

Department of Economics
University of Texas at Austin
ECO 394L: Macroeconomics (Fall 2025)

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Lectures: BRB 2.136, MW 1:00 – 2:30 p.m.

TA Sessions: Fridays 2:00 - 3:30 p.m. in BRB 1.118

(at 3:15-4:45 pm on 8/29)

Course Website: [Canvas](#)

Course Description

This course provides an introduction to modern macroeconomic modeling, with a focus on model construction, simulation, and policy analysis. Over the past forty years, there has been a remarkable transformation in macro-models used by central banks, policymakers, and forecasting bodies. In this course, we will explore how various elements of modern macroeconomic models can be seamlessly integrated in a framework that encompasses all stages of model building, estimation, forecasting, and policy analysis. We will examine the development of the building blocks of such models, showing that the main features of New Keynesian (NK) Dynamic Stochastic General Equilibrium (DSGE) models consist of a Real Business Cycle (RBC) core, with an outer shell that includes nominal rigidities and other frictions.

The course emphasizes setting up, calibrating, and simulating DSGE models using Dynare in Matlab. DSGE models have exactly these ingredients: they are micro-founded, modelling forward-looking economic agents (households, firms, banks, governments) making individually rational decisions over a time horizon, so they are dynamic; the economy features uncertainty in the form of exogenous random shocks, so they are stochastic; they are equilibrium models in the Nash sense that all agents are maximizing some measure of their inter-temporal welfare over time, given their environment of other maximizing agent.

The course begins with a simple Neoclassical model. A section on Dynare basics will include the coding for this model that will enable you to carry out simulation exercises. The course then proceeds from the RBC closed-economy model with flexible prices and wages, transitioning to a NK model with sticky prices. Next, we will address optimal policy, providing valuable insights into policy questions and offering a practical framework for monetary policy implementation. Finally, we will relax the assumption that agents behave perfectly rational by introducing the concept of bounded rationality. The course will “explore” the “wilderness” of bounded rationality and its implications to business cycles and monetary economics. While the primary focus is on monetary policy, we will also discuss fiscal policy and policy rules.

You will be guided through a seamless methodology for the construction, solution, calibration, and policy analysis of micro-founded macroeconomic models.

Prerequisites

Graduate standing. The basic knowledge of consumer and firm theory, basic econometrics, linear algebra and calculus is expected.

Readings

It is not possible to rely on a single textbook for this course. However, most lectures will draw on Galí (2015) and Romer (2012). Additional material from various books and research papers will be cited in the lecture slides.

The slides and notes I provide are designed to be largely self-contained. For further reading, a comprehensive list of references is below, with topic-specific readings indicated in the lecture schedule.

Essential:

- Chugh, S. K. (2015). Modern macroeconomics. MIT press. (Chapter 3 & 4)
- Galí, J. (2015). Monetary policy, inflation, and the business cycle: an introduction to the new Keynesian framework and its applications. Princeton University Press. (Chapter 2-5)
- Romer, D. (2012). Advanced macroeconomics. New York: McGraw-Hill/Irwin. (Chapter 2-5 & 8)
- McCandless, G. (2009). The ABCs of RBCs: An introduction to dynamic macroeconomic models. Harvard University Press. (Chapter 6 & 8)
- Williamson, S. D. (2018). Macroeconomics. Pearson, sixth edition. (Chapter 9)

Additional:

- De Grauwe, P. (2012). Lectures on behavioral macroeconomics. Princeton University Press.
- Dejong, D. and Dave, C. (2007). Structural Macroeconometrics. Princeton University Press.
- Herbst, E. P., & Schorfheide, F. (2016). Bayesian estimation of DSGE models. Princeton University Press.
- Lim, G. C., & McNelis, P. D. (2008). Computational macroeconomics for the open economy. MIT Press Books.
- Miao, J. (2014). Economic Dynamics in Discrete Time. MIT Press.
- Sargent, T. J., & Ljungqvist, L. (2000). Recursive macroeconomic theory. MIT.
- Uribe, M., & Schmitt-Grohé, S. (2017). Open economy macroeconomics. Princeton University Press.
- Wickens, M. (2012). Macroeconomic Theory. Princeton University Press, second edition.
- Woodford, M. (2003). Interest and Prices. Foundations of a Theory of Monetary Policy. Princeton University Press.

