COURSE DESCRIPTION

This course is the second part of the core macroeconomic theory doctoral sequence. We will focus our attention on dynamic optimization and general equilibrium models.

The course has two objectives. The first is the presentation of the tools required to study dynamic, stochastic, general equilibrium models. The second is the application of these tools to topics in macroeconomics.

EVALUATION

The assessment for this class consists of a two (2) term tests and a final exam. Tests and final exam are closed notes and closed books. No make-up tests will be given. The tentative schedule and the grade distribution are displayed in the table below.

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Date</th>
<th>%</th>
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<tbody>
<tr>
<td>Term Test 1</td>
<td>Week 6: 17 February</td>
<td>25</td>
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<tr>
<td>Term Test 2</td>
<td>Week 13: 4 April</td>
<td>25</td>
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<tr>
<td>Final Exam</td>
<td>5 May: 4:30–7:00pm</td>
<td>50</td>
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REQUIRED TEXT


BACKGROUND TEXTS


COURSE OUTLINE

I. Introduction

1. National Income Accounting
2. Two Period Economies
   • Boileau: Two Period Economies: A Review

II. Discrete Time

1. Dynamic Programming
   • Boileau: A Child’s Guide to Dynamic Programming
   • Ljungqvist and Sargent: 2.A.1, 3.1
2. The One-Sector Neoclassical Growth Model
3. Overlapping Generations Model
   • Romer: Chapter 2

III. Continuous Time

1. Dynamic Programming and Hamiltonian
   • Boileau: A Child’s Guide to Optimal Control Theory
2. The One-Sector Neoclassical Growth Model
   • Romer: Chapter 2
   • Blanchard and Fisher: Chapter 2
3. Perpetual Youth
   • Blanchard and Fisher: Chapter 3.3

III. Dynamic Stochastic General Equilibrium Models

1. Dynamic Programming
   • Ljungqvist and Sargent: 2.1, 2.2, 2.4, 3.2
2. A Real Business Cycle Model
   • Farmer: Chapters 2 and 3
• *Ljungqvist and Sargent*: Chapter 12
• Romer: Chapter 4

3. Numerical Issues
• Ljungqvist and Sargent: Chapters 4 and 5

**IV. Advances in DSGE Models**

1. Monopolistic Competition and Sticky Prices
2. Monetary Economies: CIA, MIU, and Cashless Economies
3. Preferences: Non-Homotheticity, Habit, GHH, Endogenous Discount, Epstein-Zin

**V. Search and Matching**

1. Matching and Bargaining
2. Monopsony
3. Directed Search
4. Search and Money

**V. Policy**

1. Time Inconsistency
3. Monetary Policy Issue: Zero Lower Bound
5. Fiscal Policy Issue: The Multiplier
University Policies

You should familiarize yourself with the following University of Colorado policies:

1. If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or by e-mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see Temporary Medical Conditions: Injuries, Surgeries, and Illnesses guidelines under Quick Links at Disability Services website and discuss your needs with your professor.

2. Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. See full details at http://www.colorado.edu/policies/fac_relig.html

3. Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veterans status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student’s legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at http://www.colorado.edu/policies/classbehavior.html

4. The University of Colorado Boulder (CU-Boulder) is committed to maintaining a positive learning, working, and living environment. CU-Boulder will not tolerate acts of discrimination or harassment based upon Protected Classes or related retaliation against or by any employee or student. For purposes of this CU-Boulder policy, "Protected Classes" refers to race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Individuals who believe they have been discriminated against should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://hr.colorado.edu/dh/

5. All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the
Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at

http://www.colorado.edu/policies/honor.html
http://honorcode.colorado.edu