Macroeconomic Theory I (Econ 705)
University of Massachusetts – Amherst
Spring 2021 – Fully Remote Class

Instructor: Daniele Girardi

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Online Lectures: MoWe 1:20 - 2:35pm Zoom link	*Mid-term exam:* Expected date: Mar 22 (Take-home)	*Office hours:* Wed 9:00-11:00am Zoom office hours link
	Final exam: May (date TBD) (Take-home)	

I. Course Outline and Objectives

This course is an introduction to advanced macroeconomics at the PhD level. We will study standard versions of the dominant theories in the modern macroeconomics literature, discussing the main ideas behind them and outlining the baseline mathematical models. We will also have a couple of sections where we go beyond the standard models and discuss more specific and/or recent strands of research related to growth and fluctuations. The goal is to become familiar with the tools and approaches of modern macro.

II. Organization and Materials

A. Textbook
David Romer, *Advanced Macroeconomics*, Fifth Edition

You should also have a 'math for economics' textbook available, that you can consult to revise the relevant math concepts as you encounter them. "Fundamental methods of mathematical economics" by Wainwright and Chiang is an obvious example, but any textbook that covers the relevant math topics is fine too.

> **Note: Some studying advice**
> The best way to feel comfortable about the graphs and the math that you encounter in the textbook is to reproduce what you see and read. While reading the book, stop regularly to make sure you are able to reproduce the mathematical derivations and describe the meaning of each graph – you may want to draw the graphs on your

notebook while you do that. You are also encouraged to discuss the materials with a colleague after you have both done the reading.

B. Readings

I will assign readings every week (see schedule below). These will require you to read the relevant materials *before we discuss them in class*. It is crucial that you do that. Some of the material we will cover is quite complex and mathematical. If you come to class without having read the material in advance, you will absorb very little, and may get lost. If you do the reading, you will have an idea of what we are talking about and you will benefit from the lecture, including by being able to ask me to stop on the passages that you found unclear or difficult. I'm very happy to receive feedback on what parts of the reading were not clear, and I'll do my best to use the class time to make them clearer.

C. Moodle

Moodle will be used to upload materials, make announcements and administer assignments.

D. Communications

I will often send you emails and post new materials on Moodle. Please check your UMass email and Moodle regularly, in order to stay updated.

E. Contacting the teaching assistants and the instructor

The best way to reach the TA or the instructor is to send an email.
The TA's office hours will be communicated to you by them.
The instructor will hold Zoom office hours on Wednesday between 09:00 and 11:00am ([Zoom link](#)). If you can, please send an email before coming to office hours, announcing that you will come and possibly giving me an indication of what it is that you want to meet about, so I can come prepared.
If you have feedbacks or concerns, feel free to bring them up with the TA or with me – we will do our best to address them.

Note: Feel free to provide constructive feedback - sooner rather than later!
If you have feedback or concerns, bring them up with me or the TA sooner rather than later. If there's something that we can adjust right away, I will try my best to do so.

III. The Plan

Following is a tentative plan for the course. Take it as a broad indication. I may make changes/integrations as we go, especially to the later sections. The Moodle page of the course should be your reference point for an updated list of sections and study materials.

1. **Intro:** historical overview.
   - Class Slides

2. **Economic growth (I):** Harrod, Solow, Ramsey and Diamond
   - Lecture notes: the Harrod-Domar model
   - Romer textbook, Chapter 1 and 2
   - Solow (2000) and Solow (1994)

3. **Economic growth (II):** Arrow, Romer and Acemoglu
   - Romer textbook, Chapters 3 and 4
   - Materials on Moodle (D.Acemoglu & J.Diamond)

4. **Fluctuations (I):** Real Business Cycle Theory
   - Romer textbook, Chapter 5

5. **Fluctuations (II):** Nominal rigidities and DSGE models
   - Lecture notes: a (very) simplified new-synthesis model
   - Romer textbook, Chapters 6 and 7

6. **Labor market**
   - Romer textbook, Chapter 11

7. **Money, financial markets & Financial crises**
   - Lecture notes on Moodle
   - Romer textbook, Chapter 10

8. **Towards evidence-based Macroeconomics**
   - Papers will be uploaded on Moodle

Note (1): Unless I explicitly say otherwise, lecture notes and Romer's textbook chapters must be studied in depth, including being able to reproduce mathematical derivations; other papers must only be read: make sure you get the main broad points, but you will not be accountable for the details.

Note (2): All materials different from Romer's textbook will be available on Moodle.

