

Macroeconomics – EKN 813

Module description

This is a first semester Master course as part of advanced macroeconomics. Its purpose is to introduce students with some core macroeconomic topics such as Economic Growth, Overlapping Generation Models, Business Cycles and New Keynesian, and to bring them to the research frontier through building their analytical and technical capability. The course is divided into two parts. The first part of the course will be covered by me; the second, by Prof. Rangan Gupta. The first part of the course introduces students with two workhorse modelling technics in macroeconomics. It equips students with an in-depth understanding of overlapping generation and infinite horizon models. It also provides students with a rigorous analysis of the fundamental growth theories from the Ramsey growth model, various endogenous growth models to modelling public policy within overlapping generations framework.

Intended learning outcomes

By the end of this module, students

- will have a good knowledge of the tools required to provide microeconomic foundations to macroeconomic models.
- will have a good understanding of overlapping generation models and infinite horizon models.
- will gain a good knowledge of modern economic growth theories.
- will be able to analyze the impact of public policy on economic growth using different type of models.

Assessment method

Assignments (50%) and test and exam (50%).

Topics covered

- Tools:
 - Dealing with Nonlinear Dynamic System (Ferguson and Lim, 2003 and Galor, 2007: Ch. 1 & 2; De la Croix and Michel, 2002: Appendix A.3.)
 - Dynamic Programming (Ljungqvist and Sargent 2012, Ch.3)
- The Ramsey Growth Model:
 - Discrete Time (Novales et al., 2009: Ch. 4; Acemoglu, 2009, Ch. 8)

- Continuous Time (Novales et al., 2009: Ch. 3; Barro and Sala-i-Martine, 2004: Ch.2; Acemoglu, 2009, Ch. 8)
- Endogenous Growth Models:(Novales et al., 2009: Ch.6.; Barro and Sala-i-Martine, 2004: 4-7; Acemoglu, 2009, Ch. 11, 13, 14; Aghion and Howitt, 2009, Ch. 2, 3, 4)
 - The Romer Ak model
 - The Barro model
 - The Lucas model
 - R&D based growth models
- Overlapping Generation Models (OGM) (De la Croix and Michel, 2002: Ch. 1; Acemoglu, 2009, Ch. 9)
- Policy and Optimality in OGM (De la Croix and Michel, 2002: Ch. 2)

Timetable and venue

- **Lecture time:** Tuesday, 16:30 - 19:30, at 1.37 Tukkieurf
- **Consultation:** Wednesday, 14:30 - 16:30 or anytime by appointment (*yoseph.getachew@up.ac.za*)

Prerequisite

The course requires a good background in macro- and micro-economics. Also, some mathematical knowledge such as dynamic analysis and optimization are essential.

Reading materials

Although there are no prescribed textbook for this course, the following books could be served as useful reference materials:

1. Acemoglu, D., *Introduction to Modern Economic Growth*, Princeton University Press, 2009.
2. Aghion, P. and Howitt, P. *The Economics of Growth*, Cambridge, Massachusetts: MIT Press 2009.
3. Barro, R., Sala-i-Martin, X., *Economic growth*, Cambridge, Massachusetts: MIT Press, 2004.
4. Chiang, A., Wainwright, K., *Fundamental Methods of Mathematical Economics*, McGraw-Hill Higher Education, 2005.
5. De la Croix, D. and Michel, P., *A Theory of economic growth: Dynamics and Policy in Overlapping Generations*, 2002.
6. Ferguson, B.S., Lim, G.C., *Dynamic Economic Models in Discrete Time: Theory and Empirical Applications*, Routledge, 2003.

7. Galor, O., *Discrete Dynamical System*, Springer-Verlag Berlin Heidelberg, 2007.
8. Ljungqvist and Sargent, *Recursive Macroeconomic Theory*, 2012.
9. Novales, A., Fernandez, E., Ruiz. J., *Economic Growth: Theory and Numerical Solution Methods*, 2009.
10. Romer, D., *Advanced Macroeconomics*, McGraw-Hill Irwin, 2006.