ECON7750.01 MACROECONOMIC THEORY

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Lectures in Campion Hall 200 T TH 9.00am

Course content and objective

The first semester Macroeconomic Theory course provides an overview of growth theory and (in the last section) an introduction to the stochastic business cycle models used in EC751. We cover the standard models of exogenous and endogenous growth, mostly in a deterministic setting. We will study the Solow-Swan model, the Ramsey growth model with infinitely lived optimizing agents, overlapping generation models without and with altruism, fiscal policy, models with human capital, basic AK models of endogenous growth, two sector models of endogenous growth, product variety models and quality ladder Schumpeterian growth models. We will also review some crucial empirical papers on applied growth. In the last part of the course we will study the Ramsey model with a stochastic technology shock and the choice of investment with adjustment costs and consumption in a stochastic setting. This will serve as an introduction and link to EC751.

Grading, exams, and tutorials

The evaluation of the students will be based on a Mid-Term Exam (40% of total grade) and a Final Exam (60%).

Midterm Examination (tentative): Thursday, October 11
Final Examination: to be posted later

Students are also strongly encouraged to solve the weekly exercises that will be assigned. Collaboration is fine, provided each student makes a strong individual effort. The exercises will be corrected in a weekly tutorial session lead by the Teaching Assistant (Marco Errico). In borderline cases, a record of sustained good performance on problem sets will result in a higher grade.
**Reading material**

The two main sources of information for the course are:


Another useful supplementary book that does not require dynamic optimization, and may be helpful as a transition book is


It contains, among other things, very useful exercises. Portions of the following book will also be referred to in the course outline:


I will also direct you to the original papers. Core readings (marked with a *) and further readings are listed under each heading of the course outline. Everyone should carefully study the core readings. The further readings include classic articles, more advanced or detailed treatments of the topics, and background material. Finally, on some of the topics, I made available typed lecture notes (see Canvas and my google website).
Course outline

1) **Trends and Cross Country Differences in Income: An Introduction.**

   BSM, Chapter 12
   DA, Chapter 1


2) **The Solow Growth Model.**

   BSM, Chapter. 1.
   DA, Chapter 2
   DR, Chapter 1.1-1.7.


3) **The Solow Model, Extensions and Testing.**

   DA, Chapter 3
   DR, Chapter 4.1-4.2


4) **More on Cross Country Income Differences: the Role of Institutions, Culture and Geography**

   DA, Chapter 4.3-4.6


5) **The Ramsey Model with Infinitely Lived Agents.**

BSM, Chapter 2

DA, Chapter 5 (skim) and 8

DR, Chapter 2.1-2.7.

6) **The Overlapping Generations Model.**

BSM, Chapter 3, 3.8

DA, Chapter 9

DR, Chapter 2.8-2.12.

Romer, *Advanced Macroeconomics*, Chapter 2, Part B.


7) **Fiscal Policy, Ricardian Equivalence**

DR, Chapter 12.


8) **Basic Endogenous Growth Models**

a) **One Sector Models of Endogenous Growth: the AK Model**

BSM, Chapter 4, 4.1-4.4 and 4.6

DA, Chapter 11
b) **Two Sectors Models of Growth**

BSM, Chapter 5, 5.1-5.4

DR, Chapter 3, Part A


9) **Endogeneizing Technological Change**

a) **Technological Change: Models with Expanding Variety of Products**

BSM, Chapter 6, 6.1-6.4

DA, Chapter 13


b) **Technological Change: Models with Improvements in the Quality of Products.**

BSM, Chapter 7, 7.1-7.2 and 7.5


DA, Chapter 14


c) Models of Technology Diffusion

BSM, Chapter 8, 8.1-8.5 and 8.8

DA, Chapter 18


10) More on the Empirical Implications of Endogenous Growth Models


11) Stochastic Neoclassical Growth Model: Log-linearization and Solution


12) Two Examples of Stochastic Dynamic Programming: Investment with Adjustment Costs and Consumption with Stochastic Returns

BSM, Chapter 3.2, and DR, Chapter 8 ( review of investment models with adjustment costs in the deterministic case)


Most importantly: my lecture notes for both investment and consumption.