



**Carnegie
Mellon
University**

73103: Principles of Macroeconomics

Lecture 1: M/W 10:00am–10:50am

Lecture 2: M/W 11:00am–11:50am

All Meetings in DH 2210

Spring Semester, 2024

Instructor Information:

Professor Ariel Zetlin-Jones

Office: Tepper 5141

Office Hours: T 3.00pm-5.00pm



TA Information

Nick Hoffman (Co-Head TA)

Office Hours: W 2.00pm-3.30pm

Location: Tepper 2704



Minhyuk Nam (Co-Head TA)

Office Hours: R 5.30pm-7.00pm

Location: Tepper 2703



Contact Information:

E-mail: 73-103@andrew.cmu.edu



Course Description

Macroeconomics seeks to understand why some countries are rich and others poor; why countries experience phases of (sometimes rapid) expansion and subsequent (sometimes sharp) contraction; where inflation comes from; the scope for government to accelerate economic growth and restrain price inflation. We will only begin to address these questions in this class, but we will do critical groundwork.

First, we will cover the topic of macroeconomic measurement. Macroeconomists (and many others) use a small number of economic aggregates to summarize the state of an economy. The most important of these is Gross Domestic Product or GDP. You will learn (exactly) what GDP is, how it is measured and what it is useful for. You will learn how aggregate price measures are constructed and used both to calculate measures of inflation and to adjust other measures to get what economists call “real” quantities. With this done, we turn to a central question: why are some countries poor and others rich? We will use the concept of the production function to (begin to) make sense of this essential and complicated issue.

Next, we turn to specific markets that play an important role in macroeconomics. We start with labor markets. These are markets in which people trade their time, energy and skill with firms (and other people). In these markets, wages, employment and unemployment are determined. We will develop two frameworks for thinking about these markets. This will allow us to think about, amongst other things, the impact of technological change and migration on wages and employment opportunities. We then turn to financial markets and the determination of interest rates. In this context, we will discuss the role and functions of banks and briefly discuss the financial crisis of 2008/9.

Discussion of financial markets leads naturally to a discussion of money. As you will learn, economists have a precise definition of money. In this part of the course you will learn what money is and the role of the money supply in impacting prices and creating inflation. In the context of the US, we will discuss the functions of the Federal Reserve Bank and its tools for controlling the money supply and, hence, influencing inflation and economic activity. We then consider



business cycles and economic fluctuations. You will learn what causes business cycles and how governments can, in principle, damp them down.

As we proceed, we will use the tools and knowledge we develop to explore specific topical issues. On the agenda this semester: Covid-19 and Economic Data, the impact of robots and AI on labor markets, Fiscal Policies to address a Pandemic, and Crypto-currencies and the future of money. These issues are central for understanding the broader economy in which you (will) work, save and make business decisions. I also hope to whet your appetite for the amazing 73-240 Intermediate Macroeconomics course that economics @ CMU offers and which takes these issues further and deeper.

The topics that I have just described may seem quite different from those that you have seen in microeconomics. But all macroeconomics rests on microeconomics and you will see demand and supply diagrams, elasticities and (micro)economic reasoning and intuition all over the place, especially once we have covered the measurement section of the course.

Learning Objectives: By the end of this course you will be able to:

1. Assess the usefulness and limitations of empirical, macroeconomic data and its implications for understanding aggregate economic outcomes;
2. Calculate macroeconomic aggregates like GDP, CPI and GDP deflator and interpret movements in these variables;
3. Use production functions to make sense of patterns of economic development and growth;
4. Analyze and explain patterns of unemployment and employment over time and across countries;
5. Elaborate the economic function of banks and of the government in regulating banks;
6. Describe the history, mission and functions of the Federal Reserve Bank (Fed);
7. Understand the essential sources of inflation and the policy options available to the Fed in trying to contain inflation;

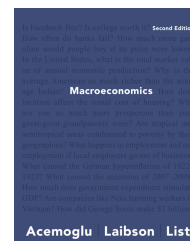


8. Explain the causes of economic fluctuations and the role of policy in stabilizing these fluctuations;
9. Prepare written arguments in the style of a memo to a business or policy leader, including graphical quantitative (visual) evidence in support of one's argument.

Learning Resources

Written Resources: There are two main sources of written resources for you: (i) lecture slides and (ii) a set of course notes written by myself and other 73-103 instructors. All of these materials will be posted on Canvas. These materials and our in class discussion of regarding this content will serve as the basis for all of our course quizzes, homework, and exams.

