

**TEACHING GUIDE**  
**STATISTICS I**

**GRADO EN ECONOMÍA (INGLÉS)**

**ACADEMIC YEAR 2023-24**

Date: 07-07-2023

<b>I.-Subject Identification</b>	
<b>Type</b>	OBLIGATORIA
<b>Teaching period</b>	1 course, 1Q semester
<b>Nº of credits</b>	4.5
<b>Language in wich the subject is taught</b>	English

<b>II.-Presentation</b>
<p>The course aims to provide a strong introductory understanding of applied statistical procedures so that individuals can do solid statistical analysis in business and economic situations. It attempts to combine a theoretical understanding of the methods and their assumptions with examples, leading to useful insight into business and economic problems.</p> <p>The assumed mathematics level is basic derivation and integration, and elementary algebra. Excel is used because of its wide availability. Other statistical software will be applied, such as R.</p>

<b>III.-Competences</b>
<b>Generic competences</b>
<p>CT01. Ability to analyse and synthesise</p> <p>CT07. Ability to solve problems</p> <p>CT08. Ability to make decisions</p> <p>CT14. Ability to work under pressure</p> <p>CT15. Ability to learn independently</p> <p>CB01 .That students have demonstrated the possession and comprehension of knowledge in a field of study based on the foundations of general secondary education, at a level that, although supported by advanced textbooks, includes some aspects that imply knowledge proceeding from the forefront of the field of study.</p> <p>CB03 . That students have the ability to gather and interpret relevant data (usually within their field of study) to express judgments that include a reflection on relevant topics related to social, scientific or ethical areas.</p>
<b>Specific competences</b>
<p>CE06. Ability to learn and apply the different qualitative techniques used in economics</p> <p>CE14. Ability to convert an empirical problem into an area of research and reach conclusions</p>

IV.-Contents		
IV.A.-Syllabus		
Thematic unit	Topic	Sections
I.- Descriptive Statistics	Topic 0: Statistics and Economics	Univariate frequency distribution Bivariate frequency distributions Frequency distributions characteristics
	Topic 1: Regression and correlation	Regression Goodness-of-fit measures in regression modelling
	Topic 2: Index numbers	Index number concept Properties and operations Index in Economics
	Topic 3: Time series	Concept
II.- Probability	Topic 4: Probability	Probability concepts Probability theorems
	Topic 5: One-dimensional random variables	Random variable concept Probability function
	Topic 6: Two-dimensional random variables	
	Topic 7: Probability distributions characteristics	Statistical measures Typification Chebyshev's Theorem
	Topic 8: Characteristic Function	
	Topic 9: Discrete Probability Distributions	Binomial Distribution Poisson Distribution Other discrete probability distributions
	Topic 10: Continuous Probability Distributions	Uniform distribution Normal distribution Other continuous probability distributions Normal derived distributions
	Topic 11: Convergency	Types of convergence Central Limit Theorem

IV.B.-Training activities	
Type	Title
Others	There are not proposals on additional learning activities

<b>V.-Student workload</b>		
Lecture classes	29	
Practical classes/resolution of exercises, case studies, etc.	12	
Practical sessions in technological laboratories, hospitals, etc.	0	
Tests	4	
Academic tutorials	13.5	
Related activities: conferences, seminars, etc.	0	
Preparation of lecture classes	30	
Preparation of practices, exercises, cases studies work	16	
Test preparation	30.5	
Total student workload	135	
<b>VI.-Methodology and academic programme</b>		
Type	Period	Content
Work placements	Week 1 to Week 15	Topics 1 to 14. (OS) Face-to-face activity and/or virtual learning activity (DL).
Master classes	Week 1 to Week 15	Topics 1 to 14. (OS) Face-to-face activity and/or virtual learning activity (DL).

## VII.-Assessment methods

### VII.A.-Assessment weighting

#### Continuous ordinary assessment:

The distribution and characteristics of the assessment tests are those described below. Only in exceptional case and for special reasons may the teacher add changes to the Guide. These changes will require the prior consultation with the Subject Head and the prior and explicit authorisation of the Degree Programme Coordinator, who will notify the Vice-Rector's office in charge of Academic Affairs of the modifications made. In any case, the changes proposed must take into account the stipulations of the verified report. In order for these changes to take effect, they must be duly communicated at the start of the course to the students using Aula Virtual.

The combination of activities that are not re-assessable cannot exceed 50% of the subject grade and, in general, cannot have a minimum grade (except for the case of laboratory or clinical work placements, where duly justified), and tests which exceed 60% of the subject weighting cannot be added.

