Microeconomics I
PEPM U6101. Summer 2015
Syllabus

Lectures: TR 11:00am-12:50pm, room TBA

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Recitation: Tuesdays 2:10pm-4:00pm room TBA
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Introduction:
The objective of this course is to provide students with a strong foundation of the basic principles of microeconomic theory. The pace of the class is very fast and students are strongly encouraged to keep up with assigned readings and practice problems. Do not procrastinate!

Required textbook:
Microeconomics, by David Besanko and Ronald R. Braeutigam John Wiley and Sons, 5th edition. You should definitely get this book, but it is ok to get an old edition (4th or 3rd), international edition etc.

Class attendance:
Attending the lectures is mandatory and attending the recitations is strongly encouraged.

Exam dates
There are two midterm exams and one in-class final exam. The (cumulative) final exam will take place during the last class, on Thursday August 13th 11:00am-12:50pm. The midterm exams will take place during recitations on Tuesday July 21st and on Tuesday August 4th.

Grading

Test	Points
Attendance	10 points
Midterm exams	50 points
Final exam	40 points
Total	100 points

Outline of the course, class schedule and readings.

- **Before the beginning of the course**. Preliminaries. (No class time devoted to this).

  Readings: Chapter 1 and Mathematical Appendix.

- **Tuesday July 7**. Class 1.

  Demand and Supply Analysis:

  1. The price of a good in a competitive market is determined by the equilibrium condition "quantity demanded equal to quantity supplied". The endogenous variables are the price and the quantity.
  2. The relation between the quantity demanded and the price of a good is given by the demand function. The quantity demanded depends also on other (exogenous) variables.
  3. The relation between the quantity supplied and the price of a good is given by the supply function. The quantity supplied depends also on other (exogenous) variables.
  4. The exogenous variables determine the position of the demand and supply curve.
  5. Movements along the demand curve. The law of demand.
  6. Movements along the supply curve. The law of supply
  7. Comparative statics. By changing the value of some of the exogenous variables, the demand curve and/or the supply curve shift, determining a new equilibrium outcome.
  8. We use the model of demand and supply to explain (predict) the movements of the price of a good.

  Readings for class 1: Chapter 2, sections 2.1 and 2.2.

- **Thursday July 9**. Class 2.

  1. Demand and Supply Analysis (continued)
     (a) Market demand and individual demand.
     (b) Market supply and individual supply.
     (c) Price elasticity of demand and total revenue.
     (d) Other elasticities
     (e) Back of the envelope calculations: how to derive linear demand and supply functions from information on price elasticities
     (f) The long run and short run supply function
  2. Perfectly competitive markets
     (a) Introduction: Ho do we obtain the supply function?
     (b) The supply function comes from the decisions of the single firms.
     (c) Each firm decides how much to produce given the cost structure of the firm and the prevailing (expected) price of the good.
     (d) Firms are price takers: they decide how much to produce for each prevailing market price

  Readings for class 2: Chapter 2, sections 2.3-2.5 and chapter 9, sections 9.1-9.2.

- **Tuesday July 14**. Class 3.

  Perfectly competitive markets (continued).

  1. To obtain the supply function of the individual firm we use a model of profit-maximization of a price taker firm.
  2. The exogenous variables of this model is the "cost structure of the firm".
  3. Profits are revenues minus costs.
  4. In a perfectly competitive market, the revenues are price times quantity (where the price is a variable not chosen by the firm)
  5. Few things about costs: total costs are equal to fixed costs plus variable costs.
  6. The (individual firm) supply curve is given by the marginal cost curve, above a "shut-down" price.
  7. The shut down price depends on how much of the fixed costs are avoidable (that is non sunk).
     (a) If the fixed costs are all sunk, the shut down price is the minimum level of the average variable curve
     (b) If the fixed costs are all non sunk, the shut down price is the minimum level of the average total cost curve
     (c) If some (but not all) of the fixed costs are sunk, then the shut down price is above the minimum level of the average variable cost curve and below the minimum level of the average total cost curve.

  Readings for class 3: Chapter 9, section 9.3

- **Thursday July 16**. Class 4.

