

UNIVERSITY OF NOTRE DAME
Mendoza College of Business

FIN 70620/70621
Options Markets

Michael L. Hemler
Spring 2008

COURSE SYLLABUS

Instructor:

Name: Mike Hemler
Office: 306 Mendoza College of Business
Phone: (574) 631-6766
Email: mhemler@nd.edu

Office Hours: Feel free to drop by my office anytime! I shall try to keep 1:30–4:30PM on Mondays, Wednesdays, and Fridays open for students to “drop in,” but unforeseen conflicts (e.g., departmental meetings, seminars) will occasionally arise. Alternatively, we can meet by appointment. I shall also hold optional “help sessions” throughout the semester, especially before exams.

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., investment 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 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 occasional 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 a rigorous investments course. MBA students should have taken (or at least currently be taking) a course comparable to FIN 60400 or FIN 70600.

Course Textbooks:

There is one required textbook: *An Introduction to Derivatives and Risk Management, 7th Ed.*, by Don Chance and Robert Brooks. There is also an optional textbook: *Risk Takers: Uses and Abuses of Financial Derivatives*, by John Marthinsen, which contains several real-world case studies involving derivatives. As an aside, these texts are both used in FIN 70630/70631.

Grading Policy:

There will be three quizzes and a cumulative final exam. The quizzes are intended to keep students up-to-date and to provide feedback regarding their mastery of course topics. Each student must analyze one case, *Second City Options (SCO)*, in detail. Students can work in teams for this case. In addition, each student must turn in a short report answering discussion questions for the single assigned case from *Risk Takers*. These reports must be done individually. 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 will be based on the following weighted average:

$$35\%EXAM + 25\%QUIZ + 20\%CASE(SCO) + 10\%CASE(RT) + 10\%PART,$$

where

$EXAM$ = the exam grade,

$QUIZ$ = the average of the two highest quiz grades,

$CASE(SCO)$ = the grade on the *SCO* case analysis,

$CASE(RT)$ = the grade on the *Risk Takers* case analysis,

$PART$ = the class participation grade.

Exam and Quiz Policy:

The exam and quizzes are "closed book," but each student can bring one 3×5-inch index card with notes on both sides for reference. (For quizzes, each student can bring an index card with notes on only one side.) Index cards or other materials larger than 3×5-inches cannot be used and will be subject to confiscation. Students should bring calculators to the exam and quizzes. The final exam is cumulative and covers all course topics. Obviously, job interviews are important. Nonetheless, given that there is only one exam and three quiz dates, students should not schedule interviews or other conflicts on those dates. *There will be no make-up quizzes unless there are major extenuating circumstances and permission has been granted beforehand.* Recall that only the two highest quiz grades are used to compute the quiz average. Thus, a student can miss one quiz and still receive a high quiz grade; he or she simply has less margin for error.

Case Analysis:

There is one major case analysis in this course. It is the *Second City Options (SCO)* case authored by Don Chance. Students must analyze this case by working in teams. Students will be randomly assigned to teams by Tuesday, January 29. 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.

Each team must submit its case write-up in class on Tuesday, February 19. Late write-ups will not be accepted. Write-ups exceeding a total length of twenty pages (including the cover page, exhibits, appendices, etc.) will be penalized ten points per extra page. Write-ups 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. Students should be ready to discuss the case in class that day. Grades will be based on the write-ups and class discussion. Students who fail to attend class on February 19 will automatically be penalized twenty points on their case grade for being absent; their teammates will not share this penalty.

Please keep in mind that these case analyses are meant to be team efforts. Everyone on the team should try to do his or her fair share of the work. Unfortunately, there have occasionally been problems in this regard. If a team does have a problem with one of its members shirking, it should bring the problem to my attention. A single meeting with all students involved often can solve the problem. In other situations it might be necessary to change the composition of a team. Along with the case write-up, students must turn in a brief evaluation of their teammates' performance on the case analyses. Hopefully, it will be short and noncontroversial, e.g., one paragraph stating that everyone worked hard and did his or her fair share of the work. On the other hand, if a student believes that there was a gross discrepancy in terms of the quality and quantity of work done by team members, he or she should say so and explain by providing specific details. If necessary, case grades can be adjusted accordingly.

Besides this one major case analysis, we shall also discuss a single case involving options from the second optional textbook, *Risk Takers: Uses and Abuses of Financial Derivatives*, by John Marthinsen. This case is on electronic reserve and available at the University Libraries webpage. The emphasis will be on class discussion, not written analysis, with this case. Students should read it before class and consider the discussion questions at the end of the case. These questions are generally relatively easy and qualitative in nature. To promote better discussion, each student should make a serious attempt to answer most or all of these questions. Consequently, students must provide answers to at least six questions, whichever six they choose. These answers should be typed and fit on one page (two sides) of paper. I do not require time-consuming, detailed answers to all questions; I simply want all students to make a serious attempt to prep the case before we discuss it. Therefore, only seven questions need to be answered. As long as the answers demonstrate solid effort, students will receive full credit. These answers are due in class on the date for which the case has been assigned, i.e., February 7. They cannot be turned in late for credit.

