University of Michigan  
School of Business Administration  

Course Syllabus  
Business Administration 855  
Fundamentals of Investments Decisions  
With Symmetric Information  

Instructor:  
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Course Objective:  

BA855 is an asset pricing theory course for doctoral students. It is designed to make students familiar with the class of pricing models in which all economic agents have essentially the same information. BA855 develops several basic concepts of asset pricing such as valuation by arbitrage, simple factor models like the CAPM and the APT, and consumption-based models. It also introduces students to continuous-time models.

Course Material:  

Much of the course content will be reviewed in a set of notes that will be distributed to students throughout the semester. I will often assign supplemental readings as well. There are several good Ph.D. level asset pricing texts available to supplement the notes. Useful books include:


You ought to seriously consider purchasing several of these books. It will be difficult to have a satisfying graduate school experience and a good academic/research career without understanding the material in most of them. If you are only going to purchase one book, I suggest that you buy Campbell, Lo, and MacKinlay. It treats empirical issues as well as theory, and it is up-to-date and comprehensive. You may also want to purchase either Ingersoll or Huang and Litzenberger. You can borrow books from me for short periods of time throughout the semester and even after the class is finished.

Prerequisites:

Some knowledge is assumed at the beginning of class. You should know elementary calculus, linear algebra, and mathematical statistics. If you don’t know what a variance-covariance matrix is, or if you couldn’t define an expectation after thinking about it for a while, you should discuss your background with me.

Grading:

There will be both a final exam and weekly homework assignments to complete. The final exam will count for 75% of your grade and the homework assignments will count for the remaining 25%. The final will probably be a timed take-home exam. We will discuss the answers to homework problems in class. You should come prepared to discuss your answers each week.

Course Outline:

The course outline is not a weekly schedule. Some of the topics will take more than one session to cover and other topics will take less time. Each topic will be covered in a set of notes that will be distributed in class (and probably on my web page). The topics are also covered in the supplemental reading assignments listed below.

1. Introduction

2. General properties of asset pricing models
   Supplemental reading: Campbell, Lo, and MacKinlay, chapter 8
3. The fundamental theorem of asset pricing  

4. The arbitrage pricing theory (APT)  
   Supplemental reading: Ingersoll, chapter 7  

5. Expected utility theory  
   Supplemental reading: Varian, chapter 11  

6. The capital asset pricing model (CAPM)  
   Supplemental reading: Ingersoll, chapter 4  

7. Representative agent theorems  
   Supplemental reading: Huang and Litzenberger, chapter 5  

8. Dynamic programming  

9. Consumption-based models  

10. Continuous time  
    Supplemental reading: Shimko, chapter 1  

11. No-arbitrage in continuous time  
    Supplemental reading: Duffie, chapter 6  

12. Utility maximization in continuous time  
    Supplemental reading: Ingersoll, chapter 13  

13. Option pricing  

14. Pricing other securities  
    Supplemental reading: Duffie, chapter 7  

15. Conclusion  