

Contact Info: mwitte@northwestern.edu
 Class meets: Monday/Tuesday/Thursday 6-8:15 PM in Kellogg 1410 (I will try to record all of these.)
 Office Hours: Before and after class (let me know if you're coming in early) and other times by appointment (Zoom or in person).
 Materials: No textbook, but there will be the readings on the syllabus. You can find the slides here:
<https://sites.google.com/view/markwitteeconomics/home/economics-311-intermediate-macroeconomics>

Week of June 22 - Introduction & Multiple Equilibria, Consumption, Investment, Growth	
Intro:	How to use FRED
Models of Equilibria:	45-degree line, equations & multiplier, Babysitting Co-op , Desert Island Hare & Stag - Video , Inside a Bank Run
Models of Consumption & Saving:	Keynes' Consumption Function, Friedman's Permanent Income Hypothesis (PIH), Modigliani's Life-Cycle Hypothesis (LCH), Ramsey's Euler Equation Model of Consumption
Investment:	Tobin's Marginal q , Investment & Savings: The IS Curve
LR Growth: Neoclassical Solow Model	(Perfect Competition, Constant Returns to Scale) Haywood 8 , Our World in Data (just graphs), Solow , Romer , Gordon , Steelman & Weinberg , Rosling , Koreans ,
LR Growth: New Growth Theory	(Romer & Others, Increasing Returns to Scale) - Klenow , Washing Machine ,
Week of June 29 - Government Deficits and Debt, Labor Markets	
Government Debt Dynamics	- Debt Sustainability , Time Consistency , Budget Basics , US Debt Holding
Supply Side: Wage Bargaining:	Efficiency Wages - Core sections 6.1-6.16 , Core sections 8.1-8.8 , Labor video
Monopsony	- Krugman
Measuring Unemployment	- Brookings , Six unemployment rates?
Phillips Curve:	Haywood 2
Labor Markets: Flows,	Beveridge Curve 1 , Beveridge Curve 2 , Jaimovich & Siu , Manufacturing , Krugman AI , You are not a horse
Week of July 6 - Macroeconomic Policy: Fiscal, Monetary	
IS-LM (Investment-Savings versus Liquidity Preference for Money)	- IS-LM , Keynes , MV=PY
Taylor Rules & Loss Functions	- Policy Rules ,
Yield Curves	- Visualization
THURSDAY, July 9, <u>Midterm Exam (35% of your grade)</u> - Drop deadline is Sunday, July 12	
Week of July 13 - New Keynesian 3-Equation Model	
3 Equation Model: (1) IS, (2) Phillips Curve, (3) Policy Rule	- Haywood 3 , Haywood 4
3 Equation Model: Monetary Policy	- Haywood 5 , FDR's First Fireside Chat , Fed Video 1 , Fed Video 2
3 Equation Model: Fiscal Policy	
Leverage	- Admati , Capital , Matt Levine 1 , CDOs 1 , CDOs 2
Bank Balance Sheets & Leverage:	Diamond & Dybvig , Matt Levine 2
Bubbles	- Ponzi , Preventing runs
Monetary Policy	- Surowiecki , POW Camp , Fed Independence , Lender of Last Resort , Fed's new tools , Fed balance sheet , Fed's ownership , Currency
Forward Guidance	- Unconventional MP , Fed Chairs , Alternative Inflation Targets

Week of July 20 - International Macroeconomics
Exchange Rates: Capital Flows, Big Mac Index , More Big Mac Index , Mundell-Fleming
THURSDAY, JULY 23th - <u>Final Exam</u>

Midterm	35% of class grade	Thursday, July 9, in class
Final	45% of class grade	Thursday, July 23, 6:00-8:15 pm
Homework	10% of class grade	On Canvas and Crowdmark
Weekly Quiz	10% of class grade	Thursdays, 10 minutes.

The following are questions that many of you will have about the class.

