

Finance
Course Number: 29:390:386
Course Title: Derivatives

COURSE DESCRIPTION

Derivatives markets are among the largest financial markets in the world, and various derivatives instruments are being used daily by corporate and portfolio managers for hedging, speculation, and arbitrage purposes. Financial engineers specialize in the creation and pricing of new derivatives and are among the most highly sought professionals. All financial market participants should at least understand the use and valuation of key derivatives contracts. This course provides an introduction to these skills. The course will be **mathematically intensive** and a good understanding of calculus and algebra is essential.

COURSE MATERIALS

- Textbook

John Hull, *Options, Futures, and other derivatives*, 8th ed., Pearson

- Check the course website on Canvas (canvas.rutgers.edu) and your official Rutgers email account regularly.
- Software: Microsoft Excel and Matlab are the minimum software requirements for this course.

PREREQUISITES

Calculus (01:640:135 or analog), basic probability and statistics

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

The University is committed to a culture of academic engagement between students and faculty. Part of this commitment involves taking responsibility for attending your classes, workshops and exams, and informing your instructors when you cannot attend.

If you are absent from a class or exam for any reason, please **email the instructor**.

All students are expected to bring a positive attitude to the classroom, and to respect the learning environment. This means, at a minimum, that no student will disrupt the learning environment, even in small ways, which includes sending or receiving text messages, or surfing the internet, or tweeting, or talking to other students about anything unrelated to the subject matter at hand. So, **PLEASE NO CELL PHONES, COMPUTERS or OTHER ELECTRONIC DEVICES IN CLASS** unless you are asked to use them.

Please notice that office hour time is reserved for students who have attended class; it is not for giving private classes to students who did not attend at the scheduled time, however good their reasons.

I understand that you might have to miss a class or two during the semester. In this case, you are encouraged to obtain class notes from your peers, read the textbook and come to office hours to clarify any topics you have difficulty with. **If you miss three or more classes, the instructor reserves a right to lower your course grade by one letter grade.**

Late arrivals and departures are considered as a missed class.

HOMEWORK AND QUIZZES

Homework will be posted every week. The majority of the homework problems will be assigned from the textbook. Solutions for these problems will be posted on Sakai. There will also be a small set of slightly more challenging problems given every week. Some of these problems will appear later on a quiz as extra credit problems.

Homework problems will not be collected/graded, but all students should keep their solutions to all homework sets in an organized folder, bring them to each class meeting and be able to present them to the instructor immediately by request.

Quizzes will be given in each session starting from the second week of the course. They will contain homework style problems, so the students who do all their homework should not have any problems on quizzes. Quizzes will be graded out of 20 points.

The quiz grades can be lowered by a significant margin in case if a student does not present the required homework solutions to the instructor when asked.

No makeups will be allowed for quizzes. The two lowest grades will be dropped at the end of the course.

Note that you must write your homework solutions in complete, grammatically correct English sentences, showing all your work. For several reasons, your homework solutions should be neat, organized, easy to read, and otherwise beautiful:

- Recopying and organizing helps clarify and organize the material in your mind.
- Neat and organized homework can be extremely helpful when studying for exams.
If the problem is *summarized beforehand*, and if your solution is *clear, sensible and easy to read*, you can easily study from it. If it is messy, not detailed, or illogical, it is not a useful studying tool. Even if it neat and logically presented, if you haven't summarized the question, studying from it becomes considerably more time-consuming.
- Everything that you turn in/show to the grader sends a message about who you are and what you care about. When you've put a lot of effort into something, you should show that you're proud of it.

Presenting your problem sets in such a fashion does take more time in the short run, but it is **not** a waste of time! It helps you internalize the material now, and makes studying for exams easier. The more you practice presenting your ideas in an organized fashion, the better prepared for life after college you are, no matter what field you choose!

If the homework solutions you present are not neat, the instructor reserves the right to deduct some points from the quiz score.

You are strongly encouraged to discuss homework problems with me or with other students. Please email me, post your questions in the Chat room on Sakai, or come to office hours whenever you have questions about the material!

PARTICIPATION

You are expected to actively participate in the course. This participation can consist of in-class discussions, visits to office hours, or posting and answering questions about the content (not administrative questions) of the course in the Chat room.

The most active participants in the Chat room (those who ask relevant questions and provide good answers) will get a bonus at the end of the course.

EXAM DATES AND POLICIES

There will be a midterm exam and a final exam. No electronic devices will be allowed during exams. Students are not allowed to use notes and formula sheets in any exam (midterm or final exam).

Make-up exams will be given only in the case of well-documented illness or major emergency or (only with permission in advance) of a major outside commitment.

The final exam will be cumulative, covering all topics of the course.

Note that a student will not be able to pass the course if they score less than 40% on the final exam.

The date of the midterm:

The date of the final exam will be provided by the University (it will be during the finals week).

GRADING POLICY

There are following graded items in this course with the corresponding weight distribution:

- Active class participation 5%
 - Quizzes25%
 - Midterm Exam28%
 - Final Exam.....42%.
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- There are no opportunities for extra credit except the ones provided in class and during quizzes and regular exams.
 - Grade allocation:

Weighted average of graded items	Corresponding grade
[90, + ∞)	A
[80, 90)	B+
[70, 80)	B
[60, 70)	C+
[50, 60)	C
[40, 50)	D
[0, 40)	F

- All (partial) scores received throughout the course will be added to the *Gradebook* on the Sakai course website.
- Your partial scores/final grades are not subject to negotiation. If you feel I have made an error, submit your written argument to me within one week of receiving your grade/score. Clarify the precise error I made and provide all supporting documentation. If I have made an error, I will gladly correct it. But I will adjust grades only if I have made an error.
- None of the scores will be rounded.

TIME COMMITMENT

This is a challenging course.

Mastering the material of this course requires time. Successful students in the past reported that they consistently spent at least 7 hours per week to review the material and solve problems, and more than that before major exams.

... There have been many studies of elite performers - concert violinists, chess grand masters, professional ice skaters, mathematicians, and so forth - and the biggest difference researchers find between them and lesser performers is the amount of deliberate practice they've accumulated. Indeed, the most important talent may be the talent for practice itself. Gawande A., "The Learning Curve", The New Yorker, January 28, 2002, p.52-61.

If you are just looking to fill a slot in your schedule or looking for a "light elective", you should not be taking this course.

I want you to do well in this class. Your approach should be learning concepts thoroughly and practicing with a variety of problems. You are warmly invited to ask questions in class, in office hours or in the Chat room. Feel free to let me know if you have any problems with the class and express your concerns during the semester. Your feedback is always welcome!

CAUTION: The information in this syllabus is subject to change, as announced in class or via email/. No major changes are anticipated, but you are expected to attend class and check email regularly.

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.]