Asset and Portfolio Management, FINN 6214, U90

Time: 5:30 pm - 8:15 pm R, Fall 2018  
Place: Center City 604  
Instructor: Robert (Mike) Dickson Jr.  
Office: By appointment available at Center City  
Office Hours: By appointment  
Contact: rdickso6@uncc.edu

Course Texts

Required


Recommended


Course Description

This course provides a foundation in investments and portfolio management from the perspective of an institutional investor. Particular attention is given to the issues associated with managing assets of an insurance company. Topics include: measuring and modeling return and risk, expected return models, information ratio, valuation theory and practice, forecasting, portfolio construction, transaction costs, turnover and trading, performance analysis, asset allocation, securities analysis, and the legal and regulatory landscape of institutional investing. The course will focus on how to critically think about issues that arise in asset management, developing a strong intuition for the fundamental concepts and tools of modern portfolio theory, and how to apply these concepts to practically solve these issues. Students will be required to develop programming skills in MATLAB to solve all problem sets in the course. Intuition around core concepts in modern portfolio theory will be developed in large part by example and application using MATLAB. Programming will focus on data aggregation and organization, econometric and statistical analysis, and optimization methods and application. This course is general purpose in nature and uses many core concepts and knowledge found in other courses including econometrics and statistics, equity markets, fixed
Specific Objectives

Following from the course description, the specific objectives of the course include: understanding the asset management industry, return and risk of major asset classes and investments, mean-variance theory, the capital asset pricing model (CAPM), arbitrage pricing theory (APT), market efficiency, performance measurement and statistics, and additional topics (as time permits). Students will be required to develop programming skills in MATLAB to solve all problem sets in the course. This software is available for download at the following link [https://software.uncc.edu/](https://software.uncc.edu/) or available for use on many University computers.

Tentative Course Outline and Objectives

1. **Time Value of Money, Financial Statistics, and Common Investment Vehicles:** A review of fundamental financial concepts and common statistics used in portfolio management. A look at financial markets and the mechanics of stocks, bonds, derivatives, indices, mutual funds, and ETFs. **Classes 1 and 2.**

2. **Mean-Variance Investing and Portfolio Optimization:** The cornerstone of any asset management course focused on the benefits of diversification, Markowitz theory / mean-variance theory and application, and issues that arise. **Classes 3 and 4.**

3. **Portfolio Construction and Practice:** Formulating and solving portfolio optimization problems; extensions and variations of mean-variance construction methods. **Class 5.**

4. **Fundamental Portfolio Theories:** A review of core theories in asset management such as CAPM, APT, market efficiency, and the Fama-French literature. **Classes 6 and 7.** The Midterm will cover topics up to this point.

5. **Asset Allocation:** Key concepts to consider in asset allocation. Understanding the basic risk, return, and correlation structure of broad common asset classes. Industry standard risk tolerance models and the importance of setting clear performance expectations in portfolio management. **Classes 9 and 10.**

   - **Equity Market Factors:** Key considerations inside broad equity market portfolios and the risk / return / and correlation structure of region, country, sector, and factor equity portfolios.
• **Fixed Income Market Factors:** Key considerations inside broad market fixed income portfolios and the risk / return / and correlation structure of key fixed income factors such as duration, credit, and yield.

• **Alternatives:** Key considerations inside alternative asset class portfolios and the risk / return / and correlation structure of commodities, real estate, and hybrid securities.

6. **Derivatives and Options:** Understanding risk / return / and correlation structure of basic option strategies in a portfolio framework and key practical considerations for the use of common option strategies. **Classes 11 and 12.**

7. **Insurance and Annuity Structures:** A basic introduction into many of the basic annuity types (income annuities, deferred income annuities, variable annuities), mortality tables, and the use of derivatives to create these products and their variations. **Classes 12 and 13.**

**Grading**

There will be a Midterm and a Final each counting for 30 % of your final grade. The additional 40 % of your grade will come from 4 problem sets worth 10% each. Grades may be curved if necessary. Final course grades will be based on a weighted average composite of scores on each section and students receiving a 90 or higher will receive an A, between 80 and 90 a B, between 70 and 80 a C, and below 70 a U.

**Missed Exams and Problem Sets**

Make up exams will only be administered if an absence is completely unavoidable. You must make me aware of any unavoidable absences as soon as possible. Late problem sets may be accepted with an automatic letter grade reduction assuming solution code has not yet been posted. After solutions code has been posted late assignments will no longer be accepted.

**Comments on Exams, Homework, and Programming**

1. **Exams** will cover assigned reading materials, lecture notes consistent with the tentative class schedule, and problem sets. Material that is tested will largely be “time weighted” based on material covered in lectures and on problem sets. My goal on exams is to provide a straightforward and fair representation of what we have actually covered in the course. I expect students that attend class, remain engaged, and spend quality time accurately completing the assignments should have few issues with the exams.
2. The problem sets will largely consist of programming exercises and an interpretation of the results. Students may collaborate and work together on the assignments but all students must submit their own code. All assignments must be completed in MATLAB and the MATLAB code must be submitted with the written solutions. Copying code is strictly prohibited as becoming comfortable with programming is a core objective of this course. For a first offense of duplicate code all students involved will receive half credit for the assignment and upon a second offense all students involved will receive no credit for the assignment. If you believe your code was copied by another student without your permission it is your responsibility to bring this to my attention. Each violation of this policy will be at the discretion of the instructor. Use of problem sets from prior semesters is not possible since this is my first time teaching this course so don’t bother looking.

3. Becoming moderately proficient at programming in MATLAB is a key objective for this course. I focus on MATLAB because it is a programming language that expresses matrix and array mathematics directly, and can greatly improve a student’s proficiency with linear algebra operations. Linear algebra operations in MATLAB are written just as they would be in a linear algebra textbook. MATLAB is also extremely fast and efficient and in my opinion provides the best combination of speed and readability of any language there is. I understand that programming may not come natural to all students and I will provide numerous examples throughout the course. Many of our lectures will involve working through programming exercises and I will also provide code that I have written, for students to use throughout the course. Upon completion of the course it is my goal that all students have a solid toolbox of code to use in evaluating portfolio management decisions.

Key Dates

Please refer to the UNCC Fall 2018 Academic Calendar for key dates throughout the semester: https://registrar.uncc.edu/printable-calendar?field_semester_tid=9&field_school_year_tid=31. Below are several important dates related specifically to the class schedule:

- First day of class: August 23rd, 2018
- Midterm Date: October 11, 2018
- Last Day to Withdraw from the Course: October 22nd, 2018
- Last Class: November 29th, 2018
- Final Exam: December 13th, 5:00 PM - 7:30 PM
**Attendance Policy**

I will not formally track attendance during throughout the course but regular attendance is highly encouraged. Class participation, interaction, and an abundance of questions will be critical for everyone to get the most out of our time together. I fully intend to be very interactive with the class and will discuss current market events and other case studies on a regular basis. Additionally, during class I will routinely work through programming examples and solve problems that will appear on assignments and exams.

**Important University and/or College Policies**

1. **ACADEMIC INTEGRITY.** All students are expected to act with academic integrity. Please refer to the University’s policies on the code of student academic integrity found here: [https://legal.uncc.edu/policies/up-407](https://legal.uncc.edu/policies/up-407)

2. **DIVERSITY.** The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

3. **DISABILITY ACCOMMODATIONS.** UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information on accommodations, contact the Office of Disability Services at 704-687-0040 or visit their office in Fretwell 230.

4. **SYLLABUS REVISIONS:** The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in class, or by written or email notice, or by changes to this syllabus posted on the course website.