Textbook: As an optional resource, we recommend *Macroeconomics*, 2nd edition, by Acemoglu, Laibson, and List (Pearson Education). While I think you will find the book useful, I do *not* require you to purchase it. If you do buy the book, I further recommend that you *purchase the e-text* and not the hard copy. Instructions for accessing the e-text-book are available on Canvas. Please check Canvas > Modules > Course Materials > Accessing the textbook.



Optional textbook

Video Resources: In addition to the written resources, I and the head TAs will make a series of instructional videos available to you, accessible via Canvas. Each Saturday, I will release a short (10-12min) video describing the key ideas we will study in the following week. In addition, I will release a brief (roughly 30 minute) video prepared by one of our Head TAs reviewing the most recent quiz or exam. Please note that you are not allowed to share these recordings. This is to protect your FERPA rights and those of your fellow students.



Assessments

The final cumulative score for this class is computed using the following categories:

Homework	20%
4 Assignments	
Quizzes	10%
8 quizzes; lowest 3 scores dropped	
Community Engagement	10%
First Midterm (Friday, February 16, 2024)	20%
Second Midterm (Friday, March 29, 2024)	20%
Final Exam (Date TBD by Enrollment Services)	20%

Assessment Descriptions

- **Homework:** Each homework will ask you to prepare a 1-2 page policy memo concerning a topic that involves concepts and data we cover in class. Your task in these assignments is to write a well-written, well-structured, and well-documented memo that addresses a given macroeconomic concern or question. Frequently, you will be asked to obtain and display quantitative macroeconomic evidence to support your arguments. More specific details will be provided with each homework assignment. You will be permitted to consult and work with classmates on your assignment, but we expect your work to be your own.
- **Quizzes:** Short, timed quizzes that are closely linked to each week's content will be posted most Thursdays at 5pm (EST) on Canvas/Gradescope and will be available for twenty four hours, until 5pm (EST) Friday. You will have 30-50 minutes to complete the quiz from the time you start it and you must complete each quiz by yourself. Quizzes will feature definitions from



class and calculations similar to those undertaken in class. I anticipate we will hold 8 graded quizzes. We will use your best 5 quiz scores when calculating your quiz grade and we will drop the rest. Quizzes are open book, but you may only use class materials provided to you this semester by myself or the TAs.

- **Community Engagement:** In the first week of class we will have a discussion about what it means to be included, to contribute, and to engage in our Principles of Macroeconomics community. Examples include: asking questions, reflecting thoughtfully and/or working closely with neighboring students on in-class exercises, etc. We will also have weekly online check-ins and “honest completion” in-class exercises to help us measure community engagement.
- **Exams:** There will be two midterms and a final exam. The midterms will be in person, closed-book exams. The final exam will be in person (conditions permitting), will be closed book, and will last for 2 hours. I do not surprise students with unexpected questions in the exams. I prepare the exams so that any student who consistently works on homework sets, attends lectures, watches recitations, and carefully reads the slides, notes or textbook should do well at the end.

Final grades will be based on your cumulative score. Students who obtain a final cumulative score of 90-100% will receive an A. Students who obtain a final cumulative score of 80-89% will receive a B. Students who obtain a final cumulative score of 70-79% will receive a C. Students who obtain a final cumulative score of 60-69% will receive a D, and the rest will receive R's.

In the interests of fairness, we apply the same rules to everyone and we are therefore unable to modify the cumulative score formula or offer you extra work to raise your grade to accommodate your circumstances. The only exception concerns midterms missed due to documented illness or family emergency. Some students will inevitably fall close to, but below a cutoff when we assign grades. Such students sometimes ask for cutoffs to be reduced. Please do not do this. If you are just below a cutoff you may be close to the lowest A or B, but still some way from the average A or B and we consider these when assigning cutoffs.



Grading Policies

Quizzes and Homework will be submitted via Gradescope. Instructions for using and submitting work through Gradescope are available on our course Canvas site. Please check: Canvas > Modules > Course Materials > Gradescope Instructions.

