

MODULE	SUBJECT MATTER	YEAR	SEMESTER	CREDITS	TYPE
Economic Analysis	Macroeconomics	3rd	1st	6	Compulsory
TEACHING STAFF ⁽¹⁾			ADDRESS, TELEPHONE NUMBER, EMAIL, ETC. DIRECCIÓN COMPLETA DE CONTACTO PARA TUTORÍAS (Dirección postal, teléfono, correo electrónico, etc.)		
<ul style="list-style-type: none">Ana I. Moro-EgidoDaryna Grechyna			Dpto. Teoría e Historia Económica, Tercera Planta, Facultad de Económicas y Empresariales.		
			Ana I. Moro-Egido: Despacho B324. Correo electrónico: aimoro@ugr.es		
			Daryna Grechyna: Despacho B320. Correo electrónico: dgrechyna@ugr.es		
			TIMETABLE FOR TUTORIALS OR LINK TO WEBSITE		
			http://tehieco.ugr.es/pages/profesorado		
BELONGS TO UNDERGRADUATE DEGREE PROGRAMME			AND ALSO TO OTHER UNDERGRADUATE DEGREE PROGRAMMES		
Grado in ECONOMICS					
PREREQUISITES OR RECOMMENDATIONS (where applicable)					
To have completed and to have specific knowledge of the basic subjects of the Basic Training Module: <ul style="list-style-type: none">Intermediate MicroeconomicsIntermediate MacroeconomicsMathematics					
BRIEF DESCRIPTION OF CONTENT (ACCORDING TO OFFICIAL VALIDATION REPORT)					
<ul style="list-style-type: none">Basic models of Dynamic Macroeconomics: investment and business cycles					

¹ Consult any updates in Acceso Identificado > Aplicaciones > Ordenación Docente

(∞) This course guide should be filled in according to UGR regulations on assessment of student learning: (<http://secretariageneral.ugr.es/pages/normativa/fichasugr/ncg7121/>)

- Growth models

GENERAL AND SPECIFIC COMPETENCES

GENERAL COMPETENCES

- CG3 - Capacity for analysis and synthesis
- CG5 - Oral and written communication skills
- CG8 - Ability to solve problems
- 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 - Capacity for critical and self-critical reasoning
- CG17 - Capacity for learning and independent work
- CG24 - Ability to apply knowledge in practice
- CG25 - Ability to search for information and conduct research
- CG26 - Ability to design and manage projects
- CB2 - That students know how to apply their knowledge to their work or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study
- CB3 - That students have the ability to collect and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant social, scientific or ethical issues
- CB4 - That students can transmit information, ideas, problems and solutions to both a specialized and non-specialized audience
- CB5 - That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

CROSS-CURRICULAR COMPETENCES

- CT1 - Through knowledge and application of the concepts learned in the degree, to be able to identify and anticipate relevant economic problems in relation to the allocation of resources in general, both in the private and public sectors
- CT2 - To know, understand and apply the different economic models to provide rationality to the analysis and description of any aspect of reality and to be able to know the economic choice criteria of the different agents that make up society
- CT3 - To learn to communicate fluently and to work as a team, both in a national and international context

SPECIFIC COMPETENCES

- CE17 - To identify and anticipate relevant economic problems in relation to the allocation of resources in general, both in the private and public sectors
- CE22 - To provide rationality to the analysis and description of any aspect of economic reality
- CE23 - To evaluate consequences of different action alternatives and select the best ones given the objectives
- CE24 - To understand economic institutions as a result and application of theoretical or formal representations about how the economy works
- CE30 - To issue advisory reports on specific situations of the economy (international, national or regional) or sectors thereof
- CE32 - To communicate fluently in an environment and work as a team
- CE38 - To derive from the data relevant information impossible to recognize by non-professionals
- CE39 - To use information and communication technology regularly in all their professional activities
- E40 - Read and communicate professionally in more than one language, especially English



- CE41 - Apply the analysis of professional criteria problems in the handling of theoretical instruments
- CE42 - Ethical commitment at work. Capacity for teamwork. Critical and self-critical capacity. Working in an international context
- CE43 - Motivation for quality
- CE59 - Contribute to the good management of resource allocation in both the private and public spheres
- CE68 - Know the main microeconomic and macroeconomic models
- CE69 - Know the functioning of imperfect competition markets
- CE70 - Know the main models of industrial economy
- CE71 - Knowledge of Game Theory
- CE72 - Know the models of economic growth and development.

