DATOS BÁSICOS DE LA GUÍA DOCENTE:

Materia:	ESTADÍSTICA		
Identificador:	32258		
Titulación:	GRADUADO EN ADMINISTRACIÓN Y DIRECCIÓN DE EMPRESAS (CA)		
Módulo:	MÉTODOS CUANTITATIVOS PARA LA EMPRESA		
Tipo:	MATERIA BASICA		
Curso:	2	**Periodo lectivo:**	Primer Cuatrimestre
Créditos:	6	**Horas totales:**	150
Actividades Presenciales:	62	**Trabajo Autónomo:**	88
Idioma Principal:	Inglés	**Idioma Secundario:**	Castellano
Profesor:	POUSA RODRIGUEZ, LUIS (T)	**Correo electrónico:**	lpousa@usj.es

PRESENTACIÓN:

The subject of statistics, applied to the field of economics and business, aims to allow the correct interpretation of the information derived from economic phenomena.

This subject ensures the competences, abilities, capacities, methodologies and tools of statistics that will allow the correct analysis of economic information, prior to any decision-making process in the business environment, as well as guaranteeing adequate monitoring of the rest of the subjects and modules that require the competences of statistics.

COMPETENCIAS PROFESIONALES A DESARROLLAR EN LA MATERIA:

Competencias Generales de la titulación	G01	Capacidad de análisis y síntesis de las informaciones obtenidas de diversas fuentes
	G02	Resolución creativa y eficaz de los problemas que surgen en la práctica diaria, con el objetivo de garantizar los niveles máximos de calidad de la labor profesional realizada
	G03	Capacidad de organización y planificación del trabajo en el contexto de la mejora continua
	G04	Uso de las tecnologías de la información y la comunicación
	G10	Capacidad de aplicar los conocimientos adquiridos, adaptándolos a las exigencias y particularidades de cada situación y persona
	G12	Capacidad de incorporar la investigación científica y la práctica basada en la evidencia como cultura profesional, actualizando conocimientos y destrezas de manera continua.
	G13	Capacidad de desarrollar estrategias de aprendizaje a lo largo de toda la vida para que sea capaz de adquirir nuevos conocimientos, a través del desarrollo su propio itinerario académico y profesional
	G14	Capacidad de comunicación oral y escrita en el idioma materno y en inglés, según las necesidades de su campo de estudio y las exigencias de su entorno académico y profesional.
Competencias Específicas de la titulación	E11	Conocer las técnicas y métodos de naturaleza cuantitativa aplicables al diagnóstico, análisis y prospección empresarial (matemáticas, estadística y econometría) siendo capaz de utilizar la herramienta más adecuada en cada situación.
Resultados de Aprendizaje	R01	Desarrollar análisis de datos mediante software estadístico
	R02	Valorar e interpretar la información estadística que se transmite en documentos científicos
	R03	Redactar y exponer análisis estadísticos de datos.
	R04	Emplear las técnicas estadísticas básicas para el análisis de datos
	R05	Identificar y describir los elementos básicos de Estadística descriptiva e inferencial.

REQUISITOS PREVIOS:

Having passed Business mathematics (32252) course is recommended.

PROGRAMACIÓN DE LA MATERIA:

Observaciones:

Subject contents include three main parts: descriptive statistics, probability and inferential statistics.

Contenidos de la materia:

1 - Descriptive statistics

1.1 - Introduction to statistics
1.2 - Frequency tables, frequency distributions, and graphic presentation
1.3 - Measures of central tendency, measures of dispersion and grouped data
1.4 - Describing data: Displaying and exploring data
2 - Probability
2.1 - Probability concepts
2.2 - Discrete probability distributions
2.3 - Continuous probability distributions
3 - Inferential statistics
3.1 - Estimation and confidence intervals
3.2 - Hypothesis testing

La planificación de la asignatura podrá verse modificada por motivos imprevistos (rendimiento del grupo, disponibilidad de recursos, modificaciones en el calendario académico, etc.) y por tanto no deberá considerarse como definitiva y cerrada.

