



## Teaching Guide

Identifying Data				2022/23
Subject (*)	Macroeconomics: Growth and Dynamics	Code	611G01028	
Study programme	Grao en Economía			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	Third	Obligatory	6
Language	SpanishEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Economía			
Coordinador	Lopez Rodriguez, Jesus	E-mail	jesus.lopez.rodriguez@udc.es	
Lecturers	Currais Nunes, Luis Claudio Lopez Rodriguez, Jesus	E-mail	luis.currais@udc.es jesus.lopez.rodriguez@udc.es	
Web	campusvirtual.udc.gal/			
General description	<p>The subject of Macroeconomics, Growth and Dynamics is taught during the second semester of the third year of the Degree in Economics at the Faculty of Economics and Business of the University of Coruña. This course introduces students to the study of modern dynamic macroeconomics. The specific objectives are to teach the standard instruments to apply them to key issues in economic growth. The issues are (i) causes of sustained growth in per capita income in each country; (ii) determinants of the differences in per capita income maintained between countries; (iii) effects of government policies in those contexts. This course complements macroeconomics training and leads to more advanced research-based topics in the area of ??Dynamic and Economic Growth Theory..</p>			

## Study programme competences / results

Code	Study programme competences / results
A1	CE1- Contribuír á boa xestión da asignación de recursos tanto no ámbito privado como no público.
A2	CE2-Identificar e anticipar problemas económicos relevantes en relación coa asignación de recursos en xeral, tanto no ámbito privado como no público.
A3	CE3-Aportar racionalidade á análise e á descrición de calquera aspecto da realidade económica.
A4	CE4-Avaliar consecuencias e distintas alternativas de acción e seleccionar as mellores, dados os obxectivos.
A5	CE5-Emitir informes de asesoramento sobre situación concretas da economía (internacional, nacional ou rexional) ou de sectores da mesma.
A8	CE8-Entender as institucións económicas como resultado e aplicación de representacións teóricas ou formais acerca de cómo funciona a economía.
A9	CE9-Derivar dos datos información relevante imposible de recoñecer por non profesionais.
A10	CE10-Usar habitualmente a tecnoloxía da información e as comunicación en todo a seu desempeño profesional.
B1	CB1 - Que os estudantes demostren posuir e comprender coñecementos nun área de estudo que parte da base da educación secundaria xeral, e que soe encontrar nun nivel que, aínda que se apoia en libros de texto avanzados, inclúe tamén algúns aspectos que implican coñecementos procedentes da vangarda do seu campo de estudo.
B2	CB2 - Que os estudantes saiban aplicar os seus coñecementos ó seu traballo ou vocación dun xeito profesional e posúan as competencias que se demostran por medio da elaboración e defensa de argumentos e a resolución de problemas dentro da su entorna de traballo.
B3	CB3 - Que os estudantes teñan a capacidade de reunir e interpretar datos relevantes (normalmente dentro da su área de estudo) para emitir xuízos que inclúan unha reflexión sobre temas relevantes de índole social, científica ou ética
B4	CB4 - Que os estudantes poidan transmitir información, ideas, problemas e solucións a un público tanto especializado como non especializado
B5	CB5 - Que os estudantes desenvolvesen aquelas habilidades de aprendizaxe necesarias para emprender estudos posteriores cun alto grao de autonomía
B6	CG1- Que os estudantes formados se convertan en profesionais capaces de analizar, reflexionar e intervir sobre os diferentes elementos que constitúen un sistema económico



B7	CG2 - Que os estudantes coñezan o funcionamento e as consecuencias dos sistemas económicos, as distintas alternativas de asignación de recursos, acumulación de riqueza e distribución da renda e estean en condicións de contribuír ao seu bo funcionamento e mellora
B8	CG3 -Que os estudantes sexan capaces de identificar e anticipar os problemas económicos relevantes, identificar alternativas de resolución, seleccionar as máis axeitadas e avaliar os resultados aos que conduce.
B9	CG4 -Que os estudantes respecten os dereitos fundamentais e de igualdade de oportunidades, non discriminación e accesibilidade universal das persoas con minusvalidez.
C1	CT1-Expresarse correctamente, tanto de forma oral coma escrita, nas linguas oficiais da comunidade autónoma.
C2	Dominar a expresión e a comprensión de forma oral e escrita dun idioma estranxeiro.
C3	Utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida.
C4	CT2-Desenvolverse para o exercicio dunha cidadanía aberta, culta, crítica, comprometida, democrática e solidaria, capaz de analizar a realidade, diagnosticar problemas, formular e implantar solucións baseadas no coñecemento e orientadas ao ben común.
C5	CT3-Entender a importancia da cultura emprendedora e coñecer os medios ao alcance das persoas emprendedoras.
C6	CT4-Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	CT5-Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.
C8	CT6-Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.

