

Econ 9454 Advanced Macroeconomic Theory II

Fall 2025, 3 credit hour
TuTh 12:30pm - 1:45pm
Locust Street Building 2nd floor classroom

Instructor: Chao Gu
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Office hour: Tu 2-3pm

Pre-requisite: Econ 9453.

The purpose of this course is to further develop one's understanding of the modern theories in macroeconomics. We will learn dynamic models that are developed to study aggregate economic behavior. Meanwhile, I will familiarize you with the tools (workhorses) that are commonly used in modern macroeconomics.

Reference book:

Recursive Macroeconomic Theory (RMT) by Lars Ljungqvist and Thomas Sargent.

Course Requirement:

There will be three exams for this class. Problem sets will be assigned periodically. Although problem sets are not part of your grade, you are urged to complete each of them as they are essential to preparing for the class exam.

Exam Schedule:

First exam: Thursday, February 20, 2025, in class.
Second exam: Thursday, April 3, 2025, in class.
Third exam: Thursday, May 8, 2025, in class.

Make-up Policy:

Make-up exams will generally not be given. A request for alternative arrangements must be in writing and must be accompanied by appropriate documentation for not taking the scheduled exam.

Attendance Policy:

Attendance is counted 10% in the final grade. You should inform me if you are about to miss a class.

Course Canvas:

There is a course canvas to support the class (<https://missouri.instructure.com>). Course information, homework and announcements can be found on the course canvas.

Technical Skills Required

You are expected to have minimal technical skills such as using Zoom, Canvas, scanning and uploading documents. Having reliable access to the Internet is necessary.

Online Course Materials

All online contents of this class are copyrighted and are not to be shared or used outside of this class.

Course Outline:

1. Review of dynamic programming – deterministic economy.
RMT Ch. 3.
2. Endogenous growth model
Lucas, R.E. 1987, *Models of Business Cycles*, Basil Blackwell, New York.
Lucas, R.E. 1988, “On the Mechanics of Economic Development,” *Journal of Monetary Economics* 22, 3-42.
Parente, S. and Prescott, E. 2000. *Barriers to Riches*, MIT Press.
3. A review of decision making under uncertainty.
4. Arrow-Debreu economy
5. Dynamic programming—stochastic economy
RMT Ch. 3

Exam 1 covers Units 1-5.
6. Asset pricing
RMT Ch. 13 and 14.
Lucas, R. 1978. “Asset Prices in an Exchange Economy”, *Econometrica* 46, 1426-1445.
Mehra, R. and Prescott E. 1985. “The Equity Premium: A Puzzle”, *Journal of Monetary Economics* 15, 145-162.
7. Search, matching and Unemployment
RMT Ch. 6
McCall, J. 1970, “Economics of Information and Job Search,” *Quarterly Journal of Economics* 84, 113-126.

Diamond, P. 1982. "Wage Determination and Efficiency in Search Equilibrium," *Review of Economic Studies* 49, 217-227.
Mortensen, D. and Pissarides, C. 1994. "Job Creation and Job Destruction in the Theory of Unemployment," *Review of Economic Studies* 61, 397-415.
Lucas, R. and Prescott, E. 1974. "Equilibrium Search and Unemployment," *Journal of Economic Theory*, 7(2), 188-209.

Exam 2 covers Unit 6 and the first half of Unit 7.

8. Search and money

RMT Ch. 29

Kiyotaki, N. and Wright, R. 1989. "On Money as a Medium of Exchange," *Journal of Political Economy* 97, 927-954.

9. Financial fragility

Diamond, D. and Dybvig, P. 1983, "Bank runs, deposit insurance, and liquidity," *Journal of Political Economy* 91, 401-419.

Wallace, N. 1988, "Another attempt to explain an illiquid banking system: the Diamond and Dybvig model with sequential service taken seriously," *Federal Reserve Bank Minneapolis Quarterly Review* 12, 3-16.

Wallace, N. 1990, "A banking model in which partial suspension is best," *Federal Reserve Bank Minneapolis Quarterly Review* 14, 3-16.

Peck, J. and Shell K., 2003, "Equilibrium bank runs," *Journal of Political Economy* 111, 103-123.

Exam 3 covers the second half of Unit 7 and Units 8 and 9.

Academic Integrity

Academic integrity is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor.

Accommodation of Disabilities

If you anticipate barriers related to the format or requirements of this course, if you have emergency medical information to share with me, or if you need to make arrangements in case the building must be evacuated, please let me know as soon as possible. If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please establish an accommodation plan with the Disability Center (<http://disabilitycenter.missouri.edu>), S5 Memorial Union, 573- 882-4696, and then

notify me of your eligibility for reasonable accommodations. For other MU resources for persons with disabilities, click on "Disability Resources" on the MU homepage.

Intellectual Pluralism

The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the Departmental Chair or Divisional Director; the Director of the Office of Students Rights and Responsibilities (<http://osrr.missouri.edu/>); or the MU Equity Office (<http://equity.missouri.edu/>), or by email at equity@missouri.edu. All students will have the opportunity to submit an anonymous evaluation of the instructor(s) at the end of the course.

Academic Inquiry, Course Discussion and Privacy

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in [section 200.015](#) of the Collected Rules and Regulations. In this class, students may not make audio or video recordings of course activity, except students permitted to record as an accommodation under [section 240.040](#) of the Collected Rules. All other students who record and/or distribute audio or video recordings of class activity are subject to discipline in accordance with provisions of [section 200.020](#) of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

Those students who are permitted to record are not permitted to redistribute audio or video recordings of statements or comments from the course to individuals who are not students in the course without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of [section 200.020](#) of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

Title IX

University of Missouri policies prohibit discrimination on the basis of race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, pregnancy, age, disability and protected veteran status. Discrimination includes any form of unequal treatment such as denial of opportunities, harassment, and violence. Sex-based violence includes rape, sexual assault, unwanted touching, stalking, dating/interpersonal violence, and sexual exploitation.

If you experience discrimination, you are encouraged (but not required) to report the incident to the MU Office for Civil Rights & Title IX. Learn more about your rights and options at civilrights.missouri.edu or call 573-882-3880. You also may make an anonymous report online.

Students may also contact the Relationship and Sexual Violence Prevention (RSVP) Center, a confidential resource, for advocacy and other support related to rape or power-

based personal violence at rsvp@missouri.edu or 573-882-6638, or go to rsvp.missouri.edu.

Both the [Office for Civil Rights & Title IX](#) and the [RSVP Center](#) can provide assistance to students who need help with academics, housing, or other issues.

Mental Health

The University of Missouri is committed to supporting student well-being through an integrated network of care, with a wide range of services to help students succeed. The MU Counseling Center offers professional mental health care, and can help you find the best approach to treatment based on your needs. Call to make an appointment at 573-882-6601. Any student in crisis may call or go to the MU Counseling Center between 8:00 – 5:00 M-F. After hours phone support is available at 573-882-6601.

Visit our website at <https://wellbeing.missouri.edu> to take an online mental health screening, find out about workshops and resources that can help you thrive, or learn how to support a friend. Download Sanvello, a phone app that teaches skills and strategies to help you maintain good mental health. Log in with your Mizzou e-mail to unlock all the tools available through Sanvello at no cost to you.