Course Syllabus
ECON 7310-8310: Advanced Microeconomics I
Spring, 2016
3 credit hours

Instructor: Dr. Carmen Astor-Figari
Email: cmstrnfg@memphis.edu
Office: 427 FCB
Office Hours: By Appointment
Class: W, 5:30-8:30, 262 FCB
Website: eCourseware

Course Overview:
This class is designed as an analysis based survey of economic models including consumer preferences and demand, axiomatic theories of the firm and consumer in n-dimensions, welfare economics, general equilibrium, and cooperative game theory. For these topics, we will develop an intuitive approach, supported by quantitative analysis to develop fundamental proofs for some of the main results.

Pre-Requisites/Co-Requisites:
The course contains material and approaches targeted at those having substantial exposure to microeconomic theory. I will assume that everyone has a certain level of mathematical maturity, meaning that you are comfortable with (or willing to accommodate) mathematical notation and argument; we will employ tools that are consistent with a mechanical knowledge of both an undergraduate calculus sequence and basic matrix algebra. It is crucial that if you lack such skills, you consult the instructor as soon as possible. As this course is designed as part of the graduate microeconomics sequence, it is also strongly suggested that students have taken ECON 6810 (Quantitative Economic Analysis) and ECON 7300 (Economics Theory and Decisions). See college catalog or Ph.D. handbook for more information.

Reference Texts:
Microeconomic Theory, by Mas-Colell, Whinston, and Green, ISBN: 0195073401

Location of Course Materials:
The primary source of material in this course will be your class notes. Problem sets, their solutions, as well as the grade book are located on the eCourseware website.

**Course Objectives:**
By successfully completing this course, students will:

1. Understand the mathematical representation of consumer preferences (i.e. utility functions and their meaning).
2. Understand the n-dimensional consumer utility maximization problem and the derivation of ordinary demand, both numerically and graphically, and understand its properties and their proofs.
3. Understand the n-dimensional consumer expenditure minimization problem and the derivation of compensated demand, both numerically and graphically, and understand its properties and their proofs.
4. Understand the Slutsky decomposition.
5. Comprehend the relationship between the Law of Demand and the Slutsky decomposition.
6. Understand the relationship between Slutsky and integrability.
7. Understand the conditions under which consumers can be modelled as one representative agent.
8. Understand the properties of firm production, cost and profit maximization decisions.
9. Understand the modelling and graphic representation of an exchange economy.
10. Understand the modelling and graphic representation of a production economy and a Robinson Crusoe economy.
11. Understand the concept of Pareto Optimality and the necessary conditions for one in the different types of economies.
12. Understand the concept, types and derivation of Social Welfare Functions.
13. Comprehend the Arrow Impossibility Theorem and its implication over Social Welfare functions.

14. Understand and derive Competitive Equilibria for an exchange economy and its properties.

15. Comprehend the concept of price support.

16. Learn and understand the First Welfare Theorem and its proof.

17. Understand the Second Welfare Theorem.

18. Understand the basics of Cooperative Game Theory and its solution concept, the core, in the context of a market economy.

19. Understand the basics of Cooperative Game Theory and its solution concept, the core, in the context of transferrable utility games.

**Fogelman College: Learning Outcomes for Your Degree**

This course is designed to help you to meet the overall learning objectives for the MA/PhD degree offered by the Fogelman College. You should take the time to become familiar with the overall learning objectives as a student your respective program:

<table>
<thead>
<tr>
<th>Program</th>
<th>Link</th>
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<tbody>
<tr>
<td>MA ECON</td>
<td><a href="http://www.fcbeassessment.net/LearningOutcomes/MAEconDegreeLearningOutcomes.pdf">http://www.fcbeassessment.net/LearningOutcomes/MAEconDegreeLearningOutcomes.pdf</a></td>
</tr>
<tr>
<td>PhD</td>
<td><a href="http://www.fcbeassessment.net/LearningOutcomes/PhDDegreeLearningOutcomes.pdf">http://www.fcbeassessment.net/LearningOutcomes/PhDDegreeLearningOutcomes.pdf</a></td>
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</table>
Grading and Evaluation Criteria

This section of the syllabus describes the assessed work you will be doing and how overall (final) letter grades will be computed.

Final Course Grades

Final course grades are earned according to the following table:

<table>
<thead>
<tr>
<th>Point Range</th>
<th>Assigned Grade</th>
</tr>
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<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 - 90</td>
<td>B</td>
</tr>
<tr>
<td>70 - 80</td>
<td>C</td>
</tr>
<tr>
<td>60 - 70</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 60</td>
<td>F</td>
</tr>
</tbody>
</table>

Summary of Graded Activities

Both the midterm and the final exams will be in class and closed book, meaning that you may not consult the text, your notes, or any other material, nor may you communicate with each other while taking them. These exams will be based primarily on homework and class notes (rather than on the text or supplemental reading).

