ENG MGT 6213 / SYS ENG 6613 - Financial Engineering

Fall 2015 Semester

Course Syllabus

Course Overview

ENG MGT 6213 / SYS ENG 6613 is an introduction to financial engineering, with an emphasis on financial derivatives, including the futures markets, the pricing of forwards and futures, forward rate agreements, interest and exchange rate futures, swaps, the options markets, option strategies, the binomial and Black-Scholes models for option valuation, and the option Greeks. Prerequisites include ENG MGT 5210 and ENG MGT 6211, or equivalent.

Room and Meeting Time: Room LIB G14
Monday, 4:00 - 6:30 PM Central

Instructor: David Enke
enke@mst.edu
Office: Engineering Management 221
Phone: 573-341-4749
Hours: By appointment or when in office


Software: Microsoft Excel

Grading:
3 Tests (100 points each) ............................................................... 300
Homework Problems ................................................................. 300
Total .......................................................................................... 600

Reading and homework assignments will be made in class. Late homework will be accepted for a maximum of three days after the original due date. An amount of 10% will be deducted from the homework for each day the assignment is late. Makeup tests will not be allowed after the assigned dates (except for extenuating circumstances). Makeup tests that result from schedule conflicts must be approved by the instructor at least one week prior to the test. In most instances the student will be expected to take any makeup tests early. The instructor reserves the right to drop a student from the course or deduct points from the student's final grade due to excessive unexcused absences.

Course Requirements

Students may need to use the Excel software package during the course. Students should also have had previous exposure to basic accounting, economics, statistics, and finance. Please see the prerequisites listed in the course overview.
Course Material

Class notes, homework assignments and solutions, tests and solutions, and practice problem solutions will be posted on Blackboard (https://blackboard.mst.edu/webapps/login/). Students will be instructed during the first class period on how to utilize the Blackboard classroom web site. The lecture notes are in Adobe Acrobat pdf format. One, two, three, and six slide per page formats are available. You must have Adobe Acrobat Reader (http://get.adobe.com/reader/) installed on your computer to view the slides.

The lecture schedule (http://web.mst.edu/~enke/courses/ENGMGT6213/ENGMGT6213_schedule.html) contains a listing of the topics discussed during each class period. Students will be notified by email, Blackboard, or alerted in class when significant changes are made to the lecture schedule.

Academic Dishonesty and the S&T Honor Code

The Missouri S&T Student Academic Regulations handbook describes the student standard of conduct relative to the System's Collected Rules and Regulations and offers descriptions of academic dishonesty, including cheating, plagiarism, or sabotage (http://registrar.mst.edu/academicregs/index.html). Other informational resources for students regarding ethics, integrity, and the student honor code can be found online at http://ugs.mst.edu/academicintegrity/studentresources-ai.

Special Needs

If you have a documented disability and anticipate needing accommodations in this course, you are strongly encouraged to meet with the instructor early in the semester. You will need to request that the Disability/Services staff send a letter to the instructor verifying your disability and specifying the accommodation you will need before your accommodation can be arranged. Disability Support Services (http://dss.mst.edu) is located in 203 Norwood Hall. Their phone number is 341-4211, and their email is dss@mst.edu.

Academic Alert

All faculty members are encouraged to utilize the online Academic Alert System at http://ugs.mst.edu/academicalert/index.html. The purpose of the Academic Alert System is to improve the overall academic success of students by improving communication among students, instructors, and advisors; reducing the time required for students to be informed of their academic status; and informing students of actions necessary by them in order to meet the academic requirements in their courses.

Classroom Egress Maps

For your safety, please make yourself familiar with the egress map for our classroom, posted online at http://designconstruction.mst.edu/floorplan/.
Test Schedule

Topics for each test will be announced in class and are posted on the lecture schedule. The instructor reserves the right to change test dates to better accommodate the students and/or coverage of the material. Students will be provided ample warning of test date changes. Open book, open note take home tests are due on the following dates:

Test 1 ....... Chapters 1-5, due Monday, October 5th, 2015, by 4:00 pm central
Test 2 ....... Chapters 6-8, 10-11, due Monday, November 9th, 2015, by 4:00 pm central
Test 3 ....... Chapters 12-13, 15, and 19, due Monday, December 14th, 2015, by 4:00 pm central

Take home tests will be available online one week before they are due.

Grading Scale

The following grading scale will be used for graduate students. The instructor reserves the right to modify the scale.

90-100% (A letter grade); 80-89.9% (B); 70-79.9% (C); Below 70% (F)

Course Topics

Listed below are the topics that are to be covered in ENG MGT 6213 / SYE ENG 6613, given adequate time:

Chapter 1: Introduction
Chapter 2: Mechanics of Futures Markets
Chapter 3: Hedging Strategies Using Futures
Chapter 4: Interest Rates
Chapter 5: Determination of Forward and Future Prices
Chapter 6: Interest Rate Futures
Chapter 7: Swaps
Chapter 8: Securitization and the Credit Crisis of 2007
Chapter 10: Mechanics of Options Markets
Chapter 11: Properties of Stock Options
Chapter 12: Trading Strategies Involving Options
Chapter 13: Binomial Trees
Chapter 15: The Black-Scholes-Merton Model
Chapter 19: The Greek Letters