

Economics 244: Macro Modeling: Dynamic Fiscal Policy

Time of Class: Monday and Wednesday, 2:00 - 3:30pm

Room: McNeil 395

Instructor: Professor Dirk Krueger

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Office Hours: Mon. 3:30-4:30pm, Th. 1:30-2:30pm, and by appointment

TA: Daniel Neuhann, McNeil 479, neuhann@sas.upenn.edu, **Office Hours:**
Mon. 4:30-5:30, Tu. 4:30-5:30

Web Page on Canvas: <http://www.library.upenn.edu/courseware/canvas/canvaslogin.html>

Suggested Textbook: William A. Lord: *Household Dynamics, Economic Growth and Policy*, Oxford University Press, Oxford, 2002.

1 Course Outline and Overview

Economics 244 is an advanced course in macroeconomics, geared towards economics majors that are interested in macroeconomic theory and policy. My main thematic focus in this course will be to analyze the role of the government in influencing individual behavior and the macro economy through fiscal policy, that is, government spending, taxation and social insurance programs (such as social security, unemployment insurance, Medicare and Medicaid).

The goal of this course is to develop and use a dynamic theoretical model of individual decisions and study how government tax and transfer policies, government debt and deficits affect these decisions. I will attempt to relate the predictions of the theory to real data. Therefore we will start with documenting what the US government does, by looking at data on government spending, taxes and transfers, as well as the government deficit and the government debt. Then we will construct our basic model of intertemporal consumption decisions and analyze optimal household decisions in the absence of the government.

After this introduction we then turn to a positive analysis of fiscal policy. “Positive” means that in this part of the course we take government policy as given (that is, do not ask why the government does what it does) and analyze the impact of this policy on individual decisions and the macro economy. As examples we will look at the impact of tax cuts, the introduction of an unfunded social security system (as well as its reform) and unemployment insurance and welfare programs. Our analysis will be model-based, but we will relate the results from the theory to the current political debate, e.g. the one surrounding the recent economic stimulus programs, potential (and past realized) tax reforms, health care reform (ObamaCare) etc.

If time permits we will then study optimal fiscal policy, that is, we ask how the government *should* conduct fiscal policy. The answer to this question does

depend on the goals of the government as well as its ability to commit itself to future policy. For example, under some fairly general conditions we will derive some strong results about the optimal mix of labor and capital income taxes.

Finally, and only if time really permits, we will ask why we often don't see actual policy coinciding with optimal policy prescriptions derived in the third part. By studying the political process that leads to the formation of actual policy we aim at obtaining some insights into why sometimes quite obviously sub-optimal policies nevertheless persist in modern societies. Rather than developing the general theory of political economy (as this relatively new field of economics is called) we will constrain ourselves to particular applications, in particular the study of the size difference of the welfare state between the US and Europe.

My first goal, however, is that you and I have fun with the course. Economics, in particular macroeconomics, is exciting and I hope that you will share my excitement by being a lively crowd that actively participates in class and asks a lot of questions. I will do my best to make the lectures informative and entertaining.

2 Organization of the Course

We will meet Monday and Wednesday from 2:00 - 3:30pm in McNeil 395. The first day of class is Wednesday, January 15, 2013 (which is a Monday for university purposes, but that is irrelevant for our course since we meet Mondays and Wednesdays anyway).

3 Prerequisites

Strict prerequisites for the class are Econ 101 and 102 and the mathematical skills required to master these classes (that is, two semesters of calculus, i.e. Math 114 and 115 or equivalent). Whenever possible I will stress the economic intuition, but sometimes it is necessary in economics to use mathematical tools to make a point more concisely. In an advanced class such as Econ 244 we will not compromise on rigor of an economic argument just to avoid using the appropriate mathematics.

4 Instructor

A few words about myself: my name is Dirk Krueger. I am German and received my undergraduate degree and Masters degree in economics from the University of Bielefeld, Germany. In 1995 I came to the US for graduate studies in economics at the University of Minnesota. I received my Ph.D. in economics in August 1999. Then I accepted a position as Assistant Professor in the Economics Department at Stanford University in September 1999 which I held until August 2003. After spending the academic year 2003-04 as Assistant Professor

at the Economics Department of the University of Pennsylvania I went back to Frankfurt, Germany for 2 years, before returning back to UPenn in 2006 as Associate Professor of Economics. Since 2008 I have been a Full Professor here at Penn.

My own research focuses on the macroeconomic implications of fiscal policy, in particular taxation and social security. Thus what I am attempting to do in this class is to give you an overview on the newest research in this area in a way that is accessible for advanced undergraduates.