Previsión de actividades de aprendizaje:

Semana		Unidad/Bloque/Tema	Sesiones presenciales	Horas	Actividades de trabajo autónomo	Horas
1	12/09/2022	1.1.Introduction to statistics	Introduction day. Read course outline. Theoretical class and practical exercises.	4	Review theory and work on exercises	2
2	19/09/2022	1.2.Frequency tables, frequency distributions, and graphic presentation	Theoretical class and practical exercises. Intro to SPSS.	4	Review theory and work on exercises	4
3	26/09/2022	1.3.Measures of central tendency, measures of dispersion and grouped data	Theoretical class and practical exercises.	4	Review theory and work on exercises	4
4	03/10/2022	1.3.Measures of central tendency, measures of dispersion and grouped data	Theoretical class and practical exercises.	4	Review theory and work on exercises	4
5	10/10/2022	1.4.Describing data: Displaying and exploring data	Theoretical class and practical exercises.	2	Review theory and work on exercises	4
6	17/10/2022	1.Descriptive statistics	Exercises using SPSS. Revision of topic 1. Written test	4	Review theory and work on exercises	6
7	24/10/2022	2.1.Probability concepts	Theoretical class and practical exercises.	4	Review theory and work on exercises	4
8	31/10/2022	2.1.Probability concepts 2.2.Discrete probability distributions	Theoretical class and practical exercises.	4	Review theory and work on exercises	4
9	07/11/2022	2.2.Discrete probability distributions 2.3.Continuous probability distributions	Theoretical class and practical exercises.	4	Review theory and work on exercises	4
10	14/11/2022	2.3.Continuous probability distributions	Theoretical class and practical exercises. Revision of topic 2	4	Review theory and work on exercises	4
11	21/11/2022	2.Probability	Written test. Theoretical class and practical exercises.	4	Review theory and work on exercises	6
12	28/11/2022	3.1.Estimation and confidence intervals	Theoretical class and practical exercises.	4	Review theory and work on exercises	4
13	05/12/2022	3.1.Estimation and confidence intervals	Theoretical class and practical exercises.	2	Review theory and work on exercises	4
14	12/12/2022	3.2.Hypothesis testing	Theoretical class and practical exercises.	4	Review theory and work on exercises	4
15	19/12/2022	3.2.Hypothesis testing	Theoretical class and practical exercises.	2	Review theory and work on exercises	4
16	26/12/2022		Christmas break	0	Review theory and practical exercises	4
17	02/01/2023		Christmas break	0	Review theory and practical exercises	6
18	09/01/2023	3.Inferential statistics	Revision of topic 3. Written test	4	Review theory and work on exercises	6
19	16/01/2023	1.Descriptive statistics 2.Probability 3.Inferential statistics	Course review. Students will resit failed parts.	4	Review theory and practical exercises	6
20	23/01/2023	1.Descriptive statistics 2.Probability 3.Inferential statistics	Students will resit failed parts.	0	Review theory and work on exercises	2

21	30/01/2023	1.Descriptive statistics 2.Probability 3.Inferential statistics	Students will resit failed parts.	0	Review theory and work on exercises	2
			HORAS TOTALES PRESENCIALES:	62	**HORAS TOTALES T. AUTÓNOMO:**	88

Observaciones para alumnos exentos a la asistencia obligatoria por circunstancias justificadas:

Those students who are unable to attend 80 % of classes during the semester due to justified reasons (previously communicated to the Programme Coordinator) will have to get in contact with the lecturer by the 26st of September. They will be required to follow the progress of the subject by doing the reading, all casework and written tests which will be indicated on the PDU. Failure to pass all tests with a minimum mark of 5 out of 10 will imply resitting the parts they have failed during the first or second call.

Each particular case will be analyzed to design a learning strategy and related individualized activities that guarantee the achievement of the stated objectives. In these cases the student will have to attend the tutorials previously agreed with the lecturer. In the event that the student does not contact the lecturer on the indicated date, he or she may lose the right to be evaluated on first call by having exceeded the absences allowed (20 %).

Those students who have been exempt from compulsory attendance will be assessed with the same criteria as attending students. Students will only be allowed to be exempt from class attendance when absence has been justified and agreed.

