COURSE SYLLABUS

Instructor:
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Office Hours:  Please feel free to drop by my office anytime!  I welcome the opportunity to work with you individually.  Never hesitate to contact me, especially if you find the material difficult.  I shall try to keep 1–4PM open on Mondays and Wednesdays for students to “drop in,” but unforeseen conflicts (e.g., meetings, seminars) will sometimes arise.  I shall also be available by appointment on most weekdays.  Indeed, I encourage you to set up appointments because they can save time for both of us.

Course Description:

This course examines options markets, serving as an introduction to the dynamic world of derivatives.  The goal is to provide rigorous applied training that prepares students for employment with firms where derivatives are either of primary importance (e.g., banks, trading firms) or secondary importance (e.g., corporations having interest rate or foreign exchange rate exposure that requires hedging).  Topics include fundamental pricing relations and models (e.g., the Black-Scholes-Merton and binomial models), trading strategies (e.g., covered calls, protective puts, spreads, etc.), and risk management.  Although both financial and commodity derivatives are discussed, the course emphasizes financial derivatives for which the underlying assets are stocks, bonds, or foreign exchange.

Classes typically include both lecture and discussion.  Financial theory and empirical evidence appear throughout the course due to their important implications for practitioners.  The course is very managerial in spirit, containing numerous real-world examples and case studies.  Students should read The Wall Street Journal regularly, keep abreast of current issues involving derivatives, and be prepared to discuss them in class.

In some respects this course is more quantitative than the average finance course.  It is not a math course, but it does require significant mathematical reasoning.  That is simply the nature of the subject.  Mathematical reasoning cannot, and should not, be avoided.  Besides the usual spreadsheet, word processing, and presentation software packages, students must use specialized software for analyzing and pricing derivatives.
**Course Prerequisites:**

The major prerequisite is an introductory finance course. MBA students should have taken (or at least currently be taking) a course such as FIN 60400 or FIN 60500.

**Course Textbooks:**

There is one required textbook: *An Introduction to Derivatives and Risk Management, 9th Ed.*, by Don Chance and Robert Brooks. You must have access to this text, but you need not buy the printed version. Other options such as renting or buying electronic versions are available; see the publisher’s website www.cengage.com for details. This text is also required for two other courses, FIN 70630/70631 and FIN 70660, offered this academic year. In addition, there is a supplementary textbook: *Risk Takers: Uses and Abuses of Financial Derivatives, 2nd Ed.*, by John Marthinsen. This text contains numerous entertaining case studies, including two that I assign for reading, preparation, and discussion. This latter text is not required. I think it is a great investment, however, for those seriously interested in derivatives or risk management. Given the high price of textbooks, many students prefer not buying it. Therefore, I have placed ten copies of *Risk Takers* on reserve in the BIC. These copies are available for use only in the BIC. Incidentally, *Risk Takers* is also a supplementary text for the aforementioned FIN 70630/70631 and FIN 70660 courses.

**Grading Policy:**

There will be two quizzes and a cumulative final exam. The main goal of the quizzes is to keep students up-to-date and to provide feedback regarding their mastery of course topics. Each student must analyze one major case, *Second City Options*, in detail. Students work in teams for this case. In addition, each student must turn in two short write-ups in which they answer discussion questions for two minor cases. Students cannot work in teams for these minor cases. Class participation will also affect grades, where class participation includes factors such as regular and punctual attendance, constructive participation in class discussions, etc. Specifically, a student’s grade depends on the following weighted average:

\[
35\%EXAM + 20\%QUIZ + 20\%CASE(SCO) + 10\%CASE(AVG) + 15\%PART,
\]

where

- \(EXAM\) = the final exam grade,
- \(QUIZ\) = the average grade on the two quizzes,
- \(CASE(SCO)\) = the grade on the *Second City Options* case analysis,
- \(CASE(AVG)\) = the average grade on the write-ups for the two minor cases
- \(PART\) = the class participation grade.
Exam and Quiz Policy:

For the final exam, each student can bring one 3×5-inch index card with notes on both sides. For each quiz, each student can bring one 3×5-inch card with notes on only one side. Index cards or other materials larger than 3×5-inches cannot be used and are subject to confiscation. Students should bring calculators to the exam and quizzes. Cell phones and other communication devices are not allowed.

Obviously, job interviews are important. Nonetheless, given that there is only one exam and two quizzes, students should not schedule interviews or other conflicts on those dates. There will be no late make-up quizzes; early make-up quizzes are rare and at my discretion! If a student misses a quiz due to a significant unforeseen event (e.g., an accident, a family emergency), then the student’s final exam grade will substitute for the missing quiz grade.

