Fall 2009  
DUKE UNIVERSITY  
Department of Economics

Economics 205: MICROECONOMIC THEORY

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Office Hours: Tuesday and Thursday 2:00 – 3:00  
and by appointment

Class: Monday and Wednesday 2:50-4:05  
Social Science 136

Teaching Assistant: Zhiyu (Felix) Feng zhiyufeng@gmail.com

1. **Course description.** This course provides an overview of microeconomic theory at the beginning graduate level, though it also may be accessible to advanced undergraduates. The class focuses on the theory of consumer choice, demand, uncertainty, competitive and imperfectly competitive firms, factor markets, producer theory, and on general equilibrium.

2. **Prerequisites.** Econ 55 or equivalent. Working knowledge of multivariate calculus is necessary; some matrix algebra and a cursory overview of the first chapters of a differential equations text will be needed as well. You are responsible for covering Nicholson Ch. 2 and Varian Ch. 26-27 on your own.

3. **Texts.** There is one required and one optional text. Class notes will be posted on Blackboard. These are intended to be supplemental, and are neither a perfect substitute for class or for the readings. Virtually all lectures and homework assignments will come from Varian or a similar text (along with questions we make up ourselves). However, parallel reading in a more intuitive, less technical text such as Nicholson will add to your understanding of the material.


4. **Honor code and course policies.** Failure to acknowledge assistance on an assignment, or to cite a source of information used in an assignment, or to represent the work of others as your own, are violations of the University's honor code. Any violations may result in failure of the assignment or the course, or expulsion from the University.

Any exam missed for a non-legitimate reason will be accorded the grade of 0. Any exam missed for a legitimate reason will be made up with an oral exam as soon as it can be scheduled by EcoTeach.

Late work will be penalized by 1/3 grade point per day late (excluding Sundays).

Homework must be submitted to the instructor or, in his absence, to the teaching assistants. Group assignments, if so organized, must be posted on Blackboard and emailed to the instructor.
Files attached with viruses will be deleted and regarded as not submitted; if for some reason the virus gets through and infects one of my computers, you will receive a grade of 0 for the assignment.

5. **Grading and assignments.** The grades will be determined as weighted averages of exam and homework performances:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>In-class quizzes</td>
<td>15%</td>
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<td>Midterm examination</td>
<td>30%</td>
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<tr>
<td>Final examination</td>
<td>45%</td>
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The class will be divided into teams of three to four students. An important part of graduate study is solving problems, and this course will differ from others by emphasizing problem solving and in-class presentations. Each team will be expected to submit specifically-assigned problem sets as a group, and should be prepared to present one assigned problem per week (after the first day) to the class, with a written solution key distributed to all members via Blackboard. Any member of the team can be called on to present.

All assignments and class announcements will be disseminated via Blackboard. It is your responsibility for maintaining computer access, or for informing the instructor and teaching assistant in advance if your access is interrupted.

The **final examination** will be comprehensive, but will emphasize the second half of the course. The **midterm** will be comprehensive on the material covered up to that point.

6. **Course content and outline.** Please regard the following as an optimistic first pass: it covers a great deal of material, and we probably will have to cut back at some point. Nicholson readings are based on the 9th edition – I don't have the 10th edition yet.

**Monday August 24**

**Introductory Lecture:** The art of modeling. Necessary and sufficient conditions: an introduction to basic logic; envelope theorem.

Readings: Varian, Ch. 26-27
Nicholson, Ch. 2

**Part 1: Consumer theory**

**Monday August 24**

**Preferences and utility**

Readings: Varian, Ch. 7
Nicholson, Ch. 3

**Wednesday August 26**

**Utility maximization, choice, and duality**

Readings: Varian, Ch. 8
Nicholson, Ch. 4

**Monday August 31**

**Wednesday September 2**

**Comparative statics**

Readings: Varian, Ch. 8, 26
Nicholson, Ch. 5

**Monday September 7**

**Wednesday September 9**

**Market demands and elasticities**

Reading: Varian, Ch. 9
Nicholson, Ch. 6-7
Wednesday September 16

**Aggregation**
Readings: Varian, Ch. 9

**Production, technology, and profit maximization**
Readings: Varian, Ch. 1, 2
Nicholson, Ch. 11

**Part 2: Producer theory and general equilibrium**

Monday September 21

**Production, technology, and profit maximization**
Readings: Varian, Ch. 1, 2
Nicholson, Ch. 11


Wednesday September 23

**Profit function**
Reading: Varian, Ch. 3

Monday September 28

**Cost minimization and cost functions**
Readings: Varian, Ch. 4, 5, 6
Nicholson, Ch. 12, 13


Monday October 5
fall break

Wednesday October 7

**Exchange and production**
Readings: Varian, Ch. 17, 18

Monday October 12

**Equilibrium analysis**
Readings: Varian, Ch. 21
Nicholson, Ch. 16, 17.

Wednesday October 14

**Midterm exam**

**Part 3: Competition, Monopoly, Oligopoly**

Monday October 19

**Competitive Markets**
Readings: Varian, Ch. 13

Wednesday October 21

**Monopoly Pricing**
Readings: Varian, Ch. 14
Nicholson, Ch. 18


Monday October 26

**Game Theory**
Readings: Varian, Ch. 15
Nicholson, Ch. 10
### Part 4: Uncertainty and Information

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>Wednesday November 4</td>
<td><strong>Oligopoly</strong></td>
<td>Varian, Ch. 16</td>
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<td>Monday November 9</td>
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<td>Nicholson, Ch. 12, 13; 18-20</td>
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<td>Wednesday November 11</td>
<td><strong>Uncertainty, Expected Utility, and Insurance</strong></td>
<td>Varian, Ch. 11</td>
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<td>Wednesday November 18</td>
<td><strong>Asymmetric Information</strong></td>
<td>Varian, Ch. 25</td>
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<td>Monday November 23</td>
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<td>Wednesday November 25</td>
<td>Thanksgiving break</td>
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<td>Wednesday December 2</td>
<td><strong>The maximum principle</strong></td>
<td>Intriligator, Ch. 14</td>
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<td>Thursday December 10</td>
<td><strong>Final Exam</strong></td>
<td>2:00 – 5:00 PM</td>
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