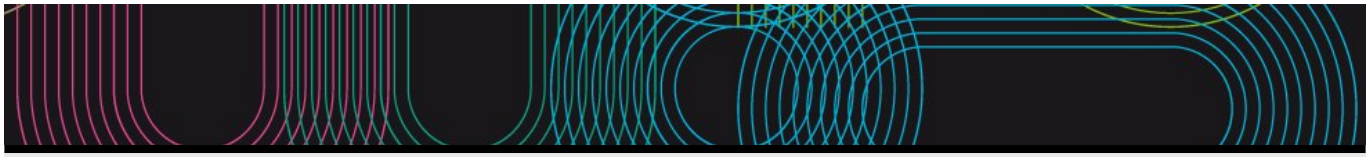

IDENTIFYING DATA				
Econometrics I				
Subject	Econometrics I			
Code	V03G100V01501			
Study programme	Grado en Economía			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	3rd	1st
Teaching language	Spanish English			
Department				
Coordinator	Álvarez García, María Begoña Fernandez-Jardón Fernandez, Carlos Maria			
Lecturers	Álvarez García, María Begoña Fernandez-Jardón Fernandez, Carlos Maria			
E-mail	cjardon@uvigo.es alvarez@uvigo.es			
Web				
General description	This course is an introduction to multiple regression methods for analyzing data in economics and related fields. Students learn how to conduct empirical studies, as well as how to analyze and interpret results from other empirical works.			

Training and Learning Results	
Code	
C1	Understand the basic mathematical tools required to formalize economic behavior.
C10	Ability to use technical tools to formulate simple models concerning economic variables.
D1	Respect civic and ethical values. Strong commitment to work ethic.
D5	Skills to make coherent and intelligible statements both in oral and written form.
D7	Promote critical and self-critical thinking.

Expected results from this subject	Training and Learning Results	
Understand basic econometric tools from a theoretical and applied point of view.	C1	
Use of basic tools and procedures to quantify relationships between economic variables.	C1 C10	
Ability to use econometric tools for solving economic problems.	C1 C10	D1 D7
Develop skills to argue and obtain conclusions from empirical evidence.		D5 D7

Contents	
Topic	
TOPIC 1: Empirical questions and the problem of causal inference. Econometric models	- Types of empirical questions and examples. - The problem of causal inference. - Methods for estimating causal effects.
TOPIC 2: Linear regression model (I)	- Selection on observables. - Linear regression model: specification. - Ordinary Least Squares estimation. - Interpretation of estimates: when do we identify a causal effect?
TOPIC 3: Linear regression model (II)	- Goodness of fit. - The random component of the Ordinary Least Squares estimator. - Assumptions of the regression model. - Precision of the estimates. - Properties of the Ordinary Least Squares estimator.

TOPIC 4: Linear regression model (III)	- Obtaining additional information from the parameter estimates: changes of scale of the variables; elasticities; Beta coefficients. - Non-linearities between the dependent variable and the explanatory variables of the model.
TOPIC 5: Inference in the linear regression model	- Assumption of normality. - Hypothesis testing on a single parameter. - Confidence intervals. - Contrasts of multiple restrictions on the parameters.
TOPIC 6: Dummy variables	- A single independent dummy variable. - Dummy variables for multiple categories - Interactions involving dummy variables.
TOPIC 7: Specification and data problems in regression analysis	- Consequences of misspecification of the functional form. - Omission of relevant variables. - Inclusion of irrelevant variables. - Multicollinearity
TOPIC 8: Heteroscedasticity	- Detection - Consequences - Solutions
TOPIC 9: Correlation of error terms across observations	- Detection - Consequences - Solution
TOPIC 10: Endogeneity	- Causes of endogeneity: omitted variable bias, measurement error in explanatory variables, bidirectional causality. - Instrumental variables estimation.

Planning

	Class hours	Hours outside the classroom	Total hours
Practices through ICT	20	30	50
Lecturing	28	40	68
Objective questions exam	1	15	16
Objective questions exam	1	15	16

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

Methodologies

	Description
Practices through ICT	Computer practices are designed to train students to explore a dataset, write code to analyze relationships and to test hypotheses about some economic phenomenon. The course requires use of GRETL, a free econometric software.
Lecturing	Lectures will develop the concepts and methodologies of the subject.