OBJECTIVES (EXPRESSED AS EXPECTED LEARNING OUTCOMES)

The subject of Macroeconomics III advances the microeconomic foundations of macroeconomic analysis. The general objectives that are pursued are the following. The first objective is to introduce the students to dynamic macroeconomic analysis. The second objective is to develop the microeconomic foundations of consumption and investment decisions, and to use them in the analysis of the impact of economic shocks on the main macroeconomic variables. The third objective is to introduce the main models of exogenous and endogenous growth (with human capital and public spending).

After synthesizing the static macroeconomic models, in this subject we proceed to introduce the dynamic component to the model. At this point, it is necessary to show the student that the world is dynamic, and therefore, the economy must also adopt a dynamic approach. The introduction of dynamics forces us to broaden the scope of the problems and to use new formal tools. In short, the aim is to carry out rigorous micro-foundations of the decisions of economic agents in a dynamic context. For this purpose, a detailed analysis of consumption and investment theories is carried out in an intertemporal context. The analysis of consumption is contemplated from the theory of permanent income and the life cycle. Work and leisure decisions are included separately and in conjunction with consumption decisions. Investment decisions are included afterwards. A simple general equilibrium model with goods market, labor market and capital market is built with all the elements in order for the student to apply the analysis not only in partial equilibrium, seen up to now in subjects of Macroeconomics and Microeconomics, but also in the general equilibrium. The effects of different technological and demand shocks on the equilibrium variables are analyzed.

The second part of the course focuses on the analysis of economic growth theories. The main objective of this part is for the student to learn the different theoretical approaches that have been developed in recent decades to study growth and the limitations they present, for which it is necessary to analyze in some detail the empirical evidence available for some theories. The purpose is to introduce the student to the formalized analysis of economic growth models. First, the neoclassical models of exogenous growth are formally analyzed, starting from the Solow-Swan model and proceeding with the Ramsey-Cass-Koopmans model, in which the saving rate is determined endogenously, as a consequence of the choice of economic agents in a context of intertemporal optimization. Once the exogenous growth models and their implications have been analyzed in depth, the student is introduced to endogenous growth models. For this purpose, a model with human capital is developed, which will be complemented with other endogenous growth models in the Macroeconomics IV course.

DETAILED SYLLABUS

THEORY:



PART I: DYNAMIC MODELS

- Lesson 1: Introduction
 - Review of the main concepts of Microeconomics and Macroeconomics.
 - Introduction to dynamic macroeconomic models. Main assumptions and specifications.
- Lesson 2: Consumption.
 - The model with two periods.
 - The model with infinite periods.
 - The consumption-leisure decision.
- Lesson 3: Investment
 - Households.
 - Firms.
- Lesson 4: Public spending
 - Neoclassical models of fiscal policy.
 - Ricardian equivalence
 - Social Security Systems
- Lesson 5: A Simple Model of Dynamic General Equilibrium
 - Basic structure of dynamic general equilibrium models.
 - Households.
 - Firms.
 - Government.
 - The competitive equilibrium.

PART II: INTRODUCTION TO ECONOMIC GROWTH

- Lesson 6: Growth models
- Introduction.
- The foundations of the neoclassical Solow-Swan model.
- Steady state analysis.
- Neoclassical growth: the Ramsey-Cass-Koopmans model.

PRACTICE:

- Seminars / Workshops: Practices of each of the topics proposed in the theoretical agenda
- Laboratory work: not applicable
- Field work : not applicable

BIBLIOGRAPHY

BASIC READING LIST

<https://sites.google.com/site/jcconesa/teaching/libro?authuser=0>

- Mankiw, N.G. (2007): Macroeconomics, 6st Edition., Antoni Bosch: Barcelona.
- Sala-i-Martin, X. (2000): Apuntes de crecimiento económico, Antoni Bosch, Barcelona.
- Jones, C. I. (2000): Introduction to economic growth, Prentice Hall.
- Weil, D. N. (2006): Economic growth, Pearson Educación, S.A., Madrid
- Ray, D. (1998): Development Economics, Princeton University Press

COMPLEMENTARY READING



PART I:

