

Economics 325 (Section 020\*)  
**Intermediate Macroeconomic Analysis**  
**Syllabus**  
Professor Sanjay Chugh  
Fall 2009

**Lectures:** Tuesdays and Thursdays, 2:00pm-2:50pm, Tydings Hall (TYD) 0117

**Email address:** [chughs@econ.umd.edu](mailto:chughs@econ.umd.edu)

**Course website:** [www.skchugh.com](http://www.skchugh.com) (through the “Teaching” link)

**Professor Chugh’s Office Hours:** Thursdays, 11:00am-12:30pm and by appointment in Tydings Hall 4121C (Telephone: x5-3515)

**Course Objectives:** Our broad objective will be to develop the foundations of modern macroeconomic theory, which builds explicitly on the principles of microeconomic theory, and use it to study a variety of macroeconomic issues. A key focus will be on the levers by which fiscal policy and monetary policy can affect the economy. We will trace through some of the history that led to modern macroeconomic theory being what it is today. Throughout, the emphasis will be on theoretical and logical rigor and policy applications, including to the conduct of policy amidst the current economic downturn.

**Prerequisite:** Economics 300 (*Methods and Tools for Economic Analysis*) with a final grade of “C” or higher. **Economics 325 is for economics majors only; the parallel course for non-majors is Economics 305.**

**Recitation Instructor:**

[Elif Ture](#)

[ture@econ.umd.edu](mailto:ture@econ.umd.edu) Office Hours: Wednesday, 11:00am-12:30pm, Tydings 3115N

**Discussion/Recitation Sections:**

**Date/Time**

**Location**

Friday, 9:00am-9:50am	Mathematics Building (MTH) 0411
Friday, 10:00am-10:50am	Mathematics Building (MTH) 0411
Friday, 11:00am-11:50am	Mathematics Building (MTH) 0307

**Textbooks:** The primary texts for the course will be a set of lecture notes I will provide (*A Short Course in Representative-Agent Macroeconomics*). I will also provide you with a set of notes that reviews basic concepts from introductory macroeconomics (which everybody is expected to have completed). These latter notes are intended to provide a review of basic principles of macroeconomics and are primarily (along with your own previous introductory macroeconomics text and notes) for your reference. In addition, a few topics will be developed through additional notes and readings I provide you.

Some students may find a useful **supplement** the text *Macroeconomics* (3<sup>rd</sup> edition, August 2007; the 2<sup>nd</sup> edition is fine, as well) by Stephen Williamson. This text covers material at a similar level, but does not cover all of the topics that we will cover in this course. For interested students, I can offer some guidance as to what sections of this text are the most appropriate for exploring in more depth the topics we cover. Note that this latter text is *not* required reading.

**Grading:** The final grade will be based on two problem sets (each worth 15% of your final course grade), a midterm exam (worth 30% of your final course grade) and a cumulative final exam (worth 40% of your final course grade).

**Problem Set 1:** Due Thursday, October 1, 2009, no later than 2:00pm (in class or in the Economics Department Main Office, Tydings Hall 3105)

**Problem Set 2:** Due Thursday, December 10, 2009, no later than 2:00pm (in class or in the Economics Department Main Office, Tydings Hall 3105)

Problem set solutions should be clearly, logically, and thoroughly presented. Your method of argument(s) and approach to problems is as important as, if not more important than, your “final answer.” Throughout, your analysis should be based on the ideas and concepts we have developed in class. Although not required, typed (rather than hand-written) problem set solutions are preferred. **Problem Sets are distributed well in advance of their due date, giving you ample time to work on them; thus, LATE PROBLEM SETS WILL NOT BE ACCEPTED.**

**Midterm Exam:**

**Tuesday, October 13 AND Thursday, October 15 (during regular lecture period)**

The midterm exam will consist of two “parts,” one that you will complete on Tuesday, October 13 (Part 1) and one that you will complete on Thursday, October 15 (Part 2). On each of these two dates, you will have access to **only** that day’s portion of the exam (i.e., on Tuesday, October 13 you will have no access to Part 2 of the exam, and on Thursday, October 15 you will have no access to Part 1 of the exam). The rationale behind a “two-day” exam is that it allows for a more accurate assessment of your first-half performance than “one” 50-minute exam can provide.

**Final Exam:**

**Thursday, December 17, 10:30am-12:30pm (as per University Final Exam Schedule)**

**Make-up Exam Policy:** All students are required to attend both the midterm and final exams. Make-up exams will be granted **only** to those students whose excuse complies with University policy. If you believe you are eligible to take a make-up exam, please inform the professor and provide the appropriate documentation as soon as possible. The four valid excuses according to University policy are medical conditions, religious observances, participation in University events at the request of University authorities, and compelling circumstances beyond your control. Religious observances and participation in University events should be documented well in advance. Make-up exam requests should be directed to the professor.