**Extraordinary assessment:** Students who do not manage to pass the ordinary assessment, or who did not attend, will be subject to completion of an extraordinary assessment to verify their acquisition of the skills established in the guide, only for activities that are re-assessable.

#### Description of the tests for assessment and their weights.

The ORDINARY EVALUATION of the subject will be conducted through two face-to-face tests (the Teaching Adaptation Protocol of the URJC establishes that "the evaluation activities will preferably carry out in person, as long as the sanitary conditions allow it"), on the date determined by the university.

1. Theoretical-practical test (40% of the score): 8 questions (Correct: +0.5; incorrect: -0.1; blank: 0). Reassess the extraordinary call in June / July.

It will be necessary to answer correctly at least 3 of the 8 questions proposed, otherwise, the practical test will not be marked, so the grade will be obtained only in the theoretical part.

The maximum mark in this part will be 4.

2. Practical part (60% of the score): 3 problems to develop (approach and resolution) (with a maximum score of 2 points each). Re-evaluable in extraordinary call of June / July.

The maximum mark in this part will be 6.

MINIMUM MARK: to pass, it will be necessary that the sum of the marks of both tests (theoretical-practical test + practical part) is at least a 5 out of 10. If not, the students will have to take the two tests (the theoretical-practical test and the practical part of problems) in the extraordinary session in June / July.

The REEVALUATION IN THE EXTRAORDINARY CALL OF June / July of these two tests will be developed with the same characteristics as the ordinary evaluation (weights, structure, and criteria).

The dates for the ordinary evaluation and the extraordinary call for June / July are official and published on the web sufficiently in advance, not being possible for modification or adaptation. The same criteria apply to exam reviews.

### VII.B. Assessment of students with an academic exemption

Student who wish to opt for this assessment will have to get an academic exemption for the subject, which they will have to request from the Dean or Director of the Centre which teaches their course. An academic exemption may be granted where the subjects own characteristics allow for it.

Subject with the possibility of an exemption: Yes

### VII.C. Review of assessment tests

In accordance with the exam appeal regulations of the Universidad Rey Juan Carlos.

### VII.D.-Students with a disability or special educational needs

Curricular adaptations for students with a disability or special educational needs will be determined by the Disabled Students Support Department, in accordance with the regulations governing the Disabled Students Support service, approved by the Universidad Rey Juan Carlos Council, in order to guarantee equal opportunities, inclusive treatment, universal accessibility and a greater guarantee of academic success.

For this purpose, this Department will have to issue a curricular adaptation report, therefore students with disabilities or special educational needs must contact the Department to analyse the different alternatives together.

#### **VII.E.-Academic behaviour, academic integrity and honesty**

The Universidad Rey Juan Carlos is completely committed to the highest standards of academic integrity and honesty. Therefore, studying at the URJC means you accept and agree to the academic integrity and honesty values described in the University's Code of Ethics. In order to monitor this procedure, the University has Regulations on academic behaviour at the Universidad Rey Juan Carlos and uses different tools (anti-plagiarism, supervision?) which provides a collective assurance that these essential values are completely developed

VII.-Bibliography
<b>Reference Generic</b>
Title: Statistics for Business and Economics (9Th Ed.). Author: Paul Newbold. Edit.: Prentice-Hall
<b>Reference literature</b>
Title: Fundamentos de Probabilidad. Author: Ruiz-Maya, L.; Martín-Pliego López, F.J. Publisher: Thompson-Paraninfo
Title: Problemas de Probabilidad. Author: Martín-Pliego López, F.J., Montero Lorenzo, J. M <sup>a</sup> y Ruiz-Maya Pérez, L. Publisher: Thompson-Paraninfo
Title: Introducción a la estadística empresarial, 3 <sup>a</sup> edición. Author: Martín-Pliego López, F.J. Publisher: Thompson-Paraninfo

IX.-Lecturers/Teachers/Professors	
<b>Lecturer/teacher/professor's name</b>	DAVID MORENO VINCENT
<b>E-mail address</b>	david.moreno.vincent@urjc.es
<b>Department/field</b>	Economía Aplicada I e Historia e Instituciones Económicas
<b>Category</b>	Profesor/a Asociado/a
<b>Subject Coordinator</b>	No
<b>Academic tutorial timetable</b>	Para consultar las tutorias póngase en contacto con el/la profesor/-a a través de correo electrónico
<b>Nº of Quinquenios</b>	0
<b>Nº of Sexenio</b>	0
<b>Nº period for technology transfer</b>	0
<b>Stretch Docentia</b>	0