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 prefer meeting by appointment whenever possible, however, so that neither of us has to wait for the other. Generally speaking, the best times for me are Monday, Wednesday, and Friday afternoons. Please do not hesitate to contact me, especially if you find the material difficult and desire assistance outside of class.

Course Description:
This course examines futures 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 cost of carry model), trading strategies for individuals and corporations (e.g., cash and carry trades, program trading, and portfolio insurance), 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 applications. Students should read *The Wall Street Journal* regularly, keep abreast of current events regarding 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 be currently taking) a course comparable to FIN 60400 or FIN 70600. They should also have taken FIN 70620 or a comparable course covering options.

Course Textbooks:

There is one required textbook: *An Introduction to Derivatives and Risk Management, 7th Ed.*, by Don Chance and Robert Brooks. This is also the required textbook for FIN 70620 and FIN 70660, at least when I teach those courses.

Grading Policy:

There will be two 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 major case, *Fuel Hedging in the Airline Industry*, in detail. For this case students work in teams. In addition, each student must turn in two short write-ups answering discussion questions for two minor cases. For these cases students work individually rather than in teams. 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:

$$40\%EXAM + 25\%QUIZ + 20\%CASE(FH) + 10\%CASE(AVG) + 5\%PART,$$

where

- $EXAM = \text{the exam grade}$,
- $QUIZ = \text{the average of the two quiz grades}$,
- $CASE(FH) = \text{the grade on the Fuel Hedging case analysis}$,
- $CASE(AVG) = \text{the average grade on write-ups for the two minor cases}$,
- $PART = \text{the class participation grade}$.

Exam and Quiz Policy:

During the final exam, each student can use one 3×5-inch index card with notes on both sides for reference. During the quizzes, each student can use one index card with notes on one (and only one) side. 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 two quiz dates, students should not schedule interviews or other conflicts on those dates. *There will be no late make-up quizzes!* If a student misses a quiz for a reason that I consider acceptable (e.g., illness, an important interview, a family emergency, etc.), then the student’s final exam grade will substitute for the missing quiz grade.
Case Analysis:

There is one major case analysis in this course. It is *Fuel Hedging in the Airline Industry: The Case of Southwest Airlines*. Students must analyze this case by working in teams. Students will be randomly assigned to teams by the second week of class. 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, April 28. Late write-ups will not be accepted. Write-ups exceeding a total length of twenty-five 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 on April 28. Students who fail to attend class on that date without an excused absence will automatically be penalized twenty 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 with teamwork occasionally occur. If a team has a problem with one or more members shirking, it should bring the problem to my attention. One meeting with all students involved usually solves the problem. After finishing the *Fuel Hedging in the Airline Industry: The Case of Southwest Airlines* case, students can turn in a brief evaluation of their teammates’ performance. Hopefully, it will be short and noncontroversial, e.g., one paragraph stating that everyone worked hard and contributed significantly. 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 two minor cases involving options. These cases are *Amaranth* and *Metallgesellschaft*, respectively. The emphasis will be on class discussion, not written analysis, with these cases. Students should read the relevant materials before class and consider the discussion questions provided for these cases. These questions are relatively easy and qualitative in nature. To promote better discussion, each student should make a serious attempt to answer the assigned questions. Consequently, students must provide written answers to these questions, which should be typed and fit on one page (two sides) of paper. I do not require time-consuming, detailed answers to these questions. I simply want all students to make a serious attempt to prepare the case before we discuss it. Therefore, as long as the answers demonstrate solid effort, students will receive full credit. These write-ups are due in class on the dates for which the cases have been assigned, i.e., March 26 and April 14, respectively. Write-ups received outside of that class period will be penalized. I strongly urge all students to read these cases and complete their write-ups as early as possible. Remember that time will become very precious later in the module as classes come to an end!
# TENTATIVE CLASS SCHEDULE

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*Note:* (1) This schedule is tentative. It will be modified as necessary, e.g., to accommodate guest speakers. However, dates that correspond to quizzes and case analyses will not change except under extraordinary circumstances. Those dates are critically important; students should make every effort to attend class on those dates. (2) The final exam date has been set as May 5 by the MBA Office. The date for makeup exams, i.e., Final Exam Conflict Day, has been set as May 6 by the MBA Office. All students should plan on taking the final exam on one of those two dates. Travel arrangements should be made accordingly.
READING AND HOMEWORK ASSIGNMENTS

The following reading and homework assignments are from 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 the more important problems. 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.09), 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.09), you will see this finance class listed. Please note that other useful material — e.g., software, Powerpoint lecture notes, old exams, the *Fuel Hedging in the Airlines Industry* case — will also be available in CourseWare (sp.09).

