Econ 3020-500 (Spring 2026): INTERMEDIATE MACROECONOMICS

Instructor: Zitian (Wayne) Wang, zw3qt@virginia.edu
Lecture: M/W 2:00-3:15pm at New Cabell Hall 485
Office Hours: W 12:00-1:40pm at **Monroe Hall 112** or **Zoom link** here.
The exact room will be announced beforehand.
Final Exam Info: May 7th, Thursday, 2-5pm in class.
In-Person Encouraged: Zoom option is for those who cannot make it in person due to time conflict or illness. Whenever you can, please come in person to get a better experience and use of my help, as many demonstrations can only be done in person. If the link fails, use meeting ID 979 6694 5624 and passcode 416500.
Slack Channel: Apart from the default Canvas, we will also use a group chat channel in Slack for communication and discussion of materials. Importantly, it's a good easy way for you to **ask questions** to both me and the entire class. I will also share interesting economics and math content that can help your understanding of the course materials. Given we have a small class size, this channel will greatly improve joint learning and inspire lively collaboration. Still, all formal announcements about releases or changes in homework, exams, grades, etc will be sent on Canvas, for you to have a complete record of where we are. **If you haven't, please use this link to download Slack and join us.**
No discussion: There's no discussion sections or TA for this class. You will directly communicate with me through Slack (preferred) or Email.

Course Description: Intermediate Macroeconomics is the study of the aggregate economy, or the economy as a whole. While microeconomics examines the choices of individual households and firms, and how government policies can influence these decisions, macroeconomics examines the long-run growth of an entire economy and short-run fluctuations around the long-run growth trend. The field of macroeconomics commenced as a result of the Great Depression. The more recent financial crisis and Great Recession of 2007-2009 in the US, along with the COVID-19 recession – one of the largest historic drops in output and fastest increases in unemployment, has allowed us to witness a very volatile economy in the last 2 decades. Stagnant wage growth in the US has led some current workers to fear that they will not see a higher standard of living than their parents' generation. Macroeconomic models can be useful to gain a better understanding of this data and these events.

This course initially studies how key macroeconomic variables such as GDP, unemployment, inflation, and interest rates are measured. We then examine how financial markets, factor markets, and goods markets explain the relationships among key economic variables and what problems occur when these variables rise or fall. The long-run growth model can be used to answer such questions as the following: 1) How is real GDP determined in the long run? 2) What are the important factors that contribute to long-run growth? and 3) Why does the standard of living vary across countries and how has it changed over time? Short-run models are used to explain expansions and recessions, as well as to determine the effects of fiscal and monetary

policy. We will look at the financial crisis of 2008 and the recent COVID recession, and the extraordinary steps taken by the Federal Reserve and Congress to contain these.

This course should be of interest to students intending to pursue further education or a career in economics, business or finance, government, politics, or foreign affairs, and for those who wish to be well-informed citizens regarding the effects of macroeconomic policies on their lives.

Requirement: Econ 3020 is a required course for the economics major.
Prerequisites: Econ 2020 and Econ 3010 or 3110, or instructor permission.

Required Textbook: Macroeconomics, 6th edition by Charles I. Jones
Read Before Class: We will follow the 6th edition closely. Some homework and exam questions might come from the textbook, so make sure you get a digital or paper copy (see below). **You are responsible for reading the relevant chapters before class and listen to lectures with questions in mind.** There will be some lectures for which I will post other readings (by Hubbard) in place of Jones on Canvas.

Voluntary Textbook Opt-Out: This course participates in the UVA Bookstore Inclusive Access program, which provides enrolled (and waitlisted) students with access to the required digital course materials by the first day of class, at a reduced cost. ***The fee (estimated $75) is automatically billed to your SIS account***. ***If you prefer NOT to participate, you may opt out within the first two weeks of class for a SIS credit, but you will be responsible for obtaining the required materials on your own;*** access (and the opt-out option) is available through the **UVA Bookstore Inclusive Access link** in our Canvas course navigation. Dropping the course (before add/drop deadline) also automatically cancels out your charges.

Slides & Notes: An outline of the notes will be available on Canvas under the "Files-Pre". These "pre" PPT slides contain incomplete graphs and derivations, which we will complete using blackboard during lectures. You can use either of the following 3 ways to take notes.
1) Take notes through pens on a separate paper notebook.
1) Take notes electronically on a tablet.
2) Print PPT slides out and write notes on blank spaces.