**Exam Regrade Policy:** If, after going over your exam and the exam solutions, you believe some of your solutions were more correct than originally judged to be, you may submit, **in writing**, an exam regrade request. Your regrade request must specify which solutions(s) you believe were not graded appropriately and a **substantive explanation** for why you believe your solutions are more correct than originally judged (thus, regrade requests that consist of essentially nothing more than “I think I should have received more points on this question” will not be considered). Your entire exam is subject to regrade. **EXAM REGRADE REQUESTS ARE DUE NO LATER THAN TWO WEEKS (14 CALENDAR DAYS) AFTER EXAMS ARE RETURNED** – this deadline applies even if you are not present in class the day graded exams are returned (it is your responsibility to pick up your graded exams in a timely manner).

**Communication:** Virtually all course material will be posted on the course website. The University has adopted email as the primary means of communication outside the classroom, and I will use it, if need be, to inform you of updates to the course. Students are responsible for updating their current email address via the appropriate link on <http://www.testudo.umd.edu/Registrar.html> and checking the course website regularly for new information.

**Accommodations:** Students who require special accommodations for exams must get in touch with the professor or a TA within the first three weeks of class.

**Academic Integrity:** The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards applicable to all undergraduate students, and you are responsible for upholding these standards as you complete assignments and take exams in this course. Please make yourself aware of the consequences of cheating, fabrication, and plagiarism. For more information see [www.studenthonorcouncil.umd.edu](http://www.studenthonorcouncil.umd.edu).

**Copyrights:** Course materials are copyrighted. Hence, selling or distributing copies or modified copies of instructors’ course materials or assisting another person or entity in selling or distributing those materials may be considered in violation of the University Code of Student Conduct, Part 9(k).

**Outline of topics:** The following is a sketch of topics we will cover this semester – it may be modified as the course progresses.

### **Week of August 31, 2009**

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#### **Representative Agent Macroeconomics**

**Reading:** *Short Course*, Chapter 0

#### **Microeconomics of Consumer Theory**

- Utility Theory
- Budget Constraints
- Optimal Choice
- Lagrangian Optimization

**Reading:** *Short Course*, Chapter 1

### **Week of September 7, 2009**

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#### **Static Consumption-Leisure Model**

- The Two “Goods”: Consumption and Leisure
- Real Wages
- Aggregate Labor Supply Function
- Consumption Demand Function
- Lagrangian Analysis

**Reading:** *Short Course*, Chapter 2

### **Week of September 14, 2009**

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#### **The Consumption-Savings Model**

- A Simple Intertemporal Utility Function
- Budget Constraints
- Optimal Intertemporal Choice – Consumption and Savings

**Reading:** *Short Course*, Chapter 3

#### **Inflation and Interest Rates in the Consumption-Savings Model**

- The Fisher Equation
- Real Interest Rate
- Consumption-Savings Model Revisited
- Aggregate Private Savings Function
- Lagrangian Analysis: Lifetime Lagrangian vs. Sequential Lagrangian

**Reading:** *Short Course*, Chapter 4

## **Week of September 21, 2009**

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### **Ricardian Equivalence and Crowding Out**

- Basic Terminology
- Government Budget Constraints
- Taxation and Consumer Budget Constraints
- Ricardian Equivalence
- Distortionary Taxes and the Failure of Ricardian Equivalence
- Changes in Government Spending
- Lump-Sum vs. Distortionary Taxes

**Reading:** *Short Course*, Chapter 7

## **Week of September 28, 2009 and Week of October 5, 2009**

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### **Infinite-Horizon Consumer Problem and Asset Pricing**

- Basic Formulation
- Subjective Discount Factor
- Flow Budget Constraint
- Asset Structure
- Basic Asset Pricing Model
- Consumption-Savings Optimality in Infinite-Horizon Form
- Steady-State Real Interest Rate

**Reading:** *Short Course*, Chapter 8

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**MIDTERM EXAM: Tuesday, October 13 AND Thursday, October 15 (regular lecture time and location)**

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## **Week of October 19, 2009**

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### **Firms: Labor Demand, Investment Demand, and Aggregate Supply**

- Aggregate Production Function
- A Multi-Period Model of Firms
- Dynamic Firm Profit Function
- Labor Demand
- Investment Demand
- Cobb-Douglas Production Function
- Production Function Shocks

