GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Advanced Macroeconomics: Equilibrium and Dynamics (F000686)

Course size *(nominal values; actual values may depend on programme)*

Credits 6.0 **Study time 180 h**

Course offerings in academic year 2024-2025

null

Lecturers in academic year 2024-2025

Heylen, Freddy	EB21	lecturer-in-charge

Offered in the following programmes in 2024-2025	**crdts**	**offering**
null		

Teaching languages

English, Dutch

Keywords

Macroeconomic theory, macroeconomic models, standard of living in the long run, economic growth, business cycle, consumption, investment, interest rate, employment and unemployment, inflation, expectations, formal analysis.

Position of the course

This course studies macroeconomics at an advanced level. The aim is to offer a good basis to students who want to go into (macro)economic research or who want to continue studying at a high level, as well as to students whose aim is to widen their knowledge of macroeconomics at an advanced level. A central objective of the course is that students master formal theoretical models to analyse questions/problems related to the aggregate economy (business cycle fluctuations, long term growth, unemployment, etc.). Technical treatment of relevant issues is *not* avoided.
Via complementary reading, students study papers that take the discussed models closer to their area of interest (e.g. innovation and automation, inequality, environmental and climate related problems, 'secular stagnation', migration, fiscal policy and public debt dynamics,...).

Contents

- Long-term economic growth and development:
  - Neoclassical growth models (Solow, Mankiw-Romer-Weil, Ramsey-Cass-Koopmans)
  - Endogenous growth models, with exogenous and with endogenous labour
  - R&D growth models (horizontal and vertical differentiation)
  - Formal analysis of equilibria, steady states and dynamics after shocks (rational expectations, saddle paths, 'transitional dynamics')
- Intergenerational macroeconomics (Diamond model of overlapping generations, ...) with applications
- Business cycle analysis:
  - Real business cycle models
  - New-Keynesian models (imperfect competition, wage and price rigidities) with homogeneous/representative and with heterogenous agents (RANK, HANK)
  - Alternative mechanisms of expectations formation ('adaptive learning', heuristics in behavioural macro models) and their effect on business cycle dynamics
- Models of the labour market, in particular the search and matching model

Initial competences

See final objectives of the bachelor course “Macroeconomics” and the masters course “Macroeconomics: business cycles, innovation and growth”. Students must know basic models of macroeconomics (Mundell-Fleming model, AD-AD-model, labour market modelling, Solow growth model,...). Sympathy for mathematics and formal analysis is strongly recommended. Also knowledge of microeconomics at the intermediate level is necessary.

Final competences

1 Explain the level and evolution of long-run macroeconomic output and income per capita within alternative growth theories: (i) neoclassical theory (Solow, Ramsey, Diamond OLG), (ii) alternative endogenous growth theories (capital-driven or R&D-driven). Report the main determinants, and analyse and explain their effect on income per capita and other key macro variables (household consumption and savings, investment, real interest, real wage,...).
2 Explain the short-run fluctuation of macroeconomic output within alternative business cycle models: (i) real business cycle model, (ii) new-Keynesian business cycle models (RANK, TANK, HANK). Analyse and explain the effect of changes in the main determinants (technology, policy) on income per capita and other key macro variables like household consumption and savings, investment and the capital stock, real interest and the real wage. Clarify how different mechanism of expectations formation determine the outcome.
3 Explain the level and the evolution of equilibrium unemployment, employment and the real wage within the search and matching model for the labour market. Explain and clarify the consequences of relevant shocks in this model.
4 Master and apply mathematical techniques that are commonly used in advanced macroeconomics: e.g. dynamic optimisation, optimisation under uncertainty, (log)linearisation, solving linear systems of differential equations or difference equations,...
5 Independently make exercises that contain applications to (variants of) macro models discussed in class. Use appropriate mathematical techniques to derive optimal behaviour of economic agents and the equilibrium level of the main variables. Know which model and which level of abstraction to start from. Present your solution orally in class, upon request.
6 Read, understand and clarify macroeconomic articles in high quality economic journals or working paper series.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Seminar, Lecture, Independent work

Extra information on the teaching methods

Lectures: ex cathedra teaching in which basic knowledge is provided and theory is explained by the lecturer.
Seminar: interactive education with input from the students to master the theory and to apply the acquired knowledge. At regular time exercises are given, to be prepared independently at home, and discussed interactively in class.
Independent work: Independent reading by students of papers chosen from a list of complementary literature. Students are tested on their understanding of the subject, the methodology and the main results of these papers during the oral examination.

Study material

None

References

D. Romer, 2019, Advanced macroeconomics, McGraw Hill, 5th edition.
M. Wickens, 2011, Macroeconomic theory: A dynamic general equilibrium approach, Princeton University Press, 2nd edition.

Course content-related study coaching

Students can get help and explanation from the responsible teachers and their research assistents.

Assessment moments

end-of-term and continuous assessment

Examination methods in case of periodic assessment during the first examination period

Oral assessment, Written assessment with open-ended questions

Examination methods in case of periodic assessment during the second examination period

Oral assessment, Written assessment with open-ended questions

Examination methods in case of permanent assessment

Participation, Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is not possible

Extra information on the examination methods

End-of-term evaluation: written exam and oral exam. Open questions.
The written exam concerns applications of the theory discussed in class in alternative contexts (11/20 points). The oral exam is a discussion of the complementary papers that the students chose (5/20 points).
Permanent evaluation concerns the quality of handed-in exercises and the degree of active participation of students during exercise sessions. We organize two or three sessions. The exercises have to be prepared independently and without external input at home, and handed-in before the related lecture. Students should also be ready to clarify their answers when asked in class. All in, the exercises are good for 4/20 points.
In case students do not pass for the exam in June, there is no second occasion for these 'permanent' activities (no re-examination).

Calculation of the examination mark

End-of-term evaluation (80%) and permanent evaluation (20%).