

**Financial Analysis**  
**Course Number: 22:430:609**  
**Course Title: Derivatives**

## **COURSE OVERVIEW AND OBJECTIVES**

This course covers the major types of derivatives such as forwards, futures, swaps, ABS, CDS and options. By the end of the course, students will have good knowledge of how these products work, how they are used in real world, how they are priced, and how they are used as hedging instruments. In addition, the course will challenge students to use the derivative tools that are available in Bloomberg. This course will help students who are seeking a career relating to derivatives.

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## **COURSE MATERIALS**

All lecture notes, assignments and case materials will be distributed via Canvas.

Main textbook: **“Derivatives”**, Wendy L. Pirie, CFA, CFA Institute Investment Series (especially Chapters 1 to 5)

Other related textbooks (Optional)

**“Fundamentals of Futures and Options Markets”**, by John C. Hull, publisher: Pearson Prentice Hall. (8<sup>th</sup> and 7<sup>th</sup> editions suffice)

Wall Street Journal, Economist and Bloomberg.com are other reading materials. Students should be very familiar with Excel.

Students should form a team of 4. Each team is encouraged to work on a project that requires them to apply derivative solutions to some kind of real-world problem. Each team will have to present the project at the end of the semester.

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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](http://business.rutgers.edu/ai) for more details.

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## GRADING POLICY

Mid-Term	40%
Final	40%
Team Project	20%
Bonus: 90% to 100% Attendance	1 point
Active Participation	2 points

(Attendance will be taken on random days)

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## COURSE SCHEDULE

Week 1: Basics of Derivatives	ML1, ML2, CFA-Chapter 1
ABS, CDO and Credit Derivatives	ML3, CFA-Chapter 1
Week 2: Option Basics	ML4, CFA-Chapter 1
Basics of Derivative Pricing & Arbitrage	ML5, CFA-Chapter 2
Week 3: Pricing of Forward & Futures contract	ML6, CFA-Chapter 3
Week 4: Pricing of Swap Contracts & FRA	ML7, CFA-Chapter 3
Week 5: Pricing of Option & Put-Call Parity	ML8, CFA-Chapter 3
Week 6: Review for exam 1	

Week 7: Mid-Term

Week 8: Binomial Trees & Black-Scholes-Merton ML9, CFA-Chapter 4

Week 9: The Greeks and Hedging ML10, CFA-Chapter 4

Week 10: Synthetic Positions and Trading Strategies ML11, CFA-Chapter 5

Week 11: Covered Calls and Protective Puts ML12, CFA-Chapter 5

Applications of Derivatives in real world ML13

Week 12: Applications of Derivatives in financial world ML14

Week 13: Team Presentation

Week 14: Review for exam 2

Week 15: Final Exam

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## 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](http://ods.rutgers.edu).

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

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

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

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

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