

Purdue University
Krannert School of Management
Department of Economics

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Prerequisites

Though this material will be reviewed in the course, it is extremely helpful to have a working knowledge of the following fields of Mathematics:

- Multivariate calculus
- Matrix algebra

No prior courses in Economics are required.

Course description

The course will introduce the major economic models and analytical tools used by macroeconomists and policymakers to assess and implement macroeconomic policies. The goals of policymakers are twofold: efficiency and growth. In order to achieve these goals, policymakers must understand how the policies interact with the institutions present in the economy to affect the incentives of households and firms to consume, work, invest, and produce. This requires a theory about how the decisions of households and firms are affected by prices and how they respond to shocks and changes in policies.

For that reason, the course focuses exclusively on micro-founded models in which there is an optimization problem by at least one agent. Examples include households maximizing utility subject to a budget constraint or firms maximizing profit subject to a technology constraint.

In addition to classic topics in the field of macroeconomics, this class also spends some time on financial models, as the financial side of the economy is inexorably connected with the real side of the economy.

Learning outcomes

- Analyze economic data.
- Develop the tools to solve economic models to form predictions about the effects of policy on macroeconomic variables.
- Evaluate the effects of policy by combining both empirical and theoretical predictions.

Course materials

All course material can be found on Blackboard. This includes:

- Course text
- Video lectures

The course text is comprehensive and contains all material that will be discussed in class (and more). During this course, we will not be able to cover all of the chapters in the course text.

The video lectures are intended to complement course text.

Course structure

The course will contain 5 Parts: Foundations, Growth Theory, Real Business Cycle Theory, New Keynesian Theory, and Financial Economics.

Part 1: Foundations

Course text	Chapter 1: Macroeconomic Accounting Chapter 2: Mathematical Preliminaries Sections 3.1-3.6 of Chapter 3: Microfoundations
Homework	Homework 1 is the same for all students and must be completed individually. Homework 1 is due Saturday, January 21 at 10 pm.
Quizzes	Quiz 1 (Macroeconomic Accounting) due Saturday, January 14 at 10 pm. Quiz 2 (Microfoundations) due Saturday, January 21 at 10 pm.
Case Study	Case Study topic selection e-mail will be sent out on Monday, January 16 at 9 pm.

Each student works individually to complete the requirements of the selected Case Study and present their findings in a 10-minute oral presentation (on the videoconferencing interface WebEx).

Case Study presentations take place January 24-26. Each student is assigned to one 45-minute time slot. Each time slot contains 3 students,

each presenting a different topic and allocated 15 minutes for their presentation (10 minute presentation, 5 minutes question and answer).

Part 2: Growth Theory

Course text Chapter 4: Neoclassical Growth Model
Chapter 5: Endogenous Growth Theory

Homework Homework 2 requires each group to complete all exercises at the end of Chapters 4 and 5 in the course text.
The questions are evenly divided among all members of the group. The group is responsible for gathering all responses together and submitting a single copy.
Homework 2 is due Saturday, February 11 at 10 pm.

Quizzes Quiz 3 (Neoclassical Growth Model) due Saturday, February 4 at 10 pm.
Quiz 4 (Endogenous Growth Theory) due Saturday, February 11 at 10 pm.

Case Study Case Study topic selection e-mail will be sent out on Monday, January 30 at 9 pm. Students will be assigned to a group and all members of the group will have the same case study topic.

Case Study presentations take place February 14-16. Each student is assigned to one 45-minute time slot. Each time slot contains 3 students, each presenting a different topic and allocated 15 minutes for their presentation (10 minute presentation, 5 minutes question and answer).

Groups are assigned to a Discussion Board. Each member of the group has the same case study topic. The Discussion Board will be an essential tool for the group to work together to improve everyone's presentation (and grade).

Grades for the case study are: 90% individual presentation, 5% for asking questions of other students in the 45-minute time slot, and 5% for quality of your posts on the Discussion Board.

Part 3: Real Business Cycle Theory

Course text Chapter 8: Real Business Cycle Model
Chapter 9: Fiscal Policy

Homework Homework 3 requires each case study group to complete all exercises at the end of Chapters 8 and 9 in the course text.

The questions are evenly divided among all members of the group. The group is responsible for gathering all responses together and submitting a single copy.

Homework 3 is due Saturday, March 4 at 10 pm.

Quizzes Quiz 5 (Real Business Cycle Model) due Saturday, February 25 at 10 pm.
Quiz 6 (Fiscal Policy) due Saturday, March 4 at 10 pm.

Case Study Case Study topic selection e-mail will be sent out on Monday, February 20 at 9 pm. Students will be assigned to a group and all members of the group will have the same case study topic.

Case Study presentations take place March 7-9. Each student is assigned to one 45-minute time slot. Each time slot contains 3 students, each presenting a different topic and allocated 15 minutes for their presentation (10 minute presentation, 5 minutes question and answer).

