

**Online Econ 8453: Macroeconomic Theory**  
Fall 2022  
University of Missouri

Pre-requisite: Econ 4353 or equivalent; at least concurrent enrollment in Econ 8451.

Instructor: Professor Chao Gu

Email: [guc@missouri.edu](mailto:guc@missouri.edu)

Zoom Office Hours: Wednesday, 7pm – 8pm.

Time zone: **Central Daylight Time** before 2am on Sunday, November 6, 2022.

**Central Standard Time** after 2am on Sunday, November 6, 2022.

Teaching Assistant: Mr. Neal McCane

Email: [neal.mccane@mail.missouri.edu](mailto:neal.mccane@mail.missouri.edu)

**When you email me, please always cc Mr. McCane.**

### **Recommended Course Materials**

Introduction to Modern Economic Growth, by Daron Acemoglu, Princeton 2009 (Chapters 1 and 2 can be downloaded from the publisher's website).

Modeling Monetary Economics, 4<sup>th</sup> edition, by Bruce Champ, Scott Freeman, and Joseph Haslag, Cambridge 2016. (The 5<sup>th</sup> edition is available this summer. But the old edition will do.)

### **Course Description**

The purpose of this course is to develop one's understanding of the core theories in modern macroeconomics. We will learn 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.

This course intensively uses algebra and calculus. **I strongly recommend that you take Econ 7370 and Econ 8451 before taking this course.**

### **Course Goals**

After completing the entire course, you should be able to:

1. understand the concept of general equilibrium and solve a general equilibrium model;
2. understand the concept of dynamics and solve basic dynamic models;
3. understand economic growth and growth factors;
4. understand micro-founded models of money;
5. understand individual's employment choices and aggregate unemployment rate;
6. understand the source of financial fragility;
7. analyze the possible outcome of an economic policy.

### **Online Course Access**

You may access the course via <https://courses.missouri.edu>. Under course login, select Canvas and

enter your PawPrint. If you have difficulty logging in to the course or you do not see the course listed, please contact the *Mizzou IT Help Desk* at (573)882-5000.

### **Online Course Materials**

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

### **Technical Skills Required**

This class is a semester based online course. You are expected to have minimal technical skills such as using Canvas, scanning and uploading documents. Having reliable access to the Internet is necessary.

### **Zoom Office Hours**

I will hold Zoom office hour from 7-8pm on Wednesday. It would be the best if you can email me your questions before the office hour. Outside my office hour, please allow 24 hours for a response to your email. I will also be monitoring the discussion board throughout the week and can respond to general questions there.

### **Discussion Board**

For general questions (i.e., not specific to you personally), you are encouraged to post to the discussion board on our course Canvas site. I will monitor it throughout the week and respond to general questions there.

### **Dates and Deadlines**

- All homework assignments and tests must be submitted in Canvas by the deadline. Please note that once the due date and time have passed (even by 1 second), the link to submission disappears and you can no longer submit your answers.
- There are 12 homework assignments that you need to complete. Each assignment is due by Saturday night at 11:59pm central time. The lowest score of the 12 homework will be dropped.
- There are three exams for this course. The exam dates and time are as follow:  
**Exam 1**: September 23, 7pm-9pm (central time), Chapters 1-2  
**Exam 2**: October 28, 7pm-9pm (central time), Chapters 3-4  
**Exam 3**: December 9, 7pm-9pm (central time), Chapters 6-7

### **All Students Take the Exams at the Same Time**

All students take the exams at the same time. As the schedule of the exams is set far ahead, please arrange with your professors in other classes and/or employers that you can take these exams at the specified times. The exams are open book, open note. However, you are *not*

allowed to discuss the exam questions with any person, including your classmates, during the exams.

**Late Work Policy**

No late homework assignments and exams will be accepted without University and Instructor approved documentation. If you have circumstances that affect your ability to complete an assignment or exam, please contact the instructor at least 2 days in advance of the due date.

**Evaluation and Grading**

The course will be graded on the basis of twelve homework assignments and three exams. Each homework assignment is worth 10 points, and the lowest score will be dropped. Each exam is worth 50 points. The maximum total points are 260. Letter grades will be assigned using the Grade Table below.

A+ = 250-260	A = 235-249	A- = 220-234	B+ = 205-219	B = 190-204
B- = 170-189	C+ = 150-169	C = 120-149	C- = 100-119	F = 99 and below

**Weekly Schedule and Assignments**

<b>Week</b>	<b>Unit Content</b>	<b>Task</b>
1 (8/21-8/27)	A Static Model I	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 1A-1C.</li> <li>2. Read Chapter 1 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 1. Submit Homework 1 by 11:59 pm on Saturday, 8/27.</li> </ol>
2 (8/28-9/3)	A Static Model II	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 1D</li> <li>2. Read Chapter 1 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 2. Submit Homework 2 by 11:59 pm on Saturday, 9/3.</li> </ol>
3 (9/4-9/10)	A Static Model III	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 1E-1F</li> <li>2. Read Chapter 1 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 3. Submit Homework 3 by 11:59pm on Saturday, 9/10.</li> <li>4. Watch video lecture Chapter 2A.</li> </ol>
4 (9/11-9/17)	A Simple Intertemporal Model	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 2A-2C.</li> <li>2. Read Chapter 2 notes</li> <li>5. At this point, you have all the information needed to complete Homework 4. Submit Homework 4 by 11:59pm on Saturday, 9/17.</li> </ol>
5 (9/18-9/24)	Review and Exam 1	<ol style="list-style-type: none"> <li>1. Review Chapters 1-2.</li> <li>2. Take Exam 1 7-9pm on Friday, 9/23.</li> </ol>
6 (9/25-10/1)	Solow Model I	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 3A-3B.</li> <li>2. Read Chapters 1 and 2 of <i>Introduction to Modern Economic Growth</i> by Daron Acemoglu, Princeton 2009 (Chapters 1 and 2 can be downloaded from the publisher’s website).</li> <li>3. At this point, you have all the information needed to complete Homework 5. Submit Homework 5 by 11:59 pm on Saturday, 10/1.</li> </ol>