METODOLOGÍAS Y ACTIVIDADES DE ENSEÑANZA Y APRENDIZAJE:

Metodologías de enseñanza-aprendizaje a desarrollar:

The main methodologies used in this course will be:

- Master classes: Theoretical presentation of the main aspects of the subject. In a number of cases, there may be blanks in the slides which will be filled in during the course of class discussion

- Practical exercises to reinforce the knowledge. Active participation of students is encouraged

- Group coursework through SPSS

- Written tests on each topic (desciptive statistics, probability and inferential statistcs)

- Independent study: Students are expected to complete all independent study tasks and devote time to reviewing concepts and exercises

- Tutorial hours: Students are encouraged to avail of tutorial sessions as during these sessions students can ask questions, clarify concepts, ask for additional bibliography, etc.

Integración de lengua inglesa en la materia:

The subject will be taught in English. The material provided and the lectures will also be in English.

Internationalization is one of the main objectives of CESUGA. The teaching staff will be gradually introducing materials, texts, audiovisual media and other content through English in the subjects they teach. This course of action is included in the principles of the European Area of Higher Education (EAHE). The aim is for students to naturally and effectively use English in authentic situations while studying subjects included in their degree programs. Exposure to the English language forms an intrinsic part of each degree programme's plan of studies.

All activities in this subject will be carried out in English. These activities can be seen in the provisional activity plan and are marked: basically practical exercises, use of sources in English, etc.

Volumen de trabajo del alumno:

Modalidad organizativa	Métodos de enseñanza	Horas estimadas
Actividades Presenciales	Clase magistral	42
	Casos prácticos	5
	Resolución de prácticas, problemas, ejercicios etc.	8
	Exposiciones de trabajos de los alumnos	1
	Actividades de evaluación	6
Trabajo Autónomo	Asistencia a tutorías	8
	Estudio individual	50
	Preparación de trabajos individuales	10
	Preparación de trabajos en equipo	8
	Tareas de investigación y búsqueda de información	4
	Lectura libre	2
	Otras actividades de trabajo autónomo	6
	Horas totales:	150

SISTEMA DE EVALUACIÓN:

Obtención de la nota final:

Pruebas escritas:	70	%
Trabajos individuales:	10	%
Trabajos en equipo:	20	%
TOTAL	100	%

Observaciones específicas sobre el sistema de evaluación:

- **Three written tests**, one on each topic (20, 30 and 20 % each).

- **Group coursework** through SPSS (20 %).

- **Individual coursework** (10 %) will involve tasks and exercises carried out in class.

Students must pass all written tests with a minimum of 5 as a mark. Not obtaining this mark in a part of the assessment will force the student to resit the test in January (first call). Students having to sit exams in July will have to sit all failed parts.

The material given by the lecturer will be an indication of what needs to be researched. The student will have to look up and work on various sources of information.

The evaluation system on second call will be identical to that of first call, with the same percentages. All those students, therefore, who do not pass the subject in the first call will be either because they did not pass the written tests and/ or the coursework. The marks of the written tests and the individual coursework will be kept if they have been passed, keeping the same percentages on the final mark. You must redo the one or those indicated by the lecturer and resubmit them in the second call. The percentages to be applied will be the same as those indicated in the first call. Therefore, the student must attend the exam revision of the first call to know exactly what to submit on the second call. It is the student's responsibility to contact the lecturer for this purpose.

Spelling: Within the evaluation criteria, the University considers spelling a priority issue. Under the protection of the changes in the language standard in the Spanish language included in the Spelling of the Spanish Language (2010), published by the Real Academia Española, CESUGA has established some correction criteria related to this work that will be applied in all tests of the matter. The document that includes the set of criteria and its sanction is published in the University Teaching Platform (PDU) of the subject. The same applies if English is the main language. Refer to unacceptable grammar errors.

Plagiarism: Likewise, and in accordance with the University's Good Practices manual, the commission of plagiarism in any of the work carried out will be considered a very serious offense, since it violates the deontological code of any profession. All assignments/ tasks must be handed in through the PDU and will be checked through Turnitin to avoid

plagiarism.

Electronic devices that disturb the attention and the correct development of the subject will not be allowed in class, unless expressly mentioned by the lecturer.