Q: Wait, what's with this weekly quiz?

A: I wanted to put less weight on exams and to encourage you to keep up with the class readings. At the end of Thursday classes, there will be a short quiz. One question will be about what we covered in class the previous week, and the second question will be about the assigned readings for the week. The questions will each be graded on a 0, 5, 10 basis, where 0 means wrong, 5 means that you show some understanding, and 10 is "hits the important points reasonably well." What if you miss a quiz? Not a disaster. If we have X number of quizzes, the maximum points you can get on quizzes will be $(20 \cdot X - 20)$, so you can effectively miss one quiz (or miss 5 points on four quizzes or whatever) and still max out your quiz points.

Q: When the class is over, what will I wish that I had known at its start?

A: Beyond the obvious things, in the past, some students wrote on their CTECs that they wish they had known my tests would be so hard. I agree that my tests tend to be a bit long, and I try to make them hard. Also, I'll admit there's some reading so be careful not to fall too far behind. Now you've been warned.

Q: Why are your lecture slides so terrible, with way too much on them?

A: Ouch, painful. These aren't slide decks for a pitch or even a presentation. These are a form of a textbook, where the main point is supported by accompanying information. My thought is that you will be studying these slides later, without my narration, and hopefully the information on the slides will help with questions that may arise in your mind.

Q: What is the deal with these homeworks?

A: There will be a bunch of these over the course of the quarter, and they will usually follow what we did in lecture, and have some predictive value for what will be on the exams. If you post questions about homework or old exam questions on Canvas Discussion, it is very helpful if you **cut-and-paste** the actual text question into what you write.

Q: How will the exams work?

A: There will be two of them, a midterm and final, and you can have the whole class period to do them (but I hope it takes less). The exams will be in person in our classroom. You can use a non-programmable calculator. The exams will have computational problems similar to those from the homework, some graph drawing, and some short essays.

People who score well above the mean on the midterm, final, and homeworks will get A's. People who don't do quite as well will get B's. Those who are below the median for the class will get C's, or if things go really poorly, D's or F's. The points on the various assignments are weighted as described above. A given percentage that you score on an exam is meaningless until it is compared to how the rest of the class does. A score of 62/100 is a good score if median score is a 40, and a 90 isn't impressive if most of the class scored a 94.

More specifically, every point you earned in here is combined into a weighted total, where regardless of how you did on any particular part of the class, if you end up with the same number of points (for example) as someone who performed at a B level throughout the class, then you'll end up with a B.

Q: What are the "learning objectives" for this class?

A: This course should give students frameworks and economic reasoning for understanding short and long-run macroeconomic phenomena, and the possibilities and limits of macroeconomic policy.

Q: I am not now, nor have I ever taken the prerequisites. Am I in trouble in here?

A: Probably; this class uses the tools of Econ 201 Introduction to Macroeconomics and Econ 202 Introduction to Microeconomics, as well as some algebra and differential calculus.

Q: What are the basic work expectations for the class?

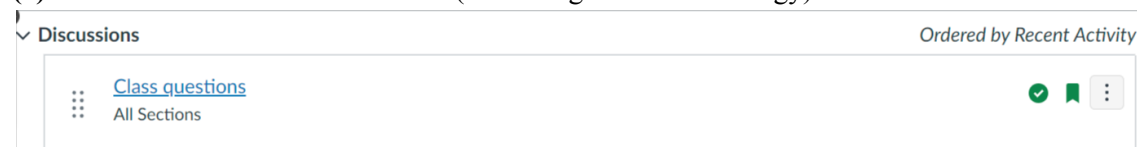
A: I hope that you will do about two hours of study for every hour of lecture, and that you will read the material assigned for the lecture before class (and yes, you'll have to catch up on the first lecture assigned readings too). If you miss some lecture, section, or a recording is messed up, it is your responsibility to catch up on the material (like in office hours or from your classmates).

Q: What is your electronics communication policy?

(1) I expect you to have your preferred e-mail address entered into Canvas so that I can send messages to the class, and I expect you to check that e-mail on a daily basis.

(2) Use Canvas *Discussions* to post questions that would be of general use to your classmates. (Yes: "What does GDP stand for?" No: "I got 11 points on the midterm; does that mean I'm going to flunk the class?") When you post about specific homework or exam questions, it's very helpful if you would cut-and-paste the actual question into what you write.

(3) Subscribe to Canvas *Discussions* (the little green banner thingy).



Q: What is your policy on technology in class?

(1) To maintain a focused learning environment in lecture, **no cellphones or laptops are allowed.** Put them away where they will not distract you or your peers.

(2) You can use a tablet in class just for taking notes, but you need to keep it *flat* on your desk so that you don't distract your peers.

(3) For the exams, you can only use a non-programmable. Here are cheap examples:

<https://www.amazon.com/4-function-calculator/s?k=4+function+calculator>

No smartwatches or smart glasses or anything else that I might consider to be cheating.

(Note: If you have a documented disability requiring the use of a laptop, please consult with me so we can make arrangements.)

Q: What is your policy on using LLMs for learning the material in this class?

A: LLMs are a new type of information tool that will be around for the rest of our lives. I believe you should be interacting with at least two LLMs regularly. I suggest using two because while one will occasionally hallucinate, two are unlikely to hallucinate in the same way. LLMs can be excellent places to test out your intuitions and experiment with model creation. You can use them as Devil's Advocates to challenge your thinking by asking them to critique your arguments. They are good proofreaders for your writing. Finally, learning to write and iterate prompts for LLMs is a valuable skill because becoming fluent with their use will raise your productivity.

You should not use LLMs to produce work that you would present as your own, such as papers or solutions to assignments, particularly where the point of the assignment is to actually learn how to solve such problems. Use them not as a substitute for your thinking, but as a complement to your thinking.

We're at an interesting point in time. Previously, what students would learn about the subject of a class would come almost entirely from what the professor taught or assigned as readings, and so what the students would learn would be a subset of what the professor knew. Now, you have tools for self-discovery about the subjects we are studying that, with persistent use, may well lead you beyond what your professor has ever thought about. The future is becoming the present, and it's a challenging time for some fields like academia.

I don't know the best way to get knowledge to accumulate in your brain, and even if I did know, what is best is likely to change over time. The same goes for you; you don't know what works best for how you can learn, and so we both must go on experimenting, trying new approaches, and examining the results.

(I asked Gemini III to critique my syllabus and make suggestions to improve it. Here is what it said about this part: "**The LLM Policy** Your policy is excellent and forward-thinking . It encourages "comparative advantage," which is very on-brand for an economist.")

Q: Anything else about using LLMs? And what is this "idea" you keep alluding to?

A: I've set up a Google Notebook with the books, my slides, lecture recordings, and readings in it. Hopefully, you can use it to find answers to your questions that draw on the information from our class, rather than from some middle schooler's science project webpage. However, I think that to use the LLM, you will need to have a regular Gmail account. You can create one for this purpose and then delete it once the class is over. And you don't have to use this thing at all, I'm just hoping that it might be a help. Here is the link: <https://notebooklm.google.com/notebook/cdde88b7-395e-4fe8-8e3c-e1f8f26977a6>

Q: It seems like using AI would be really helpful for doing the homework. I could get the problems done correctly on the first try, and save a lot of time! Would there likely be any negative consequences when it's time to take an exam where I would have to solve such problems on my own by hand?

A: Well, I guess we will see. Seriously though, if you don't struggle with the problems on your own, you will get smoked on the exams. To learn things requires "productive struggle" or "desirable difficulty" or "mental friction." Using a forklift will get a lot of work done quickly with little effort, but doing deadlifts makes you stronger. To incentivize good learning behavior, for the computational homework problems, you get three chances to get each assignment right. And if you work together, and take turns putting in your answers.... Anyway, the trick for you is to figure out how to get AI to help you find the mental friction that will best help you learn. This is a skill that you will need throughout your life.

Also, this: <https://cepr.org/publications/dp21577> Brutal.

Q: What about asking questions in class?

A: If I haven't been clear about a definition or abbreviation or something, it is a Kantian imperative that you raise your hand and get me to fix it! Otherwise, I'm just wasting everyone's time. Seriously, if you're puzzled by something, then probably everyone else is as well, so you'd be serving Northwestern's educational mission by getting it cleared up. If you've got a question about something related to what we're doing, but not directly part of the lecture, that's good too, but raise it in office hours or on the Canvas discussion forum. Thanks!

Q: What happens if I fall suddenly ill and am unable to make it to a test?

A: If you do not reach me or leave a message on my e-mail (mwitte@northwestern.edu), your misfortune will be doubled. You will get a zero on the test for a grade of F that cannot be made up. Any problem that causes you to be physically unable to take a test must be carefully documented by an independent source who can confirm that you were incapacitated. A missed midterm will have its weight put on the next exam.

Q: Can I expect any leniency if I'm caught cheating or engaging in any unethical behavior?

A: No. I will probably give you a grade of "F" for the class and I will certainly notify the Dean who will be asked to pursue further action. It's not fun for anyone involved.

Q: In studying for the tests, should I stress studying the notes or the readings?

A: Well, both, but particularly the notes. I'll make sure that I don't inflict any math problems on the exams that I haven't already given you on a homework. Note however, that not everything that is important for the class, or that I cover in lecture or the readings will make it onto the test. Some material is important for you to learn, but does not lend itself to good test questions. I'm also inclined to have you do math on homework to build that level of understanding there, and then use graphs on exam questions so as to minimize the chance of algebra mistakes causing you to miss points on something where you had a good level of understanding.

Q: Averaging my grades, I come out very close to a higher grade. How about if you give it to me?

A: No...unless you are deserving of special consideration.

Q: Am I deserving of special consideration?

A: That depends. I may feel you deserve a higher grade than you earn on the tests if I feel that your comments in class, discussion posts on Canvas, and office hours improve the education of your fellow students and show you are able to and have been thinking intelligently about the material.

Q: What are the math requirements for this class?

A: You will need to be able to do really simple derivatives, graphing, exponentials, and algebra. I will do some more complicated math for the purposes of exposition but I will not ask you to reproduce it on the exams, although you should understand the underlying ideas. As a guide, I will try to preview any math or exposition you might need for the homework.

Q: What do economists read to learn about what's going on in macro?

A: <https://marginalrevolution.com/> I check them every morning. Also, this guy is pretty great; I've signed up to get his column emailed to me every weekday.

<https://www.bloomberg.com/opinion/authors/ARbTQIRLRjE/matthew-s-levine>

Q: What if I have concerns about accessibility for this class?

A: Any student with a documented disability needing accommodations is requested to set these up with AccessibleNU (accessiblenu@northwestern.edu, 847-467-5530) as early as possible in the quarter (preferably within the first two weeks of class). All discussions will remain confidential. For resources on safety and mental and physical health, please visit the [NUhelp](#) website or phone app. If you are allowed extended time on exams or other accommodations, please request that ANU proctor your exams.

Q: Anything else?

A: Yes. “Please note that the specifics of this course syllabus are subject to change in the case of unforeseen circumstances. Instructors will notify students of any changes as soon as possible. Students will be responsible for abiding by the changes.” Northwestern has expectations for all students outlined here: <https://www.registrar.northwestern.edu/registration-graduation/northwestern-university-syllabus-standards.html>

Q: What is the most important thing?

A: Most importantly, please be assured that I want students to learn and to receive the good grades they deserve. So, please make an appointment with me should you have undue difficulty with your work in the course.