Software

The following software should be set up on your own laptop:

1. Dynare latest version: [Dynare Access](#)
2. Matlab using University Licence: [MATLAB Access](#)
 - Please download a version of Matlab that is compatible with the latest version of Dynare. Once you have Dynare working, avoid updating Matlab during the duration of this course.

Don't worry if you don't have any background in Matlab or Dynare; many students begin without prior coding experience. We'll start from the basics, and you'll pick up the necessary skills as we work through the material together.

Lecture Format

Lectures will be held in person on Mondays and Wednesdays from 1:00-2:30 p.m. in BRB 2.136. Regular attendance is strongly encouraged, as there will be no class recordings.

From past experience, students who attend regularly tend to do very well, while those who miss lectures often find it hard to keep up with the fast pace of the course. If you do need to miss a class, please make sure to review the material on your own so you don't fall behind.

TA Help Sessions

Weekly TA sessions are an integral part of the course and not optional. They will be held every Friday from 2:00–3:30 p.m. in BRB 1.118 (note: at 3:15–4:45 p.m. on 8/29). These sessions will review lecture material, go over homework and solutions, and provide hands-on assistance with Matlab and Dynare. Regular attendance is both expected and highly beneficial for keeping up with the course.

Assessment and Grading

The course grade will be based on the following components:

1. **Homework Assignments (32% of total grade):** There will be **five homework assignments** aligned with the course content. Assignments will be posted on Canvas one week before the due date and must be submitted as a single PDF file (with relevant code) at the beginning of class on the due date. Tentative deadlines are: *Sept 17, Oct 1, Oct 15, Nov 5, and Nov 12*. You are allowed to skip one assignment. If all five are submitted, the lowest grade will be dropped. Each counted assignment is worth **8%** of your total grade.
2. **Midterm Exams (32% of total grade):** There will be two midterm exams:
 - **In-Class Midterm (20%):** Scheduled for **Wednesday, October 22** during class time (*1:00–2:30 p.m.*). This closed-book exam covers **Lectures 1–16** and emphasizes analytical and conceptual understanding (no Matlab/Dynare).
 - **Take-Home Midterm (12%):** Distributed on **Wednesday, November 19 at 1:00 PM** and due by **Thursday, November 20 at 1:00 PM** (24-hour window). This exam focuses on practical applications using *Matlab/Dynare*, covering material up to and including **Lecture 24**.
3. **Pop Quizzes (8%):** There will be **10 short pop quizzes** across the semester. Your best **8 quizzes** will count toward the final grade. If you miss a quiz due to an excused absence, you must notify me within 48 hours. That quiz will be dropped, and the others reweighted. Without an approved excuse, the missed quiz will receive a grade of zero. University-approved absences must be verified via the [Dean of Students](#).
 - Students are required to bring a laptop or tablet to class for completing quizzes. These devices must be used **only for the quiz** and not for any other purpose during class.
 - Pop quizzes will appear unannounced in Canvas and will require a password to access. Students who are not present in class will not receive the password, and therefore cannot take the quiz.
4. **Final Exam (28% of total grade):** The final is a cumulative, in-class exam scheduled for **12:00 - 3:00 p.m. Thursday, December 11**.

Important Notes:

- **Late assignments and make-up exams:** Late submissions and requests for make-up exams will **not be accepted** except in cases of university-approved absences. Any request for accommodation must be submitted in writing **before the exam**. Please note that the TA is not responsible for handling excused absences or accommodations.

- **Academic Dishonesty:** Academic integrity is taken very seriously in this course. While you are encouraged to discuss homework problems with your assigned working group, you must submit your own individual write-up. **Collaboration is strictly prohibited on the take-home exam.** Similarly, the use of AI tools (e.g., ChatGPT or similar platforms) for assignments, exams, or any other graded component is **not permitted**.

Any suspected violation will be treated as **academic misconduct**. Effective as of this semester, all such cases must be referred to the **Office of Student Conduct and Academic Integrity** for formal review; informal resolution between instructor and student is no longer an option.

- **Regrade requests:** Requests for regrading must be submitted in writing within five working days of receiving your graded work. The entire submission will be re-evaluated, not just selected questions. Requests submitted after the deadline will not be considered.
- **Grading scale:** Final grades will follow the university's plus/minus grading scale (A, A-, B+, ...). Grades will be curved based on your weighted average and overall performance in the class.

