

## **Financial Engineering MBA 683 Course Syllabus**

### **Course Description**

Students gain a thorough understanding of options, futures, and other financial instruments. Skills are developed in basic pricing analysis, use of pricing models, and trading and hedging strategies.

The primary method for teaching these points follows a two step approach. First, the student will be introduced to standard techniques for pricing, hedging, and other analysis. Next, these techniques will be applied through a variety of real world strategies. The end goal is to develop skills which the students can apply in derivative markets.

Assignments: Each student will be required to complete a series of assignments dealing with derivative pricing and strategies. These assignments will require students to use theoretical models, monitor market prices, and track strategy positions.

### **Course Objectives**

At completion of the course, students will be able to:

- ⇒ Explain the operation of option/futures markets
- ⇒ Price various derivative securities
- ⇒ Develop strategies which meet specified goals (i.e. risk reduction)
- ⇒ Adjust these strategies in light of changing economic conditions

### **Instructor**

Dr. Matthew W. Will

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### **Required Materials**

Fundamentals of Futures and Options Markets by John C. Hull, 6<sup>th</sup> Edition, Prentice Hall, 2008.

<http://mgmt.utoronto.ca/~hull/>

Options as a Strategic Investment by Lawrence McMillan, 4<sup>th</sup> Edition, New York Institute of Finance, 2002.

Email Account - (Send Email to instructor BEFORE 2nd class)

Financial Calculator - (recommend HP12C)

Access to Personal Computer and Spreadsheet program

### **Recommended Material**

Innovative Investor by Shimko, Foster, and Will; Irwin-McGraw Hill Publishers, 1997.

## Course Requirements

35% Mid Term  
35% Final  
20% Assignments  
10% Participation

## Grading

A 90-100%  
B 80-89%  
C 70-79%  
F 0-69%

Pluses and minuses are assigned at the instructor's discretion.

## Office Hours

Mon 10:00 am – 11:00 am  
Wed 4:30 pm – 5:30 pm  
Fri 3:30 pm – 4:30 pm  
By appointment

## Student Handbook

All students are required to have a complete understanding of the student handbook, especially as it related to student rights and responsibilities. It is up to the student to understand this document.

## Academic Dishonesty and Plagiarism

You must not adopt or reproduce ideas, words, or statements of another person without giving an appropriate acknowledgement to the source. You must give due credit to the originality of others and acknowledge an indebtedness wherever you:

- Quotes another person's actual words, either oral or written;
- Paraphrases another person's words, either oral or written;
- Uses another person's ideas, opinions, or theories; or
- Cites facts, statistics, or other illustrative material, unless the information is common knowledge.

*All assignments must be your original work and not the work of other students.* Neither group work nor the individual work of another student may be submitted by you. Submission of such work will be considered academic misconduct. Incidents of academic misconduct, dishonesty and/or plagiarism will be handled as per the Student Handbook.

## Class Attendance, Preparation & Participation

Class attendance is an important part of the academic process, and you are expected to attend classes regularly and to manage your schedule in order to meet the demands of this course. If you are absent, you will be responsible for arranging makeup work to be completed prior to the absence or immediately upon return to class at the instructor's discretion. As per the student handbook, reasonable documentation or verification of claims regarding absences may be requested.

Class preparation is critical to success in this course. You are expected to:

- (a) read the assigned material prior to arriving to class, as well as
- (b) review the solved problem illustrations in the chapter and
- (c) prepare a list of questions that you have about the topic.
- (d) participate in class discussions

Please note that the course topics build upon prerequisite knowledge of fundamental business concepts, algebra and basic spreadsheet skills. If you feel you may be deficient in any of these areas, you are encouraged to review them and/or seek tutoring outside of class.

## SCHEDULE

Tentative Schedule (subject to change at the instructor's discretion)

Date	Topic	Reading
13-Jan	Class Introduction Derivative Basics Risk Management	Hull - 1 McMillan -Preface, 1
20-Jan	Option markets Research and Valuation	Hull – 8, 9, 11, 12 McMillan - 28
27-Jan	Option Strategies	Hull - 10 McMillan - 2 thru 24 McMillan Appendix A,B
3-Feb	Option Strategies	Hull - 10 McMillan - 2 thru 24 McMillan Appendix A,B
10-Feb	Greeks	Hull - 15 McMillan - 40
17-Feb	Review	
24-Feb	Mid Term Exam	
3-Mar	Review exam Futures & Forward Basics	Hull - 2, 4, 5
10-Mar	Forward & Futures Futures Pricing	Hull - 2, 4, 5
17-Mar	Futures Strategies	Hull – 3, 6
24-Mar	NO CLASS	
31-Mar	Futures Strategies	Hull – 3, 6
7-Apr	Futures Options	Hull - 14 McMillan - 34, 35
14-Apr	Swaps Mort. Backed Securities Hybrids & Other Issues	Hull – 7, 18, 20
21-Apr	Review	
28-Apr	Final Exam	