- **Late-Work Policy:** We do not accept late submissions for quizzes or homeworks. There are two reasons for this. First we post solutions promptly after the deadline. Second, in fairness to everyone, we want to give all students the same amount of time to get the work done (and it is impossible for us to verify whether work was done late or just turned in late).
- **Make-up Work Policy:** We do not permit make-up work for quizzes or homeworks. If you miss a quiz, you will get a zero (and it will be one of your dropped quiz grades). There will be no makeups for midterms. If you miss a midterm for a documented illness, then we will shift the weight to other exams. You will still be able to obtain full credit in the class. The final exam will be on the day designated by the university. There will be a makeup for the final exam on the designated makeup day provided by the university.
- **Re-grade Policy:** All regrade requests must be submitted through Gradescope *within two weeks* of the return of an assessment. Since we post solutions for every assignment, be sure to compare your answers to the solutions before submitting any re-grade requests. The head TAs and I will approve or decline re-grade requests as appropriate. Should your request be declined and you would like more information on why, then you may meet with one of us during our scheduled office hours.

Accommodations for Students with Disabilities

If you have a disability and have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at .



I'll close this section with some legal stuff:

All class materials on Canvas are for your use only and are copyrighted. You may not copy and circulate any of these materials or upload them to websites without the prior permission of the copyright holder.

Class Schedule

Below is an approximate class schedule. Since class discussion can sometimes be longer or shorter than expected, you should view this as a rough schedule. Please review the weekly module posting on Canvas for up-to-date information on what topics and materials we are covering.



Week	Monday	Wednesday
1	(January 15) No Class-MLK Day	(January 17) Introduction
2	(January 22) Introduction	(January 24) Measurement (Quantities)
3	(January 29) Measurement (Quantities)	(January 31) Measurement (Prices)
4	(February 5) Measurement (Prices)	(February 7) Production (The Prod. Function)
5	(February 12) Production (Measurement)	(February 14) Topic: Intangible Capital
6	(February 19) Production and Growth	(February 21) Growth (Facts, Malthus)
7	(February 26) Growth (Malthus, Solow)	(February 28) Growth (Solow)
8	(March 4) No Class-Spring Break	(March 6) No Class-Spring Break
9	(March 11) Labor Markets (Hours)	(March 13) Labor Markets (Hours)
10	(March 18) Labor Markets (Unemployment)	(March 20) Topic: The Future of Work
11	(March 25) Credit Markets (Savings)	(March 27) Credit Markets (Financial System)
12	(April 1) Money (History, Cryptocurrency)	(April 3) Money (Measurement, Supply)
13	(April 8) Money (Monetary Policy)	(April 10) Topic: Monetary Policy Today
14	(April 15) Fluctuations (Measurement)	(April 17) Fluctuations (Models)
15	(April 22) Fluctuations (Policy)	(April 24) Review & Farewell



Diversity Statement

We must treat every individual with respect. We are diverse in many ways, and this diversity is fundamental to building and maintaining an equitable and inclusive campus community. Diversity can refer to multiple ways that we identify ourselves, including but not limited to race, color, national origin, language, sex, disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Each of these diverse identities, along with many others not mentioned here, shape the perspectives our students, faculty, and staff bring to our campus. We, at CMU, will work to promote diversity, equity and inclusion not only because diversity fuels excellence and innovation, but because we want to pursue justice. We acknowledge our imperfections while we also fully commit to the work, inside and outside of our classrooms, of building and sustaining a campus community that increasingly embraces these core values.

Each of us is responsible for creating a safer, more inclusive environment.

Unfortunately, incidents of bias or discrimination do occur, whether intentional or unintentional. They contribute to creating an unwelcoming environment for individuals and groups at the university. Therefore, the university encourages anyone who experiences or observes unfair or hostile treatment on the basis of identity to speak out for justice and support, within the moment of the incident or after the incident has passed. Anyone can share these experiences using the following resources:

- Center for Student Diversity and Inclusion: csdi@andrew.cmu.edu, (412) 268-2150
- Report-It online anonymous reporting platform: reportit.net username: tartans password: plaid

All reports will be documented and deliberated to determine if there should be any following actions. Regardless of incident type, the university will use all shared experiences to transform our campus climate to be more equitable and just.



Last word. You may have seen the message below on other syllabi. I repeat it because it is important. Please as you progress through my (and other) courses, take academics seriously, but keep things in perspective. Please seek out help academic or otherwise around campus as you need it. Especially during these unprecedented times, please reach out to your support system for help and to help your friends and peers.

Take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at

<http://www.cmu.edu/counseling/>

Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.