Course Syllabus
ECON-8320-01—Advanced Macroeconomics I
Spring 2016
3.0 Credit Hours

(Last updated: 1/8/2016)

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Office Hours: T 2:30-4:30pm

Course Overview
This is the first course in the Ph.D. macro sequence. The course material consists of a combination of tools and topics, with a strong applied/computational focus.

Pre-Requisites/Co-Requisites:
ECON 8120, ECON 8310, ECON 8810.

Required Texts:
There are no required textbooks for this course. That being said, I highly recommend you own a copy of the following book:


Other useful references are:

Course Objectives:
The course will introduce you to modern macroeconomics at the graduate level. On the economics side, there will be a strong emphasis on neoclassical growth theory and general equilibrium. On the technical side, you will be introduced to dynamic programming, optimal control, and Markov chains—all essential tools for understanding current research in macroeconomics and economic dynamics.

Fogelman College: Learning Outcomes for Your Degree

MA ECON:
http://www.fcbeassessment.net/LearningOutcomes/MAEconDegreeLearningOutcomes.pdf

PhD:
http://www.fcbeassessment.net/LearningOutcomes/PhDDegreeLearningOutcomes.pdf

Grading and Evaluation Criteria

There will be eight assignments, two midterm exams and a final. They will count toward the grade as follows.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Midterm I</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm II</td>
<td>20%</td>
</tr>
<tr>
<td>Final</td>
<td>30%</td>
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All assignments must be typed, including equations. This should help you get acquainted with, and hopefully become proficient in the use of LaTeX, or its little siblings Scientific Word and/or LyX. No late assignments will be accepted. You must take both midterms and the final; if there are
extenuating circumstances that impede your presence on the day of the exam please notify me immediately to accommodate your situation. A valid proof of your emergency, e.g. a doctor's note, will be required in such cases.

**Final Course Grades**

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100</td>
<td>A</td>
</tr>
<tr>
<td>80-89</td>
<td>B</td>
</tr>
<tr>
<td>70-79</td>
<td>C</td>
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<tr>
<td>60-69</td>
<td>D</td>
</tr>
<tr>
<td>&lt;60</td>
<td>F</td>
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**Course Topics**

0. Economic preliminaries (on your own, as you see fit)

- Doepke, Ch. 1-3.

0.5. Mathematical and computational preliminaries (on your own, as you see fit)

- Solving differential and difference equations—handout (see Dropbox folder).
- Real analysis—ED, Chapter 3.
- Integration and Measure Theory—ED, Chapters 7 and 9.
- Programming—ED, Chapter 2.

1. Neoclassical Growth Theory

- Thinking about growth—Acemoglu, Ch. 1.
- The Solow Model—Acemoglu, Ch. 2; McCandless, Ch. 1.
- Romer, Ch. 2.
- RMT, Ch. 14.
- Class notes.

2. Intertemporal General Equilibrium Models

- Some foundations—Doepke, Ch. 5; Acemoglu, Ch. 3.
- RMT, sections 8.1-8.6.
• Class notes.

• The Ramsey Model in discrete time—class notes.

MIDTERM I

3. Optimal control

• Acemoglu, Ch. 7.

• Chiang—Part 3: Ch. 7-10. (see Dropbox folder).

• Class notes.

• Applications:
  
  – The Ramsey Model in continuous time—Acemoglu, Ch. 8.
  

4. Deterministic dynamic programming

• RMED, Sections 4.2, 4.5, 5.7, 5.9.

• Acemoglu, Ch. 6.

• McCandless, Ch. 4.

MIDTERM II

5. Stochastic dynamic programming, Markov processes

• Acemoglu, Ch. 16.

• McCandless, Ch. 5.

• ED, Ch. 4, 5, 8, and 10.

• RMT, Ch. 2-3.

• Applications:
  
  – Search Unemployment—RMT, Ch. 6.
  
  – Business Cycles—McCandless, Ch. 6.
  
  – The Savings Problem—RMT, Ch. 16-17.
Final Exam Schedule
The final exam (presentation) for this class will be scheduled according to the Registrar's academic calendar website.

Course Policies

Attendance:
This is a graduate economics class. You are free to choose, yet you are encouraged to attend all lectures, given the nature of the course.

Academic Integrity:
Cite all work that is not your own, and never try to pass someone else's ideas as your own. Also, this: http://www.memphis.edu/fcbe/integrity/.

Late Assignments:
No late assignments will be accepted. Why do you need a section for this?

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