

# Syllabus

## Principles of Engineering Economics Spring 2016



- instructor:** Donatella Taurasi  
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- office hours:** *Wednesdays, 2:30-3:30PM in F495 (Haas)*
- class time:** MW, 1-2PM 100 GPB Room
- GSI**  
Sun Siyuan [sysun@berkeley.edu](mailto:sysun@berkeley.edu)  
Zhang Qi [qizhang@berkeley.edu](mailto:qizhang@berkeley.edu)
- Review Sessions** F, 1-2PM 106 STANLEY & 2-3PM 60 EVANS  
**Office hours** Qi: W 3-5PM 450 Sutardja Dai Hall  
Siyuan: W 8-10AM 4176 Etcheverry Building
- web pages:**
1. We have a class page on Canvas <https://bcourses.berkeley.edu>
  2. HBS cases used are on study.net ([www.study.net](http://www.study.net)) - also accessible from BCourses.
  3. The textbook has a web page ([www.pearsonmylabs.com](http://www.pearsonmylabs.com)) which will be used for homework (details below).
- overview:** This is an introductory course in principles of engineering economics, which is designed to introduce students to the concepts and techniques necessary to analyze and implement optimal investment decisions by firms. Students learn how to value projects and assets given forecasts of future cash flows.

Topics include basic discounting techniques, and capital budgeting under certainty and uncertainty, asset pricing models. This course will combine the theoretical underpinnings of finance and economics with some “real world” examples.

**required text:** Corporate Finance, 3rd Edition, Jonathan Berk and Peter DeMarzo via MyFinanceLab (instructions online).

**MyFinanceLab:** You will need an access code for MyFinanceLab (to access the textbook and for doing homework).

**laptops/excel:** Students are required to bring a laptop with Microsoft Excel or equivalent to each class. Laptops are not permitted during lecture period, but will be used to work out in-class exercises during break-out sessions. Access to a computer with Microsoft Excel for completing problem sets is also required. Financial calculators are not required for this class.

**class norms:** We will adhere to the 3 norms identified by students as important for a good learning environment. Failure to adhere to these norms will negatively impact your grade in the course.

1. Smart phones are expected to remain in bags on silent except during the break.
2. Do not arrive late to class.
3. Leaving during class is not allowed except during personal emergencies.

**seating:** Please bring your name plate to class and have it displayed throughout the course.

**preparation:** Time does not allow for all topics to be covered in detail in the class room. Therefore, the textbook readings are a necessary reference. You are responsible for all material covered in assigned readings, whether or not we have time to cover it in class. Reading ahead is expected as it will aid your understanding of material presented in class and your ability to make positive contributions. To be prepared for class, students are encouraged to:

- Read/skim the relevant sections in the text
- Read/skim any supplementary news articles
- Complete Assignments on MyFinanceLab
- Attempt the relevant practice assignment on MyFinanceLab

**participation:** I will keep track of who is prepared for class (with the help of scribes) and who is making valuable contributions (both inside and outside the classroom). Your participation grade is not determined by the quantity of times you raise your hand or speak up in class, but rather on the quality of your comments and the value added to the rest of the class.

**news articles:** In addition to the textbook readings, I will post supplementary readings on the course webpage. These are primarily news articles that relate material from class to real-world applications. I encourage you to read the news articles whenever possible. We will discuss some of these articles in class (time permitting). Students are expected to regularly contribute to this discussion.

**workload:** The course has been designed so that the median student will spend 3-4 hours per week studying finance outside of class. Those of you with a strong background in finance will spend less time and find the majority of the material straightforward. Those of you with little or no background in finance will spend more time and will find some of the material quite difficult. Time should be spent doing problem sets, reviewing lecture notes, doing practice problems on MyFinanceLab, reading the textbook, and reading news articles.

**grades:** Your overall course grade will be based on assignments and participation according to the following:

Participation:	5%
MyFinanceLab	15%
Problem Sets	20%
Midterm Exam	25%
Final Exam	35%
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Total	100 %

The best way to learn the material is to work through a variety of number of problems of varying difficulty. To make sure you get practice doing harder problems, the problem sets are *designed to be challenging*.

