

## **Econ 9453 Advanced Macroeconomic Theory I**

Fall 2023

TuTh 11:00am - 12:15pm

Locust Street Building 1004

Instructor: Chao Gu

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Office hour: Th 1-2pm

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.

Dynamic Macroeconomic Theory (DMT) by 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, September 21, 2022, in class.

Second exam: Thursday, October 26, 2022, in class.

Third exam: Thursday, December 7, 2022, 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.

### 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: A simple static model of general equilibrium. (8/22, 8/24, 8/29)  
Lecture notes. To be distributed.
2. Intertemporal optimization. (8/31)  
Lecture notes. To be distributed.
3. Overlapping generation models. (9/5, 9/7)  
RMT Ch.8, DMT Ch. 7  
Samuelson, P. 1958. "An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money," *Journal of Political Economy* 66(6), 467-482.  
Shell, K. 1971. "Notes on the Economics of Infinity," *Journal of Political Economy* 79(5), 1002-1011.  
Diamond, P. 1965. "National Debt in a Neoclassical Growth Model," *American Economic Review* 55, 1126-1150.
4. Dynamic programming—deterministic economy (9/12, 9/14)  
RMT Ch. 2, DMT Ch. 1

*Exam 1 covers units 1-4.*

5. Endogenous growth model (9/19, 9/26, 9/28)  
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.
6. A review of decision making under uncertainty (10/3)
7. Arrow-Debreu economy (10/5)
8. Dynamic programming—stochastic economy (10/10)  
RMT Ch. 2, DMT Ch. 1
9. Asset pricing (10/12, 10/17, 10/19)  
DMT Ch. 3, RMT Ch. 10  
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.

Exam 2 covers Units 5-9.

10. Search and unemployment (10/24, 10/31, 11/2, 11/7, 11/9, 11/14)

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.

11. Search and money (11/16, 11/28, 11/30, 12/5)

RMT Ch. 29

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

Exam 3 covers Units 10-11.

### **Evaluation and Grading**

The course will be graded on the basis of three exams. Each exam is worth 100 points. Letter grades will be assigned using the Grade Table below.

A+ = 285-300	A = 270-284	A- = 255-269	B+ = 240-254	B = 225-239
B- = 210-224	C+ = 195-209	C = 180-194	C- = 165-179	F = 0-164

### **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 or the [Office of Academic Integrity](#).

Students are expected to adhere to this honor pledge on all graded work whether or not they are explicitly asked in advance to do so: "I strive to uphold the University values of respect, responsibility, discovery, and excellence. On my honor, I pledge that I have neither given nor received unauthorized assistance on this work."

## **ACCOMMODATION OF DISABILITIES**

The goal of the University of Missouri is to ensure an inclusive learning environment for all students. [The University of Missouri Disability Center](#) provides services and accommodations for students to participate fully in the learning experience and to experience equitable evaluation of their performance. Students (including online students) with a documented disability can contact the Disability Center to establish an [Accommodation Plan](#). Documented disabilities include hearing, vision, mobility, learning and attention, psychological health, and physical health. Students' accommodations are implemented with the input of students to maximize the learning experiences. The MU Disability Center keeps information about a student's disability confidential.

Please notify me of your eligibility for accommodations as soon as possible. Additionally, if there are aspects of the course that present as barriers, such as inaccessible course content (e.g., learning assessments, PowerPoints, non-captioned videos, images, tables, PDFs) or if you need an immediate accommodation due to an injury, please contact me or the Disability Center as soon as possible.

## **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 [Office of Academic Integrity](#), or the [MU Equity Office](#).

## **ACADEMIC INQUIRY, COURSE DISCUSSION, AND PRIVACY**

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.

Students who violate 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.

## **FERPA**

The Family Educational Rights and Privacy Act (FERPA) of 1974 is a federal law designed to protect the privacy of educational records; to establish the rights of students to inspect and review their education records; and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. The law applies to any individual who is or has been in attendance at an institution and regarding whom the institution maintains educational records. Once students have matriculated to the University of Missouri, i.e. enrolled in course work, FERPA rights transfer to the student, regardless of the student's age.

Students can enable certain individuals to have access to their education records by signing a FERPA waiver. The consent must specify records to be disclosed, state the purpose of the disclosure and identify the party or class of parties to whom the disclosure must be made.