Lecture Schedule (Tentative)

Table 1 provides a tentative outline of the topics the course will cover; some adjustments should be expected. The schedule on Canvas will be updated throughout the semester with specific readings, handouts, and dates.

For your convenience, you will also receive a “[Course Notebook](#)” file, which will be updated regularly to reflect the specific topics covered in each lecture. This file will serve as a central hub and will include links to:

- Lecture slides and notes,
- Homework assignments and solutions,
- Dynare and Matlab codes,
- Exams and solutions, and
- Any other course materials.

In short, this file will be your **one-stop resource** for everything you need in this course.

Table 1: Tentative Lecture Schedule

Lecture	Date	Topics	Readings	Assignments
1	Mon Aug 25	Introduction to the course; Dynare basics	Slides	
2	Wed Aug 27	Consumption-saving model	Chugh Ch-3 & 4, Romer Ch-8, Williamson Ch-9	
3	Wed Sep 3	Consumption-saving model	Chugh Ch-3 & 4, Romer Ch-8, Williamson Ch-9	
4	Mon Sep 8	Neoclassical Growth Model	Romer Ch-2	
5	Wed Sep 10	Neoclassical Growth Model	Romer Ch-2	HW1 posted
6	Mon Sep 15	Neoclassical Growth Model	Romer Ch-2	
7	Wed Sep 17	The Real Business Cycle Model	Romer Ch-5	HW1 due
8	Mon Sep 22	The Real Business Cycle Model	Romer Ch-5	
9	Wed Sep 24	RBC; Log-Linearization	Gali Ch-2, McCandless Ch-6 & 8	HW 2 posted
10	Mon Sep 29	The New Keynesian Model	Gali Ch-3	
11	Wed Oct 1	The New Keynesian Model	Gali Ch-3	HW2 due
12	Mon Oct 6	The New Keynesian Model	Gali Ch-3	
13	Wed Oct 8	Stability and Indeterminacy	Gali Ch-4	HW3 posted
14	Mon Oct 13	Stability and Indeterminacy	Gali Ch-4	
15	Wed Oct 15	Stability and Indeterminacy	Gali Ch-4	HW3 due
16	Mon Oct 20	Review session		
17	Wed Oct 22	In-Person Midterm Exam		
18	Mon Oct 27	Optimal Policy	Gali Ch-4 & 5	
19	Wed Oct 29	Optimal Policy	Gali Ch-4 & 5	HW4 posted

(continued on next page)

Lecture	Date	Topics	Readings	Assignments
20	Mon Nov 3	Optimal Policy	Gali Ch-4 & 5	
21	Wed Nov 5	Optimal Policy	Gali Ch-4 & 5	HW4 due; HW5 posted
22	Mon Nov 10	Optimal Policy	Gali Ch-4 & 5	
23	Wed Nov 12	Optimal Policy	Gali Ch-4 & 5	HW5 due
24	Mon Nov 17	Departure from Rationality	Slides	
25	Wed Nov 19	Take-Home Midterm Exam		
26	Mon Dec 1	Departure from Rationality	Slides	
27	Wed Dec 3	Departure from Rationality	Slides	
28	Mon Dec 8	Review Session		
Final Exam: 12:00 - 3:00 p.m., Dec 11				

Note: Dates, topics, and readings are tentative and subject to change. Updates will be posted on Canvas.

Use of Class Materials: No materials used in this class, including, but not limited to, lecture handouts, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. I am well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course. Additionally, all these materials are copyright-protected works. Any unauthorized copying of the class materials is a violation of federal law and may result in disciplinary actions being taken against the student.

Diversity, Equity, and Inclusion: It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that student's learning needs be addressed, and that the diversity that students bring to this class can be comfortably expressed and be viewed as a resource, strength, and benefit to all students. Please come to me at any time with any concerns.

Statement on Academic Integrity: The University of Texas Honor Code states: The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and the community. Each student in this course is expected to abide by the UT Honor Code and uphold academic integrity. Students who violate University rules on academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on academic dishonesty will be strictly enforced. For further information, please visit the Student Conduct and Academic Integrity website at: [conduct](#).