7 (10/2-10/8)	Solow Model II	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 3C-3D.</li> <li>2. Read Chapters 1 and 2 of <i>Introduction to Modern Economic Growth</i>.</li> <li>3. At this point, you have all the information needed to complete Homework 6. Submit Homework 6 by 11:59pm on Saturday, 10/8.</li> </ol>
8 (10/9-10/15)	Overlapping Generations I	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 4A-4C.</li> <li>2. Read Chapter 4 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 7. Submit Homework 7 by 11:59pm on Saturday, 10/15.</li> <li>4. Supplementary reading: Chapters 15-17 of <i>Modeling Monetary Economics</i>.</li> </ol>
9 (10/16-10/22)	Overlapping Generations II	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapters 4D-4E.</li> <li>2. Read Chapter 4 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 8. Submit Homework 8 by 11:59pm on Saturday, 10/22.</li> <li>4. Supplementary reading: Chapters 15-17 of <i>Modeling Monetary Economics</i>.</li> </ol>
10 (10/23-10/29)	Review and Exam 2	<ol style="list-style-type: none"> <li>1. Review Chapters 3-4.</li> <li>2. Take Exam 2 from 7pm-9pm on Friday, 10/28.</li> </ol>
		<b>Note: Chapter 5 is optional.</b>
11 (10/30-11/5)	Labor Search I	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 6A-6B.</li> <li>2. Read Chapter 6 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 9. Submit Homework 9 by 11:59 pm on Saturday, 11/5.</li> </ol>
12 (11/6-11/12)	Labor Search II	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 6C-6D.</li> <li>2. Read Chapter 6 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 10. Submit Homework 10 by 11:59 pm on Saturday, 11/12.</li> </ol>
13 (11/13-11/19)	Money Search I	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 7A.</li> <li>2. Read Chapter 7 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 11. Submit Homework 11 by 11:59 pm on Saturday, 11/19.</li> </ol>
14 (11/20-11/26)	Thanksgiving Recess	
15 (11/27-12/3)	Money Search II	<ol style="list-style-type: none"> <li>1. Watch video lecture Chapter 7B.</li> <li>2. Read Chapter 7 notes.</li> <li>3. At this point, you have all the information needed to complete Homework 12. Submit Homework 12 by 11:59 pm on Saturday, 12/3.</li> </ol>
16 (12/4-12/10)	Review and Exam 3	<ol style="list-style-type: none"> <li>1. Review Chapters 6-7.</li> <li>2. Take Exam 3 from 7pm-9pm on Friday, 12/10.</li> </ol>

### Expectations

- What to expect from a technology-enhanced Course – This course is designed to meet virtually. Each week of the course will have a corresponding instructional unit that includes the video lecture and homework assignment. It is essential that you access the course site throughout the week for course announcements, watch lectures, participate in class discussions, submit homework assignments and take exams, etc.
- What the instructors and your peers expect from you— All general class correspondence should be submitted to the relevant Discussion Board forum; only personal or confidential

matters should be directed to the instructor in e-mail. This will require a team effort, with respect and help for each other, as we build a community of learners. We also expect that you will have a foundational understanding of Internet terms and functions.

- What to expect from the instructor – I will monitor and facilitate class discussions (Monday through Friday), respond to private questions within 24 to 48 hours, provide timely feedback on general discussion board questions, and help to build a learning community.

### **Advice (How to be Successful)**

This course is developed based on my teaching of Macroeconomic Theory in the past years. Some lecture notes are based on Professor Joseph Haslag's teaching. We will cover various models that deal with different issues in the economy. There is no required textbook for this course. The video lectures, lecture slides and notes are the most important tools for you to learn.

- Watch the lecture videos: Each week has 1-3 lecture videos. I would encourage you to view the videos first, and then
- Read the lecture notes and study the chapter slides: Re-derive all the equations and think through the logic and the steps of solving the models. Furthermore,
- Think, think, think! The models covered in this course are the core models in the related literature. You must master these models and think above the core models for possible extensions.
- Do not wait until the last day to start working on homework: All homework assignments are due at 11:59pm on Saturday.
- Never be late with online submissions of assignments and exams: Once the due date and time have passed (even by 1 second), the link to submission disappears.

### **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 note that sub-groups of students may have specific needs during COVID or online learning. One group is international students, who may be participating in class from their home countries and in different time zones. The instructor may be able to make reasonable accommodations to support the success of international students currently living in time zones that differ significantly from that of Columbia, MO. International students are expected to consult with their instructor about possible accommodations as soon as possible after the start of the course.

- [Info for Students & Families](#)
- [Info for Faculty](#)
- [Info for Staff](#)