COURSE GUIDE

Macroeconomics 4 (2261138)

Approval date: 24/06/2025

Grado (Bachelor's Degree)	Grado en Economía (Bilingüe)	Branch	Social and Legal Sciences
Module	Análisis Económico	Subject	Macroeconomía IV

Year of study	3º	Semester	2º	ECTS Credits	6	Course type	Compulsory course

PREREQUISITES AND RECOMMENDATIONS

- To have completed and to have specific knowledge of the subjects:
  - Mathematics
  - Microeconomics I
  - Microeconomics II
  - Macroeconomics II
  - Macroeconomics III

BRIEF DESCRIPTION OF COURSE CONTENT (According to the programme's verification report)

- Advanced models of dynamic macroeconomic:
  - Economic growth models.
  - Economic policy models.
- Design of economic policies.

SKILLS

GENERAL SKILLS

- CG03 - Ability to analyse and summarise.
- CG05 - Oral and written communication skills in Spanish.
- CG08 - Problem-solving skills.
- CG11 - Ability to work in an interdisciplinary team.
- CG12 - Ability to work in an international context.
- CG15 - Ability to communicate with other areas of knowledge.
- CG16 - Ability to engage in critical and self-critical reasoning.
- CG17 - Ability to learn and work autonomously.
- CG24 - Ability to apply knowledge to practice.
- CG25 - Ability to search for information and research.
- CG26 - Ability to design and manage projects.

Firma (1): Universidad de Granada
CIF: Q1818002F

Firmado electrónicamente según arts. 15, 17 y 41.1 del Reglamento de Adm. Electrónica de la Universidad de Granada (BOJA nº 85 de 6 de mayo de 2021)
Este documento firmado digitalmente puede verificarse en https://sede.ugr.es/verifirma/
Código seguro de verificación (CSV): BDF4533B54B86087619FC4F50B0134AF
05/05/2026 - 08:49
Pág. 1 de 6

SUBJECT-SPECIFIC SKILLS

- CE17 - Identify and anticipate economic problems relevant to the general allocation of resources in the public and private sector.
- CE22 - Bring rationality to the analysis and description of any aspect of economic reality.
- CE23 - Evaluate the consequences of alternative courses of action and select the best ones given the objectives.
- CE24 - Understand economic institutions as the result and application of theoretical or formal representations of how the economy works.
- CE30 - Issue advisory reports on specific situations in the economy (international, national or regional) or its sectors.
- CE32 - Communicate fluently in an environment and work in a team.
- CE38 - Derive from the data relevant information not accessible to non-professionals.
- CE39 - Regularly use Information and Communication Technologies (ICTs) in their professional activities.
- CE40 - Read and communicate professionally in more than one language, especially in English.
- CE41 - Apply professional criteria based on the use of theoretical instruments to the analysis of problems.
- CE42 - Ethical commitment at work. Ability to work in a team. Critical and self-critical reasoning. Work in an international context.
- CE43 - Motivation for quality.
- CE59 - Contribute to the proper management of resource allocation in both the private and public sectors.
- CE64 - Draft economic management projects at the international, national and regional level.
- CE68 - Understand the main microeconomic and macroeconomic models.
- CE69 - Understand the functioning of imperfectly competitive markets.
- CE70 - Understand the main models of industrial economy.
- CE71 - Understand the Game Theory.
- CE72 - Understand economic growth and development models.
- CE73 - Understand the main models of international economy.

TRANSFERABLE SKILLS

- CT01 - Through the knowledge and application of concepts learnt in the Bachelor's Degree (Grado), be able to identify and anticipate economic problems relevant to the allocation of resources, both in the public and private sectors.
- CT02 - Know, understand and apply the different economic models to provide rationality to the analysis and description of any aspect of reality, and be able to know the economic choice criteria of the different agents that make up society.
- CT03 - Learn to communicate fluently in an environment and to work in a team, both in a national and an international context.

LEARNING OUTCOMES

- Upon completion of this module the student will understand the concept and modelling of rational and adaptive expectations, the traditional and modern conception of economic policy, the concept of uncertainty in the design of economic policies, the concept of ineffectiveness in the design of economic policies, economic policies in closed economies, the concept and analysis of the dynamic inconsistency of economic policies,