Learning outcomes			
Learning outcomes	Study programme competences / results		
Knowing the tools to study the long run trends of national income and its world distribution. Understanding the main theoretical models allowing us to analyse the sources of sustained economic growth. Knowing to compare the predictions of those models to the empirical results using the available data. Knowing to use international statistics and interpret economic graphs.	A1	B2	C1
	A2	B3	C4
	A3	B6	C7
	A5	B7	
	A8		
	A10		
<ul style="list-style-type: none"> <li>- Contribute to the integral formation of the student, complementing theoretical and practical learning.</li> <li>- Facilitate the knowledge of the work methodology appropriate to the professional reality.</li> <li>- Encourage the development of technical, methodological, personal and participatory skills.</li> <li>- Obtain a practical experience that facilitates integration into the job market.</li> <li>- Favor the values of innovation, creativity and entrepreneurship.</li> </ul>	A2	B1	C2
	A4	B5	
	A9	B8	B9
In general, knowing the interrelationships between the macroeconomic variables and how they derive implications in the macroeconomic picture of the countries. Evaluate both production and consumption or financial expectations. In particular, develop the ability to analyze macroeconomic data sources and their application to theory-based forecasting models.	A1	B4	C3
	A3		C5
Valuing, in a critical sense, knowledge of information technology to solve the problems you face			C6
			C8

Contents	
Topic	Sub-topic
Chapter 1: The empirical facts of economic growth	1.1. The importance of growth 1.2. Interregional convergence 1.3. Empirical regularities in relation to economic growth 1.4. A Brief History of Modern Theory of Economic Growth
Chapter 2: The Solow-Swan Growth Model	2.1. The Foundations of the Neoclassical Solow-Swan Model 2.2. Steady state analysis 2.3. The growth rate over time 2.4. A quantitative measure of the duration of the transition 2.5. The convergence hypothesis



Chapter 3: The Solow Model and Data: Growth Accounting and the Facts	<p>3.1. The Solow model</p> <p>3.2. The Solow Model Expanded with Human Capital</p> <p>3.3. Empirical evidence</p> <p>3.4. Theory dissatisfaction with neoclassical theory</p>
Chapter 4: The Ramsey-Cass-Koopmans model. Dynamic optimization	<p>4.1. Ramsey-Cass-Koopmans model. The planner model</p> <p>4.2. The solution with competitive markets</p> <p>4.3. Steady state analysis</p> <p>4.4. The dynamics of transition</p>
Chapter 5: Population and economic growth. The Malthus model	<p>5.1. The classical theory of population and growth</p> <p>5.2. Endogenous population growth and fertility rate</p> <p>5.3. The death rate, health spending and economic growth</p> <p>5.4. Barro and Sala-i-Martin's fertility choice model</p>
Chapter 6: Convex endogenous growth models. The AK model	<p>6.1. The model of producer families</p> <p>6.2. The utility dimension</p> <p>6.3. The dynamics of transition</p> <p>6.4. Evaluation of endogenous growth models</p>
Chapter 7: The role of government and fiscal policy in neoclassical growth models	<p>7.1. The model of producer families</p> <p>7.2. The relationship between the size of the state and the growth rate</p> <p>7.3. The economics of the central planner and optimal growth</p> <p>7.4. The role that the State should play in the economy</p> <p>7.5. How the State influences growth</p>
Chapter 8: The Romer model	<p>8.1. The basic elements of the Romer model</p> <p>8.2. Growth in the Romer model</p> <p>8.3. The economics of the Romer model</p> <p>8.4 Solving the Romer model</p>

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student's personal work hours	Total hours
Guest lecture / keynote speech	A2 A3 A4 A5 A8 A9 B2 B1 B3 B5 B6 B7 B9 C1 C3 C4 C5	17	34	51
Problem solving	A10 B8 C2 C6 C7 C8	25	25	50
Objective test	A1 A2 A3 A4 A5 B3 B4 B8	5	29	34
Personalized attention		15	0	15

(\*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	The classroom teacher explains each of the themes of the program content. Use the waxed and technologies available. Students solve any doubts that it faces. At the end of each master class it opens a time of clarification, comments, etc.
Problem solving	During the teaching period problem sets will be proposed to be solved by the students, as well as the realization of works. The problems and cases will be closely related to each of the topics explained in the lecture sessions. As the topics are explained, evaluations of the topics covered may be proposed.