Your success in this class is important to me. Therefore I want to be available for your questions as much as possible. You can always ask questions in or after class. In addition I will hold regular office hours at the times listed above in my office 511, McNeil Economics Building. I am also available for office hours by appointment. You can also reach me via phone at (215) 573-1424 or via email at dkrueger@econ.upenn.edu. I usually answer questions via email by the end of the day, but typically not earlier than that.

Furthermore you will have access to an excellent TA, Daniel Neuhann, who will be available for office hours, times to be announced. Since Daniel's own research focuses on macroeconomics as well, you will find him of highest importance for your success in this class.

5 Readings

There is one *recommended textbook* for this class. It is William A. Lord: *Household Dynamics, Economic Growth and Policy*, Oxford University Press, Oxford, 2002. It is only a recommended textbook because it covers many more topics than we have time to study, and it covers some of our main topics either only very sparsely, or not at all. But it is the closest text to this course, and you may find it helpful for a deeper understanding of the class. Note that I do *not* require you to buy the book!

Since there is no appropriate text for the entire class I will provide fairly detailed lecture notes, available on the Canvas course web site. Other class material will appear there as well. In addition to lecture notes, homework and solutions to homework I will provide links to other economics-related articles and resources on this page.

Finally, please try to keep informed about what is going on in the economic world by reading **publications** such as *The Economist*, the *Wall Street Journal* or the *New York Times*. I will address current economic events and policy discussions on a regular basis, and doing is much more fun if you have heard about these issues beforehand.

6 Course Requirements and Grades

Your grade will be determined based upon your performance in 3 homeworks and three midterms. The homeworks together make up 75 points (25% of your

grade), and each midterm makes up 75 points (25% of your grade). See the following Table 1

Table 1

Homework	25%	75 points
Midterm 1	25%	75 points
Midterm 2	25%	75 points
Midterm 3	25%	75 points
Total	100%	300 points

6.1 Homeworks

Each homework will be worth 25 points. There are 3 homeworks. The following rules regarding homeworks apply and will be strictly enforced without exceptions.

1. Homeworks will be available on the course web page. I will indicate in class and via email when I have posted a new homework. The due date of the homework will be stated on the homework. In order to receive a passing grade in the course, all three homeworks have to be handed in.
2. Homeworks are due at the specified date *in class* (i.e. I will collect them at the end of class). Alternatively they have to be in my mailbox, McNeil 160, by *3:20pm* on the same day. **Late homework will not be accepted** and you will not get any credit for late homeworks. If you cannot make it to class, please make prior arrangements for your homework to be delivered on time.
3. If you have complaints about the grading of a problem set, do the following: **Within 1 week** after the problem set was returned hand back to me your graded homework and a **written** statement explaining your complaint (i.e. stating which question you think was graded wrongly and why you think it was graded wrongly). I will then regrade the whole assignment. Note that there is no guarantee that, after the homework has been regraded, your score will be higher than before and it may be lower. A week after a problem set has been returned the scores cannot be changed anymore and no further complaints will be accepted. The same policy applies to complaints of the midterms as well.
4. I encourage you to work in groups on the homeworks (but not the exams, of course). However, everybody has to hand in his/her own, uniquely written assignment. Two students that hand in identical assignments will receive half of the score each. Note that my exams will be similar to my problem sets, so you would hurt yourself by not working out the problems by yourself.

6.2 Midterms

There will be three midterms examinations for this class, on the dates specified below (if you wish you can call the last midterm a final, but I do not think of it in that way). The midterms will each count 75 points (25% of your grade). The midterms are not cumulative, that is, only cover the material from part of the course. Attendance for all three midterm exams is mandatory, and I will offer oral makeup exams only for students that miss a midterm with a valid excuse. The department policies specify the valid excuses for missing an exam. These department course policies are appended to this syllabus and can also be found here:

<https://economics.sas.upenn.edu/undergraduate-program/course-information/guidelines/policies>.

6.3 Grades

Students taking the course for a letter grade will receive grades from A through D or an F. Students that take the class on a Pass/Fail basis need at least a D to pass the class. Note that poor performance is not a valid reason for an incomplete (I). The departmental course policies provide the exact conditions under which an incomplete can be given. They are appended to this syllabus and can also be found here:

<https://economics.sas.upenn.edu/undergraduate-program/course-information/guidelines/policies>.

Grades will be assigned based on the cumulative score of points attained in homeworks and exams. Table 2 shows how a certain score of points translates into a letter grade.