- Abel, A. y Bernanke, B.S. (2009): Macroeconomics, 6ª Edición, Addison-Wesley: New York.
- 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., Grilli, V. y Febrero, R. (2005): Macroeconomía: Teoría y Política, 4ª Edición, McGraw-Hill: Madrid.
- Dornbusch R. y Fischer S. (2004): Macroeconomía, 9ª Edición, Ed MacGraw Hill
- Novales, A. y Sebastián, C. (1999): Análisis Macroeconómico, Vol. I, Marcial Pons: Madrid.
- Romer, D. (2006): Advanced Macroeconomics, 3ª Edición, McGraw-Hill: New York.
- Sargent, T.J. (1987): Macroeconomic Theory, 2ª ed., Academic Press: San Diego.

PART II:

- Barro R. J. and X. Sala-i-Martin (2003): Economic Growth, 2ª Edition, MIT Press.
- McNeill, J. R. and McNeill, W.H. (2003): The Human Web: A Bird's Eye View of Economic History. Norton.
- Easterly, W. (2001): The Elusive Quest for Growth, MIT Press.
- Lewis, W. L. (2004): The Power of Productivity, University of Chicago Press.
- Wolf, M. (2004): Why Globalization Works, Yale University Press

RECOMMENDED LINKS

To consult the class material: <https://prado.ugr.es/prado2/>

TEACHING METHODOLOGY

As detailed in the teaching guide for this subject for the Degree in Economics, the distribution of the hours corresponding to this subject that has 6 ECTS credits assigned is approximately as follows:

- 30% of face-to-face teaching in the classroom (45 hours).
- 60% of individualized study of the student, search, consultation and analysis of information, resolution of problems and practical cases, and completion of work and presentations (90h.).
- 10% for individual and / or group tutoring and evaluation (15h).

The methodology to be used in the development of the subject is set out below, although it will depend on the content that is explained as well as the monitoring, difficulty and assimilation of content that is observed. In all cases, the methodology of this course is based on strategies typical of an active and independent teaching, focused on the figure of the student as a key element of the training system and with the participation of the teacher / tutor as facilitator of the learning process.

The structure of this subject, from a methodological point of view, consists of two thematic blocks, each of which will be applied in all the lessons and will be developed through various types of activities:

- Theoretical content. Theoretical classes will be given.
- Practical content: Students will present the assigned exercises or part of the exercises in class.

ASSESSMENT (ASSESSMENT INSTRUMENTS, CRITERIA AND PERCENTAGE VALUE OF FINAL OVERALL MARK, ETC.)

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, it will preferably be continuous.

- Evaluation of the theoretical part:
 - First written test (35%): there will be a mid-term test of the first part of the syllabus, consisting of the multiple-choice questions. Each question will have four options, so an incorrect answer will



- subtract $\frac{1}{4}$ of a correct one.
- Second written test (35%): there will be a mid-term test of the second part of the syllabus, consisting of the multiple-choice questions. Each question will have four options, so an incorrect answer will subtract $\frac{1}{4}$ of a correct one.
- Evaluation of the practical part (30%): It will consist of a delivery or presentation of two exercises, one will be theoretical and the other will be practical.

The grade of the student who has passed each and every one of the elements of the previous evaluation, will be the corresponding weighted average, and the student will not have to take the final exam.

On the contrary, the student who has failed at least one of the two written tests, must take the final exam. The grade of such student will be a weighted average between the grade of the practical part (30%) and the grade of the final exam where the final exam counts for 70%. In other words, the final exam only replaces the two written tests. The structure of the final exam will be like that of the two written tests. It will be a multiple-choice questions type, with four answer options, so an incorrect answer will subtract $\frac{1}{4}$ of a correct one.

According to Article 8 of the current Evaluation Regulations, the completion of a single final evaluation is possible, which may be permitted for those students who request it in the first two weeks of teaching the subject (or two weeks after their enrolment alteration). The request should be done through the electronic procedure, to the Director of the Department, explaining and accrediting the reasons that make the student unable to follow the continuous evaluation system (work reasons, health status, disability or any other duly justified cause). A single final evaluation is carried out in a single Academic act to prove that the student has acquired all the skills described. For more information visit tehieco.ugr.es> Normativa e Impresos.

