

**Rutgers Business School**  
**Rutgers, The State University of New Jersey**  
**Special Topics in Finance: Options in Finance (22:390:685:01)**  
**Fall 2017**

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Meetings: Thursday 9:30a.m.~12:30p.m.

Classroom: 1WP-464

Office Hours: Thursday 8:30a.m.~9:30a.m. at 1WP 1105D or by appointment.

### **COURSE DESCRIPTION**

This course is designed to introduce finance Ph.D. students to the theoretical and empirical research in topics related to derivative instruments such as options, futures, and other derivatives. The course starts with a discussion of the no-arbitrage pricing relations. We then introduce the basics of continuous time mathematics and work through the standard option valuation models and their variants in order to understand their key contributions and empirical implications. We then follow with the discussions of several strands of empirical work in the derivatives area, including studies that focus on testing no-arbitrage pricing relations, studies that evaluate option empirical performance of option valuation models, and studies that focus on the social costs and/or benefits that arise from derivatives trading. In the second half of the semester, the recent academic literature on a new class of derivatives contracts, credit default swaps (CDS), will be discussed. Topics include studies on CDS market structure and regulation, CDS pricing, relation between CDS, bond, and equity markets, CDS and corporate finance, CDS and financial intermediaries, and studies on sovereign CDS and CDS indices.

### **COURSE MATERIALS**

Class notes that will be distributed in class

Selected articles cited in the surveys listed below:

Robert E. Whaley, Chapter 19 Derivatives, Handbook of the Economics of Finance, Volume 1, 2003, Pages 1129-1206. [http://dx.doi.org/10.1016/S1574-0102\(03\)01028-8](http://dx.doi.org/10.1016/S1574-0102(03)01028-8)

Patrick Augustin, Marti G. Subrahmanyam, Dragon Yongjun Tang and Sarah Qian Wang (2014), Credit Default Swaps: A Survey, Foundations and Trends™ in Finance: Vol. 9: No. 12, pp 1-196. <http://dx.doi.org/10.1561/05000000040>

Patrick Augustin, Marti G. Subrahmanyam, Dragon Yongjun Tang and Sarah Qian Wang (2015), Credit Default Swaps: Past, Present, and Future, Annual Review of Financial Economics: Vol. 8, pp 1-25

Other reading lists that will be distributed in class

Suggested reference books:

John Hull, Options, Futures and Other Derivatives, 10th ed., Pearson

Robert C. Merton, Continuous-Time Finance, Wiley-Blackwell

Course website: *Blackboard*

## **LEARNING GOALS AND OBJECTIVES**

- This course is designed to help students develop skills and knowledge in the following area(s):

Theoretical and empirical research in topics related to derivative instruments such as futures, options, and other derivatives.

- Students who complete this course will demonstrate the following:

Knowledge of the theoretical and empirical research in topics related to derivative instruments such as futures, options, and other derivatives

- Students develop these skills and knowledge through the following course activities and assignments:

Lectures, assignments, mid-term exam, reading assignments, presentations, and research proposal/paper

## **COURSE REQUIREMENTS AND GRADING POLICY**

The overall grading schedule is as follows:

Mid-term exam	30%
Assignments, presentations, and class participation	40%
Research proposal/paper	30%

A mid-term exam will cover the materials learned in the first half of the semester.

Students will be assigned to present papers on various topics in the classroom each week throughout the semester. The paper to be presented by each student each week can either be assigned by the professor or picked by the student with the approval by the professor at least one week ahead of time. The student must electronically submit a preliminary version of the presentation slides to the professor at least two days before the scheduled date of presentation. On the day of the presentation, the student needs to provide hard-copies of the presentation slides to the professor and each of his/her fellow students.

A research proposal/paper is due at the end of the semester. The paper can be either theoretical or empirical in scope and should involve some extension of the existing literature. It can be a pilot study of a potential empirical project or a critique of existing theory or empirical methods with an alternative approach partially developed. The paper should include a careful definition of the research question, a critical review of the previous work, a clear explanation of the methodological approach to be taken, and a summary of findings and conclusions. Students are encouraged to meet with the professor as early as possible in the semester to discuss potential

topics for the research proposal/paper. Students will present his/her research proposal/paper in the last day of class and submit a final version of the proposal/paper within one week after the presentation.