After the lectures, I will correct for typos and adjust materials according to what we have actually managed to cover. **These "post" PDF files of slides, together with your notes taken, will be the primary source for reviewing for PS and tests.**

Grades: Your raw grades will be computed by adding the following components.
- 20%: Problem sets and short quizzes (~15%); participation (~5%)
- 40%: Two midterms, each 20%
- 40%: Final exam

Lecture participation is not mandatory, though strongly encourage. But showing up in lecture/OH/Slack will boost my impression on your participation, which will be the basis of the participation score.
Then, your raw grades will be curved to target the following course grade distribution:
• 35%-40% of class: A range (A+/A/A-)
• 35%-40% of class: B range (B+/B/B-)
• 20%-30% of class: C range or below
However, given the small class size, I will be as generous as possible to avoid giving C grades or below. **If you exert efforts in and submit on time all assignments and exams and show up consistently, you will almost surely get B range or above.**

Tests: There will be 2 in-class midterms and 1 cumulative final exam (time and location TBA). All tests are closed-book. **No make-up tests will be granted in any situation.** If you miss one midterm **with valid reasons** (e.g. health conditions and other emergencies), its weight will be shifted to the final exam. Notice that this poses more uncertainty to your grades given that the final is cumulative and longer. So please be judicious in that. **If you have to miss a midterm, please inform me as soon as possible and present appropriate documents. To pass the course, you need to attend at least one midterm, and you must attend the final exam.**

Final Exam: May 7th, Thursday, 2-5pm in class.

Problem Sets: You will have a total of around 8 PS throughout the semester. PS will contain short math, graphing, and short essay response questions to materialize your understanding. **Late PS submission will not be accepted in any situation and will receive 0.** You can discuss PS with classmates but should submit your individual copy.

PS will be a vital source for test preparation. I encourage you to use AI to double check your work, but you need to **cite AI if it contributes to your answers**. There will be a disclosure question at the end of each PS. See below for more details on AI policy. **Solution will be posted on Canvas shortly after the deadline for your review.**

Gradescope: We will use Gradescope for submission and grading of PS and tests. If you are enrolled in the course, you should have received an email from Gradescope notifying you are registered for it. If not, please let me know at the first lecture.

Canvas Quizzes: You will have several short Canvas quizzes along the semester. These short quizzes will be multiple choice questions to foster your understanding of the recent class materials learned.

AI Policy: Do NOT use it on your FIRST attempt to PS; Prohibited in tests.
You are encouraged to interact with AI in your learning process, especially when you encounter problems while reading the textbook. AI is a good tutor with infinite patience in answering your queries, so you should definitely take advantage of that. However,

it's your ultimate job to verify AI's output and be selective in trusting— Does it make sense? Does it give unnecessarily complicated explanations? Any hallucinations (things that look nice but does not exist or is purely wrong logically)?

You can not use generative AI tools (e.g., ChatGPT) on quizzes or exams, which will be considered a violation of the honor code. On Problem Sets, you may use AI only as a study aid (e.g., to clarify definitions or check algebra) **after you have made a good-faith attempt**, **and you must disclose any AI assistance and cite the prompts/outputs used.** Any submission that contains clear indicators of low-quality AI-generated content—such as fabricated citations or claims, incorrect references to course materials, or reasoning that does not correspond to the student's written work shown—will be treated as unauthorized assistance and will receive a score of **0**.

Tips for Success: I don't envision this course to be super challenging. The intent is to help you familiarize with basic economic forces, incentive, markets and institutions, to better prepare for your career. Some basic level of college math is needed: multivariate calculus; basic algebra on equations and symbols. You don't need any advanced stuff. A typical thinking process: (1) use your intuition (2) use math/model/graph to verify or modify the intuition, and finally (3) reflect on why your initial conjecture was correct/ wrong. You can try to explain concepts to others to test your understanding. You are not getting it until you can teach/convince someone of your logic from scratch. Start early on assignments. If you feel falling behind in the course, please come talk to me as early as you can. Lastly and most importantly, **THERE IS NO DUMB QUESTION**.

SDAC: If you need special accommodations, please contact see the SDAC website **here**. The SDAC can be reached by telephone at: 434-243-5180 (voice); 434-465-6579 (video phone); and 434-243-5188 (fax).

Honor Code: By enrolling in the course, you abide by and uphold the rules and principles of the UVA honor system. You will need to pledge on all tests that you have neither given nor received aid (from internet, AI, or other classmates) on that test. I trust you in your pledge and please be serious on academic integrity.