DESCRIPTION OF THE EXERCISES WHICH WILL CONSTITUTE SINGLE FINAL ASSESSMENT AS ESTABLISHED IN UGR REGULATIONS

There will be a final exam based on both parts of the syllabus. It will be a multiple-choice questions type, with four answer options, so an incorrect answer will subtract $\frac{1}{4}$ of a correct one.

SCENARIO A (ON-CAMPUS AND REMOTE TEACHING AND LEARNING COMBINED)

TUTORIALS

TIMETABLE
(According to Official Academic Organization Plan)

TOOLS FOR TUTORIALS
(Indicate which digital tools will be used for tutorials)

<http://tehieco.ugr.es/pages/profesorado>

Email request and personalized attention in Google Meets

MEASURES TAKEN TO ADAPT TEACHING METHODOLOGY

- The adaptation measures of the teaching methodology described above will consist of:
 - Virtual teaching will be combined with face-to-face. The groups will be divided into several subgroups, so that part of the students follow the class from the classroom and the rest via streaming.
 - The number, size and periodicity of the physical presence will be determined based on the logistical and organizational capacities of the School and the Department.

NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.



MEASURES TAKEN TO ADAPT ASSESSMENT (Instruments, criteria and percentage of final overall mark)	
Ordinary assessment session	
<ul style="list-style-type: none"> Evaluation of the theoretical part: the structure (multiple-choice questions tests) and weightings will be maintained as detailed in the evaluation section. The two intermediate test will be through PRADO. The final exam will be: <ul style="list-style-type: none"> Preferably face-to-face if circumstances allow. If the conditions do not exist for face-to-face, it will be through PRADO. Evaluation of the practical part: <ul style="list-style-type: none"> The presentation of the practical part will follow the same adaptation measures as the tests. Delivery in any case will be through PRADO. <p>NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.</p>	
Extraordinary assessment session	
<ul style="list-style-type: none"> Evaluation by an exam that will include a theoretical and practical part. The structure (multiple-choice questions test) will be maintained as detailed in the evaluation section. The final exam will be: <ul style="list-style-type: none"> Preferably face-to-face if circumstances allow. If the conditions do not exist for face-to-face, it will be through PRADO. The mark of this exam corresponds to 100% of the grade for this session. <p>NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.</p>	
Single final assessment	
<ul style="list-style-type: none"> Evaluation by an exam that will include a theoretical and practical part. The structure (multiple-choice questions test) will be maintained as detailed in the evaluation section. The final exam will be: <ul style="list-style-type: none"> Preferably face-to-face if circumstances allow. If the conditions do not exist for face-to-face, it will be through PRADO. The mark of this exam corresponds to 100% of the grade for this session. <p>NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.</p>	
SCENARIO B (ONCAMPUS ACTIVITY SUSPENDED)	
TUTORIALS	
TIMETABLE (According to Official Academic Organization Plan)	TOOLS FOR TUTORIALS (Indicate which digital tools will be used for tutorials)
http://tehioco.ugr.es/pages/profesorado	Email request and personalized attention in Google Meets.
MEASURES TAKEN TO ADAPT TEACHING METHODOLOGY	
<ul style="list-style-type: none"> Theoretical classes through the Google Meet platform. Online availability of the practical exercises corresponding to the agenda through the PRADO platform. Online availability of the solutions of the practical exercises corresponding to the agenda through the PRADO platform. 	



NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.

MEASURES TAKEN TO ADAPT ASSESSMENT (Instruments, criteria and percentage of final overall mark)

Ordinary assessment session

- Evaluation of the theoretical part: the structure (multiple choice questions test) and weightings will be maintained as detailed in the evaluation section. These tests will be carried out through Google Meet.
- Evaluation of the practical part: there only delivery option will be through PRADO.

NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.

Extraordinary assessment session

- Evaluation of the theoretical part: the structure (multiple choice questions test) and weightings will be maintained as detailed in the evaluation section. These tests will be carried out through Google Meet.
- Evaluation of the practical part: there only delivery option will be through PRADO.

NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.

Single final assessment

- Evaluation of the theoretical part: the structure (multiple choice questions test) and weightings will be maintained as detailed in the evaluation section. These tests will be carried out through Google Meet.
- Evaluation of the practical part: there only delivery option will be through PRADO.

NOTE: It is strictly forbidden to record streaming classes and any meeting on Google Meet.

ADDITIONAL INFORMATION (if necessary)

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.