**discussion forum:** There is a discussions forum in bCourses where I will occasionally post links to and comment on articles I find interesting and relevant over the course of the semester. If you find an article relevant to topics covered in the course that you find interesting, confusing, inaccurate, etc., please feel free to post it and discuss why here.

**course outline:** Below is a rough outline for the material we will cover in this course. All chapters refer to Berk and DeMarzo. Some topics may run over to the next lecture. Consequently, we may fall behind the listed schedule a bit at some points. Depending on the material covered, assignments may change during the semester. Any changes will be announced via email and posted on the course webpage.

<b>Week 1</b>	topic:	<b>Overview of the course Types of firms, Ownership vs Control of Corporations</b>	<b>(1/20)</b>
	readings:	Chapters 1 and 2	
<b>Week 2</b>	topic:	<b>Time value of money and the Law of one Price Present and Future Value and Shortcuts</b>	<b>(1/25)</b>
	readings:	Chapters 3 and 4	
<b>Week 3</b>	topic:	<b>Interest rates, Inflation, Taxes</b>	<b>(2/1)</b>
	readings:	Chapter 5	
	assigned: due:	Problem Set 1 MyFinanceLab Homework	
<b>Week 4</b>	topic:	<b>Bond Pricing Part I Bond Pricing Part II</b>	<b>(2/8)</b>
	readings:	Chapter 6	
	due:	MyFinanceLab Homework	

<b>Week 5</b>	topic:	<b>Monday, Feb 15 Holiday</b>	<b>(2/15)</b>
	readings:	Chapter 6 (including Appendix)	
	due:	Problem Set 1	
	assigned	MyFinanceLab Homework Problem Set 2	
<b>Week 6</b>	topic:	<b>Bond Valuation III</b>	<b>(2/22)</b>
	readings:	<b>Forward Rates</b> Chapter 6 (including Appendix)	
	due:	MyFinanceLab Homework	
<b>Week 7</b>	topic:	<b>Stock Valuation I</b>	<b>(2/29)</b>
	readings:	<b>Stock Valuation II</b> Chapter 9.1-9.5	
	due:	MyFinanceLab Homework Problem Set 2	
<b>Week 8</b>	topic:	<b>Midterm Exam Monday, March 7 2016</b>	<b>(3/7)</b>
	readings:	<b>Capital Budgeting</b> Chapter 8.1-8.5	
	due:	MyFinanceLab Homework	
<b>Week 9</b>	topic:	<b>Alternative Decision Rules</b>	<b>(3/14)</b>
	readings:	<b>In-class Mini Case</b> Chapter 7.1-7.5, Articles	
	due:	MyFinanceLab Homework	
	assigned	Problem Set 3	
<b>Week 10</b>		<b>Spring Break</b>	<b>(3/21)</b>
<b>Week 11</b>	topic:	<b>Diversification</b>	<b>(3/28)</b>
	readings:	Chapters 10.1-10.6, 11.1-11.4	
	Topic		
	due:	MyFinanceLab Homework	
		Problem Set 3	
<b>Week 12</b>	topic:	<b>Optimal Portfolio Choice</b>	<b>(4/4)</b>
	readings:	<b>In-class Mini Case</b> Chapters 11.5-11.6	
	due:	MyFinanceLab Homework	

<b>Week 13</b>	topic:	<b>Capital Asset Pricing Model I</b>	(4/11)
	readings:	<b>Capital Asset Pricing Model II</b> Chapter 12	
	due:	MyFinanceLab Homework	
	assigned:	Problem Set 4	
<b>Week 14</b>	topic:	<b>Capital Structure I</b>	(4/18)
	readings:	<b>Capital Structure II</b> Chapter 14.1- 14.3	
	due:	MyFinanceLab Homework	
<b>Week 15</b>	topic:	<b>Market Efficiency</b>	(4/25)
	readings:	Chapter 13	
	due:	Problem Set 4	
		<b>Final Exam, Tuesday, May 10</b>	<b>(5/10)</b>