

Finance
Course Number: 26:390:571
Course Title: Survey of Finance Theory I

COURSE DESCRIPTION

This course aims to provide an introduction to modern finance theory for first and second year PhD students who are interested in financial economics. While theory is the main focus, relevant empirical methods will be introduced and more empirical evidence will be discussed if time permits.

COURSE MATERIALS

We do not closely follow any particular textbook, but the following are the recommended ones we will frequently refer to:

-The Econometrics of Financial Markets, 1997, by Campbell, J.Y., A.W. Lo, and A.C. MacKinlay.
ISBN # 0691043019. [CLM]

-Asset Pricing (Revised Edition), 2005, by Cochrane, J. ISBN # 0691121370. [C]

-Theory of Asset Pricing (Pearson International Edition), 2008, by Pennacchi, G. ISBN # 0321495365.
[P]

Other materials:

- Check Canvas (canvas.rutgers.edu) and your official Rutgers email account regularly. You must read the required readings before each lecture.

LEARNING GOALS AND OBJECTIVES

- This course is designed for Ph.D. students to build a foundation for their study of higher-level courses in finance.

PREREQUISITES

- Undergraduate level introductory finance
 - Undergraduate level calculus, linear algebra and real analysis
 - Graduate level microeconomics (may be taken concurrently)
 - Graduate level statistics/econometrics (may be taken concurrently)
 - Statistical programming language such as Matlab, Stata, SAS, and R (may be learned concurrently)
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ACADEMIC INTEGRITY

I do NOT tolerate cheating. Students are responsible for understanding the RU Academic Integrity Policy (<http://academicintegrity.rutgers.edu/>)

I will strongly enforce this Policy and pursue *all* violations. On all examinations and assignments, students must sign the RU Honor Pledge, which states, “On my honor, I have neither received nor given any unauthorized assistance on this examination or assignment.” I will screen all written assignments through *SafeAssign* or *Turnitin*, plagiarism detection services that compare the work against a large database of past work. Don’t let cheating destroy your hard-earned opportunity to learn. See business.rutgers.edu/ai for more details.

ATTENDANCE AND PREPARATION POLICY

- Attendance is essential for passing the course. If you are to be absent, please report your absence in advance by email. If your absence is due to religious observance, a Rutgers-approved activity, illness, or family emergency/death and you seek makeup work, please send me the full details and supporting documentation as well.

CLASSROOM CONDUCT

- Note take is necessary. Please remember to bring a paper notebook.
 - Keep phones and laptops out of sight and turned off. You may not use them as calculator during exam.
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EXAM AND GRADING POLICIES

The following components make up your course grade:

1) Assignments (20%):

I will assign homework from time to time. They are to be completed *individually* and be handed in at or before the beginning of class on the day they are due. *I will not accept late or joint homework.*

2) Exam (30%):

There will be one examination. The time and format of the exam is still TBA.

3) Referee Report (10%)

There will be one referee report due. I will provide guidance for writing the referee report.

4) Research Proposal (30%)

The final output of the class is a research proposal. In the proposal, you should come up with a clear research question, connect it to the literature, and outline your research plan. The proposal should be no longer than 10 pages, not including tables and figures. Grading will be based on originality of the question, the feasibility of the execution and the quality of the writing. I will provide guidance for writing the proposal. You will submit the proposal by and present it during the last class. Failure to submit it by () will result in 0pts. *I will not grant extensions.*

5) Pre-Class Preparation, Attendance and Participation (10%)

I expect you to finish all the required readings before each class, attend all the lectures and actively contribute to the classroom. An average student would expect to allocate at least 15 hours per week outside of class on required readings, assignments, reviewing lectures, and working on the proposal. Occasionally, I may resort to cold calling or surprise quizzes to monitor your pre-class preparation.

TOPICS COVERED AND REQUIRED PRE-CLASS READINGS (tentative and incomplete, subject to change)

1. Expected Utility and Risk Aversion

- P, Chapter 1
- Pratt, J., 1964, Risk aversion in the small and in the large, *Econometrica* 32, 122- 136.

