Advanced Macroeconomic Theory I

Lectures: Prof. Nicola Fuchs-Schündeln, Ph.D.
House of Finance, Room 3.55
fuchs@wiwi.uni-frankfurt.de
Office hours: by appointment (just send me an email)

Classes: Dr. Sigrid Röhrs
House of Finance, Room 3.42
Sigrid.Roehrs@hof.uni-frankfurt.de
Office hours: Mon, 8.30-10.00, and by appointment

Winter Semester 2014/15

Our regular meeting times are Monday, 14.15 to 15.45, from Oct 14 to Nov 4 Tuesday, 10.15 to 11.45 am, and from Nov 12 to Nov 26 Wednesday, 10.15 to 11.45 am. However, we do not meet on October 28, but have a make-up class on November 27. Please see the list below for the exact meeting dates, times, and rooms. Exceptions are marked in red.

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<thead>
<tr>
<th>date</th>
<th>time</th>
<th>room</th>
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<tbody>
<tr>
<td>Mon, Oct 13</td>
<td>14.15-15.45</td>
<td>DZ-Bank (E.20)</td>
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<td>Tue, Oct 14</td>
<td>10.15-11.45</td>
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<td>Mon, Oct 20</td>
<td>14.15-15.45</td>
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<td>Tue, Oct 21</td>
<td>10.15-11.45</td>
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<td>Mon, Oct 27</td>
<td>14.15-15.45</td>
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<td>Tue, Oct 28</td>
<td>10.15-11.45</td>
<td>NO CLASS</td>
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<td>Mon, Nov 3</td>
<td>14.15-15.45</td>
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<td>Tue, Nov 4</td>
<td>10.15-11.45</td>
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<td>Mon, Nov 10</td>
<td>14.15-15.45</td>
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<td>Wed, Nov 12</td>
<td>10.15-11.45</td>
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<td>Mon, Nov 17</td>
<td>14.15-15.45</td>
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<td>Wed, Nov 19</td>
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<td>Mon, Nov 24</td>
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<td>Wed, Nov 26</td>
<td>10.15-11.45</td>
<td>DZ-Bank (E.20)</td>
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<td>Thu, Nov 27</td>
<td>12.15-13.45</td>
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Course Objectives

This is the first half of the first semester course in graduate macroeconomics. It is intended for PhD and MSQE students only, with no exceptions. The purpose of the course is to present some of the basic questions macroeconomists seek to answer and to introduce standard models used to explain these stylized facts, like representative and
heterogeneous agent models. One emphasis of the course lies on introducing helpful techniques, especially dynamic programming, a tool that is useful in analyzing many questions in macroeconomics and beyond. We will also discuss some empirical studies of macroeconomics.

**Organization**

Problem sets, announcements, etc., will be posted on the course webpage in OLAT (go to https://olat.server.uni-frankfurt.de/ and search for “WS14.15: Advanced Macroeconomic Theory 1” or through the course catalogue). Please visit the website, then send an email to Sigrid Röhrs through the website to register and be able to access the course material.

**Requirements**

There are two requirements for this course.

First, you have to hand in three problem sets one week after the assignment. These problem sets will not be graded and returned, but they are still part of the course requirements. Not handing in a problem set will lead to a reduction in the points awarded for the final exam by 3 percent (i.e. not handing in any of the problem sets will lead to a reduction of 9 percent in the points awarded on the final exam). The problem sets will be discussed in the classes held by Sigrid Röhrs roughly every two weeks. Please keep photocopies of your problem sets prior to submitting them for your own exam preparation. The problem sets are meant as a preparation for the exam, so please make an effort to answer them on your own. Of course, discussing the problem sets as well as other material with your fellow classmates is a very good idea.

Second, the grade for this part of the course will be based on an exam which is scheduled to be held in the week of December 1.

**Readings**

The syllabus contains links to the readings. We will discuss some of the readings in class. I also list further references, especially classic papers or good overview papers.

There is no required textbook for this part of the class. There are however four good textbooks which I recommend in general and which show up on the syllabus. The first two are more methodologically focused than the second two:


**Programming Skills**

As part of the course, you will learn how to numerically solve stochastic dynamic programming problems. We will use Matlab as a programming language, but you are free to use other programming languages.
1. Basic Consumption Theory

A The Permanent Income Hypothesis and the Life Cycle Model of Consumption

Blanchard/Fisher, Chapter 6.1 and 6.2.


Romer, Chapter 7.1 to 7.4.

B Taxation and Overlapping Generations

Blanchard/Fisher, Chapter 3.


Romer, Chapter 11.1 to 11.4.

C Natural Experiment Studies of the Permanent Income Hypothesis


2. One-Sector Growth Model and Dynamic Programming

**A Bellman Equation and Solution Methods**

Ljungqvist/Sargent, Chapter 3.

Stokey/Lucas, Chapter 5.

**B Stochastic Growth Model and Numerical Dynamic Programming**


Ljungqvist/Sargent, Chapter 4.

Stokey/Lucas, Chapter 10.

**3. Introduction to Heterogeneous Agent Models**

**A Solving a Simple Heterogeneous Agent Model Under Different Market Structures**

Ljungqvist/Sargent, Chapter 8.1 to 8.8.


**B Ricardian Equivalence and Full Insurance**


Ljungqvist/Sargent, Chapter 10.


Romer, Chapter 11.1 to 11.4.
4. Advanced Consumption Theory

A Idiosyncratic Income Shocks and Precautionary Savings


Ljungqvist/Sargent, Chapter 17.1 to 17.7.

Romer, Chapter 7.6

B General Equilibrium Heterogeneous Agent Models


C Hyperbolic Discounting and Behavioral Economics