Firma (1): Universidad de Granada
CIF: Q1818002F

Firmado electrónicamente según arts. 15, 17 y 41.1 del Reglamento de Adm. Electrónica de la Universidad de Granada (BOJA nº 85 de 6 de mayo de 2021)
Este documento firmado digitalmente puede verificarse en https://sede.ugr.es/verifirma/
Código seguro de verificación (CSV): BDF4533B54B86087619FC4F50B0134AF
05/05/2026 - 08:49
Pág. 2 de 6

dynamic models of monetary policy, the concept of sustainability of public debt, the concept of seigniorage, inflationary taxes and the Ricardian equivalence. You will also be able to analyze the main causes of endogenous growth due to investment in R&D, learning and public spending.
- Moreover, the student will be able to propose a theoretical model for the explanation of an observed empirical fact, interpret the results, understand the consequences in terms of economic policies of the mechanisms illustrated by the models, solve models, manipulate models under alternative hypotheses, use models as tools of economic analysis, critical analysis of the models, understand the consequences in terms of economic policies of the mechanisms illustrated by the models, scientific attitude towards economic problems, critical attitude to theoretical models, pragmatic attitude that reconciles models and analysis of the environment for problem solving at the macroeconomic level.

PLANNED LEARNING ACTIVITIES

THEORY SYLLABUS

- Part I: Advanced models of economic growth.
  - Topic 1: Dynamic optimization models with exogenous growth.
    - Ramsey-Cass-Koopmans (RCK) model.
    - Comparison of RCK and Solow-Swan models.
  - Topic 2: Advanced models of endogenous growth.
    - Rebelo's model.
    - Sobelow's model.
    - Barro model.
    - Romer's model (positive externalities from capital).
    - Romer's model (R&D).
- Part II: Theory of Economic Policy.
  - Topic 3: Modern theories of economic policy
    - Modelling expectations.
    - Economic policies under uncertainty.
    - Ineffectiveness of monetary policy.
  - Topic 4: Dynamic inconsistency of monetary policies.
    - The problem of dynamic inconsistency.
    - Solutions to the dynamic inconsistency model of monetary policies.

PRACTICAL SYLLABUS

- Seminars / Workshops: Problem sets of each of the topics proposed in the theoretical syllabus
- Laboratory work: not applicable
- Field work : not applicable

RECOMMENDED READING

ESSENTIAL READING

- Barro R. J. and X. Sala-i-Martin (2003): Economic Growth, 2ª Edition, MIT Press.

Firma (1): Universidad de Granada
CIF: Q1818002F

Firmado electrónicamente según arts. 15, 17 y 41.1 del Reglamento de Adm. Electrónica de la Universidad de Granada (BOJA nº 85 de 6 de mayo de 2021)
Este documento firmado digitalmente puede verificarse en https://sede.ugr.es/verifirma/ 05/05/2026 - 08:49
Código seguro de verificación (CSV): BDF4533B54B86087619FC4F50B0134AF Pág. 3 de 6

- Romer, D. (2018). Advanced Macroeconomics, 5ª Edición, McGraw-Hill: New York

COMPLEMENTARY READING

- Abel, A. y Bernanke, B.S. (2009): Macroeconomics, 6ª Edición, Addison-Wesley: New York.
- Agnani G., B. y Jiménez H., C. (2021). Macroeconomía IV. Crecimiento Económico y Política Económica, Editorial Técnica AVICAM, Granada.
- Argandoña, A., Gámez, C. y Mochón, F. (1996): Macroeconomía Avanzada I. Modelos dinámicos y teoría de la política económica, McGraw-Hill: Madrid.
- Azariadis, C. (1993): Intertemporal Macroeconomics, Basil Blackwell: Oxford.
- Bajo, O. y Monés, M.A. (2000): Curso de Macroeconomía, 2ª ed., Antoni Bosch: Barcelona.
- Barro R. J. and X. Sala-i-Martin (2003): Economic Growth, 2nd Edition, MIT Press.
- Easterly, W. (2001): The Elusive Quest for Growth, MIT Press.
- Jacobs, J. (1985): Cities and the Wealth of Nations. Vintage.
- Leslie, D. (1993): Advanced Macroeconomics. Beyond IS-LM, McGraw-Hill: London.
- Lewis, W. L. (2004): The Power of Productivity, University of Chicago Press.
- McNeill, J. R. and McNeill, W. H. (2003): The Human Web: A Bird's Eye View of Economic History. Norton.
- Romer, D. (2006): Advanced Macroeconomics, 3ª Edición, McGraw-Hill: New York.
- Sargent, T.J. (1987): Macroeconomic Theory, 2ª ed., Academic Press: San Diego.

