BUS 172C (Futures and Options), Spring 2016

Thursday, Jan 28th – Tuesday, May 12th, 2016

Tu, Th 10:30 AM – 11:45 AM Room: BBC 322

No lecture days:
March 31 (Thursday): Cesar Chavez day, campus closed
March 28 (Monday) – April 1 (Friday): Spring break

General Information

<table>
<thead>
<tr>
<th>Instructor: Dr. Jang H. Cho</th>
<th>Phone: 408-924-3489</th>
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</thead>
<tbody>
<tr>
<td>Office: BT 854</td>
<td>Fax: 408-924-3463</td>
</tr>
<tr>
<td>Office Hours:</td>
<td>E-mail: <a href="mailto:jang-hyun.cho@sjsu.edu">jang-hyun.cho@sjsu.edu</a></td>
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<tr>
<td>Tuesday 3:00 PM – 5:00 PM,</td>
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<td>or by appointment</td>
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College of Business Mission

We are the institution of opportunity in Silicon Valley, educating future leaders through experiential learning and character development in a global business community and by conducting research that contributes to business theory, practice and education.

BSBA Program Learning Goals

| 1 | Business Knowledge | Understand basic business principles and demonstrate discipline-specific competencies as applied to local and global environments. |
| 2 | Communication      | Communicate ideas clearly, logically, and persuasively in oral and written format, using technology appropriately. |
| 3 | Ethical Awareness  | Recognize, analyze, and articulate solutions to ethical issues that arise in business. |
| 4 | Leadership Diversity & Teams | Comprehend the challenges and opportunities of leading and working in diverse teams and environments. |
| 5 | Critical Thinking  | Comprehend, analyze, and critically evaluate complex unstructured qualitative and quantitative problems, using appropriate tools and technology. |
| 6 | Innovation         | Recognize, analyze, and articulate strategies for promoting creativity and innovation. |
Course Description

The use of derivatives for risk management by individuals, banks and corporations. The functioning of the futures and options markets for equities, fixed income and commodities. Option valuation models; Black-Scholes and beyond. Risk arbitrage. Applications in personal investment strategies.

Course Goals and Student Learning Objectives

Students will be able to:

LO1 – Understand the terminology and mechanics of options market
LO2 – Understand the valuation of options, like the binomial option pricing model and Black-Scholes Option pricing model
LO3 – Understand the trading strategies using options
LO4 – Understand the terminology and mechanics of forward and futures market
LO5 – Understand the hedge strategies using forward and futures, like long- and short-hedges, cross hedge, etc.
LO6 – Understand the pricing and valuation of forward and futures contracts
LO7 – Understand the terminology and mechanics of interest rate swaps and other types of swaps, like asset swaps, currency swaps, commodity swaps
LO8 – Understand the pricing and valuation of a swap contract
LO9 – Understand the terminology and mechanics of credit derivatives, like Credit Default Swap (CDS) and Collateralized Debt Obligations (CDO)

Course Materials

(1) REQUIRED materials:

- Course Reader: Mandatory to bring it to class.
  - It contains Syllabus and Lecture handouts.
  - The reader is available from the Maple Press (on 330 S. 10th St., Suite 200)

(2) RECOMMENDED materials:

- Fundamentals of Futures and Options Markets, 7/E or 8/E
  
  John C. Hull,
  http://www.rotman.utoronto.ca/~hull/

- Errata: http://www.rotman.utoronto.ca/~hull/ifom/Errat7e.html

- Solutions Manual and Study Guide for Fundamentals of Futures and Options Market

READ: My lecture notes contains the materials for one-semester lecture purpose. It is not possible to cover each and every topic in a Derivatives textbook. The most compelling reasons would be time limit and the fact that instructors bring cases into the class. The cases are from outside of a textbook.
Hence, you have to understand and accept that there is a gap between “lecture materials” and the whole book. If you want to fill the gap, then please read this textbook.

John Hull’s book can be sometimes more or sometimes less detailed, mathematical than my lecture materials.

(3) Option pricing software

One of the most popular derivatives is an option. Use of softwares has the following advantages.

Speed, accuracy, practicality, visualization

There are many, many software packages and webpage-based engine for option pricing.

- **DerivaGem**. This comes with the book by John Hull.
- [http://www.option-price.com](http://www.option-price.com). The following is a snapshot using this webpage engine.
  - Advantage: you can use this engine whenever you have an access to Internet.
  - Disadvantage: It does not have any functions for binomial
**Course Prerequisites**

- BUS 170 (Fundamentals of Finance) and BUS 172A (Investment Analysis) (with minimum grade of "C" in each)
- Also, if you do not have any knowledge of College Algebra and Principles of Probabilities and Statistics, then it is not recommended to take this course.

