Instructor: Dr. Zhaodong (Ken) Zhong  
Office: Rm.119 Janice H. Levin Bldg.  
Phone: (732) 445-5109  
E-mail: zdzhong@business.rutgers.edu  
Meetings: Monday 6:40 p.m. ~ 9:40 p.m.  
Classroom: LSH-B267  
Office Hours: Monday 5:00 p.m. ~ 6:00 p.m. or by appointment.

COURSE OBJECTIVES

This course is designed to introduce finance students to the theory and practical use of derivative instruments such as futures, forwards, and options. Over the last 30 years, the markets for these versatile instruments have grown enormously, and they now provide finance professionals with an efficient means to hedge, arbitrage and speculate. By the end of the course, students will have good working knowledge of how these products work, how they are used, how they are priced, and how financial institutions hedge their risks when they trade derivatives instruments. Please note that the course will be mathematically intensive and a good understanding of calculus and algebra is essential.

TEXTBOOK AND MATERIALS

Required: John Hull, Options, Futures and Other Derivatives, 8th ed., Prentice Hall  
Supplementary materials: Wall Street Journal  
Course website: Blackboard

COURSE REQUIREMENTS AND GRADING

The overall grading schedule is as follows:  
Exams 80% (40%E1 + 40%E2 or 25%E1 + 55%E2)  
Assignments 10%  
Computer Exercises and Projects 10%  

EXAMS

A total of two exams will be given during the semester. The attached class schedule indicates when exams will occur. The exams are non-cumulative. Overall, exams will count for 80% of the total grade.  
All exams are closed book. Each exam contains multiple-choice questions and problem-solving questions. The best way to prepare for exams is to attend class, solve homework problems, and review lecture materials. A significant part of the exam will be questions nearly identical to problems discussed in class or in the homework.

1
Students should bring a financial or scientific calculator, pen, and pencil to the exam. You may also bring one single-sided, letter-sized, “formula” sheet to the exam. Only formulas (no words or graphs) are allowed on the formula sheet. Students need to turn in his/her formula sheet after each exam. Therefore, if you want to keep a copy of the formula sheet for later usage, you must make a photocopy of it before the exam.

ASSIGNMENTS

Homework assignments will be a component of the total grade. Periodically, students are required to hand in printed or handwritten solutions to homework for grading. The due dates will be announced in class. Students must turn in their homework on time. Late homework will receive zero automatically. You are encouraged to work together with other students in the learning process, but each student must turn in his/her own homework solutions. Overall, homework will count for 10% of the total grade.

COMPUTER EXERCISES AND PROJECTS

It is a common practice to use computer to implement solutions in the usage and valuation of derivatives instruments. We will have two computer exercise sessions during the semester to apply what we learn to some real world data. We will use EXCEL in implementing these exercises. But if you are familiar with other programming language such as C, C++, or FORTRAN, you are encouraged to apply your programming skills to implement the solutions. Overall, the computer exercises and related projects will count for 10% of the total grade.

CLASS PARTICIPATION AND BONUS POINTS

A good student

Class participation is important because it enhances the classroom environment and allows student to practice public speaking in a supportive, low-risk environment. Good public speaking is arguably the most valuable skill of a business leader. Like any other skill, it can only be improved through practice.

Chips will be awarded for solving in-class questions, or participating in discussions that enhance the learning of others. Each student can earn one chip each day, and it must be “cashed in” at the end of each class. Each chip is worth 0.5 bonus point towards the total grade. Each student can earn a maximum of 5 chips during each half of the semester, before and after the first exam. In other words, you can earn a maximum of 2.5 bonus points for each half of the semester (a total of 5 bonus points for the entire semester).

ATTENDANCE

Attendance is mandatory. The materials of this course are difficult, and attending class is the most efficient way to learn knowledge. Therefore, attendance will be taken randomly during the semester. Each student is entitled to one unexcused absence for the semester. Each unexcused
absence beyond the first one will reduce the total grade by one point. For example, if a student has three unexcused absences, then his/her total grade will be reduced by two points.

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 doctor’s note). Emails or other forms of notices are not sufficient, thus will not be accepted. Sorry, but work obligations do not count as excused absences, which is the reason why you get one freebie.

RE-GRADING

You may request a re-grade on any exam. Each re-grade request must be accompanied by a concise written explanation of the request. The whole exam will be re-graded, so your score can either increase or decrease or stay the same as a result.
### Tentative Class Schedule (Subject to change*)

<table>
<thead>
<tr>
<th>Dates</th>
<th>Contents</th>
<th>Reading (Chapters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/8 (Thursday)</td>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>9/12</td>
<td>Forward and Futures</td>
<td>2</td>
</tr>
<tr>
<td>9/19</td>
<td>Determination of Forward and Futures Prices</td>
<td>5</td>
</tr>
<tr>
<td>9/26</td>
<td>Hedging Using Futures</td>
<td>3</td>
</tr>
<tr>
<td>10/3</td>
<td>Interest Rate Futures</td>
<td>4, 6</td>
</tr>
<tr>
<td>10/10</td>
<td>Options</td>
<td>9</td>
</tr>
<tr>
<td>10/17</td>
<td>Properties of Option Prices</td>
<td>10</td>
</tr>
<tr>
<td>10/24</td>
<td><strong>Exam I on 10/24</strong></td>
<td></td>
</tr>
<tr>
<td>10/31</td>
<td>Trading Strategies, LAB1</td>
<td>11</td>
</tr>
<tr>
<td>11/7</td>
<td>Binomial Trees</td>
<td>12, 20</td>
</tr>
<tr>
<td>11/14</td>
<td>Black-Scholes Model</td>
<td>14, 19</td>
</tr>
<tr>
<td><strong>11/28</strong></td>
<td>Options on Indices, Currencies, and Futures, LAB2</td>
<td>16, 17</td>
</tr>
<tr>
<td>12/5</td>
<td>Additional topics: Greeks, Swaps, etc.</td>
<td>18, 7</td>
</tr>
<tr>
<td>12/12</td>
<td><strong>Exam II on 12/12</strong></td>
<td></td>
</tr>
</tbody>
</table>

*If you miss a class, please check with your classmates for any announcement.*