2. Mean Variance Analysis and Portfolio Frontier

- P, Chapter 2
- Markowitz, H., 1952, Portfolio selection, *Journal of Finance* 7, 77-91.
- Rubinstein, M., 2002, Markowitz's "Portfolio Selection": A Fifty-Year Retrospective, *Journal of Finance* 57, 1041-1045.

3. Capital Asset Pricing Model

- P, Chapter 3
- Sharpe, W. F., 1964, Capital asset prices: A theory of market equilibrium under conditions of risk, *Journal of Finance* 19, 425-442.

4. No Arbitrage and the Fundamental Theory of Asset Pricing

- P, Chapter 4
- C, Chapters 1-6
- Dybvig, P.H. and S.A. Ross, 2003, Arbitrage, State Prices, and Portfolio Theory, in George Constantinides and René Stulz, ed., *Handbook of the Economics of Finance*.

5. Factor Model, APT and Other Applications of No Arbitrage

- CLM, Chapter 6
- Chen, N., R. Roll, and S. Ross, 1986, Economic Forces and the stock market, *Journal of Business* 59, 383-403.
- Fama, E.F. and K. French, 1996, Multifactor explanations of asset pricing anomalies, *Journal of Finance* 51, 55-84.

6. CAPM, APT Tests and Empirical Evidence

- CLM, Chapter 5
- Econometric Review
- Fama, E.F., and J. MacBeth, 1973, Risk, return, and equilibrium: Empirical tests, *Journal of Political Economy* 81, 607-636.
- Roll, R., 1977, A critique of the asset pricing theory's tests, *Journal of Financial Economics* 4, 129-176.
- Gibbons, M., S. Ross, and J. Shanken, 1989, A test of the efficiency of a given portfolio, *Econometrica* 57, 1121-1152.
- Additional Readings: Fama and French (1992, 1993, 1996, 2015), Hou, Xue, and Zhang (2015), Harvey, Liu, and Zhu (2016)

7. Continuous Time

- C, Appendix
- Bollerslev, T., Li, S.Z. and V. Todorov, 2016, Roughing up beta: Continuous versus discontinuous betas and the cross section of expected stock returns, *Journal of Financial Economics* 3, 464-490.
- Bollerslev, T., Li, S.Z. and B. Zhao, 2018, Good Volatility, Bad Volatility and the Cross-Section of Stock Returns, *Journal of Financial and Quantitative Analysis*, conditionally accepted.

8. Behavior Finance

- Stulz, W.G., 2003, Anomalies and Market Efficiency, Ch 15 of *Handbook of the Economics of Finance*.
- Hirshleifer, D., 2015, Behavioral Finance, *Annual Review of Finance and Economics* 7: 133-159

- Thaler, R.H., 2018 From Cashews to Nudges: The Evolution of Behavioral Economics. *American Economic Review* 108(6): 1265-1287.

9. Predictability

- Welch, I. and Goyal, A., 2008, A Comprehensive Look at The Empirical Performance of Equity Premium Prediction, *Review of Financial Studies*, 21:1455–1508
- Campbell, J. and Thompson, S.B., 2008, Predicting Excess Stock Returns Out of Sample: Can Anything Beat the Historical Average? *Review of Financial Studies*, 21(4): 1509-1531.
- Rapach, D.E., Strauss, J.K., and Zhou, G., 2010, Out-Of-Sample Equity Premium Prediction: Combination Forecasts and Links to the Real Economy. *Review of Financial Studies*, 23(2): 821-862.
- Additional Readings:
 - Lo, A. W. and MacKinlay, A.C., 1988, Stock Market Prices do not Follow Random Walks: Evidence from a Simple Specification Test, *Review of Financial Studies*, 1(1): 41-66.
 - Rapach, D. and Zhou, G., 2013, Forecasting Stock Returns, *Handbook of Economic Forecasting*, 2A: 328383.