TENTATIVE CLASS SCHEDULE

<u>Class</u>	<u>Date</u>	<u>Topic</u>
1	1/15/08	Organizational Meeting & The Structure of Options Markets
2	1/17/08	Principles of Option Pricing
3	1/22/08	Principles of Option Pricing
4	1/24/08	Option Pricing Models: The Binomial Model
5	1/29/08	Option Pricing Models: The Binomial Model & QUIZ
6	1/31/08	Option Pricing Models: The Black-Scholes-Merton Model
7	2/05/08	Option Pricing Models: The Black-Scholes-Merton Model
8	2/07/08	Basic Option Strategies & <i>Employee Stock Options (RT)</i>
9	2/12/08	Advanced Option Strategies & QUIZ
10	2/14/08	Advanced Option Strategies
11	2/19/08	CASE ANALYSIS: <i>Second City Options (SCO)</i>
12	2/21/08	Guest Speakers from ACES Power Marketing (APM)
13	2/26/08	Review for Final Exam & QUIZ
14	2/29/08	FINAL EXAM

Note: This schedule is tentative. It will be modified as necessary, e.g., to accommodate guest speakers. For instance, Jared Johnson and Kevin Suhanic (who are recent ND MBA Alumni!) plan to visit on February 21 to discuss energy risk management at APM. However, dates that correspond to the final exam and quizzes will not change except under extraordinary circumstances. Those dates are critically important; students should make every effort to attend class on those dates.

READING AND HOMEWORK ASSIGNMENTS

The following reading and homework assignments primarily involve the required textbook, *An Introduction to Derivatives and Risk Management, 7th 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. After seriously attempting the problems on their own, students should then check their solutions versus those from the Instructor’s Manual for the course textbook. All solutions from the Instructor’s Manual will be available in CourseWare (sp.08), which is accessible from the Internet via WebFile. WebFile is one of the “Popular Sites” given at the top of the University of Notre Dame’s homepage. If you go to the finance subfolder in CourseWare (sp.08), you will see this finance class listed. Please note that other useful material — e.g., software, Powerpoint lecture notes, old exams, the *Second City Options* case — will also be available in CourseWare (sp.08).

Tentative Assignments

Class 1. Organizational Meeting & The Structure of Options Markets

Required Reading: Chapter 2

Required Problems: Chapter 2 — Problems 4, 6, 7, 12, 13, 16, 17

Supplementary Problems: Chapter 2 — Problems 1, 2, 3

Class 2. Principles of Option Pricing

Required Reading: Chapter 3

Required Problems: Chapter 3 — Problems 1, 6, 8, 14, 15, 16, 18

Supplementary Problems: Chapter 3 — Problems 2, 7, 24

Class 3. Principles of Option Pricing

Required Reading: Chapter 3

Required Problems: Chapter 3 — Problems 1, 6, 8, 14, 15, 16, 18

Supplementary Problems: Chapter 3 — Problems 2, 7, 24

Class 4. Option Pricing Models: The Binomial Model & QUIZ

Required Reading: Chapter 4

Required Problems: Chapter 4 — Problems 2, 10, 11, 12, 13, 14, 16

Supplementary Problems: Chapter 4 — Problems 5, 8, 15

Class 5. Option Pricing Models: The Binomial Model

Required Reading: Chapter 4

Required Problems: Chapter 4 — Problems 2, 10, 11, 12, 13, 14, 16

Supplementary Problems: Chapter 4 — Problems 5, 8, 15

Class 6. Option Pricing Models: The Black-Scholes-Merton Model

Required Reading: Chapter 5

Required Problems: Chapter 5 — Problems 11, 12, 13, 14, 15, 17, 18

Supplementary Problems: Chapter 5 — Problems 7, 8, 9

Class 7. Option Pricing Models: The Black-Scholes-Merton Model & QUIZ

Required Reading: Chapter 5

Required Problems: Chapter 5 — Problems 11, 12, 13, 14, 15, 17, 18

Supplementary Problems: Chapter 5 — Problems 7, 8, 9

Class 8. Basic Option Strategies & *Employee Stock Options (RT)*

Required Reading: Chapter 6

Required Problems: Chapter 6 — Problems 4, 9, 13, 14, 15, 16, 17

Supplementary Problems: Chapter 6 — Problems 3, 5, 6

Class 9. Advanced Option Strategies

Required Reading: Chapter 7

Required Problems: Chapter 7 — Problems 8, 9, 10, 11, 12, 16, 20

Supplementary Problems: Chapter 7 — Problems 3, 4, 5

Class 10. Advanced Option Strategies

Required Reading: Chapter 7

Required Problems: Chapter 7 — Problems 8, 9, 10, 11, 12, 16, 20

Supplementary Problems: Chapter 7 — Problems 3, 4, 5

Class 11. CASE ANALYSIS: *Second City Options (SCO)*

Class 12. Guest Speakers from ACES Power Marketing (APM)

Class 13. Review for Final Exam & QUIZ

Class 14. FINAL EXAM