Table 2

Points Achieved	Letter Grade
285 - 300	A +
270 - 284.5	A
255 - 269.5	A -
240 - 254.5	B +
225 - 239.5	B
210 - 224.5	B -
195 - 209.5	C +
180 - 194.5	C
165 - 179.5	C -
150 - 164.5	D +
135 - 149.5	D
less than 135	F

Note that I do not curve grades. If every student deserves a good grade, then I will only give good grades. But there is only one way of receiving a good grade in this class, and this is to earn it by working hard on the problem sets and preparing for the exams. Historically, my grade distribution does not deviate significantly from that of economics courses in which a curve is used.

7 Contents of the Course

In Table 3 you can find a rough outline of the topics that I intend to cover, the associated readings and the dates when I intend to cover them. The list of topics may be revised during the course as I may not be able to cover all the material. Note that this course will be fairly intense and it is absolutely crucial that you do not fall behind with your readings and assignments.

Table 3

Date	Topic	Readings/Assignments
Jan. 15	Introduction and Math Quiz	Syllabus
Jan. 22	Data on Government Activity	Chapter 1
Jan. 27	A Simple Model	Chapter 2.1-2
Jan. 29	Comparative Statics	Chapter 2.3
Feb. 3	Borrowing Constraints	Chapter 2.4
Feb. 5	The General Life Cycle Model	Chapter 3.1
Feb. 10	Important Special Cases	Chapter 3.2
Feb. 12	Implications for Life Cycle Consumption and Savings	Chapter 3.2
Feb. 17	Empirical Evidence on Life Cycle Consumption	Chapter 3.3-4 [HW 1 DUE]
Feb. 19	Midterm 1	Closed Book
Feb. 25	Government Budget Constraint	Chapter 4.1
Feb. 27	Government Budget Constraint: Empirical Analysis	Chapter 4.3
Mar. 3	Ricardian Equivalence: Historical Origin, Main Result	Chapter 4.2.1-2
Mar. 5	Ricardian Equivalence: Key Assumptions	Chapter 4.2.3
Mar. 17	The Current Fiscal Situation of the U.S.	Chapter 4.3
Mar. 19	Income Taxation: The U.S. Tax Code	Chapter 4.4.1
Mar. 24	Progressive Income Taxation: Theory	Chapter 4.4.1
Mar. 26	Consumption, Labor and Capital Taxation: Theory	Chapter 4.4.2
Mar. 31	Consumption, Labor and Capital Taxation: Application	Chapter 4.4.2 [HW 2 DUE]
Apr. 2	Midterm 2	Closed Book
Apr. 7	Social Security: History	Chapter 5.1.1-2
Apr. 9	Social Security: Current Systems	Chapter 5.3
Apr. 14	Social Security: Theoretical Analysis	Chapter 5.4
Apr. 16	Social Insurance: Comparative Data	Chapter 6.1
Apr. 21	Social Insurance: Theory I	Chapter 6.2.1-2
Apr. 23	Social Insurance: Theory II	Chapter 6.2.3
Apr. 28	Optimal Fiscal Policy: An Introduction	Chapter 7
Apr. 30	The Time Consistency Problem and its "Solution"	Chapter 9 [HW 3 DUE]
Exam Week	Midterm 3	Closed Book

Departmental Course Policies

Courses taught in the Department of Economics are covered by a common set of course management policies specified below.

Academic Integrity Issues

Academic integrity is a very important part of student life, and the Department of Economics takes it seriously. Please carefully read the [Guide for Students on Academic Integrity at the University of Pennsylvania](#).

If a student is found in violation of academic integrity, it is at the professor's discretion to give the student a failing grade for the assignment and/or the course. Students who are suspected of committing infractions will be reported to the Office of Student Conduct.

The department reserves the right to undertake procedures that would catch breaches of academic integrity, should any arise, such as photocopying or scanning midterms or other work before it is returned, and close proctoring during exams.

Exam Attendance

Courses have individual policies regarding midterm exam attendance. Final exam attendance is mandatory and is governed by a number of university regulations, see the Provost's [Rules Governing Final Examinations](#). Final exams can only be given on the exam date scheduled by the university registrar. No instructor can hold a final exam or require submission of a take-home exam except during the period in which final examinations are scheduled. No final exams may be scheduled during the last week of classes or on reading days. All students must be allowed to see their final exam, with an access period of at least one regular semester after the exam has been given.

In cases where attendance at a midterm or a final exam is mandatory, there are only a few valid excuses for missing an exam. They are:

- Three exams scheduled within one calendar day (for final exams ONLY!) This policy of 3 exams does not count for midterm exams given during class time.
- An exam is given outside of the regular class schedule and the timing conflicts with another class in which the student is enrolled.
- Observance of a university-recognized religious holiday.
- UPENN Business that takes you away from campus. Absence from campus on UPENN business includes, for example, athletic events in which you are actively participating. In such cases, you need to make arrangements with your professor ahead of the exam date to take the exam at another time (preferably earlier than the schedule date).
- An illness/health emergency.
- A death in your family.
- Documented disabilities that allow you to take the exam under other circumstances.

