Investment Management
Syllabus

Finance 205/720   Christopher C. Géczy

The objective of this course is to undertake a rigorous study of the theory and empirical evidence relevant to institutional portfolio management. The major topics treated are:

- Optimal portfolio selection;
- The relation between risk and return;
- Market efficiency;
- Statistical/quantitative characterizations of asset markets;
- Active and passive portfolio management;
- Asset allocation;
- Characteristics of quantitative allocation models
- The behavior and performance evaluation of mutual funds and hedge funds

The primary emphasis of the course is on the design of common stock portfolios, but other investments will be included. The course does not address the details of individual security valuation and selection (i.e., this is not a course about stock picking). Nonetheless, most students find it **extremely quantitative and demanding. Under-preparation can make for a difficult semester, so please pay close attention to the letter and spirit of the course's prerequisites.**

The course is applied in an important sense, in that various concepts and approaches are taken to real-world data. On the other hand, the course devotes little time to the institutional aspects of investment management. Rather than describe the institutional details of current practice, the course attempts to provide a lasting conceptual framework in which to view the investment process and to analyze future ideas and changes in the investment environment.

It is important for you to note that this course, while incredibly valuable for purposes of managing your personal portfolio, will not specifically take the perspective of an individual recently graduated Wharton investor wishing to turn his or her bonus into a million dollars.

Prerequisites.

The formal prerequisites are FNCE 100 or 601 and STAT 101 and 102 or 621. Given that investment management requires one to understand and deal effectively with randomness, a good grounding in statistics is essential, and **familiarity with statistics should extend through regression, covariance, and correlation**. In addition, you should have a **good** working knowledge of common software useful for financial and statistical analysis. A spreadsheet program like Excel is an example as is JMP, Minitab, etc.

Text

There are two required texts for the course. The primary text is *Investments, 10th Edition*, by Bodie, Kane and Marcus, McGraw-Hill/Irwin, 2013 (**henceforth, *BKM***). The second required text is a short piece called *The School of Hard Knocks* by Russell (Rusty) Olson. In addition, I have listed Professor Jeremy Siegel's book entitled *Stocks for the Long Run* (3rd Edition) for the course. I will be drawing on material from it for class, and some homework sets will draw on it

Bulk Pack

In addition to class notes and texts, the course will make use of articles that are both academic in nature and practitioner-oriented. While some of the articles in the bulk pack are supportive of the class material in nature and are thus optional, most will be required reading. The philosophy behind including some ancillary material in the course pack is that it acts in the least as a "free" option (or at least an exceedingly low cost one) to you should you wish to understand what we cover in class to a greater depth. I will make clear for which articles I will hold you responsible.

Handouts

I will hand out material in almost every class and will typically make electronic versions available electronically in advance of class. Should you be absent when I hand something out, **you** will be responsible for obtaining a copy of what I gave to the class; you will either have to photocopy the material from someone in the class or download the material from the course web site.

Evaluation and Administrative Details

You will be evaluated in this class through your grades on group homework/problem sets, an optional midterm and a final exam. If you take the midterm, it will count as 30% of your grade and the cumulative final exam will contribute 40%. If you choose not to take the midterm, the final will count as 70% of your course grade. In either case, the problem sets will contribute 30% toward your final grade. I'm sorry to say that individual

exceptions to the timing of these examinations cannot be made to Saccommodate travel schedules, etc., according to Wharton policy.

The <u>optional</u> midterm is currently schedule to be held during class on Thursday, March 5th. See the official university exam schedule for the time and date of the final exam for the course.

While I certainly won't monitor your attendance in the class, I will gauge class participation and will use it to help decide grades. For some, this may contribute up to 5% - 10% of the final grade, or more. ***Keep in mind that, in any case, I cold call in just about every class***.

For the *final exam*, you will be allowed to bring *two* 8.5"x ll.0" sheets of paper with anything you wish written on it (e.g., formulas from the class), but the exam will otherwise be closed book. For the *midterm*, you are allowed a *single* sheet of paper. You are also allowed to bring a calculator that has logarithm and exponential functions and can raise a number to a power. Wristwatch calculators are considered very stylish in the finance world; especially if they have many scientific functions, so feel free to bring yours. On the other hand, do not bring your portable computer or PDA, even if it does fit on your arm, as they are not allowed to be used during exams. **The final exam will be cumulative over the course's content.**

My grading policy allows for re-grades on all assignments. However, the re-grade request

- must be accompanied by a clear and persuasive explanation for your request
- must be submitted to me within one week of your having received the assignment or test back
- will result in your exam or assignment being *completely* re-graded.

