FINA 469 Investment Analysis and Portfolio Management

*I reserve the right to make changes to this syllabus

Class Information

Class Information	Session 009: Room 135, 8:30 – 9:45
	Session 002: Room 135, 10:05 – 11:20
	Session 003: Room 135, 11:40 – 12:55
Instructor Information	Wenhao Yang
	Phone: 803-777-3171
	Email: wenhao.yang@moore.sc.edu
	Office: 456C
Office Hours	Tuesday, Thursday 2:00 – 3:00 PM
Communications:	All the announcements will be made through Blackboard

Class Materials

Textbook

The textbook for the class is **Bodie, Kane and Marcus, Essentials of Investments, 11th Edition**. The textbook ISBN is 9781260831931, and it comes with McGraw Hill Connect. The **"Connect"** is an online study system where we will have our homework and exercises done. When you try to complete the first assignment on Blackboard, you will be directed to Connect site to register.

Other Materials

I might post other reading materials such as original academic research papers, news articles on blackboard for you to read.

Grading & Course Structure

This course is quantitatively and analyticaly challaging. It requires solid training from your previous FINA 363 class. In the meantime, you should have a good understanding of baisc statistic concepts such as "mean", "standard deviation", "variance", "correlation", "covariance" and etc. You should be familar with MS Excel interface and its basic functionalities.

Grades

Homework Assignments	20%
Data Analytics Group Project	10%
Midterm Exam I	20%
Midterm Exam II	20%
Final Exam	30%
Class Participation	see below for the details

Exams

Two midterm exams will be held during the regular class hours. Midterms only covers the latest material since last midterm. Final exam is comprehensive, i.e., covering all the materials since the beginning of the course. All exams are closed book. You will be allowed to bring a one-page (standard US Letter Size) cheat sheet. You may write on only **ONE** side of your cheat sheet, which must be your own work (typed or hand written). You need to hand in your cheat sheet together with your exam. No sample questions will be allowed on the cheat sheet. The only items permitted during the exam are: your cheat sheet, the exam form, pens, and a calculator. Cell phones are not permitted during the exam, and may not be used as calculators. Any violation of these guidelines will result in a grade of 0 for all involved parties on the exam, and will be considered a violation of the Honor Code.

There will be no makeup exams for the midterms. Under extreme circumstances, with approval (formal evidence required and it will depend on the instructor's judgment) from the instructor before the midterms, you will be able to move the weight of the midterm to the final exam. For example, if you are approved to miss your second midterm (20%), your final exam will carry 50% (20%+30%) . **You are not allowed to miss more than one midterm**. If your case is not approved by the instructor prior to the scheduled midterms and you still choose not to take the midterm exam, you will get a zero for that exam.

You are not allowed to miss your final exam. Consider dropping the class now if you have to miss the final.

Class Participation

The University of South Carolina policy states: "Absence from more than 10 percent of the scheduled class sessions, whether excused or unexcused, is excessive and the instructor may choose to exact a grade penalty for such absences."[1] 10 percent is about 3 classes according to our schedule. Student who are absent from more than 3 classes will receive a downgrade of the grade, e.g., from B to $B-$.

Homework Assignments

There will be 6 homework assignments throughout the course. These assignments are designed to help you reinforce the knowledge from the classroom and are essential for you to succeed in the exams. Homework will be assigned through Connect and you will complete them online at Connect. **Late homework will NOT be accepted.**

Communication: Blackboard and Email

When you send me emails, please format the email subject as `FINA469-[time or session # of your class]-Your Question`. I will post homework assignments, updates, materials, and information to Blackboard on a regular basis. These may include summaries of notes or concepts, presentations, problems and solutions, etc. You should check Blackboard for new information or potential changes. You are responsible for being aware of assignments and material posted on Blackboard. Please make sure to set up the Blackboard notifications. Please don't ask me to repeat my lecture in the email.

Expectations for Classroom Behavior

All cell phones are to be turned off or silenced during class (not on vibrate). All cell phones are to be put away out of view during class; there is no text messaging, web browsing, etc, during class. There will be no eating during class time. Failure to adhere to these classroom rules may result in your being dismissed from class and/or an academic penalty.

Disability Accommodations

Any student with a documented disability should contact the Student Disability Resource Center at 777-6142 to make arrangements for appropriate accommodations.

Data Analytics Group Project

The purpose of this project is to enhance your data analytical ability in a finance context. You need to form groups by yourself. Each group will have no more than 3 students. Please form your groups on Blackboard no later than **Feb 1, 2018**. The group projects will be submitted and graded through Blackboard groups.

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[1] see this website for the details: http://bulletin.sc.edu/content.php?catoid=52&navoid=1280#Attendance_Policy

1. Choose ten stocks in the S&P 500 index. (check this link[2] for a list of S&P500 firms)

2. Collect five years of monthly prices on these stocks (from YAHOO FINANCE, for example), and then calculate monthly returns based on **adjusted close prices**.

