EC: 224

Macroeconomic Theory

Syllabus

Colby College

Department of Economics

Fall 2021

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<u>Logistics</u>

Section A: TR 8:00-9:15 in Diamond 145

Section B: TR 9:30-10:45 in Diamond 145

<u>Overview</u>

The purpose of this class is to bring your current understanding of macroeconomics closer to the frontier of the discipline as practiced by economists working in academia and in policy institutions. Macroeconomics investigates the consequences of individual and firm behavior at an aggregate level. We will study macroeconomic data and learn to build basic models to help

us understand the data. We will also think about the ways government policy influences macroeconomic variables.

Our approach in this class will be to build microfounded, dynamic, general equilibrium models. While this may sound like confusing jargon, it is actually very intuitive. "Microfounded" means our assumptions about individuals and firms are consistent with microeconomic theory. Everyone maximizes an objective function subject to some constraints. Our models are "dynamic" because peoples' actions today influence tomorrow's outcomes. Since people are maximizing some objective function, they will think about the future consequences of their actions today. Finally, our accounting needs to be accurate. "General equilibrium" means that quantity supplied equals quantity demanded in all markets simultaneously, which prevents us from mistakenly identifying a free lunch.

Prerequisites: EC 223 (Microeconomic Theory) is the official prerequisite. I assume you are comfortable with intermediate micro theory, algebra, and single variable calculus. We will also use Microsoft Excel on assignments. If you are not familiar with Excel, the tutorials on YouTube are helpful.

Textbooks: The textbook for this class is *Intermediate Macroeconomics* by Julio Garin, Eric Sims, and me. The textbook is free and is posted on my website, https://sites.google.com/site/roblester54/book. We will not cover all of it, so do not feel obligated to print every chapter. The schedule at the end of the syllabus lists all the chapters we will cover. In the event I add or remove a chapter from the schedule, I will let you know in advance.

Learning Outcomes

Students who successfully complete this class will be able to:

1)   Define, characterize, and solve benchmark macroeconomic models.
2)   Identify sources of market failure and propose remedial government intervention.
3)   Qualitatively and quantitatively analyze data from national accounts and labor market surveys.
4)   Calibrate macroeconomic models and assess the performance of macroeconomic models.

Contacting Me Outside of Class

The best time to talk with me is during office hours. However, I recognize that people have time conflicts. Please email me if you need to meet outside of office hours. My Google calendar is available to all of you so feel free to grab a time to meet in person or on Zoom. Additionally, I hold classroom quality circles in which I meet with four student "representatives" where we can discuss any questions or concerns about the class. Each student will get an opportunity to serve on one quality circle.

Student Assessment

There is an in-class midterm worth 25 percent of your grade and a final exam worth 30 percent of your grade.

There are two group projects each worth 15 percent of your final grade. The projects will give you the opportunity to extend the models we use in class and compare their predictions to the data. They are open-book, open-note and you can ask me questions during the process. You will have one week to complete each project.

There are eight problem sets worth a total of 10 percent of your final grade (and two additional nongraded problem sets). They will be graded on a 0 to 10 scale. The problem sets will give you an opportunity to practice what we learn in class and prepare you for the tests. I encourage you to work together on the problem sets, but you have to write up individual solutions. I will provide detailed, typed solutions after all problem sets are turned in. Unless otherwise noted, problem sets are due on Tuesdays of each week. I collect problem sets at the beginning of class. Problem sets that are turned in later in the day get a three-point deduction. Anything later than a day gets no credit.

Lastly, class participation counts for five percent of the grade. We will frequently do in-class problem solving and I will monitor who is attending class and participating in the problem solving. Also, part of the participation grade includes sharing notes with the entire class. The way this will work is that I will post a weekly schedule to Moodle on whose turn it is to take notes. When it is your turn, you will upload a scanned copy of your notes to the appropriate folder on Moodle. Your participation in sharing notes counts as one percentage point of your problem set grade.

Sharing notes creates a number of advantages. First, there is always a risk (hopefully small) that you will miss class. Sharing notes is a way to provide some insurance against that risk. Second, it can be helpful to compare your notes to a classmate's notes to see if you missed anything. Finally, you might get some organizational tips from seeing how your classmates organize their notes. It's a win-win.

Grading Philosophy

Grades in the A range reflect outstanding work. Students earning an A will have a thorough and comprehensive understanding of the material and be able to answer virtually any question about the material. Just as important, students will be able to apply the models and methods to questions beyond those addressed in lecture. Grades in the B range reflect a solid understanding of the material. Students earning a B will understand all the in-class material and have some success in applying concepts more broadly. Some sort of grade in the C range indicates that the student has a basic understanding of the material from class, but has difficulties applying it to new questions. Grades in the D range reflect a poor understanding of

the material presented in class and has a very difficult time applying the concepts in different contexts. A grade of F represents no understanding of the material presented in class.

Grade Breakdown

The following cutoffs are sufficient to earn a certain grade, but they may or may not be necessary. In other words, I only curve up, not down.

A $g >= 93$

A- $90 <= g < 93$

B+ $87 <= g < 90$

B $83 <= g < 87$

B- $80 <= g < 83$

C+ $77 <= g < 80$

C $73 <= g < 77$

C- $70 <= g < 73$

Advice from Former Students

I have gotten into the habit of asking former students what advice they would give to future macroeconomic theory students. Here are some of the responses. Some of these are direct quotes from anonymous students while others I paraphrase.

1)   This course is definitely difficult so make sure to use the resources that Professor Lester provides (e.g. office hours, study sessions, and TA hours). If you are proactive and study well, you can succeed.

2)   I would recommend for students to make sure they stay on top of the work from the start of the class and if they are confused about a topic, they should read the textbook. It is also useful to look at the extra practice problems at the end of the textbook chapters.

3)   Read the book before going to class. Go to office hours and ask questions.

4)   Go to office hours even if you've finished the problem set. Work through the practice exams diligently and consider twists to the problems rather than just memorizing answers.

5)   I would suggest reading the textbook and staying on top of course material. Try to think about the economic intuition behind the information, not just the math.

6)   Go to office hours and review sessions. Do the problem sets on your own and then work with others.

7)   Don't be intimidated, just be ready to do a lot of math.

8)   Ask questions!

Class Policies

Attendance: I do not take attendance. However, you are responsible for everything that comes up in class. The material builds on itself so missing one day could inhibit your understanding of material that comes later. Also, the only way to earn participation points is to actually show up to class. Therefore, as long as you are feeling healthy, I strongly encourage you to come to class. If you have to miss class, please let me know as soon as possible.

Finally, as stated in the Faculty and Student Handbooks, students can observe any religious holiday without academic penalty. Students are expected to inform me of any such observance within the first two weeks of class.

Academic honesty: Honesty, integrity, and personal responsibility are cornerstones of a Colby education and provide the foundation for scholarly inquiry, intellectual discourse, and an open and welcoming campus community. These values are articulated in the Colby Affirmation and are central to this course. You are expected to demonstrate academic honesty in all aspects of this course. If you are clear about course expectations, give credit to those whose work you rely on, and submit your best work, you are highly unlikely to commit an act of academic dishonesty.

Academic dishonesty includes, but is not limited to: violating clearly stated rules for taking an exam or completing homework; plagiarism (including material from sources without a citation and quotation marks around any borrowed words); claiming another's work or a modification of another's work as one's own; buying or attempting to buy papers or projects for a course; fabricating information or citations; knowingly assisting others in acts of academic dishonesty; misrepresentations to faculty within the context of a course; and submitting the same work, including an essay that you wrote, in more than one course without the permission of the instructors.

Academic dishonesty is a serious offense against the college. Sanctions for academic dishonesty are assigned by an academic review board and may include failure on the assignment, failure in the course, or suspension or expulsion from the College.

Academic Accommodation: I am available to discuss academic accommodations that any student with a documented disability may require. Please note that you'll need to provide a letter from the Dean of Studies Office documenting your approved accommodations. Please meet with me within two weeks of the start of the semester to make a request for accommodations so that we can work together with the College to make the appropriate arrangements for you.

Electronics: Unless you have a documented accommodation, I do not allow electronic devices in the classroom. That means phones, laptops, tablets, etc. stay in your backpack during class.

Disruptive Behavior: To create and preserve a classroom atmosphere that is optimal for learning, all participants share a responsibility for maintaining a non-disruptive forum. Behaviors that are disruptive to teaching and learning will not be tolerated. These include, but are not limited to, talking in class, reading materials unrelated to the course, using an electronic device, coming to class late or leaving early.

Disclaimer: Your learning is my most important objective. The schedule for this class may be revised if I deem it necessary to achieving our learning goals. I will give you advanced notice of any changes. Also, the public health situation around COVID-19 may necessitate changes in the middle of the semester. If so, I will communicate these changes as soon as possible.

Important Dates

First Day of class	09/09
Last day to add/ declare satisfactory, unsatisfactory grading option	09/17
Problem set one	09/21
Problem set two	09/28
Problem set three	10/05
Problem set four (ungraded)	10/12
Test one	10/14
Last day to drop	10/22
Problem set five	10/26
Project one	11/02
Problem set six	11/09
Problem set seven	11/16
Problem set eight	11/23
Project two	12/02
Problem set nine	12/07
Last day of class	12/09
Problem set ten (ungraded)	12/14

Final	?

Class Schedule

I – Introduction

     a.   Math review (GLS Appendix A and my notes)

II – Microfoundations

     a.   Labor-leisure choice (GLS chapter 12.2)
     b.   Consumption-savings choice (GLS chapters 9 and 10)
     c.   The production function and the firm's optimization problem (GLS chapter 12.1)

III – General Equilibrium

     a.   Endowment economies (GLS chapter 11)
     b.   Production economies (GLS chapter 15)
     c.   Search and matching (GSL chapter 17)

IV – Economic growth

     a.   Solow model (GLS chapters 4-6)
     b.   A primer on calibration (my notes)
     c.   Topics in economic growth (my notes)
     d.   Inequality