**Instructor:** Triet Pham, Office: Hill Center Room 207, Email: triet.pham@rutgers.edu

**Office Hours:** T 4:00 - 5:30 pm, W 3:30 - 5:00 pm and by appointment.

**Course grader 1:** Ruofan Yan, Email: 1989yrfyrf@gmail.com

**Office Hours:** M 7:30 pm - 9:30 pm

**Course grader 2:** Hanlu Tian, Email: hannah.tian86@gmail.com

**Office Hours:** M 10:30 am -12:30 pm.

**Textbook:** Shreve, *Stochastic Calculus for Finance II: Continuous-Time Models.*

**Reference:** Karatzas and Shreve, *Brownian motion and Stochastic Calculus.*

**Course Objectives:** This course continues the development of the mathematical theory of derivative security pricing begun in Mathematics Finance I and, in addition, focuses on applications to financial models. Topics covered include exotic options (such as barrier, lookback, and Asian options), stopping times, American-style (early exercise) options, McKean’s formula for the perpetual American put, change of numraire and risk-neutral measure, interest rate models, bonds and options on bonds, term-structure models (Heath-Jarrow-Morton model, forward LIBOR model, swap market model), Black’s formulae for caps and swaptions. The course ends with an introduction to jump models, including compound Poisson, jump diffusion, and Levy processes, stochastic calculus and change of measure for jump processes, and option pricing with jump processes.

**Course Outline:**

This is a tentative outline. As the course progresses, we may adjust the pace and / or the material if necessary.


Grade Breakdown:
Homework: 10 %; Midterm 1: 25 %; Midterm 2: 25 %; Final: 40 %

Academic Honesty: As a Rutgers University student, you have agreed to abide by the University’s academic honesty policy, as stated in http://academicintegrity.rutgers.edu. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

University Attendance Policy: Students are expected to attend classes regularly, according to what is stated in http://sasundergrad.rutgers.edu/academics/courses/registration-and-course-policies/attendance-and-cancellation-of-class

Important Dates:
First midterm ...........................................March 2, 2016
Second midterm .................................April 13, 2016
Final Exam ............................May, 9, 2016
Final Exam Time ..........................6:40 to 9:30pm
Final Exam Location .......................SEC 209