Same Discussion Board criteria as previously mentioned.

SPRING BREAK

Term Paper is due Saturday, April 1 at 10 pm. Topic is chosen by the student from Case Study 1, Case Study 2, or Case Study 3.

Part 4: New Keynesian Theory

Course text Chapter 10: New Keynesian Monetary Theory

Homework Homework 4 requires each case study group to complete all exercises at the end of Chapter 10 in the course text.
The questions are evenly divided among all members of the group. The group is responsible for gathering all responses together and submitting a single copy.
Homework 4 is due Saturday, April 1 at 10 pm.

Quizzes Quiz 7 (New Keynesian) due Saturday, March 25 at 10 pm.

Case Study Case Study topic selection e-mail will be sent out on Monday, March 20 at 9 pm. Students will be assigned to a group and all members of the group will have the same case study topic.

Case Study presentations take place April 4-6. Each student is assigned to one 45-minute time slot. Each time slot contains 3 students, each presenting a different topic and allocated 15 minutes for their presentation (10 minute presentation, 5 minutes question and answer).

Same Discussion Board criteria as previously mentioned.

Part 5: Financial Economics

- Course text Sections 12.1-12.4 of Chapter 12: Asset Pricing
Sections 13.1-13.3 of Chapter 13: Leverage Cycle
- Homework Homework 5 requires each case study group to complete Exercises 1-5 in Chapter 12 and Exercises 1-7 in Chapter 13 in the course text.
The questions are evenly divided among all members of the group. The group is responsible for gathering all responses together and submitting a single copy.
Homework 5 is due Saturday, April 22 at 10 pm.
- Quizzes Quiz 8 (Asset Pricing) due Saturday, April 15 at 10 pm.
Quiz 9 (Leverage Cycle) due Saturday, April 22 at 10 pm.
- Case Study Case Study topic selection e-mail will be sent out on Monday, April 10 at 9 pm. Students will be assigned to a group and all members of the group will have the same case study topic.

Case Study presentations take place April 25-27. Each student is assigned to one 45-minute time slot. Each time slot contains 3 students, each presenting a different topic and allocated 15 minutes for their presentation (10 minute presentation, 5 minutes question and answer).

Same Discussion Board criteria as previously mentioned.

Course calendar

Due dates are given below:

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	Quiz1
15	16	17	18	19	20	Q2,HW1
22	23	Case1	Case1	Case1	27	28
29	30	31				

FEBRUARY

S	M	T	W	T	F	S
			1	2	3	Quiz3
5	6	7	8	9	10	Q4,HW2
12	13	Case2	Case2	Case2	17	18
19	20	21	22	23	24	Quiz5
26	27	28				

MARCH

S	M	T	W	T	F	S
			1	2	3	Q6,HW3
5	6	Case3	Case3	Case3	10	11
12	SP	RI	NG	BR	EAK	18
19	20	21	22	23	24	Quiz7
26	27	28	29	30	31	

APRIL

S	M	T	W	T	F	S
						Paper,HW4
2	3	Case4	Case4	Case4	7	8
9	10	11	12	13	14	Quiz8
16	17	18	19	20	21	Q9,HW5
23	24	Case5	Case5	Case5	28	29
30						

Methodology

The course will be based on a series of video lectures. The video lectures perfectly complement the course text. The lectures are supported by:

1) *Quizzes (called online tests in Blackboard)*

Students are required to complete 9 quizzes. Quizzes are completed in Blackboard and are due by Saturday at 10 pm.

The tests can be taken an unlimited number of times, with only the highest grade counting toward your overall course grade.

2) *Homework problems*

For each part in the course, students are required to complete a set of homework problems.

Homework 1 is completed individually.

Homeworks 2-5 are completed as a collaborative group effort. The homework score depends both on individual and team performance.

A student's homework score is the weighted percentage across all questions, where the weight is 3 times larger for questions assigned to the student compared to the questions assigned to other members of the group.

For instance, in a 2-member group with 2 homework questions, suppose the group scores 100% on Question 1 and 80% on Question 2. If I am the group member that was assigned Question 1, my homework score equals 95%. If you are the group member that was assigned Question 2, then your homework score equals 85%.

3) *Case studies*

See the grading rubric for the required components of the oral presentation.

4) *Term paper*

Students are required to complete a term paper. The term paper topic is selected from the topics in Case Study 1, 2, or 3. The term paper must be completed as an individual. The term paper is uploaded as a pdf to Blackboard.

The term paper is due Saturday, April 1 at 10 pm.

Late papers are not accepted (grade = 0).

See the grading rubric for the required components of the term paper.

5) *Final exam*

On May 5-7, students will take a 120-minute final exam. Students will sign up for a 120-minute time slot that fits with their schedule. The exam is cumulative and is taken with closed notes and closed books.

Final exam questions from previous years are available on Blackboard.

Assessment

Quizzes	10%
Homework	20%
Case studies	40%
Term paper	10%
Final exam	20%