Absences: Failure to attend class more than 20 % of the stipulated hours without authorization may lead to the loss of the evaluation on first call.

Métodos de evaluación:

Instrumento de evaluación	Resultados de Aprendizaje evaluados	Criterios de evaluación	%
Written tests	R02 R03 R04 R05	Tests on the three main topics: descriptive statistics, probability and inferential statistics.	70
Group coursework	R01	Develop data analysis through SPSS	20
Individual coursework	R01 R02 R03 R04 R05	Individual tasks carried out in class	10
		Peso total:	100

Observaciones para alumnos exentos a la asistencia obligatoria por circunstancias justificadas:

Those students who are unable to attend 80 % of classes during the semester due to justified reasons (previously communicated to the Programme Coordinator) will have to get in contact with the lecturer by the 21st of September. They will be required to follow the progress of the subject by doing the reading, all casework and written tests which will be indicated on the PDU. Failure to pass all tests with a minimum mark of 5 out of 10 will imply resitting the parts they have failed during the second call.

Each particular case will be analyzed to design a learning strategy and related individualized activities that guarantee the achievement of the stated objectives. In these cases the student will have to attend the tutorials previously agreed with the lecturer. In the event that the student does not contact the lecturer on the indicated date, he or she may lose the right to be evaluated on first call by having exceeded the absences allowed (20 %).

Those students who have been exempt from compulsory attendance will be assessed with the same criteria as attending students. Students will only be allowed to be exempt from class attendance when absence has been justified and agreed.

BIBLIOGRAFÍA Y DOCUMENTACIÓN:

Bibliografía básica:

IVARS, Antonia. Estadística descriptiva y nociones de probabilidad. Editorial: Paraninfo, 2011
MOORE, David. Estadística aplicada básica. Editorial: Antoni Bosch, 2004.
PEÑA, Daniel. Fundamentos de estadística. Editorial: Alianza, 2008

Bibliografía recomendada:

CAMPBELL, Michael. Statistics at square one. Editorial: Wiley, 2009
DEVORE, Jay. Probabilidad y estadística para ingeniería y ciencias. Editorial: Paraninfo, 2009.
ESTEBAN, Jesús. Inferencia estadística. Editorial: Garceta, 2010
EVANS, Michael. Probabilidad y estadística. Editorial: Reverté, 2005
FERNANDEZ, Mª José. 225 problemas de estadística aplicada a las ciencias sociales. Ejercicios prácticospara alumnos. Editorial: Síntesis, 1996
FREEDMAN, David. Estadística. Editorial: Antoni Bosch, 1993
HAIR, J., et al. Multivariate Data Analysis. Pearson. 2007
LIPSCHUTZ, Seymour. Introducción a la probabilidad y estadística. Editorial: Mc Graw Hill, 2000
MONTERO, José María. Estadística descriptiva. Editorial: Paraninfo, 2007
PEREZ, César. Econometría básica : aplicaciones con EVIEWS, STATA, SAS y SPSS. Editorial: Ibergaceta,2012
PEREZ, César. Estadística aplicada a través del Excel. Editorial: Pearson, 2011

ROSS, Sheldon. Introducción a la estadística. Editorial: Reverté, 2007
SOLANAS, Antonio. Estadística descriptiva en ciencias del comportamiento. Editorial: Thomson, 2005
SPIEGEL, Murray. Probabilidad y estadística. McGraw Hill, 2010.
URIEL, Ezequiel. Introducción al análisis de series temporales. Editorial: AC, 2005
LIND, D., et al. Statistical Techniques in Business and Economics. Pearson. 2018

Páginas web recomendadas:

Eurostat (statistical office of the European Union)	epp.eurostat.ec.europa.eu
Fondo Monetario Internacional	www.imf.org/external/index.htm
Instituto Aragonés de Estadística	www.aragon.es/DepartamentosOrganismosPublicos/Organismos/InstitutoAragonesEstadistica
Instituto Galego de Estatística	www.ige.eu
Instituto Nacional de Estadística	www.ine.es
Ministerio de Industria Comercio y Turismo	www.minetur.gob.es/
Organización Mundial del Comercio	www.wto.org/indexsp.htm

OBSERVACIONES: