

Joel Schreiber
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Spring, 2023

Portfolio Theory
220: 415

Rutgers University
Department of Economics

Class Hours: Tuesdays and Thursdays, 5:40pm – 7:00pm (First Class: Tuesday, January 17th, 2023)

Office Hours: Sundays, 11am – 12:30pm, and by appointment, <https://rutgers.webex.com/meet/jas475>

Classroom: Murray Hall, room 211

Econ 415 (3 credits): Portfolio Theory is an “upper level” elective

Understanding and constructing diversified portfolios are the cornerstone to managing your risk-return relationship as an investor. We start with Modern Portfolio Theory and the concept of mean variance optimization. From here we evaluate, measure and optimize our own portfolios, something that we will all be exposed to in the future. Whether you hope to work in the investment industry or only plan to have a retirement account, the financial markets and portfolio theory will aid you in navigating the seemingly chaotic waters. We will discuss methods to hedge your portfolio in ways diversification lacks and we will conclude with current alternate theories and methods for constructing portfolios outside of modern portfolio theory.

Prerequisites: 220:413 Financial Economics - **Minimum grade of C**

Text: **No required text.** Useful reference: “Investments and Portfolio Management” by Bodie, Kane and Marcus, any edition.

Learning Management System: Canvas

Data analysis tool: Microsoft Excel

Learning Goals: Upon conclusion student will have researched and practiced:

- Risk-return relationships among assets
- Modern Portfolio Theory with 2 assets and multi-assets with some matrix Algebra
- Difference between passive and active portfolio management
- Portfolio risk measurement and hedging
- Portfolio performance measurements
- Alternatives to MPT and current portfolio analysis tools and techniques

Grading:

(1) Midterm 1 (in-class) 30%

(1) Final Exam (in-class) 30%

(4) RP (Groups of 3-4) 30%

Attendance/Participation (During classes and online, via forums) 10%

Midterm Exam – To be given in Class – Thursday, March 2nd, 5:40pm ET.

Final Exam - To be given in Class – Wednesday, May 10th, 4pm – 7pm ET.

All of our course materials (slides and excels) are for our course use only, redistribution is prohibited and protected.

Academic Integrity

Cheating and Plagiarism will not be tolerated. I will give enough opportunity to earn high grades by yourself there is no need for me to find any cheating or plagiarism of any sort. Dr. Sopher will be notified immediately.

All quizzes and RP's will be completed by their due dates, no late work to be accepted.

Attendance

Students are expected to attend all classes. If you expect to miss more than one or two classes because of illness or a family emergency, please use the University absence reporting website <http://sims.rutgers.edu/ssra> to indicate the date and reason for your absence. An email is automatically sent to me.

Class Conduct

It is the expectation that there will be mutual respect throughout the course, not only between instructor and student but between you and your peers.

No recordings/photos/videos are to be taken of our class, you will have access to all materials needed via WebEx class recordings and such infringes on the privacy of everyone in the course.

Canvas

The 2 exams will be administered via our Canvas course site module. Any issues taking quizzes in Canvas will impede your course; be aware of this from the start of our course. Discuss with me your issues with this type of testing ASAP. **Everything you will need will be available through our Canvas course site as well.**

Student WebEx Services (to activate your WebEx account)

<https://it.rutgers.edu/webex/knowledgebase/webex-account-eligibility/>

Communication:

Primary e-mail: joel.schreiber@rutgers.edu E-mails are expected to be professional and proper, only e-mails of this type will be answered.

Departmental Make-Up Exams will only be given under extraordinary circumstances on designated exam dates. Students should check with me before missing an exam to see whether their particular circumstances meet the very limited definition of "extraordinary."

Notes:

Quizzes and Midterms will be multiple choice, T/F and/or fill in questions that test concept and/or calculation - They are to be completed individually.

RP (Research Projects) in this course are research and/or practice assignments - Groups of 3 or 4, and you will submit your work as well as an accompanying questionnaire via Sakai.

Attendance/Participation will include in class discussions and online (Forum) interaction:

- (1) Posting 1 article with question each week on our course website
- (2) Answering at least 1 question/post each week on our course website.

Course Schedule and Deliverables

	Topics	Chapters	RP	Quizzes
Week 1 1/17, 1/19	Asset Allocation and Re-balancing benefits, Financial Markets, Asset classes, interest rates, Expectation, Variance, Co-Variance, Correlation	Lecture 1,2 PPT, Excel		
Week 2 1/24, 1/26	Return, Risk , Expected Value Criterion , Uncertainty, Expected Utility Hypothesis , risk aversion, risk premium	Lecture 3,4 PPT, Excel BKM ch 6		
Week 3 1/31, 2/2	Portfolio selection: Mean-Variance Model, Modern Portfolio Theory and 2 asset portfolio	Lecture 4 BKM ch 7		
Week 4 2/7, 2/9	Working session, RP 1. Continue to a Multi asset portfolio with matrix algebra and scenario testing	Lecture 5 PPT, Excel	RP 1 Due 2/14	
Week 5 2/14, 2/16	Review RP 1, complete lecture 5			
Week 6 2/21, 2/23	Working session, RP 2. Passive Management: Index investing and Strategic Asset Allocation. Active Management: Tactical Asset Allocation	Lecture 6 PPT, Excel	RP 2 Due 2/28	
Week 7 2/28, 3/2	Review RP 2. Midterm – 3/2 (All material through lecture 6)			Midterm Exam
Week 8 3/7, 3/9	What is the difference between Beta and Alpha? Value at Risk and Expected Shortfall. CAPM, Jensen’s model for portfolios Fama French 3 factor model	Lecture 7 PPT, Excel Lecture 8 PPT, Excel		
SPRING BREAK 3/11 – 3/19				
Week 9 3/21, 3/23	Portfolio performance Evaluation: risk adjusted returns, portfolio ratios.	Lecture 9 PPT Lecture 7,8,9 Excel	RP 3 Due 11/22	
Week 10 3/28, 3/30	Working session, RP 3. Managing portfolio risk with SP500 Futures Managing Interest Rate risk with Eurodollar Futures.	Lecture 10 PPT, Excel		
Week 11 4/4, 4/6	International Diversification.			
Week 12 4/11, 4/13	Review RP 3. Introduction to Alternative Investments			
Week 13 4/18, 4/20	Using alternative investments to improve portfolio diversification		RP 4 Due 12/6	
Week 14 4/25, 4/27	Review and Preparation for Final Exam			

Disclaimer: We will cover content in this order. The dates of quizzes, midterms and RP are tentative, they can change due to our class meetings. I will discuss in advance before release and due dates. I reserve the right to make any changes to the syllabus.

Assessment:

Posting of Grades: Please check MyRutgers for your final grades.

Assessment Policy:

Letter Grade	Scores Based on Course Components
A	90-100
B+	85-89
B	80-84
C+	75-79
C	70-74
D	60-69
F	< 60

Note: The thresholds for final letter grades will be re-scaled if a conventional standard seems unreasonable.

Penalty: For every day that an assignment is late there is a **10% penalty** that will accrue, with a **max of one week**. Submissions must be complete; no partial assignments can be submitted.

Learning Management System:**NETID Needed**

Rutgers uses the Canvas system. In order to use this system, you must have a NETID and PW. A NETID is an account on one of the main systems at Rutgers (Pegasus, Eden, Andromeda or RCI).

- If you have a NETID, you can currently ensure that you will be able to login to the system.
- If you do not have a NETID, please use the following page to attain one: <http://netid.rutgers.edu/>
- If you have any problems, please contact your local RUCS Help Desk. You can reach them at help@nbcs.rutgers.edu or 732-445-Help

Canvas

To facilitate class learning, please access and print course documents needed for class from the course management system known as Canvas. Course documents are posted in Canvas Modules.

Rutgers WebEx quick-start guide

<https://it.rutgers.edu/webex/knowledgebase/webex-quick-start-guide/>

Academic Integrity:

All students are bound by the Rutgers policy on academic integrity. The University's policy on academic integrity is found in the official website at

<https://nbprovost.rutgers.edu/academic-integrity-students>

Student Wellness Services

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ <http://health.rutgers.edu/medical-counseling-services/counseling>

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professionals within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community, and consultation and collaboration with campus partners.

Crisis Intervention: <http://health.rutgers.edu/medical-counseling-services/counseling/crisis-intervention>

Report a Concern: <http://health.rutgers.edu/do-something-to-help/>

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854

<https://ods.rutgers.edu>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:

<https://ods.rutgers.edu/students/documentation-guidelines>

If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at:

<https://ods.rutgers.edu/students/registration-form>.

A searchable link for all of the above, and other resources available to you at Rutgers:

<https://success.rutgers.edu/>

CTAAR:

The Center for Teaching Advancement and Assessment Research supports teaching and learning through a variety of areas. Free for students are software workshops in Excel, Word, PowerPoint, Access, etc. http://ctaar.rutgers.edu/workshops/ws_descr_IT.html

Student E-Mail and Phone Numbers:

A student can forward mail from his/her Eden/Pegasus address to a preferred e-mail address. Go to <http://www.eden.rutgers.edu/tools.php> and click on forwarding. Enter your NetID and PW. Then fill in your preferred e-mail address.

Cautions: Hotmail has problems with e-mails with attachments. Also, some corporations spam e-mails with attachments.

- If you have any problems, please contact your local RUCS helpdesk at <https://it.rutgers.edu/new-brunswick/oit-help-desk-at-rutgers-new-brunswick/>

Please check your e-mail regularly, especially on the day of class, to learn if there are any changes in the class schedule, class requirements, or for other general announcements.

Study Groups: Forming study groups will facilitate learning by keeping you focused, involved, and current in the course.

Classroom Etiquette: Common courtesy is expected at all times. Please turn off all cell phones and other communications devices during class. This facilitates efficient learning, best performance in the course, and timely completion of classes.

Snow or other Emergency University/Campus Closings: 732-932-INFO (New Brunswick); <http://campusstatus.rutgers.edu>