### **NONDISCRIMINATION POLICY**

The University of Missouri does not discriminate on the basis of race, color, national origin, ancestry, religion, sex\* (including gender), pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, and any other status protected by applicable state or federal law. Discrimination includes any form of unequal treatment such as denial of opportunities, harassment, and violence. \*Sex discrimination includes rape, sexual assault, sexual harassment, unwanted touching, stalking, dating/domestic violence, stalking, and sexual exploitation. Retaliation for making or supporting a report of discrimination or harassment is also prohibited.

If you experience discrimination or sexual violence, 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](http://civilrights.missouri.edu) or call 573-882-3880. You also may make an anonymous report online.

If you are a survivor, or someone concerned about a survivor, and need immediate information on what to do, see RSVP Resources page. 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.

In the event that you choose to write or speak about having experienced any of these forms of prohibited discrimination or harassment, Mizzou policies require that, as your instructor, I share this information with the MU Office for Civil Rights & Title IX. They will contact you to offer information about resources, as well as your rights and options as a member of our campus community.

### **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 additional cost to you.

## **LAST DATE OF ATTENDANCE AND IMPACT ON FINANCIAL AID**

Federal regulations for financial aid require the student financial aid office to document the attendance of students who have received federal financial aid if they do not successfully complete any courses during the term. As a result, the last day of attendance (or activity) for any student receiving an F, U, or FN in this course will be recorded in the grade roster and reported to the financial aid office. **Based on the last day of attendance, students may be required to repay a portion of their financial aid award for the semester.**

A student's last day of attendance (or activity) is the last day on which a student participates in an academically-related activity at the University. These include:

- Attendance in class, lab, or an instructor's office hours
- The completion of an assignment or examination
- An appointment with a professor or e-mail correspondence regarding course material
- (Online courses only) For online courses, the last day a student submits an assignment or exam. Only logging into an online class without participating is *not* acceptable for last day of attendance

Please note that discussing a course withdrawal or notifying the instructor of an absence in class does not constitute participation for financial aid purposes. Moreover, any office hour visits or email correspondence must be related to the course material.

## **NETIQUETTE**

Your instructor and fellow students wish to foster a safe online learning environment. All opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Our differences, some of which are outlined in the University's nondiscrimination statement, will add richness to this learning experience. Please consider that sarcasm and humor can be misconstrued in online interactions and generate unintended disruptions. Working as a community of learners, we can build a polite and respectful course ambiance.

## **RELIGIOUS HOLIDAYS & ACCOMMODATIONS**

Many religious faiths are represented in the student body. The University of Missouri does not restrict student free exercise of religion, unless 1) the restriction is in the form of a rule of general applicability, and does not discriminate against religion or among religions; and 2) it can be demonstrated that the application of the restriction is essential to furthering a compelling university interest, and is not unduly restrictive considering the relevant circumstance. The policy of the University attempts to strike a reasonable

balance between accommodating the religious practice of students and meeting academic needs and standard.

Consult IDE's [Guide to Religions](#) for the form that can be used to notify an instructor of an absence associated with religious practice. Students are expected to notify their instructor(s) by completing and submitting this form in a manner that is consistent with the procedure outlined in the university's policy on student religious accommodation. Providing false information regarding sincerely held religious practice is a violation of the university's Standard of Conduct and will not be tolerated.

### **DECREASING THE RISK OF COVID-19 IN CLASSROOMS AND LABS**

If you have tested positive for COVID-19 or have been identified as someone who needs to quarantine, do not attend class in person until the mandated period for isolation or quarantine has passed. Your instructor will work with you on arrangements to access class material while you are in isolation or quarantine.

Additionally, if you are experiencing any COVID-related symptoms, or are otherwise feeling unwell, do not attend in-person classes and contact your health care provider and/or student health immediately. COVID symptoms include: fever greater than 100.4 or chills; cough, shortness of breath or difficulty breathing; fatigue; unexplained muscle or body aches; headache; new loss of taste or smell; sore throat; congestion or runny nose; nausea or vomiting; diarrhea.

Instructors or students with concerns about how a student is following any University-mandated COVID-19 policies and protocols should report those concerns to the Office of the Dean of Students. Concerns can be documented on a COVID Safety Measures Reporting Form.

Please consult Show Me Renewal for further guidelines. This statement will be updated as information changes.