Honor Code:

Academic dishonesty in any form is unacceptable. Any breach of academic integrity, however small, compromises the mission and reputation of the University and damages the personal integrity of the individual(s) involved. If you choose to participate in this course, I expect that your work will be completed in full observance of the Academic Code of Honor. Of course, giving or receiving help of any kind on an examination is an obvious violation of this Code. If you are unsure whether certain behavior is acceptable, then it is your responsibility to ask me for clarification before engaging in it.

Minor Case Assignments:

As noted earlier, the supplementary textbook Risk Takers presents several important cases illustrating uses and abuses of derivatives. I am assigning two of these cases. They are: Employee Stock Options and Barings Bank PLC. Students should read these cases before class and consider the discussion questions provided.

To promote better discussion, I ask each student to work individually and provide written answers for five questions that I assign per case. These questions are: Problems 1, 3, 4, 5, 8 for Employee Stock Options and Problems 4, 7, 10, 16, 18 for Barings Bank PLC. Answers should be typed and fit on one sheet (both sides) of paper. I do not require time-consuming, detailed answers. I simply want everyone to prepare the case before we discuss it. As long as their answers demonstrate solid effort, students will receive full credit. (Historically, the median grade given for each case has usually been 100.) These write-ups are due in class on the dates listed in the tentative class schedule, i.e., September 16 and September 30. Late write-ups will not be accepted! Students who miss class on those dates can email their write-ups to me prior to the start of class, but they will be penalized twenty points for not being available to discuss the case. I strongly urge students to read these cases and complete their write-ups as soon as possible. These cases are “self-contained” and can be read with minimal knowledge of options and futures. Motivated students can easily finish these assignments early!
Where can you find copies of these cases if you do not buy *Risk Takers*? I have posted a copy of the first case in the class folder in Sakai. I cannot, however, post copies of both cases; that is a violation of copyright laws. Please recall that ten copies of *Risk Takers* are available in the BIC. Hence, you can access the second case there.

**Major Case Analysis:**

All students must provide a written case analysis of the *Second City Options* case, which is authored by Don Chance and myself. Students must analyze each case by working in teams; these teams usually contain 3–4 people. Students will be randomly assigned to teams shortly after the class roster is finalized. Each team must work independently and not consult other teams or analyses (past or present!). Failure to work independently constitutes a violation of the Honor Code.

Teams must submit their written analyses in class on Thursday, October 2. Analyses submitted after class on October 2 will be penalized ten points. Analyses exceeding a total length of 25 pages (including the cover page, exhibits, appendices, etc.) will be penalized ten points. Analyses should be double-spaced with one-inch margins. They should begin with a 1–2 page executive summary that highlights the key findings and conclusions. Each team must also give a PowerPoint presentation of their analysis in class on Tuesday, October 7. These presentations must be finished and sent to me by Sunday, October 5, for copying and distribution on October 7. All students should be ready to discuss the case, although grades will be based primarily on the written analyses. Students who fail to attend class on October 7 will be penalized ten points on their case grade. Their teammates will not share this penalty.

These case analyses are meant to be team efforts. Everyone should try to do his or her fair share of the work. Unfortunately, problems do occasionally occur. If a team has a problem with one or more members shirking, it should bring the problem to my attention as soon as possible, preferably well before the case is due! One meeting of all team members involved usually solves the problem. After finishing the *Second City Options* case, students can turn in a brief evaluation of their teammates’ performance. Hopefully, it will be short and non-controversial, e.g., one paragraph stating that everyone worked hard and did his fair share of the work. If students believe that there were significant problems with the team, however, then they should say so and provide specific details. If students do not turn in evaluations, I shall assume that they have no significant complaints regarding their teammates’ performance.

In general, teams vary widely in their time management for this case analysis. Although the case presentations are on October 7, teams should be working seriously on this case during September. Students should read the case early and often so that they know exactly what they need to do. As soon as a topic is covered in class, students should ask themselves whether that topic relates to the case and, if so, how. In the last few days before the case is due, team members should be integrating their finalized individual analyses, not scrambling to complete analysis that could — and should — have been done weeks earlier.
### TENTATIVE CLASS SCHEDULE