Objective test	Written test used for the assessment of learning which can combine different types of questions: multiple-choice (asking a question in the form of a direct question or incomplete statement with several answer options or alternatives of which only one of them is valid), essay (questions of a certain length in writing in which it is assessed that the expected answer is provided, combined with the ability to reason (argue, relate, etc.)). It is also possible to construct a single type of one of these questions.
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## Personalized attention

Methodologies	Description
Guest lecture / keynote speech Objective test Problem solving	<p>Personalized attention to the student will preferably be carried out virtually, including the action of the Small Group Office hours (TGR). The TGR, which can be taught in person or online, will be divided into 2 sessions of 2 hours, and it is expected that their programming period will take place around weeks 7 and 13 of the semester.</p> <p>Students with part-time dedication and academic exemption from attendance exemption: The Moodle platform and email will be used as the main communication vehicle for content management, office hours and the delivery of assignments. A specific calendar of dates compatible with their dedication will be agreed at the beginning of the course, and they will have the same obligation to carry out activities and attend any type of evaluation test as full-time students.</p>

## Assessment

Methodologies	Competencies / Results	Description	Qualification
Objective test	A1 A2 A3 A4 A5 B3 B4 B8	<p>There are two options of assessments to pass the subject: through midterms or showing up at the 1st and 2nd opportunity calls. In the midterms option, two exams will be carried out, the first one during the lecturing period, which in the case of passing it, it means that this part is released. The second exam of the midterm option will be set coinciding with the date of the first opportunity call. To pass the subject through the midterms option, a minimum of 50% out of 100% of the grading must be achieved in each of the midterm exams. If the subject is not passed in the midterms option (exam during the course and first opportunity call) students must take the second opportunity call which will cover all the contents of the subject. To be able to take the midterm option, a minimum of attendance of 75% of the classes of the subject is required.</p> <p>In the assessment following the official calendar, of exams (1st and 2nd opportunity calls), all subject contents are included in both calls.</p> <p>Those students who decide to attend the second opportunity call (July call) will be facing an exam whose weight will be 100% of the final grade of the subject. This exam will include all the contents taught throughout the course.</p> <p>All exams may consist of a battery of multiple choice questions and/or content development questions and/or problem solving exercises. In the case of multiple choice exams, incorrect questions will be penalized.</p>	100

## Assessment comments



A) EVALUATION REGULATIONS: 1. Evaluation conditions: It is forbidden to access the exam room with any device that allows communication with the outside

and / or storage of information. 2. Identification of the student: The student must bring and show his/her ID card or passport the day of the exam in accordance with current regulations.

B) TYPES OF GRADINGS: 1. "No presentado" grading: Corresponds to the student, when he only participates in evaluation activities that have a weighting of less than 20% on the final grading, regardless of the grading achieved. 2. Students with recognition of part-time dedication and academic exemption of waiver attendance: Except for the dates approved in the "Junta de Facultad" for the "mixed tests", for the remaining tests a specific timetable compatible with their dedication will be agreed at the beginning of the course

C) GRADING OPPORTUNITIES: 1. First opportunity: Besides the evaluation criteria previously indicated in this section, the first opportunity is substituted for two midterms exams which will be carried out during the teaching period. It will be necessary to achieve a minimum of 5 points out of 10 in each one of the partial exams in order to pass the course in the continuous assessment mode. the student does not obtain a minimum of 50% in the first evaluation, he/she will sit the second evaluation with the whole subject and 100% of the mark. Each of midterms will consist of a multiple choice questions (with only one correct answer per question). The midterms may also include short questions to explain contents of the subject and/or problems solving. For the case of multiple choice questions, wrong answers will have penalization

2. Second opportunity : There will be only the exam at the "second opportunity" (July call) where the weight of this exam will be 100% of the final grade for the subject. This exam may consist of a multiple choice questions (with only one correct answer per question). The exam may also include short questions to explain contents of the subject and/or problems solving. For the case of multiple choice questions, wrong answers will have penalization.

3. Advance call : The evaluation conditions of the advanced call will be specific for this opportunity. This will be evaluated through a mixed test that will represent 100% of the final grade

