SAINT-ETIENNE SCHOOL OF ECONOMICS

Macroeconomics VI Growth Theories

Level: Bachelor of Economics 3
Degree: Licence Economie 3
Semester: 6
Hours: 18 hours of lectures (CM) and 18 hours of practical work (TD)
Lecturer: Stéphane Gonzalez
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Course objectives:
This course is designed to familiarize students with the main theories of theories of economic growth. The models of Harrod-Domar, Solow, Ramsey-Cass-Koopmans, Romer, Barro and Goodwin will be discussed. Goodwin models. Each model will be studied mathematically and applied to different economic policies through a simulation in Python. The aim is to provide students with sufficient autonomy to quantitatively advise a decision-maker on economic growth.

Course outline:
1. Introduction to growth theories
2. Mathematical study and simulation of growth models
3. Application of models to different economic policies
4. Use of Python to simulate economic models

Skills developed:
At the end of this course, students will be able to understand and build dynamic models mathematically and apply them to different economic policies.
They will also have acquired cross-disciplinary skills such as the ability to read a phase diagram, to qualitatively study an ordinary differential equation and run simulations in Python.

Assessment:
Assessment will be based on a written test.

Prerequisites (to be mentioned only if any) :
Introductory course in mathematical analysis. Basic knowledge of programming in Python is a plus.

Bibliography / references:
1 "Economic theories of growth" - Robert J. Barro and Xavier Sala-i-Martin
2. "Advanced Macroeconomics" - David Romer
3. "Economic Growth" - Weil, D.