Examples of reasons that are **not** valid for missing an exam are:

- job interviews;
- job internships;
- beginning fall or spring break early or returning after a scheduled exam;

- end of semester early flights;
- any other reason you would prefer not to be at the university when the exam is scheduled.

Students are responsible for making sure, at the beginning of the term, that they can attend the exams. Registering for a course means that you certify that you will be present for the exam (unless one of the explicitly stated exceptions above arises.)

If you are unexpectedly ill at the time of the exam and unable to reach the instructor ahead of time, then you can give notification of your illness as soon as you are able. Do not take an exam if you are ill and then expect to have an opportunity to retake the exam because you were ill the first time and did poorly.

Students who arrive late to an exam will generally be required to hand in their exam at the same time as other students.

Course Absence Reporting

During the semester students are required to use the Course Absence Reporting (CAR) system to communicate with the instructor about course absences. CAR can be accessed using the [PennPortal](#). This is particularly important for missed exams/assignments. If a student has to miss an exam due to one of the valid reasons listed above, the student must notify the instructor via CAR as soon as possible and state the reason for her/his absence and provide an estimate of the time period in which (s)he is unable to fulfill her/his academic obligations. Note: making false statements when using CAR is considered a violation of academic integrity and, if discovered, will be reported to the Office of Student Conduct and may result in a failing grade.

CAR is not active during the final exam period. Students who have to miss a final exam for a medical reason have to provide documentation from a health care professional.

Dropping a Course, Withdrawals and Incompletes

Students may drop a class before the end of the first five weeks of the semester by using [Penn InTouch](#). Failure to attend a course does not automatically result in being dropped from the course. Courses that are dropped will no longer appear on a student's transcript.

UPENN provides an option for students to withdraw from courses. Students may withdraw up to the end of the 10th week of the semester with the permission of the instructor. For further details, see the College's [Withdrawal from a Course](#) page.

If a student's work in a course is incomplete (s)he may receive a grade of "I" (short incomplete) or "II" (long incomplete). For instance, a student may request an incomplete after the deadline for withdrawal has passed and the only work that is incomplete is the course final exam or final paper; the student has experienced prolonged illness or a family tragedy during the semester. Granting an incomplete is at the discretion of the instructor. Students should work out an arrangement for clearing the incomplete with the professor as soon as possible. For further details see the College's [Incomplete Grades](#) page.

Students who receive an F in a course may retake the course for credit. Both the new grade and the original F will be tabulated into the final g.p.a. and a credit unit will be awarded if the student receives a passing grade. For further details see the College's [Policy Governing Retaking a Course](#) page.

Make-up Exams

Make-up final exams are to be taken only during the designated make-up exam week, usually at

the beginning of the following semester.

Deadlines

Work should be handed in on time. Work that is not handed in on the day that it is due may, at the professor's discretion, receive less or zero credit. Professors may request that a hard copy rather than an emailed copy be handed in.

Grading

The relative weights on the different elements course work are set by the instructor. So are the rules that permit (or do not permit) dropping the lowest problem set score. If a student is permitted to drop one exam or problem set score, but misses more than one exam (for an invalid reason), then the student may receive a zero for the missed exam.

One department-wide rule is that, if the course permits dropping the lowest problem set score, a student who has entered a course late and missed the first problem set drops that one, not a later one.

Correcting Errors in Grading

Errors in grading sometimes occur; this section lays out rules and procedures for requesting a correction. The important general rule is that such a request should clearly and succinctly state the unambiguous error you believe has occurred.

Errors in grading arising from illegible or garbled answers are not subject to correction.

Students who believe their work has been graded incorrectly should petition for a correction in writing to the Professor. Students should not approach either the instructor or the TA with an oral request before making their written request. Requests should be focused on the specific error and should be made within a week of the work being returned.

The entire graded work (problem set or examination) should be resubmitted; there is no guarantee that grades will rise as, statistically, positive and negative errors in grading are equally likely. If the request arises because you think different students have been graded differently, all the affected students should submit their work as a group.

Here is a suggested way to request to correct an error grading: *"Dear Prof. X: I am a student in your economics 222 course. I believe that the grades on my midterm were added up incorrectly. As you can see from the exam I left in your mailbox, I have 25 on each of the four questions, but 73 on the exam. Sincerely, Z."*

The College's policies governing the review of a grade apply. Please see [Policies Governing Grades](#).