Summary:
- 2 lectures per week, participation strongly encouraged; no discussion
- Lecture format: slides + blackboard demonstration
- 2 midterms + 1 cumulative final exam
- Biweekly problem sets (maximum 8 in total)
- Short online multiple choice assignments; pre-class reading assignments
- Weekly office hours in person and zoom; ask questions in Slack too
- AI usage encouraged for homework after your first attempt; AI prohibited for tests
- Auto fee charged for textbook, opt out if you want to get it somewhere else
- I value your effort and consistent presence

Actual Realized Schedule (updated 04/25/2026**):**

Date	L	Topic	For you to read before class	PS
1/12 M	1	Syllabus, What is Macro, The age of AI and related class policy	Jones: Ch. 1.1: 1-5 Jones: Ch 1.3: 8-11	
1/14 W	2	Model, Measuring the Macroeconomy: GDP	Jones: Ch. 2.1 – 2.2: 16-25	
1/19 M		MLK, no class		
1/21 W	3	Circular Flow Diagram, GDP Components, Expenditure Approach to GDP	Jones: Ch. 2.3 – 2.4: 28-37	PS1 out
1/26 M	4	Nominal vs. Real GDP, Growth Rate Math, Production Approach to GDP, Income Approach to GDP	Jones: Ch. 2.3-2.4: pp 44-53; Ch 8.1 pp 227-231	
1/28 W	5	The Aggregate Production Function: Diminishing Marginal Product, Returns to Scale, Cobb-Douglas Production Function and Its Properties	Jones: Ch 3.1-3.5 Jones: Ch. 4.1-4.2 pp 73-83 Jones Ch. 4.3: 83-93	PS1 due; PS2 out
2/2 M	6	Premodern Growth Model: Malthusian Population Dynamics	https://ourworldindata.org/breaking-the-malthusian-trap	
2/4 W	7	Solow Growth Model: Law of Motion of Capital, Steady State, Transition Dynamics	Section 5.1-5.8, 5.11 (page 108-129, 135)	
2/9 M	8	General Solow Growth Model: Population Growth, Technological Change, Transition dynamics,	Same as Lec7 on Solow	PS2 due; PS3 out
2/11 W	8	General Solow Growth Model: Review, Comparative Statics	Same as Lec 7 on Solow	
2/16 M		Review of midterm 1	N/A	PS3 due

Date	L	Topic	For you to read before class	PS
2/18 W		**Midterm 1 in class**	**Covering Lec 1-8**	
2/23 M		No class		
2/25 W	9	Endogenous Growth and Romer Model: Ideas in Production Ideas of Ideas, Creative Destruction	Chap 6.1, 6.2, 6.4, 6.6 (page 147-157, 171, 176)	
3/2 M		Spring break, no class		
3/4 W		Spring break, no class		PS4 out
3/9 M	10	Labor supply: consumption leisure problem	Chap 7.1, 7.2, 7.3, 7.5, 7.7, 7.8 (page 194-204, 206-210, 212-219)	
3/11 W	11	Labor market equilibrium: combining household labor supply and firm labor demand, *Board derivation on an example*	Same as Lec 10	
3/16 M	12	Consumption-Saving Problem: Euler Equation, Permanent Income Hypothesis	Chap 16.1-16.4 (page 498-518)	PS4 due,
3/18 W	13	Consumption-Saving Problem: *Board Derivation on a General Equilibrium example with a Single Agent*	Same as Lec 12	PS5 out
3/23 M	14	Money and Inflation: Money Supply, Money Demand, Equilibrium in the Money Market, Quantity Theory of Money Inflation	Chap 8.1-8.6 (page 226-249)	
3/25 W		Review of midterm 2		PS5 due
3/30 M		**Midterm 2 in class**	**Covering Lec 9-14**	
4/1 W		No class		
4/6 M	15	Short Run and Output Gap: Percentage Deviation in Output, Law of Iterated Expectation, Different Types of Unemployment	Chap 9.1-9.5 pp256-275	

Date	L	Topic	For you to read before class	PS
4/8 W	16	Monetary Policy, Investment Savings, and Aggregate Demand: MP formula, Taylor Rule, Nominal Interest Rate, IS formula, Natural (Real) Rate of Interest, Combining MP and IS into AD	Chap 11.5 pp319-332 Chap 12.5-12.7 pp361-374	
4/13 M	17	Phillips Curve and Aggregate Supply: LRAS, SRAS, OKPC	Same as Lecture 16	
4/15 W	17	New Kaynesian Model: Expectation Formation, NKPC, ASAD	Same as Lecture 16	PS6 out
4/20 M	18	Bank Run as Coordination Failure: Banking Panic, Coordination Game, Multiple Nash Equilibria, Equilibrium Selection, Policy Remedy with Deposit Insurance	N/A	
4/22 W		Final Review in-class		
4/27 M		No class		PS6 due 4/29
5/3 Su		Online Review Session 2-4pm		
5/7		**FINAL EXAM 2-4:30pm (location TBA)**	**Cumulative (L1-L18)**	