  Perfectly competitive markets (continued)

  1. How the long run supply curve is different from the short run supply curve.
  2. The market price in the short and in the long run.
  3. Free entry equilibrium price and free entry market supply curve.
  4. Producer surplus

  Readings for class 3: Chapter 9, sections 9.4-9.5

- **Tuesday July 21**. Midterm exam 1.

  The midterm 1 will cover topic 1 (demand and supply) and topic 2 (perfectly competitive markets). To prepare for the midterm you should review chapter 2 and 9 of the text book and/or your notes of the first 4 classes. In addition you should be able to solve the exercises in the first two recitations and the "learning by doing" exercises in the textbook, for the relevant chapters.

- **Tuesday July 21**. Class 5.

  Producer theory:

  1. Introduction: why do we study this?

2. Inputs and production function
3. Returns to scale
4. Production function with a single input
5. Marginal returns to labor and average returns to labor
6. Production function with more than one input: isoquants
7. Assumptions on the production function
8. Marginal rate of technical substitution
9. The cost minimization problem of the firm

Readings for class 5: chapter 6, sections (6.1-6.4) and chapter 7, section 7.2

- **Thursday July 23**. Class 6.

Producer Theory (continued):

1. Cost minimization problem of the firm: isoquants and isocost lines
2. Interior solution and corner solution
3. Comparative statics I: from the cost minimization problem of the firm to the cost curve
4. Comparative statics II: from the cost minimization problem of the firm to the (conditional) demand of inputs
5. Short run and long run cost minimization problem
6. Short run and long run cost curves

Readings for class 6: chapter 7, sections 7.2-7.4 and chapter 8, sections 8.1-8.2

- **Tuesday July 28**. Class 7.

Consumer theory:

1. Introduction.
2. Budget constraint, budget line, slope of the budget line.
3. How does a change of income and or prices affect the budget line
4. Consumer preferences and utility function.
5. Assumptions about preferences and utility function theorem
6. Indifference curves
7. Marginal rate of substitution

Readings for class 7: chapters 3 and chapter 4, section 4.1

- **Thursday July 30**. Class 8.

Consumer theory (continued):

1. Review of preferences and utility function
2. Optimal consumption basket. Interior solution and corner solution
3. Consumer choice with composite goods

4. Optimal choice and demand

Readings for class 8: chapter 4, sections 4.2-4.3 and chapter 5, section 5.1

- **Tuesday August 4**. Midterm 2.

  The midterm 2 will cover the topic 3 (producer theory) and topic 4 (consumer theory). To prepare for the midterm you should review your notes of the 4 classes 5-8 and/or the following chapters of the textbook:

  Chapter 6, sections 6.1-6.5.

  Chapter 7, sections 7.1-7.4

  Chapter 8, sections 8.1-8.2

  Chapter 3, all sections

  Chapter 4, sections 4.1-4.2

  In addition you should be able to solve the exercises in the recitations 3 and 4 and the following learning by doing exercises in the textbook:

  6.1-6.2, 7.2-7.6, 8.1-8.4, 3.3-3.4, 4.1-4.4

- **Tuesday August 4**. Class 9.

  Consumer theory (continued):

  1. Optimal choice and demand.
  2. How to obtain the individual demand function from preferences.
  3. Price consumption curve and demand curve
  4. Demand curve and willingness to pay curve
  5. The income consumption curve and the Engel curve.
  6. Substitution and income effect

  Readings for class 9: chapter 5, sections 5.1-5.2

- **Thursday August 6th**. Class 10.

  Consumer theory and demand (continued):

  1. Consumer surplus, compensating variation and equivalent variation
  2. Applications of consumer theory I: consumer choice with composite good
  3. Applications of consumer theory II: Labor Supply
  4. Market demand

  Readings for class 10: chapters 4.3 (composite good), 5.3 (consumer surplus), 5.4 (market demand) and 5.x (Labor supply, x depends on the edition you use...)

- **Tuesday August 11th**. Class 11. Review session

- **Thursday August 13th**. Final exam (cumulative, chapters 1-9). In class exam.