SUPPORT SERVICES

If you need accommodation for a **disability**, obtain a Letter of Accommodation from the Office of Disability Services. The Office of Disability Services at Rutgers, The State University of New Jersey, provides student-centered and student-inclusive programming in compliance with the Americans with Disabilities Act of 1990, the Americans with Disabilities Act Amendments of 2008, Section 504 of the Rehabilitation Act of 1973, Section 508 of the Rehabilitation Act of 1998, and the New Jersey Law Against Discrimination. More information can be found at ods.rutgers.edu.

[Rutgers University-New Brunswick ODS phone (848)445-6800 or email dsoffice@echo.rutgers.edu]

[Rutgers University-Newark ODS phone (973)353-5375 or email ods@newark.rutgers.edu]

If you are **pregnant**, the Office of Title IX and ADA Compliance is available to assist with any concerns or potential accommodations related to pregnancy.

[Rutgers University-New Brunswick Title IX Coordinator phone (848)932-8200 or email jackie.moran@rutgers.edu]

[Rutgers University-Newark Office of Title IX and ADA Compliance phone (973)353-1906 or email TitleIX@newark.rutgers.edu]

If you seek **religious accommodations**, the Office of the Dean of Students is available to verify absences for religious observance, as needed.

[Rutgers University-New Brunswick Dean of Students phone (848)932-2300 or email deanofstudents@echo.rutgers.edu]

[Rutgers University-Newark Dean of Students phone (973)353-5063 or email DeanofStudents@newark.rutgers.edu]

If you have experienced any form of *gender or sex-based discrimination or harassment*, including sexual assault, sexual harassment, relationship violence, or stalking, the Office for Violence Prevention and Victim Assistance provides help and support. More information can be found at <http://vpva.rutgers.edu/>.

[Rutgers University-New Brunswick incident report link: <http://studentconduct.rutgers.edu/concern/>. You may contact the Office for Violence Prevention and Victim Assistance at (848)932-1181]

[Rutgers University-Newark incident report link: https://cm.maxient.com/reportingform.php?RutgersUniv&layout_id=7 . You may also contact the Office of Title IX and ADA Compliance at (973)353-1906 or email at TitleIX@newark.rutgers.edu. If you wish to speak with a staff member who is confidential and does **not** have a reporting responsibility, you may contact the Office for Violence Prevention and Victim Assistance at (973)353-1918 or email run.vpva@rutgers.edu]

If students who have experienced a temporary condition or injury that is adversely affecting their ability to fully participate, you should submit a request via <https://temporaryconditions.rutgers.edu>.

If you are a military *veteran* or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. <http://veterans.rutgers.edu/>

If you are in need of *mental health* services, please use our readily available services.

[Rutgers University-Newark Counseling Center: <http://counseling.newark.rutgers.edu/>]

[Rutgers Counseling and Psychological Services–New Brunswick: <http://rhscaps.rutgers.edu/>]

If you are in need of *physical health* services, please use our readily available services.

[Rutgers Health Services – Newark: <http://health.newark.rutgers.edu/>]

[Rutgers Health Services – New Brunswick: <http://health.rutgers.edu/>]

If you are in need of *legal* services, please use our readily available services: <http://rusls.rutgers.edu/>

Students experiencing difficulty in courses due to *English as a second language (ESL)* should contact the Program in American Language Studies for supports.

[Rutgers–Newark: PALS@newark.rutgers.edu]

[Rutgers–New Brunswick: eslpals@english.rutgers.edu]

If you are in need of additional *academic assistance*, please use our readily available services.

[Rutgers University-Newark Learning Center: <http://www.ncas.rutgers.edu/rlc>

[Rutgers University-Newark Writing Center: <http://www.ncas.rutgers.edu/writingcenter>]

[Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>]

[Optional items that many faculty include:

- Students must sign, date, and return a statement declaring that they understand the RU Academic Integrity Policy.

- Students must sign, date, and return a statement declaring that they understand this syllabus.]