**Grading**

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<tr>
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<th>Percentage</th>
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<tr>
<td>Midterm exam 1</td>
<td>25%</td>
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<tr>
<td>Midterm exam 2</td>
<td>24%</td>
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<tr>
<td>Final exam</td>
<td>20%</td>
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<tr>
<td>Individual Assignments</td>
<td>10%</td>
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<tr>
<td>Group assignments (presentations)</td>
<td>6%</td>
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<tr>
<td>Online Quizzes (through Canvas)</td>
<td>10%</td>
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<tr>
<td>Participation</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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<td>A+</td>
<td>[97-100%)</td>
<td>A</td>
<td>[94-97%)</td>
<td>B-</td>
<td>[80-84)</td>
<td>D+</td>
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<td>A-</td>
<td>[90-94)</td>
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<td>B+</td>
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<td>B</td>
<td>[84-87)</td>
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Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See University Policy F13-1 at http://www.sjsu.edu/senate/docs/F13-1.pdf for more details.

**Online Quiz**

- Online quizzes are individually taken. They are not team-based.
- Each quiz will be open in the Canvas from 8:30 AM of one day after the corresponding topic is finished over the following five days until 11:30 PM.
- There are two attempts for each quiz. The highest score will be taken as a grade for each quiz. The quiz with the lowest grade will be dropped. This option is valid only if you take all the quizzes.
Presentations

- The purpose of presentation is to get knowledge and experience about the topics.
- It is important to know: although each team is in charge of a presentation, you all need to read and solve each and every material for the presentations.
- There will be nine teams since there are nine presentations.
- Information about presentations:
  1. BRIEF INTRODUCTION TO OPTIONS ON STOCK INDEX OPTIONS AND INTEREST RATE OPTION
  2. STANDARDIZATION OF FUTURES CONTRACTS
  3. MARKING TO MARKET IN FUTURES MARKET
  4. BRIEF INTRODUCTION TO EURODOLLAR FUTURES
  5. BRIEF INTRODUCTION TO TREASURY BOND FUTURES
  *6. PRICING AND VALUATION SWAP CONTRACTS
  *7. WHY CDS BECAME A TIME BOMB DURING FINANCIAL CRISIS IN 2008?
  *8. ETHICAL ISSUES IN SECURITIZATION AND MARKETING DURING FINANCIAL CRISIS
  *9. ETHICAL ISSUES IN SYNTHETIC CDOS AND BETTING AGAINST THEM DURING FINANCIAL CRISIS

“*” = Time-demanding presentation. An extra-credit will be given (1 point on the total grade.)

- Directions for presentations: refer to the course reader

Individual Assignment

- There are about six individual assignments.
- Refer to the course schedule to see the assignment schedule.
- The contents of the individual assignments are shown in the lecture notes.

Exams

- There are three exams.
- There will be NO review sessions before the exam.
- The review materials will be posted online for self-study.
- Bring your scantrons and a calculator.

Final exam date and time
- Wednesday, May 18, 9:45 AM – 12:00 PM.
Participation / Classroom Etiquette

- Participation is based on 10 points.
- The initial point is 5 point
- The following participation during classes will be rewarded by 1 point each time.
  - Answering to questions verbally during lectures
  - Solving questions on the board
  - Asking course topic related questions
  - Lecture note-taking

- The following behaviors during classes will be penalized by 1 point each time. Some of the behaviors will be pointed out; others will be just marked on a grading sheet during the class.
  - Text messaging
  - Eating foods except for beverages
  - Sleeping during classes
  - Unpermitted conversations with classmates
  - Leaving early before the class ends
  - Going outside of the classroom more than once before the class ends (or before a break time begins)
  - Working on other class materials, reading newspapers, etc.
  - Using laptops in the class
Course Schedule

- The following lecture topics are listed based on my lecture notes.

GUIDES FOR PRESENTATIONS

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ONLINE QUIZ 3

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Final Exam (Wednesday, May 18, 9:45 AM – 12:00 PM)

    Here will be a presentation about “Ethical issues in securitization and marketing during financial crisis” ............................................. 225
    Here will be a presentation about “Ethical issues in synthetic CDOs and betting against them during financial crisis” ........................................................................................................................................................................... 235
Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.

<table>
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<th>Study Item</th>
<th>Hours</th>
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<tr>
<td>Reading, 14 assignments, 3 hours per week</td>
<td>42</td>
</tr>
<tr>
<td>Online quiz, 2 hours per quiz, 8 quizzes</td>
<td>16</td>
</tr>
<tr>
<td>Case analysis (Team Meetings, Research, Write-up), distinct case for each team, time requirement varies</td>
<td>4 ~ 20</td>
</tr>
<tr>
<td>Study for two Midterm-, Final-exams, 8 hours each</td>
<td>24</td>
</tr>
<tr>
<td>Assigned problems, 6 assignments, 2 hours each</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>98 ~ 114</strong></td>
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University policy F69-24 at http://www.sjsu.edu/senate/docs/F69-24.pdf states, “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

University Policies:

General Expectations, Rights and Responsibilities of the Student
As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. To learn important campus information, view University Policy S90–5 at http://www.sjsu.edu/senate/docs/S90-5.pdf and SJSU current semester’s Policies and Procedures, at http://info.sjsu.edu/static/catalog/policies.html. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not address the issue, it is recommended that the student contact the Department Chair as the next step.

Dropping and Adding
Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Add/drop deadlines can be found on the current academic year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at
Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor’s permission to record the course and the following items to be included in the syllabus:

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
  - It is suggested that the greensheet include the instructor’s process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.

- 408-924-6000, aec-info@sjsu.edu, aec-exams@sjsu.edu