**Reading:** *Short Course*, Chapter 6

### **Preference Shocks**

- A Utility Function Augmented with Shocks
- Effects on Consumption Demand Function

**Reading:** *Short Course*, Chapter 9

### **Intertemporal Consumption-Leisure Model**

- Individual's Preferences
- Lifetime Budget Constraint
- Extension of Consumption-Leisure and Consumption-Savings Optimality Conditions Concepts to Infinite-Horizon

**Reading:** *Short Course*, Chapter 5

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### **Week of October 26, 2009 and Week of November 2, 2009**

#### **History of Macroeconomics**

- The Rise of Macroeconomics
- Keynesianism
- The Macroeconometric Models
- The Phillips Curve
- The Breakdown of Macroeconomic Theory and Policy in the 1970's
- The Lucas Critique
- The Real Business Cycle Revolution

**Reading:** Nobel Lectures by Edward Prescott, Finn Kydland, Robert Lucas, and Robert Solow; essays by N. Greg Mankiw and George Akerlof

#### **Real Business Cycle Theory**

- The RBC Technology Shock
- Cobb-Douglas Production Function
- Technology Accounting
- Technology Shocks and Aggregate Fluctuations – An Overview
- Technology, Factor Prices, and Output
- Effects on Consumption-Leisure Margin
- Effects on Consumption-Savings Margin
- Putting it Together – Business Cycle Fluctuations

**Reading:** *Short Course*, Chapter 13

#### **The Phillips Curve (optional)**

- Nominal Rigidities and the Short-Run Phillips Curve
- The Long-Run Phillips Curve
- The Great Breakdown of Macroeconomic Theory

**Reading:** *Short Course*, Chapter 11

#### **New Keynesian Economics (optional)**

- Differentiated Goods and the Consumption Aggregator
- Monopolistically Competitive Firms

- The Aggregate Price Level and Aggregate Consumption Demand
- Staggered Price-Setting
- Critique of New Keynesian Theory
- Appendix: Theories of Price Stickiness

**Reading:** *Short Course*, Chapter 12 (including “Menu Cost” topic in Appendix)

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**Week of November 9, 2009 and Week of November 16, 2009**

**Money in the Intertemporal Model**

- Money-in-the-Utility-Function Model
- Linkage between Money Markets and Bond Markets
- Consumption-Money Optimality Condition
- Money Demand Function
- Neutrality and the RBC vs. New Keynesian Debate
- Monetarism: the Link Between Money Growth and Inflation

**Reading:** *Short Course*, Chapter 14

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**Week of November 23, 2009 (NO CLASS THURSDAY, NOVEMBER 26 – THANKSGIVING)**

**Interactions between Fiscal and Monetary Policy**

- Consolidated Government Budget Constraint
- Seignorage Revenue and Inflationary Finance
- Active vs. Passive Monetary and Fiscal Policies
- Ricardian vs. Non-Ricardian Fiscal Policies
- Fiscal Theory of the Price Level
- Fiscal Theory of Inflation

**Reading:** *Short Course*, Chapter 15

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**Week of November 30, 2009 and Week of December 7, 2009**

**Financial Markets Imperfections and Interactions with the Macroeconomy**

- Informational Asymmetries in Financial Transactions
- “Financial Accelerator” Model
- Role of Collateral and Net Worth
- Risk Premium
- Shocks to Asset Prices and the “Adverse Feedback Loop”
- Policy Implications and Applications

**Reading:** Supplemental Notes and Readings

## **Time Permitting**

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### **Fiscal Policy and Nominal Exchange Rates**

- A Supply-Demand Overview
- The Fiscal Theory of Exchange Rates
  - o Money Demand Function
  - o Purchasing Power Parity (PPP)
  - o Interest Parity Condition
  - o Government Budget Constraint
- Analyzing a Fixed Exchange Rate System
- Balance of Payments Crisis
- Role of fiscal policy in exchange rate systems

**Reading:**     *Short Course*, Chapter 16

### **(Macro)Economic Efficiency**

- Marginal Rates of Transformation vs. Marginal Rates of Substitution
- Social Planner
- Efficiency in the Consumption-Leisure Model
- Efficiency in the Consumption-Savings Model

**Reading:**     *Short Course*, Chapter 18

### **Optimal Monetary Policy with Flexible Prices**

- The cash-in-advance model
- Structure of optimal policy problems
- The Friedman Rule

**Reading:**     *Short Course*, Chapter 17

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**FINAL EXAM: Thursday, December 17 (as per University Final Exam Schedule)**

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