Tentative schedule

Week	Reading	Monday		Wednesday	
Week 1	Lecture notes (due Wed)	*Feb 1* Introduction		*Feb 3* Growth (I): Harrod	
Week 2	Chapter 1 (due Monday)	*Feb 8* Growth (I): Solow		*Feb 10* Growth (I): Solow *1st student presentation*	
Week 3	Chapter 2 (due Monday)	*Feb 15* Growth (I): Ramsey		*Feb 17* Growth (I): Ramsey/OLG *2nd student presentation*	
Week 4	-	*Feb 22* Growth (I): OLG		*Feb 24* No Class (UMass closed)	
Week 5	Chapter 3 (due Monday)	*Mar 1* Growth (II): Endogenous growth *3rd student presentation*		*Mar 3* Growth (II): Endogenous growth *4rd student presentation*	
Week 6	Chapter 4 + Materials on Moodle (due W)	*Mar 8* Growth (II): Endogenous growth *5th student presentation*		*Mar 10* Growth (II): Fundamental causes *6th student presentation*	
Week 7	Ch. 5 + paper on Moodle (due Monday)	*Mar 15* Fluctuations (II): RBC theory		*Mar 17* Fluctuations (II): RBC theory *7th student presentation*	
Week 8	Chapter 6 Part A (due Wed)	*Mar 22* Mid-term exam *(expected – date might change)*		*Mar 24* Fluctuations (II): NK theory *8th student presentation*	
Week 9	Chapter 6 Part B (due Wed)	*Mar 29* Fluctuations (II): NK theory		*Mar 31* Fluctuations (II): NK theory *9th student presentation*	
Week 10	Chapter 7 (due Wed)	*Apr 5* Fluctuations (II): NK theory		*Apr 7* Fluctuations (II): NK theory *10th student presentation*	
Week 11	-	*Apr 12* Fluctuations (II): NK theory		*Apr 14* No Class (UMass closed) *11th student presentation*	
Week 12	Chapter 11 (due Monday) Chapter 10 (due Wed)	*Apr 19* Labor Market *12th student presentation*	Apr 20 (Wed schedule) Labor Market *13th student presentation*		Apr 21 Financial Markets *14th student presentation*
Week 13	Papers on Moodle (due Wed)	*Apr 26* Financial Markets *15th student presentation*		*Apr 28* Evidence-based Macro *16th student presentation*	
Week 14	-	*May 3* Evidence-based Macro *17th student presentation*		-	

IV.   Requirements and Grading

The course requirements consist of 4 take-home assignments; one presentation in class; a mid-term exam and a final exam. Extensions to deadlines of take-home assignments must be requested in advance, and for good (documented) reasons.

A. Take-home assignments
4 take-home assignments will be distributed, and will be due two weeks later. The first may be distributed on February 8 (tentative date). They will account for 25% of your grade.

A. Students' presentations
In (almost) each class starting Feb 10, a student will present one paper from the relevant literature. The presentation should last around 15/20 minutes, and there will be 5/10 minutes for questions/discussion. At the end of the semester, each student will have presented one paper. At the beginning of the course I will provide a list, from which you will be able to choose (first-come first served). Your presentation will account for 15% of your grade.

B. Mid-term exam
The mid-term exam will cover the first three sections of the course. The date is to be decided (March 22 looks like the most likely date), and it will be announced in class and on Moodle. The exam will be take-home. It will account for 30% of your grade.

C. Final exam
The final exam's date is to be decided, and it will be announced in class and on Moodle. The exam will be take-home. It will account for 30% of your grade.

V.   Accommodations for disability

The University of Massachusetts Amherst is committed to making reasonable, effective and appropriate accommodations to meet the needs of students with disabilities and help create a barrier-free campus. If you are in need of accommodation for a documented disability, register with Disability Services to have an accommodation letter sent to your faculty. It is your responsibility to initiate these services and to communicate with faculty ahead of time to manage accommodations in a timely manner. For more information, consult the Disability Services website at http://www.umass.edu/disability/.

VI.   Academic honesty

Academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. The instructor may employ appropriate software (such as Turnitin or others) to check for possible plagiarism. Appropriate sanctions may be

imposed on any student who has committed an act of academic dishonesty. The instructor will take reasonable steps to address academic misconduct.

Since students are expected to be familiar with academic honesty policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent.
For more information about what constitutes academic dishonesty, please see the Dean of Students' website:
http://umass.edu/dean_students/codeofconduct/acadhonesty/