ECON 851, Summer 2015

Course information
Course Title: Financial Economics
Number of Units: 3
Course ID: Econ 851
Schedule Number: 2082

Class Schedule:
- Lecture: MWF 12:15 – 15:00
- Location: HSS 147
- Midterm 1: July 22, in class
- Midterm 2: August 3, in class
- Final: August 14, in class

Instructor’s information
Instructor: Michael Bar
Office: HSS 148
Email: mbar@sfsu.edu
Course webpage: http://online.sfsu.edu/mbar/ECON851.htm
Office Phone Number: 415-338-3026
Office hours: Mondays and Wednesdays, 15:30 – 16:30, or by appointment

Course Description
Financial economics provides micro foundations for modern finance. The premise is that by trading financial assets, people essentially trade risk and time. Therefore, we start by modeling people’s preferences over risky alternatives and over time. The first part of the course lays the theoretical foundations of finance, namely the choice under uncertainty. We derive three theories for representing consumer’s preferences over risky choices: (1) Expected Utility Theory, (2) Mean-Variance Theory, and (3) Prospect Theory. We then demonstrate the connection between these theories. We conclude this section of micro foundations by discussing preferences over time and time discounting, which are essential for modeling investment choices over different time horizons.

The second part of the course builds on the fundamentals to derive the Capital Asset Pricing Model (CAPM) under the assumption that people’s preference over risky assets are represented by Mean-Variance utility. The CAPM is by far the most popular model for optimal portfolio choices and for pricing of individual financial assets. However, it relies on the premise that preferences over risky assets depend only on the mean and the variance of any portfolio. We then generalize the model by relaxing the mean-variance assumption, to derive the Arbitrage Pricing Theory. When preferences over risky assets are represented by Prospect Theory, we derive the so called Behavioral CAPM model. The main message of this section is that optimal investment strategies depend crucially on the investors preferences over risky alternatives.

In the last section we add a time dimension to investment analysis by introducing the Dynamic General Equilibrium Asset Pricing Theory. In this model people maximize utility from consumption over their lifetime, and trade financial assets to mitigate income uncertainty. The model is used to derive the Yield curve, i.e. the relationship between
interest rates and time horizons of investment. The model is used to demonstrate how investment bubbles can occur, even when all traders are perfectly rational. In addition, all models presented here will enable us to evaluate different investment strategies often used by practitioners, such as passive or active investments and the search of alpha.

If time permits, we will discuss advanced topics such as dynamic theory of the firm, the role of information asymmetries in financial markets, and continuous time option pricing (including the derivation of the famous Black-Scholes formula).

**Prerequisites**
Before taking this course, students must have passed the following course with a grade "C-" or better:
1. ECON 615 - Mathematical Economics
2. ECON 630 - Econometric Theory
3. ECON 701 - Microeconomic Theory
4. ECON 702 – Macroeconomic Theory

Solid knowledge of Excel and Stata, and some knowledge of Matlab programming is assumed.

**Readings**
All the course material is covered in the course notes, posted on the course webpage. These notes are based mainly on the book by Hens and Rieger, listed below, with other recommended sources.

Books:

Articles:

**Attendance**
Your attendance in class is essential. The material is cumulative, so if you miss one class, it is often impossible to understand the next one. Office hours are not to be used to teach material that was covered in a class to students who missed that class. If you must miss a
class session, it is your responsibility to get a copy of the class notes from another student. I expect you to attend all classes and actively participate in the discussions.

**Homework Assignments**
- There will be several homework assignments.
- Homework assignments will not be graded, but the answers will be posted on the course webpage.

**Grading**

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tr>
<td>Midterm 1</td>
<td>30%</td>
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<tr>
<td>Midterm 2</td>
<td>30%</td>
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<tr>
<td>Final Exam</td>
<td>40%</td>
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**Grading Scale**

- 92%-100%  A
- 90%-91%   A-
- 88%-89%   B+
- 82%-87%   B
- 80%-81%   B-
- 78%-79%   C+
- 72%-77%   C
- 70%-71%   C-
- 68%-69%   D+
- 60%-67%   D
- 0-59%     F

**Tentative course calendar**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Reading</th>
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<tbody>
<tr>
<td>07/13</td>
<td>Choice Under Uncertainty: (1) Expected Utility Theory, (2) Mean Variance Theory, (3) Prospect Theory.</td>
<td>Notes: Ch. 1 Optional: HR Ch. 2, MWG Ch. 6</td>
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<td>07/15</td>
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<td><strong>07/22</strong></td>
<td><strong>Midterm 1</strong></td>
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<td>07/24</td>
<td>1. Mean-Variance Approach: CAPM</td>
<td>Notes: Ch. 2 Optional: HR Ch. 3-4</td>
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<td>07/29</td>
<td>2. State-Preference Approach: APT</td>
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<td><strong>08/03</strong></td>
<td><strong>Midterm 2</strong></td>
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<td>08/07</td>
<td>Dynamic General Equilibrium Asset Pricing</td>
<td>Notes: Ch. 3 Optional: HR Ch. 5</td>
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<td>08/10</td>
<td>Advanced topics (if time permits)</td>
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<td>08/12</td>
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<td><strong>08/14</strong></td>
<td><strong>Final Exam</strong></td>
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School theme
“Making a Difference in a Diverse Society: Leadership for a New Millennium”.

Statement on Cheating and Plagiarism
Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one’s grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term ‘cheating’ not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an un-earned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one’s own work. Penalties for cheating and plagiarism range from 0 or F on a particular assignment, through an F for the course, to expulsion from the university. For more information on the University’s policy regarding cheating and plagiarism, refer to the University Catalog (‘Policies and Regulations’). In this class, copying and pasting parts of my notes into your homework assignments is considered by me as cheating and will result in a grade of “0” for the assignment.

Statement on Services for Students with Disabilities
Americans with Disabilities Act (ADA) Accommodations: The University is committed to providing reasonable academic accommodations to students with disabilities. The Disability Programs and Resources Center provides university academic support services and specialized assistance to students with disabilities. Individuals with physical, perceptual, or learning disabilities as addressed by the Americans with Disabilities Act should contact Services for Students with Disabilities for information regarding accommodations. Please notify your instructor so that reasonable effort can be made to accommodate you. If you expect Accommodation through the Act, you must make a formal request through Disability Programs & Resources Center in SSB 110, Telephone 338-2472.

Statement on Disruptive Classroom Behavior
The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. Differences of viewpoint or concerns should be expressed in terms which are supportive of the learning process, and to develop and understanding of the community in which they live. Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class.

Syllabus is Subject to Change
This syllabus and schedule are subject to change in the event of extenuating circumstances. If you are absent from class, it is your responsibility to check on announcements made while you were absent.