

**Economics I**

Code: 40095  
ECTS Credits: 15

Degree	Type	Year	Semester
4313805 Economic Analysis	OB	1	1

**Contact**

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**Use of Languages**

Principal working language: english (eng)

**Teachers**

Xavier Vila Carnicero  
Luis Eduardo Rojas Dueñas

**Prerequisites**

No specific prerequisites

**Objectives and Contextualisation**

This module introduces, in a formal and analytical way, the basic principles of microeconomics and macroeconomics. The student learns how to analyze economic problems and derive their implications using techniques and tools that are typical of mathematical sciences. Microeconomics focuses both on consumer and production decision theory. Macroeconomics focuses on advanced analytical tools that are necessary for the analysis of dynamic problems.

**Competences**

- Capacity to articulate basic economic theory, analytically deriving them from mathematical reasoning
- Conceptually analyse a specific economic problem using advanced analytical tools
- Express recommendations about economic policy at macro and micro levels
- Make independent judgements and defend them dialectically
- Possess and understand knowledge that provides a basis or opportunity for originality in the development and/or application of ideas, often in a research context
- Student should possess the learning skills that enable them to continue studying in a way that is largely student led or independent
- Students should know how to communicate their conclusions, knowledge and final reasoning that they hold in front of specialist and non-specialist audiences clearly and unambiguously
- Use new technology for the collection and organisation of information to solve problems in professional activities

**Learning Outcomes**

1. Analyse the advantages and disadvantages of neoclassical assumptions

2. Frame an economic decision-making question in a simple strategic context in a mathematical problem and derive the answer using mathematical logic
3. Interpret the modelling of a classical problem, the conclusion deriving from it and its limitations
4. Make independent judgements and defend them dialectically
5. Possess and understand knowledge that provides a basis or opportunity for originality in the development and/or application of ideas, often in a research context
6. Propose a simple economic problem in an analytical manner
7. Student should possess the learning skills that enable them to continue studying in a way that is largely student led or independent
8. Students should know how to communicate their conclusions, knowledge and final reasoning that they hold in front of specialist and non-specialist audiences clearly and unambiguously
9. Use new technology for the collection and organisation of information to solve problems in professional activities

## Content

### I. Microeconomics

1. Consumer theory
2. Choice under uncertainty
3. Theory of the firm

### II. Macroeconomics

1. Deterministic neoclassical growth model
2. Dynamic programming
3. Stochastic models
4. Overlapping generation models

For a detailed description of the content of this module go to <https://sites.google.com/view/idea-program/master-program>.

## Methodology

The course will consist of sessions where the instructor presents the material, and sessions specifically dedicated to problem solving. Students are encouraged to form study groups to discuss assignments and readings.

The proposed methodology may undergo some modifications according to the restrictions imposed by the health authorities on on-campus courses.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Theory classes	112.5	4.5	1, 4, 2, 3, 6, 8, 7, 5, 9

Type: Supervised

Problems sets, tutorials	75	3	1, 4, 2, 3, 6, 8, 7, 5, 9
Type: Autonomous			
Personal study, study groups, textbook readings, article readings	187.5	7.5	1, 4, 2, 3, 6, 8, 7, 5, 9

## Assessment

Final Exams	50%
Class attendance and active participation	20%
Problem sets and assignments	30%

The proposed evaluation activities may undergo some changes according to the restrictions imposed by the health authorities on on-campus courses.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Class Attendance and Problem sets and assignments	50%	0	0	1, 4, 2, 3, 6, 8, 7, 5, 9
Final Exams	50%	0	0	1, 4, 2, 3, 6, 8, 7, 5, 9

## Bibliography

Microeconomics:

Mas-Colell, A., M. Whinston and J. Green, Microeconomic Theory, Oxford University Press

Jehle, G.A., P. J. Reny, Advanced Microeconomic Theory (Third Edition). Prentice hall

Macroeconomics:

Krueger, D., Macroeconomic Theory, teaching manuscript

Ljungqvist, L. and T. Sargent, Recursive Macroeconomic Theory, MIT Press

Stokey, N. L. and R. E. Lucas, Jr., Recursive Methods in Economic Dynamics, Harvard University Press.(CP)  
Cooley, T. F. and E. C. Prescott, Economic Growth and Business Cycles, in Cooley, T.F. (ed.) Frontiers of Business Cycle Research, Princeton University Press

King, R. G., C. I. Plosser, and S. T. Rebelo, Production Growth and Business Cycles. I. The Basic Neoclassical Growth Model, Journal of Monetary Economics, 21, pp. 195-232

Krusell, P., L. E. Ohanian, J.-V. Ríos-Russ, and G. L. Violante, Capital-Skill Complementarity and Inequality: A Macroeconomic Analysis, Econometrica, 68 (5), pp. 1029-1053

Additional references will be provided during the course.

## **Software**

- Matlab
- R
- Python
- Stata