Sources of information



<p><b>Basic</b></p>	<ul style="list-style-type: none"> <li>- Acemoglu, D. &amp; J. A. Robinson (2012). Why nations fail: the origins of power, prosperity and poverty. New York: Crown Publishers</li> <li>- Acemoglu, D. &amp; J. A. Robinson (2012). Por qué fracasan los países : los orígenes del poder, la prosperidad y la pobreza. Barcelona: Deusto</li> <li>- Blanchard, Olivier (2017). Macroeconomics. Boston: Pearson</li> <li>- Blanchard, Olivier (2017). Macroeconomía. Madrid: Pearson</li> <li>- Easterly, William (2001). The elusive quest for growth. Economists' adventures and misadventures in the tropics. Cambridge, Massachusetts: MIT Press</li> <li>- Easterly, William (2003). En busca del crecimiento. Andanzas y tribulaciones de los economistas del desarrollo. Barcelona: Antoni Bosch</li> <li>- Jones, Charles I. (2013). Introduction to economic growth. New York: W.W. Norton</li> <li>- Jones, Charles I. (2000 ). Introducción al crecimiento económico. México: Pearson Educación</li> <li>- Jones, Charles I. (2017). Macroeconomics. New York; London: W. W. Norton</li> <li>- Jones, Charles I. (2009). Macroeconomía. Barcelona: Antoni Bosch</li> <li>- Jones, C. I. and Dietrich Vollrath (2013). Introduction to Economic Growth. W. W. Norton &amp; Company</li> <li>- Mankiw, N. Gregory (2016). Macroeconomics. New York: Worth Publishers</li> <li>- Mankiw, N. Gregory (2007). Macroeconomía. Barcelona: Antoni Bosch</li> <li>- Sala-i-Martin, X (2000). Apuntes de crecimiento económico. Antoni Bosch, Barcelona, segunda edición</li> <li>- Sala-i-Martin, X (2000). Lecture Notes on Economic Growth (I) : Introduction to the Literature and Neoclassical Models. NBER nº w3563</li> <li>- Weil, D.N. (2014). Crecimiento económico. Pearson Educación, S.A., Madrid</li> <li>- Weil, D.N. (2014). Economic Growth. Routledge</li> </ul> <p>Algunos de estos libros están disponibles en la biblioteca como libros electrónicos o en ediciones anteriores / Some of these books are available in the library as electronic books or in previous editions</p>
<p><b>Complementary</b></p>	<ul style="list-style-type: none"> <li>- Barro R. J. and X. Sala-i-Martin (2003). Economic Growth. Second Edition, MIT Press</li> <li>- Barro R. J. y Sala-i-Martin (2012). Crecimiento Económico. Editorial Reverté, Barcelona</li> <li>- Currais L. (2001). Crecimiento Económico. Universidade da Coruña, Mimeo</li> <li>- Debraj R. (2002). Economía del Desarrollo. Antoni Bosch Editor, Barcelona</li> <li>- Debraj R. (1998). Development Economics. Princeton University Press, New Jersey</li> <li>- De la Fuente. A. (2020). Capital humano y crecimiento. Teoría, datos y evidencia empírica. Papeles de economía española, Nº 164, págs. 60-75</li> <li>- Hall, R. and C. Jones (1999). Why do some countries produce so much more output than others?. The Quarterly Journal of Economics, vol. 114, no. 1, pp. 83-116</li> <li>- Jones, C. I., (1997). On the Evolution of the World Income Distribution. Journal of Economic Perspectives, Vol. 11, No. 3., 19-36</li> <li>- Lopez-Casasnovas, G., Rivera B. And Currais, L. (2005). Health and Economic Growth: Findings and Policy Implications. The MIT Press, London</li> <li>- Mankiw, N. G., D. Romer y D. N. Weil (1992). A Contribution to the Empirics of Economic Growth. Quarterly Journal of Economics, 107, pp. 407-437</li> <li>- Romer, D. (2018). Advanced Macroeconomics. McGraw-Hill, New York</li> <li>- Romer D. (2005). Macroeconomía avanzada. McGraw-Hill, Madrid</li> <li>- Sala-i-Martin, X. (2006). Globalización y reducción de la pobreza. Columbia University, mimeo</li> </ul>

**Recommendations**

**Subjects that it is recommended to have taken before**



Principles of Microeconomics/611G01001

Principles of Macroeconomics/611G01005

The World Economy/611G01011

Microeconomics and Markets/611G01012

Macroeconomics/611G01017

Statistical Methods and Introduction to Econometrics/611G01019

#### Subjects that are recommended to be taken simultaneously

#### Subjects that continue the syllabus

#### Other comments

1. The delivery of the documentary works carried out in this subject:a) It will be requested in virtual format (email, etc) and /or any kind of computer compatible devise;b). It will be done through Moodle, in digital format without the need to print them;2. The importance of ethical principles related to sustainability values ??in personal and professional behavior must be taken into account.;3. Work will be done to identify and modify sexist prejudices and attitudes and the environment will be influenced to modify them and promote values ??of respect and equality.;4. The full integration of students who, for physical, sensory, psychological or sociocultural reasons, experience difficulties to an adequate, equal and profitable access to university life will be facilitated5. Office hours will be carried out through teams

(\*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.