Macroeconomics 3

Module 3, 2022-2023

Konstantin Egorov

kegorov@nes.ru

Course information

Instructor's Office Hours: by appointment

TAs: Sergei Golovan (sgolovan@nes.ru) and TBD

Course description

This is the first graduate-level course in the macro sequence. It introduces some of the basic methods and concepts commonly used in modern macroeconomics. The primary examples for this exposition are the Neoclassical Growth Model and the Overlapping Generations Model. To get used to basic math tools, students will solve deterministic dynamic optimization problems in discrete and continuous time. To learn basic macro tools, students will use the social planner's problem to find the "first best" allocation, distinguish between different concepts of competitive equilibria, and solve the Ramsey problem to find the optimal policy. We will also discuss the importance of heterogeneity and supply chains in aggregation to the macro level and use the New Keynesian model as an example to apply tools learned in this course.

Course requirements, grading, and attendance policies

Class attendance and participation are encouraged, but not required. The course grade will be based on homework assignments (20% of the grade), the midterm (30%), and the final exam (50%).

Course contents

1. Primitives of the Neoclassical Growth Model
2. Solution to the Planner's problem, phase diagrams, balanced growth path.
3. Decentralized equilibrium.
4. The Ramsey problem of optimal policy, capital taxation, endogenous growth.
5. The Overlapping Generations Model, Arrow-Debreu and Sequence of Markets Competitive Equilibria.
6. Growth in the OLG model, dynamic inefficiency, bubbles.
7. Optimal policy in a New Keynesian model.
8. Aggregation: representative agents, production networks and micro origins of macro shocks, perpetual youth model.

Course materials

All materials will be posted on my.nes.ru.

Sample tasks for course evaluation

Consider a permanent and a transitory productivity shocks in a neoclassical growth model with a Cobb-Douglas production function. Describe the paths of consumption and capital accumulation after each shock. Explain the differences.

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.