

School of Mathematics

Module MA3482 — Mathematical economics II

2010-11

(JS & SS Mathematics

JS & SS TSM Mathematics)

Lecturer: Dr. Augustín S. Bénétrix

Requirements/prerequisites: prerequisite: MA3481

Duration: Hilary term, 11 weeks

Number of lectures per week: 2 lectures and 1 tutorial per week

Assessment: There will be one term test which will be worth 10% of the final grade.

ECTS credits:

End-of-year Examination: This module will be examined jointly with MA3481 in a 3-hour examination in Trinity term, except that those taking just one of the two modules will have a 2 hour examination. However there will be separate results for MA3482 and MA3481.

Description:

The goal of this module is to familiarise students with some applications of dynamic analysis in economics. The course will be divided in two parts. First, we will review the basics of dynamic analysis. Second, we will study dynamic macroeconomic models giving particular attention to economic growth.

Course Outline:

1. Math review
2. The Solow growth model
3. Foundations of Neoclassical growth
4. The Neoclassical growth model

Main Textbook

Daron Acemoglu, “Introduction to Modern Economic Growth”, Princeton University Press, 2009.

See <http://www.tcd.ie/Economics/staff/benetria/MA3482.htm> for further information.

Learning Outcomes: On successful completion of this module, students will be able to:

- solve systems of differential/difference equations and describe their dynamic properties
- describe the basics of dynamic optimisation
- derive the optimality conditions of different growth models and interpret their economic implications

- interpret the transitional dynamics of each model and explain how these are affected by the underlying assumptions

September 29, 2011