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Date</th>
<th>Total Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm 1</td>
<td>Mar 2</td>
<td>35%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>May 4</td>
<td>35%</td>
</tr>
<tr>
<td>Problem Sets</td>
<td>Below</td>
<td>30%</td>
</tr>
</tbody>
</table>

I will not offer a makeup exam. Valid excuses for missing the exam include a verified illness or special family circumstances (e.g. death of a member of the immediate family). To be excused from the exam, you must notify me via university email before the exam begins. If you are excused, your course grade will then depend on your homework grade and on your performance on the other exam.

The homework will consist of 4 problem sets, which you are required to turn in at the beginning of class on the due date, and which will be graded. These must be typed. The preferred document preparation tool is LaTeX, a typesetting code protocol that is considered the standard for academic papers. However, you are free to use any other software such as Lyx, Scientific Workplace, Scientific Word, etc. All problem sets (and solutions) will be posted on the class website. These are designed to challenge and may be time intensive, with the goal of providing you with some essential tools for graduate school.

On homework (and exams), focus on the completeness, clarity and logical structure of your solutions. You must provide a written answer to each question; numbers or calculations with no explanation will not be satisfactory. In other words, your answers should not only directly
answer the question, but also provide to a reader an explanation of how you arrived at that answer. As is usually the case in graduate school, you are encouraged to work together. However, each student must turn in his or her own write-up of the solutions in a timely manner. Failure to do so will result in a loss of credit.

Tentative due dates are the following:

<table>
<thead>
<tr>
<th>Problem Set</th>
<th>Tentative Due Date</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Feb. 10</td>
</tr>
<tr>
<td>2</td>
<td>Feb. 24</td>
</tr>
<tr>
<td>3</td>
<td>Apr. 6</td>
</tr>
<tr>
<td>4</td>
<td>Apr. 23</td>
</tr>
</tbody>
</table>

**Course Topics:**

1. Preferences
2. Competitive Demand
3. Competitive Equilibrium
4. Welfare Economics
5. Cooperative Game Theory
Final Exam Schedule

The final exam for this class will be Wed., May 4, 2016, scheduled according to the Registrar’s academic calendar website.

Other Important Dates:

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
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</thead>
<tbody>
<tr>
<td>M.L.King, Jr. Holiday</td>
<td>Jan 18, 2016 / Mon</td>
</tr>
<tr>
<td>First day of class</td>
<td>Jan 19, 2016 / Wed</td>
</tr>
<tr>
<td>Spring Break</td>
<td>Mar 7-13, 2015 / Mon-Sun</td>
</tr>
<tr>
<td>Daylight Savings:</td>
<td>March 13, 2016 / Sun</td>
</tr>
<tr>
<td>Last Day to Drop</td>
<td>Mar 18, 2016 / Fri</td>
</tr>
<tr>
<td>Last Day of Classes</td>
<td>Apr 27, 2016 / Wed</td>
</tr>
<tr>
<td>Study Day</td>
<td>Apr 27, 2016 / Thu</td>
</tr>
<tr>
<td>Exam Week</td>
<td>Apr 29 - May 5, 2015 / Fri-Thur</td>
</tr>
</tbody>
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Course Policies

E-MAIL:

All students are required to maintain and access their University of Memphis (@memphis.edu) email account. You will receive all official course correspondence at this email account. Any inability to receive incoming mail in a timely fashion (e.g., not regularly checking your email, having a “full mailbox” condition, etc.) is the student’s responsibility.

Attendance:

As this is a graduate class, the assumption is that you all have the drive and intuition to attend all class lectures. Thus, formal attendance will not be taken. Your full engagement in the class begins on the first day of the semester and should be maintained until the last assignment is submitted. For students receiving funding, any lack of engagement in the course may potentially impact access to funding in the future. Students are responsible for all the material covered in class, even if they are unable to attend.

Academic Integrity:

The University of Memphis has clear codes regarding cheating and classroom misconduct. If interested, you may refer to the Student Handbook section on academic misconduct for a discussion of these codes. Note that using a “Solutions Manual,” or prior years’ solutions, is considered cheating. Should your professor have evidence that such behavior has occurred, she may take steps as described on the campus’ Office of Student Conduct website. If you have any questions about academic integrity or plagiarism, you are strongly encouraged to review the Fogelman College's Website on Academic Integrity.
Syllabus Changes:
The instructor reserves the right to make changes as necessary to this syllabus. If changes are necessitated during the term of the course, the instructor will immediately notify students of such changes both by individual email communication and posting both notification and nature of change(s) on the course bulletin board.

Student Services
Please access the [FCBE Student Services](#) page for information about:

- Students with Disabilities
- Tutoring and other Academic Assistance
- Advising Services for Fogelman Students
- Technical Assistance