable to attend an in-person or online class but will not be penalized for missing class due to illness or the need to care for a family member affected by COVID-19. If a disruption occurs, your instructor will provide communication and contingency plans.

What to do if you have or suspect you have COVID-19

If you have symptoms of COVID-19 or have been possibly exposed to someone with COVID-19, you should stay home, not interact with others, and contact your health care provider immediately to be tested for COVID-19. You may not attend in-person classes and should suspend interactions with others until you

are tested. Prior to receiving test results, you should quarantine in your living area according to the Maine CDC guidelines below. Please follow the guidance of your health care professional regarding testing, quarantine, and isolation during the testing process and potential illness period.

What to do if someone you know has or may have COVID-19

If someone you know or that you have had close contact with (defined by the ME CDC as 15 mins or more within 6 feet or less) has tested positive for COVID-19, you should stay home and quarantine according to the guidance of the ME CDC, contact your health care provider, and continue to monitor for symptoms. You may be required to quarantine and/or be tested for COVID-19 under these circumstances. You may also have been exposed to COVID-19 by someone you do not know, and it is possible that you could be contacted through contact tracing to determine if you were exposed. Everyone should respond to these confidential questions to ensure the safety of themselves and those around them.

Additional Resources

Maine CDC guidelines:
https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/coronavirus/general-information.shtml

University Webpages:
umaine.edu/return
and
maine.edu/together/

COVID-19 Information line:
207-581-2681

Emergency Operations Center Email Contact:
umaine.alerts@maine.edu