I want to be explicit about this last point. If you ask me to re-grade an exam, for example, I (or the course TA) will re-grade ***all*** questions on the exam in addition to the answer(s) in question so that it is actually possible for you to receive a lower score after the re-grade than before. In fact, assuming grading errors are symmetric, the expected value of the change in points from a re-grade is zero! This policy is designed to ensure that the mean class score will not be increased artificially by corrections only of mistakes in students' favor. Also, the TA's may be responsible for first-stage re-grades, however, I will view every one myself.

Note: Again, if you experience an emergency or illness that will interfere with *any* course requirement, you must contact me with the appropriate explanation *before* the due date. For example, if you are ill on the day of an exam, you must contact me *before* the time at which you are scheduled to take the exam. Interviews and job-related absences are *not* considered to be emergencies or illnesses, as per the school's official policy (and common sense).

Finally, although it should go without saying, I need to make clear that I expect you to adhere closely to the school's code of academic conduct. I will treat any violation of this code such as cheating in any form with severity. I also photocopy a significant portion of the assignments that are turned in (including homework and tests). I will likely catch any regrade-related cheating as a result. In addition, I expect classroom conduct to be on a high level. For example, do not expect to leave the class to get coffee in the middle of a lecture and be ignored upon your return. More importantly, I will not tolerate harassment of any type in my classroom.

Homework, Software and Computer Work

Since taking the theory as well as the operational aspects of investment management to the data requires the use of computers to perform statistical analysis and optimization, this course relies on significant amounts of computer work with actual data. For example, several homework projects will require you to perform statistical analysis using a program like Microsoft Excel®, JMP, Minitab, SAS or Matlab. This work will prove critical to your understanding of the course material.

Homework should be completed by students in groups of *no more than 5* and *no fewer than 2*. Each group should submit only one homework answer report, and all group members will receive the same grade, regardless of who contributed most to the final result. The names of every team member must be written clearly on the report's cover page. The report itself should be appropriately self-contained, succinct and written using clear and lucid language. Excessive or unnecessary computer output will be penalized. The homework and computer projects will be graded on a 10-point scale. ***You are responsible for forming groups, and constituents may change throughout the semester. In addition, please note that I am hesitant to mediate disputes among group members, so please choose your groups wisely.***

Speakers

Typically, one or two well-known speakers from the world of investment management agree to speak specifically to my FNCE 205/720 class each year. In the past, this has included pension plan portfolio managers, mutual fund managers, quantitative systems traders, and hedge fund managers. I will alert you to this year's schedule when it is finalized – it typically schedules presentations outside of class time. **In the past, I have included a question related to the presentation(s) of the speaker(s) on the course final exam.**

Teaching Assistant and Review Sessions

The teaching assistants (TAs) for this course are Kyle Binder, who has assisted me in this course in the past, and one other to be named

Teaching Assistant	Activity	Date, Time and Location
Mikhail Samonov	Review Sessions, Email response, office hours, grading.	Office hours: Tuesdays, 2 p.m. – 5 p.m. Email address: msamonov@wharton.upenn.edu

My Office Hours
My office hours are on Tuesdays at approximately 3:05 p.m. and by appointment. My office is in 2258 SH-DH. My remaining contact information is:
Email: Geczy@wharton.upenn.edu
Phone: 215-898-1698
Fax: 215-898-6200

By far the best method of contacting me is via email.

Web Page
I have set up a web page for each section of this course accessible via Canvas. This web site will contain most class material I hand out that you may download using standard web browsers. I will give you the username and password during class.

Credit
This course benefits from explicit and implicit input and examples from Yacine Ait-Sahalia, Rob Stambaugh, Kent Daniel, Campbell Harvey, Don Keim, Weimin Wang, Thomas Plank, Jinghua Yan, Dieter Vangallegham, Kyle Binder and Mikhail Samonov.

Special Note
This syllabus should be viewed as describing how the course has been run in the past and how I intend to run it in the current semester. However, you should be aware that anything herein or elsewhere might change without notice, reason or explanation. This includes but is not limited to evaluation methods, texts, materials and scheduling. ***If you are not comfortable with this uncertainty, then please do not take the course****.*