## **ATTENDANCE AND PREPARATION POLICY**

Attendance is mandatory. Therefore, attendance will be taken throughout the semester.

What is an excused absence? An excused absence is when there are extenuating circumstances regarding why a student cannot attend class, such as illness requiring medical attention, conflict due to a religious observation, etc. If such an extenuating circumstance exists, you need to provide me written supporting document with signature of qualified professionals (such as a doctor's note) in advance or within one week of your first day of absence if advance notice is not possible. Emails or other forms of notices are not sufficient, thus your absence will not be excused if you cannot provide written supporting document to support your email.

For weather emergencies, consult the campus home page. If the campus is open, class will be held.

Finally, you need to arrive at the classroom on time and you cannot leave early. If you arrive late and I have already taken attendance before you arrive at the classroom, it will be treated as an unexcused absence. Similarly, if you leave early and I take attendance after you leave the classroom, it will be treated as an unexcused absence as well.

## **CLASSROOM CONDUCT AND USE OF ELECTRONIC DEVICES**

Use of any electronic devices, such as laptops or tablets, is *not* allowed during regular class time unless otherwise noted. No eating is allowed in the classroom during class time. Please use the bathroom prior to the class start or during class breaks. Please avoid leaving and re-entering the classroom in the middle of the class.

## **EXAM DATES AND POLICIES**

During exams, the following rules apply:

- If you have a disability that influences testing procedures, provide me an official letter from the Office of Disability Services at the start of the semester.
- No cell phones or other electronics are allowed in the testing room.
- You must show a valid Rutgers photo ID to enter the room and to turn in the exam.
- Alternate seating; do not sit next to another student or in your usual seat.
- Use the bathroom prior to the exam start; bathroom breaks, if essential, will be escorted. - Your exam will not be accepted unless you sign the Honor Pledge

## **RE-GRADING POLICY**

Your grade for any exam will be posted on Blackboard as soon as I finish grading the exam. The graded materials will not be returned to you, but you may request a re-grade on any exam. Each re-grade request must be accompanied by a concise written explanation of the request and submitted to me within one week after I distribute the grade for the exam. The whole exam will be re-graded, so your score can either increase or decrease or stay the same as a result.

Finally, your grades are not subject to negotiation. I cannot and will not adjust grades based on consequences, such as hurt pride, lost scholarships, lost tuition reimbursement, lost job opportunities, or dismissals. Do not ask me to do so. It is dishonest to attempt to influence faculty in an effort to obtain a grade that you did not earn, and it will not work.

## **ACADEMIC INTEGRITY**

Students are responsible for understanding the RU Academic Integrity Policy ([https://slwordpress.rutgers.edu/academicintegrity/wp-content/uploads/sites/41/2014/11/AI\\_Policy\\_2013.pdf](https://slwordpress.rutgers.edu/academicintegrity/wp-content/uploads/sites/41/2014/11/AI_Policy_2013.pdf))

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.” Don’t let cheating destroy your hard-earned opportunity to learn. See [business.rutgers.edu/ai](http://business.rutgers.edu/ai) for more details.

## **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. <https://ods.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 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 – New Brunswick: <http://health.rutgers.edu/>

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

If you are in need of additional *academic assistance*, please use our readily available services. Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>

**Tentative Class Schedule (Subject to change)**

Dates	Contents
9/7	Introduction to the derivatives markets
9/14	No-arbitrage pricing relations
9/21	Continuous time mathematics
9/28	Option valuation models
10/5	Option valuation models
10/12	Mid-term / Studies that focus on testing no-arbitrage pricing relations
10/19	Studies that evaluate option empirical performance of option valuation models
10/26	Studies that focus on the social costs and/or benefits that arise from derivatives trading
11/02	Studies on CDS market structure and regulation
11/9	Studies on CDS pricing
11/16	Studies on CDS, bond, and equity markets
11/21 (Tuesday)	Studies on CDS and corporate finance; CDS and financial intermediaries
11/30	Studies on sovereign CDS and CDS indices
12/7	Presentation of research proposal/paper