Personalized assistance

Methodologies	**Description**
Lecturing	Students will be able to solve doubts in personal tutorials that will be arranged in advance by email (alvarez@uvigo.es). They may take place in person at office 337 or through Campus Remoto (Virtual office 82 - Student's password: 337-BegoñaAlvarez).
Practices through ICT	Supervision of students' work on the computer-oriented exercises in lab sessions.
Tests	**Description**
Objective questions exam	Students may contact the lecturer during the exam preparation if some issues are still unclear. All enquiries about the subject material should be made in personal tutorials similar to lecturing
Objective questions exam	Students may contact the lecturer during the exam preparation if some issues are still unclear. All enquiries about the subject material should be made in personal tutorials that will be arranged similar to lecturing

Assessment

	Description	Qualification	Training and Learning Results	
Practices through ICT	Exercises with real-world databases. The econometric package GRETL will be used in the course. Students following continuous assessment must attend all practical sessions (except for justified reasons). In some sessions, students must hand in their work.	30	C1 C10	D1 D5 D7

Objective questions exam	Exam. Questions will require interpretation of computer output in addition to theoretical topics.	35	C1 C10	D1 D5 D7
Objective questions exam	Exam. Questions will require interpretation of computer output in addition to theoretical topics.	35	C1 C10	D1 D5 D7

Other comments on the Evaluation

All students are entitled to two examination calls:

- Ordinary call, in the teaching semester.

- Extraordinary call, in June/July

In each call, the student can choose to be assessed using the continuous assessment (**CA**) system or, alternatively, opt for a Global Assessment (**GA**) exam. **The default assessment is the CA**. The deadline for the students' decision will be established by the Faculty Board. The choice of the GA implies the waiver of the right to be assessed through the remaining CA activities; it also implies the waiver of the grade obtained up to that moment in any of the tests already taken.

Continuous assessment (CA):

- Attendance at the practical sessions is compulsory (except for justified reasons).

- First opportunity (ordinary call): The final mark will be the weighted average of the marks corresponding to the practical work (30%) and two mid-term exams (35% each). If the student does not achieve a mark equal to or higher than 5 points, he/she may waive the grade of the mid-term exams and take a final exam that will take place on the official date of the first GA exam call. call. In this case, the final mark will be equal to the weighted sum of the mark for the practical work (30%) and the final exam (70%).

- Second opportunity (extraordinary call June/July): The grade will be the weighted sum of the mark in practical work (30%) and a final exam (70%) that will take place on the official date of the GA exam of the second call.

Global assessment(AG, in the case of waiving continuous assessment):

- First opportunity (ordinary call): 100% of the mark is achieved through a final exam.
- Second opportunity (extraordinary call in June/July): 100% of the mark is achieved through a final exam.

* **Only for Spanish students**: The assessment in the "Convocatoria Fin de Carrera" will be through GA exam (100%).

The dates the GA exams (first and second call) and the "Convocatoria Fin de Carrera" exams are those approved by the Faculty Board for the academic year 2023/24. See http://fccee.uvigo.es/organizacion-docente.html.

Students must take into account Title VII (The use of illicit means) of the Regulation on the assessment, grading, quality of teaching and the student learning process.

Sources of information

Basic Bibliography

Dougherty, C, **Introduction to econometrics**, 5th, Oxford University Press, 2016

Stock, JH and Watson, MW, **Introduction to econometrics**, 3th, Pearson, 2015

Stock, J.W y M. Watson, **Introducción a la Econometría**, Prentice-Hall, 2012

Wooldridge, JM, **Introducción a la Econometría. Un enfoque moderno**, Cengage Learning, 2016 (o anteriores)

Wooldridge, JM, **Introductory Econometrics. A Modern Approach**, 7th, South-Western College Publishing, 2019 (o anteriores)

Complementary Bibliography

Fernández-Jardón, C. M, Verdugo, V. Cal, I., **Econometría Estática Aplicada.**, 1, Torculo, 1997

Greene, W.H. ., **Análisis Econométrico**, Prentice-Hall, 1998

Novales, A., **Econometría.**, 5, McGraw-Hill., 2010

Verdugo, M.V., Cal, I., **Guía De Introducción A La Econometría Utilizando Gretl**, Eumed, 2014

Recommendations

Subjects that continue the syllabus

Subjects that it is recommended to have taken before

Statistics: Statistics 1/V03G100V01205
Statistics II/V03G100V01403