What this means for this course: You are allowed/encouraged to study together with your groups and to discuss information and concepts covered in the lecture and the recitation sections. However, this cooperation should never involve one student having possession of or copying directly from another student's work that is to be graded. Should such copying occur, both students involved will receive zeros for the assignment. In addition, directly copying from websites/books, etc., for the homework will also return zero for the assignment. In addition, any collaborative behavior or use of unauthorized material for graded work will lead to University disciplinary action. Finally, using books, notebooks, notes, electronic (e.g. phones), or other means during the exams, or copying from other students, violates the University and course policies.

In this course, every element of class assignments must be fully prepared by the student. The **use of generative AI tools for any part of your work will be treated as plagiarism**. If you have questions, please contact me.

ADA Notice: The university is committed to creating an accessible and inclusive learning environment consistent with university policy and federal and state law. Please let me know if you experience any barriers to learning so I can work with you to ensure you have equal opportunity to participate fully in this course. If you are a student with a disability, or think you may have a disability, and need accommodations please contact Services for Students with Disabilities (SSD). Please refer to SSD's website for more information: [SSD website](#). If you are already registered with SSD, please deliver your Accommodation Letter to me as early as possible in the semester so we can discuss your approved accommodations and needs in this course.

Counseling and Mental Health Center: The Counseling and Mental Health Center serves UT's diverse campus community by providing high quality, innovative and culturally informed mental health programs and services that enhance and support student's well-being, academic and life goals. To learn more about your counseling and mental health options, call CMHC at (512) 471-3515. If you are experiencing a mental health crisis, call the CMHC Crisis Line 24/7 at (512) 471-2255.

Behavior Concerns Advice Line (BCAL): If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit [behavior concerns website](#).

BeVocal: BeVocal is a university-wide initiative to promote the idea that individual Longhorns have the power to prevent high-risk behavior and harm. At UT Austin, all Longhorns have the power to intervene and reduce harm. To learn more about BeVocal and how you can help to build a culture of care on campus, go to: [BeVocal website](#).

Emergency Evacuation Policy: Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated, or an announcement is made. Please be aware of the following policies regarding evacuation:

- Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- If you require assistance to evacuate, inform me in writing during the first week of class.
- In the event of an evacuation, follow my instructions or those of class instructors.
- Do not re-enter a building unless you are given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.

For more information regarding emergency evacuation, please contact the Office of Campus Safety and Security, 512-471-5767, [safety website](#).

Title IX Reporting: Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence, and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms. When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating.
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation.
3. Investigate and discipline violations of the university's relevant policies ([title IX relevant policies website](#)).

Beginning January 1, 2020, Texas Senate Bill 212 requires all employees of Texas universities, including faculty, to report any information to the Title IX Office regarding sexual harassment, sexual assault, dating violence, and stalking that is disclosed to them. Texas law requires that all employees who witness or receive any information of this type (including, but not limited to, writing assignments, class discussions, or one-on-one conversations) must be reported. I am a Responsible Employee and must report any Title IX-related incidents that are disclosed in writing, discussion, or one-on-one. Before talking with me, or with any faculty or staff member about a Title IX-related incident, be sure to ask whether they are a responsible employee. If you would like to speak with someone who can provide support or remedies without making an official report to the university, please email advocate@austin.utexas.edu. For more information about reporting options and resources, visit [title IX website](#), contact the Title IX Office via email at titleix@austin.utexas.edu, or call 512-471-0419.

Personal Pronouns: Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name unless they have added a preferred name with the Gender and Sexuality Center. I will gladly honor your request to address you by a name that is different from what appears on the official roster, and by the gender pronouns you use (she/he/they/ze, etc). Please advise me of any changes early in the semester so that I may make appropriate updates to my records. For instructions on how to add your pronouns to Canvas, visit [pronouns website](#).

Land Acknowledgment: (I) We would like to acknowledge that we are meeting on Indigenous land. Moreover, (II) We would like to acknowledge and pay our respects to the Carrizo & Comecrudo, Coahuiltecan, Caddo, Tonkawa, Comanche, Lipan Apache, Alabama-Coushatta, Kickapoo, Tigua Pueblo, and all the American Indian and Indigenous Peoples and communities who have been or have become a part of these lands and territories in Texas, here on Turtle Island.

Other: Please do not use phones/laptops/tablets in the class, as it is distracting to me and your classmates. If you need to use technology inside the classroom for a specific reason, please talk to me before the class.