RECOMMENDED LEARNING RESOURCES/TOOLS

- Additional links will be available in PRADO

TEACHING METHODS

- MD01 - Face-to-face teaching in the classroom
- MD02 - Individual work by the student; retrieval, consultation and processing of information; problem solving and practical case studies; and completion of assignments and presentations
- MD03 - Individual and/or group tutoring and evaluation

ASSESSMENT METHODS (Instruments, criteria and percentages)

ORDINARY EXAMINATION DIET

- According to the Regulations for the evaluation and qualification of the students of the University of Granada (last amendment approved by the Governing Council on October 26, 2016), the evaluation of the academic performance of the students will meet public, objective and impartial criteria, and it will preferably be continuous to evaluate the acquisition of content and skills to be developed in the subject, with the following scale of 10 total points:

Final exam:
All topics, theory and practice 60%
Continuous assessment components:
Participation in class and practical exercises 10%

Firma (1): Universidad de Granada
CIF: Q1818002F

Firmado electrónicamente según arts. 15, 17 y 41.1 del Reglamento de Adm. Electrónica de la Universidad de Granada (BOJA nº 85 de 6 de mayo de 2021)
Este documento firmado digitalmente puede verificarse en https://sede.ugr.es/verifirma/ 05/05/2026 - 08:49
Código seguro de verificación (CSV): BDF4533B54B86087619FC4F50B0134AF Pág. 4 de 6

Oral presentation 30%

- The final exam will be a multiple-choice test with some practical exercises to solve. According to Regulations (art. 22.4) student who decides not to take this final exam will appear in the records with the qualification of "No Show".
- The continuous assessment grade will only be considered if and only if, the student has a grade in the final exam greater than or equal to 4 (out of 10). Otherwise, the overall grade for the course will be "Fail", with a numerical grade that will be obtained as a minimum between 4.8 points and the weighted sum of the scores of the final exam and the continuous assessments.
- In section b). The assessment of the student's active participation in the theoretical and practical classes will be established at the subjective discretion of the Lecturer and according to the performance, behaviour, number and quality of the participations of the student. There will be an oral presentation of a research article proposed by the Lecturer. The oral presentation will have a weight of 30% of the final grade.

EXTRAORDINARY EXAMINATION DIET

- In the resit exam, the evaluation includes a final exam of multiple-choice questions, with practical exercises to solve, representing 100% of the total grade.

SINGLE FINAL ASSESSMENT (evaluación única final)

- According to Article 8 of the current Evaluation Regulations, a single final evaluation is possible for those students who request it in the first two weeks of teaching (or two weeks after their enrolment). The request should be done electronically, to the Head of the Department, explaining and justifying the reasons that make the student unable to follow the continuous evaluation system (work reasons, health status, disability or any other duly justified cause).
- For the students who satisfy the requirements for the final assessment there will be a final exam based on both parts of the syllabus. It will be a multiple-choice questions type, with practical exercises to solve, representing 100% of the total grade.

ADDITIONAL INFORMATION

- The Department of Theory and Economic History, in accordance with the Regulations for the care of students with disabilities and other specific needs for educational support, approved by the Governing Council of the UGR on September 20, 2016, will promote the right to education under conditions of equal opportunities for students with disabilities and other specific educational support needs. The necessary care actions will be established to achieve their full and effective inclusion, guaranteeing their right to inclusive education, in accordance with the principles of non-discrimination, equal opportunities and universal accessibility, so that they can achieve the maximum possible development of their personal capacities and, in any case, the objectives established in general for the entire student body.
- The information contained in this guide may be modified by supervening circumstances, changes in regulations or new guidelines that may be given by the health authorities, the University or the Center.
- When using AI tools for the development of the course, students must adopt an ethical and responsible use of them. They must follow the recommendations contained in the document "Recommendations for the Use of Artificial Intelligence at the UGR" published at this location: https://ceprud.ugr.es/formacion-tic/inteligencia-

Firma (1): Universidad de Granada
CIF: Q1818002F

Firmado electrónicamente según arts. 15, 17 y 41.1 del Reglamento de Adm. Electrónica de la Universidad de Granada (BOJA nº 85 de 6 de mayo de 2021)
Este documento firmado digitalmente puede verificarse en https://sede.ugr.es/verifirma/ 05/05/2026 - 08:49
Código seguro de verificación (CSV): BDF4533B54B86087619FC4F50B0134AF Pág. 5 de 6

artificial/recomendaciones-ia#contenidoo

Información de interés para estudiantado con discapacidad y/o Necesidades Específicas de Apoyo Educativo (NEAE): Gestión de servicios y apoyos (https://ve.ugr.es/servicios/atencion-social/estudiantes-con-discapacidad).

Firma (1): Universidad de Granada
CIF: Q1818002F

Firmado electrónicamente según arts. 15, 17 y 41.1 del Reglamento de Adm. Electrónica de la Universidad de Granada (BOJA nº 85 de 6 de mayo de 2021)
Este documento firmado digitalmente puede verificarse en https://sede.ugr.es/verifirma/
Código seguro de verificación (CSV): **BDF4533B54B86087619FC4F50B0134AF**
05/05/2026 - 08:49
Pág. 6 de 6