

ADVANCED MACROECONOMICS

Summer 2024

Professor: Alberto Ramírez de Aguilar	Time: Mon-Thu 7:00 - 9:00 am
Email: arawille@gmail.com	Location: Room RH 107

Objective: This course aims to introduce students to the various types of models currently used for research in macroeconomics. The goal of the course is for students to learn not only the technical aspects of the models but also the motivations behind them, their scope, and limitations.

Course Website: All materials will be available on the course's Canvas page.

Course Content:

1. **Classical Growth Model.** Household and Firm Problems. Equilibrium. Welfare Theorems. Recursive Representation. MATLAB Implementation.
2. **Models with Uncertainty.** Markov Processes. Stochastic Endowment Model. Classical Model with Uncertainty. Asset Prices. MATLAB Implementation.
3. **New-Keynesian Models.** Nominal Rigidities in Mexico. Monopolistic Competition. Menu Costs and Calvo Model. Rational Expectations. MATLAB Implementation.
4. **Overlapping Generations Models.** Equilibrium. Supply Curves. Balasko-Shell Theorem. Money. Altruism.
5. **Job Search Models.** Nash Bargaining. Matching. Pissarides Model.
6. **Monetary and Fiscal Policy.** Value of Money. Money Neutrality. Exchange Rate. Ricardian Equivalence. Monetary and Fiscal Policy in Mexico.

Grading and Assignments: A list of exercises related to each topic will be published. These exercises are not mandatory to submit. The final grade will be composed of a presentation of a paper (10%), a numerical project (30%), a midterm exam (30%), and a final exam (30%). It is important to remember that, according to the regulations of Student Control, students must pass the final exam to pass the course.

Presentation of a Paper: Students will be randomly assigned to a group and a topic to present, for which they must select and present a related research article. The presentation date will be available on Canvas. The presentation grade is individual and will be subject to feedback from the group.

Numerical Project: The main objective of this course is for students to learn how to formulate a macroeconomic model and implement it numerically on the computer. To assess this part, students must submit a model proposal, which should be a simple modification of what was covered in class, as well as a MATLAB code that numerically implements this model. Specific details of the project, as well as team assignments, will be published during the course. This project must be submitted by July 31 at 11:59 pm.

References: Due to the variety of topics we will cover, there is no single textbook that can be recommended. However, the following books can be consulted:

- Acemoglu (2009). *Introduction to Modern Economic Growth* Princeton University Press.
- Gali (2015). *Monetary Policy, Inflation, and the Business Cycle* Princeton University Press.
- Krueger (2019). *Macroeconomic Theory*. University of Pennsylvania Press.
- Ljungqvist and Sargent (2018). *Recursive Macroeconomic Theory*. MIT Press, Fourth Edition.