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<td>2</td>
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<td>Principles of Option Pricing</td>
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*Note:* This schedule is tentative. It will be modified as necessary, e.g., to accommodate guest speakers. Dates for the final exam and quizzes, however, will not change except under extraordinary circumstances. Those dates are important; students should make every effort to attend class on those dates. The first quiz covers material from Classes 1–4. The second quiz covers material from Classes 5–8. The final exam covers all topics discussed in class, not just Chapters 2–7 of the required text. In particular, the final exam can contain questions related to cases, current events, or other material discussed in class, but not contained in Chapters 2–7 of the required text.
READING AND HOMEWORK ASSIGNMENTS

The following reading and homework assignments primarily involve the required textbook, *An Introduction to Derivatives and Risk Management, 9th Ed.*, by Don Chance and Robert Brooks. Reading assignments for a given class should be read prior to that class. There are two types of homework problems — required problems and supplementary problems. Required problems are crucial. Students must know how to solve them if they expect to do well on the exams. Supplementary problems are also useful, but generally less important (although still “fair game”) from an exam standpoint.

The rationale for doing homework is to learn the material. Hence, students are allowed (and encouraged!) to discuss the problems among themselves. Collaboration on homework problems does not violate the Honor Code. Students should first try to work the problems on their own. They should then check their answers versus those from the Solutions Manual for the Chance-Brooks textbook. I hasten to emphasize that I am very willing to work problems with students individually. If you are having any trouble solving these problems, I definitely want you to meet with me so we can go through the problems together. Nonetheless, it is crucial that students try problems first in order to see what they do, and do not, know well. All solutions from the Solutions Manual will be available in the course folder in Sakai. Please note that other useful material (e.g., software, PowerPoint lecture notes, sample exams, cases) are also available in the course folder.

Tentative Assignments

**Class 1. Organizational Meeting & Structure of Options Markets**

*Required Reading:* Chapter 2

*Required Problems:* Chapter 2 — Problems 4, 5, 9, 10, 11, 13, 14, 15

*Supplementary Problems:* Chapter 2 — Problems 1, 2

**Class 2. Principles of Option Pricing**

*Required Reading:* Chapter 3

*Required Problems:* Chapter 3 — Problems 3, 9, 10, 11, 12, 13, 23

*Supplementary Problems:* Chapter 3 — Problems 1, 2, 5, 22

**Class 3. Principles of Option Pricing**

*Required Reading:* Chapter 3

*Required Problems:* Chapter 3 — Problems 3, 9, 10, 11, 12, 13, 23

*Supplementary Problems:* Chapter 3 — Problems 1, 2, 5, 22
Class 4. The Binomial Model

Required Reading: Chapter 4
Required Problems: Chapter 4 — Problems 5, 6, 7, 8, 11, 12
Supplementary Problems: Chapter 4 — Problems 1, 2, 3, 13

Class 5. The Binomial Model & QUIZ

Required Reading: Chapter 4
Required Problems: Chapter 4 — Problems 5, 6, 7, 8, 11, 12
Supplementary Problems: Chapter 4 — Problems 1, 2, 3, 13

Class 6. The Black-Scholes-Merton Model

Required Reading: Chapter 5
Required Problems: Chapter 5 — Problems 6, 7, 8, 9, 10, 12, 13
Supplementary Problems: Chapter 5 — Problems 2, 3, 4

Class 7. The Black-Scholes-Merton Model & Employee Stock Options

Required Reading: Chapter 5
Required Problems: Chapter 5 — Problems 6, 7, 8, 9, 10, 12, 13
Supplementary Problems: Chapter 5 — Problems 2, 3, 4

Class 8. Basic Option Strategies

Required Reading: Chapter 6
Required Problems: Chapter 6 — Problems 8, 9, 11, 13, 20
Supplementary Problems: Chapter 6 — Problems 1, 2, 3

Class 9. Advanced Option Strategies & QUIZ

Required Reading: Chapter 7
Required Problems: Chapter 7 — Problems 4, 5, 6, 7, 8, 11, 12
Supplementary Problems: Chapter 7 — Problems 2, 3, 10, 13, 18

Class 10. Advanced Option Strategies

Required Reading: Chapter 7
Required Problems: Chapter 7 — Problems 4, 5, 6, 7, 8, 11, 12
Supplementary Problems: Chapter 7 — Problems 2, 3, 10, 13, 18

Class 11. Advanced Option Strategies & Barings Bank

Required Reading: Chapter 7
Required Problems: Chapter 7 — Problems 4, 5, 6, 7, 8, 11, 12
Supplementary Problems: Chapter 7 — Problems 2, 3, 10, 13, 18

Class 12. Guest Speaker

Class 13. CLASS PRESENTATIONS: Second City Options

Class 14. FINAL EXAM