

# FIN450 Derivatives Syllabus

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Office Hours: Tuesday 3:30 – 4:45 Thursday 12:30 – 1:45 p.m. or by appointment

## Course Description

### Overview:

This course introduces basic concept of futures, swaps and options that are frequently used by institutional investors and experienced individual investors for investment and speculation.

### Learning Outcome:

Upon finishing the course students will:

- develop their knowledge of meanings of various futures contracts.
- examine how prices of futures contracts are determined.
- develop their knowledge of meanings of various financial options.
- analyze price bounds of financial options.
- analyze options trading strategies.
- analyze how swaps can be used for risk management.
- price options using multiple-step binomial tree models and Black-Scholes model.
- analyze option properties using Greek letters.

### **Textbook Required:**

Fundamentals of Options, Futures and Other Derivatives, John Hull, 9<sup>th</sup> edition, 2017, Pearson Prentice Hall.

### Websites Strongly Recommended:

General Finance Sites:

<http://finance.yahoo.com/>

Chart School and Technical Websites:

<http://stockcharts.com/education/>

### **Grading:**

Here is the breakdown of the components

Exam: 60%

Simulation: 10%

Homework: 20%  
Class Discussion: 10%

There will be 3 exams. They are equal weighted and 60% of your grades. The exams will be in terms of problem type of questions. Final is cumulative. Exam dates are

Exam 1, 09/13/2018, Thursday  
Exam 2, 10/25/2018, Thursday  
Exam 3, 12/01, 3:30-6:30 Saturday

### Homework assignments

- 1) All homework assignments will be counted.
- 2) Each student submits his/her own answers. It is individual
- 3) Plagiarism in homework receives fail for the class.
- 4) Show your steps and all the details.
- 5) Circle the key numbers.

### Trading simulation

- 1) Each team can have up to 3 students. Your team is graded based on your performance and number of trades. The grades are more towards your effort.
- 2) I am expecting two well thought trades each week. Your number of trades needs to be at least 60 and well distributed across time to avoid penalty.
- 3) Some of the trades must be options trades.
- 4) We use investopedia.com for simulation.
- 5) You need to hand in your trading history twice, one on 10/04/2018, and the other on 11/20/2018.
- 6) You may be asked to summarize and present your trading to the class and show us why you are buying or selling a particular stock or options.
- 7) Print out the summary of your trading from investopedia.
- 8) Fill out the following table for at least 10 of your trade. You may want to redo this table.

Price	
PE	
ROA	
ROE	
Paste MACD and stochastic figure here (from Yahoo Finance)	I need to see one-year daily chart, with MACD and slow stochastics, and 50 day and 200 day exponential moving averages.
Other Comments (Important)	

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### Class participation and Discussions

1). It is based on the quality of your comments in class. Of course, no comments, no grade.

### Makeup Exam Policy:

*No makeup exam.* Makeup will only be provided under extreme situations such as being hospitalized with documented proof from the university.

### Attendance Policy:

It will be extremely hard to follow if you miss classes because this class is very technical and mathematical. I will keep your attendance record. Your grade will be lowered if you miss a class. Missing classes leads to fail.

Choose a seat you want to sit on the second day of the class and that helps me to learn your name with my seating chart.

### Grading Scale will be as follows:

92%-100%	= A
90%-91.9%	= A-
88%-89.9%	= B+
82%-87.9%	= B
80%-81.9%	= B-
78%-79.9%	= C+
72%-77.9%	= C
70%-71.9%	= C-
68%-69.9%	= D+
62%-67.9%	= D
60%-61.9%	= D-
Below 60%	= F

Note that a grade of Ds is not an option for a graduate student by the policy of the graduate school.

### Expectation:

I expect you to:

- Show up.
- Read book before you come to class and be prepared to ask and answer questions.
- Spend 9 hours outside class on the subject each week.
- See me ASAP if you have problems.
- Work hard and show respect to class.

The university and Bryan School has detailed code on student conduct. See the following links:

<http://studentconduct.uncg.edu/policy/code/>  
[www.uncg.edu/bae/faculty\\_student\\_guidelines.pdf](http://www.uncg.edu/bae/faculty_student_guidelines.pdf)

### **Tentative schedule**

Hedging using futures Ch3

Interest rates Ch4

Determination of forward and futures prices Ch5

The credit crisis of 2007 Ch8

Mechanics of options markets Ch9

Properties of stock options Ch10

Trading Strategies involving options Ch11

Interest rate futures Ch6

Swaps Ch7

Binomial trees and Black Scholes Ch12&13

Greek letters Ch17