ECO 7938 - Applied Macroeconomic Theory II

University of Florida

Spring 2022

Instructor: Eugenio Rojas

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Class Meetings: Tuesdays-Thursdays 1:55 AM - 3:50 PM (Periods 7-8), Room MAT 114

Office Hours: By appointment.

Introduction and Objectives: This course is aimed to provide a comprehensive review of theory, quantitative methods, and evidence related to topics in advanced macroeconomics. The course focuses on expanding the set of tools that students have in order to answer important questions in macroeconomics. We will particularly focus on models that capture the interactions between decisions of heterogeneous agents, such as households or firms, and their implications for the macro economy, as well as methods to study these interactions. We will also study models where market imperfections, such as financial frictions and limited commitment, affect the equilibrium outcomes of the macro economy. The main goal of the course is to get the students familiarized with the topics and be able to develop independent but related research ideas.

Recommended Texts: The main reference for the course is Recursive Macroeconomic Theory (4th edition) by Sargent and Ljunqvist. Other (optional) textbooks are: Recursive Methods in Economic Dynamics by Stokey and Lucas, Dynamic General Equilibrium Modeling (2nd) by Heer and Maussner, and Numerical Methods in Economics by Kenneth Judd. There will be readings assigned by the instructor that will be related to the topics of the course.

Class Schedule: All the relevant dates for this course, including lectures and due dates for problem sets, are set in a calendar that will be posted in Canvas. Make sure you can access and see the information with no problem. Important dates:

- First Day of Class: January 5th

- Problem Sets: Due February 11th, March 17th, and April 21st
- Final Paper: Proposal due February 28th, paper due April 30th
- Last Day of Class: April 20th

Class Format: Each session is scheduled to last one hour and fifty-five minutes. We will have a fifteen-minute break towards the middle of the session.

Class meetings will be in person. Please note that this format could change as the public health situation evolves. The University, Department of Economics and I will continuously assess this situation. Regularly check your Canvas inbox and UF email account for future information on class delivery. If you attend face-to-face, masks are expected in all economics classes https://coronavirus.ufl.edu/health-guidance/.

Canvas: Canvas is the official website for this course. All the material such as slides, problem sets, additional study material and your grades will be included in Canvas. Please make sure you are able to log on to this course site. If you have are not able to log in, you should contact me immediately.

Academic Integrity: You are expected to comply with the University's rules for academic honesty (which can be found here). Confirmed violations of these rules will result in disciplinary actions. Cheating is considered a serious offense to your classmates, to the University, and to the instructor. I have a zero tolerance policy for cheating in this class and I will not make any exception.

Topics: The class topics are presented below. The schedule of the course might be adjusted depending on time constraints.

1. Global Solution Methods.
   (a) Dynamic programming.
   (b) Numerical techniques for value function iteration.
   (c) Projection methods.
2. Heterogeneous Agents.

(a) Households & idiosyncratic risk.
(b) Firms & idiosyncratic risk.
(c) Introduction to heterogeneous agents models with aggregate risk.

3. Topics in Macro-Finance
   (a) Firm Investment, selection and growth.
   (b) Housing, mortgages and the macroeconomy.
   (c) Macroeconomic models with financial imperfections.
4. Public Debt Sustainability.
   (a) Empirical and Structural approaches to determine fiscal debt sustainability.
   (b) Sovereign default.

Assignments and Grading

The Final Grade is composed by 3 different elements, which are:

- Problem Sets, 30% of Final Grade
- Paper presentations, 30% of Final Grade
- Final Paper, 40% of Final Grade

Problem Sets: There are three problem sets during the semester. These will involve a combination of data work, problem solving, and numerical computation of models related to the topics seen in class. Problem sets may require time to be solved so I suggest you to work with anticipation on them. Problem sets have to be submitted physically or electronically (to my email) before the start of the corresponding lecture. No late submissions are allowed and there will be no exceptions.

Paper Presentations: Students are expected to present papers related to the class material by the end of each section. I will let you know in advance a list of papers from which the presenter will select one.

Final Paper: The final assignment is a short paper that should be related to topics covered in class. The paper may consist of an empirical and/or theoretical analysis, but should contain some original aspects. You are to complete a two-page research proposal by **February 28th**, and you have

until **April 30th** to complete the paper. Please let me know you have difficulties with developing a topic, and we will work on it together. The goal is to get you started on your first research projects, which can potentially be turned into publications and/or chapters of your dissertation.