3. Calculate the means, standard deviations, and correlations of monthly returns using Excel.

4. In the mean - standard deviation space, plot those ten stocks. For example, suppose that stock ABC's average and standard deviation of returns was 5% and 10%, and stock XYZ's average and standard deviation of returns was 2% and 4%. You can plot
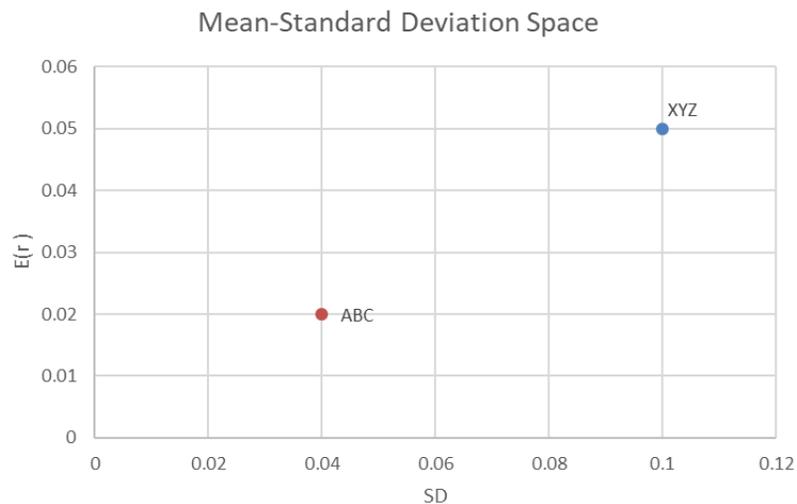
them as the following:

5. Get monthly three-month Treasury bill yield (available at here[3], be sure to convert these rates to monthly by dividing by (12*100)), and then use the average three-month T-bill yield as the risk-free interest rate to calculate Sharpe ratios for each stock. Which stock has the highest and lowest Sharpe ratio? Discuss the implication of the highest and lowest Sharpe ratio.

6. Using regression to estimate alphas and betas of the ten stocks using S&P 500 as the proxy for market portfolio (i.e., regress excess returns of individual stocks on excess returns of the S&P 500)

7. Calculate the mean, standard deviation, alpha, beta, and Sharpe ratio of an equally weighted portfolio and a market value weighted portfolio of these ten stocks (using the starting market value to calculate the value weights). Plot the cumulative returns of the equally weighted and value-weighted portfolios over the last 5 years.

8. Bonus points: Plot the efficient frontier formed by ten stocks. (Hint: you need to use Excel's Solver function to find a portfolio having minimum variance for a list of target returns).

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[2]The exact url is: https://en.wikipedia.org/wiki/List_of_S%26P_500_companies
[3]The exact url is: https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H15

9. Select two stocks (may or may not overlap with the ten stocks you choose above) that have been paying dividends for at least 5 years. First, obtain dividend payout from Yahoo Finance; second, estimate the betas of the stocks and then use CAPM to estimate the required rate of return; third, obtain ROE and plow back ratio from Yahoo Finance to calculate dividend growth rate; fourth, using the DDM to calculate the price of the stocks.

Course Outline

Date	Topic	Book Chapter	What's Due
1/15/2018	Introduction & Syllabus Review		
1/17/2018	Elements of Investments I	1	
1/22/2018	Elements of Investments II	2	
1/24/2018	Elements of Investments III	3	
1/29/2018	Risk and Return I	5	HW 1
2/31/2018	Risk and Return II	5	
2/5/2018	Diversification I	6	
2/7/2018	Diversification II	6	
2/12/2018	Diversification III	6	
2/14/2018	Midterm I Review		HW 2
2/19/2018	**Midterm I**		
2/21/2018	CAPM I	7	
2/26/2018	CAPM II	7	
3/28/2018	Other Asset Pricing Models	7	
3/5/2018	Market Efficiency I	8	
3/7/2018	Market Efficiency II	8	HW 3
3/12/2018	Spring Break — No Class		
3/14/2018	Spring Break — No Class		
3/19/2018	Market Efficiency III	9	
3/21/2018	Asset Management	4, 18	
3/26/2018	Asset Management	18, 20	
3/28/2018	Midterm II Review		HW 4
4/2/2018	**Midterm II**		
4/4/2018	Equity Valuation I	13	
4/9/2018	Equity Valuation II	13	
4/11/2018	Bond Valuation	10	Group Project
4/16/2018	Options I	15	HW 5
4/18/2018	Options II	16	
4/23/2018	Options III	16	
4/25/2018	Final Review	Last Class	HW 6