**Tentative Assignments**

**Class 1.** Organizational Meeting

**Class 2.** Structure of Forward and Futures Markets

*Required Reading:* Chapter 8

*Required Problems:* Chapter 8 — Problems 1, 2, 3, 4, 13, 14, 15, 16

*Supplementary Problems:* Chapter 8 — Problems 5, 6, 7, 8, 9, 12, 19, 20

**Class 3.** Pricing Forwards, Futures, and Options on Futures

*Required Reading:* Chapter 9

*Required Problems:* Chapter 9 — Problems 1, 5, 10, 11, 12, 13, 14, 16, 17

*Supplementary Problems:* Chapter 9 — Problems 3, 4, 6

**Class 4.** Pricing Forwards, Futures, and Options on Futures & *Amaranth*

*Required Reading:* Chapter 9

*Required Problems:* Chapter 9 — Problems 1, 5, 10, 11, 12, 13, 14, 16, 17

*Supplementary Problems:* Chapter 9 — Problems 3, 4, 6
Class 5. Pricing Forwards, Futures, and Options on Futures

Required Reading: Chapter 9
Required Problems: Chapter 9 — Problems 1, 5, 10, 11, 12, 13, 14, 16, 17
Supplementary Problems: Chapter 9 — Problems 3, 4, 6

Class 6. Futures Arbitrage Strategies (QUIZ)

Required Reading: Chapter 10
Required Problems: Chapter 10 — Problems 2, 3, 8, 9, 10, 12, 14, 15, 16, 17
Supplementary Problems: Chapter 10 — Problems 1, 5, 6, 11, 22

Class 7. Futures Arbitrage Strategies

Required Reading: Chapter 10
Required Problems: Chapter 10 — Problems 2, 3, 8, 9, 10, 12, 14, 15, 16, 17
Supplementary Problems: Chapter 10 — Problems 1, 5, 6, 11, 22

Class 8. Futures Arbitrage Strategies

Required Reading: Chapter 10
Required Problems: Chapter 10 — Problems 2, 3, 8, 9, 10, 12, 14, 15, 16, 17
Supplementary Problems: Chapter 10 — Problems 1, 5, 6, 11, 22

Class 9. Futures Arbitrage Strategies & Metallgesellschaft

Required Reading: Chapter 10
Required Problems: Chapter 10 — Problems 2, 3, 8, 9, 10, 12, 14, 15, 16, 17
Supplementary Problems: Chapter 10 — Problems 1, 5, 6, 11, 22

Class 10. Hedging, Spread, and Target Strategies

Required Reading: Chapter 11
Required Problems: Chapter 11 — Problems 2, 3, 4, 6, 7, 9, 10, 12, 13, 14
Supplementary Problems: Chapter 11 — Problems 1, 5, 15, 18, 19, 21

Class 11. Hedging, Spread, and Target Strategies (QUIZ)

Required Reading: Chapter 11
Required Problems: Chapter 11 — Problems 2, 3, 4, 6, 7, 9, 10, 12, 13, 14
Supplementary Problems: Chapter 11 — Problems 1, 5, 15, 18, 19, 21

Class 12. Hedging, Spread, and Target Strategies

Required Reading: Chapter 11
Required Problems: Chapter 11 — Problems 2, 3, 4, 6, 7, 9, 10, 12, 13, 14
Supplementary Problems: Chapter 11 — Problems 1, 5, 15, 18, 19, 21

Class 13. CASE ANALYSIS: Fuel Hedging in the Airlines Industry

Class 14. FINAL EXAM