## Economics 318, Advanced Macroeconomics

Winter 2017

Bates College

Paul Shea

**Class Times:** Tuesday and Thursday, 9:30-10:50 AM.

**Contact Information:**

**E-mail:** pshea@bates.edu

**Office Hours:** Tuesday and Thursday, 3-4 PM, and by appointment.

**Office:** 270 Pettengill

**Course Website:** www.paulshea.com. This site will include lecture notes, class announcements, readings, and assignments. Note that the class website is unrelated to Lyceum.

**Course Description:** This course provides an advanced treatment of theoretical macroeconomics. We will examine the current state of thinking regarding the determinates of both short run and long run macroeconomic performance. For both short and log run macroeconomics, we will study recent papers exploring specific topics.

The course material is unapologetically technical. We will employ mathematical techniques (*e.g.* linear algebra, difference/differential equations, dynamic programming) that are not covered by the pre-requisites. These techniques will thus be taught as part of the class. While mathematical preparation is helpful, the most important determinates of success in this class are quantitative ability and a willingness to struggle with complicated material.

An important element of this class is a final paper. Although the class is mostly theoretical, the final paper may be empirical. Good empirical work often results from attempting to answer interesting questions raised by theory.

**Prerequisites:** Econ 255 and 270.

**Reading Materials:** We will rely on three textbooks:

i. "Advanced Macroeconomics" by David Romer. There is a fourth edition but it would be better if you purchased either the second or third. We will follow this textbook when examining older growth models. Because we will study newer topics using papers, you don't need the newest edition.

ii. "Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework" by Jordi Gali. I will follow the first edition. This is an outstanding textbook.

iii. "The Macroeconomics of Self-Fulfilling Prophecies." by Roger Farmer. This is the best treatment of the mathematical techniques employed in the class.

Depending on your mathematical background, you may also consider a math-econ text. I suggest "Fundamental Methods of Mathematical Economics" by Alpha Chiang and Kevin Wainwright. There is no harm in buying a used older edition, which may include only the former author. Other popular texts include "Mathematics for Economists" by Simon and Blume and "Mathematics for Economists" by Pemberton and Rau. Try not to spend more than $20.

Note that we will only cover a few topics in each of these books. I encourage you to rely on older editions. Much of our time will be spent on more recent papers.

**Assignments:** Your grade consists of the following each which count for $\frac{1}{3}$ of your final grade:

i) A midterm exam. The exam will be open note/book. The exam is in class on Thursday, March 23.

ii) A final paper. This is due on Tuesday, April 11 by 4 PM. Details will be provided the first week of class.

iii) Periodic homework assignments. These will often be quite challenging.

The following process will determine each student's final grade:

1. Any letter grades will be converted into numerical scores.

2. Numerical scores will be multiplied by the weights for each assignment and summed to obtain a raw score.

3. Course grades will then be given based on the ordering of raw scores. The distribution of grades will be largely based on my subjective impression of the class' performance.

4. No student shall receive a higher final grade than another student with a higher raw score. Likewise, no student shall receive a lower final grade than another student with a lower raw score.

5. All students shall have the same opportunity to succeed in this course. There is no extra credit. Please do not ask.

**Contesting of Grades:** Every effort is made to ensure that grades are accurate and consistent. I do not want to give any student an erroneous grade. If you believe that a grading error has been made, please bring it to my attention promptly after the assignment has been handed back. I will only consider possible grading errors for two weeks after an examination has been passed back. All exams and homework assignments will be counted immediately after they are handed in to ensure that the number received equals the number graded. Save all of your graded work. If I have no record of a completed assignment, and if you cannot present your graded assignment, then you will receive no credit for the assignment in question.

**Inability to Complete Course Requirements:** If you know that you cannot attend an exam or complete an assignment due to a non-college excused commitment, do not take this class. If an unanticipated commitment arises that prevents you from satisfying any of the course requirements, you must have your conflict verified by the appropriate college agency. Be aware that this office will require documentation of all illnesses and deaths in the family. I will not personally judge the validity of students' conflicts. I reserve the right to either offer a makeup or roll the weight of the missed exam into the other graded elements of the course.

**Academic Dishonesty:** I will pursue any instances of academic dishonesty. Historically, I have been very aggressive in investigating and sanctioning cheating.

**Students with Disabilities:** If you have a documented disability and need an accommodation, please make arrangements with me during the first week of the term. Please request that the counselor for students with disabilities send me a letter verifying your disability. You are unlikely to receive any substantial accommodation if you wait until right before an exam to notify me.

Please note that I am not qualified to diagnose a disability. You must therefore always go through the College.

**Class Schedule:** The following outline is tentative.

1. Math Background (Farmer, math-econ text)

    a. Linear Algebra

    b. Differential and Difference Equations

    c. Dynamic Programming

2. Growth Models (Romer text)

    a. Solow

    b. Infinite Horizon

    c. Overlapping Generations

3. Topics in Growth (papers, subject to change)

    a. Growth and Financial Markets

    b. Growth and Bounded Rationality

    c. Human Capital

3. Monetary Economics (Gali text)

    a. Ch 1: Overview of Business Cycle Theory

    b. Ch 2: Classical Model of Money

    c. Ch 3: The New Keynesian Model

    d. Ch 4: Monetary Policy

5. Topics in Business Cycles (papers, subject to change)

    a. Financial Market Frictions

    b. Inequality

    c. Bounded Rationality and Learning