Universidad Europea

1. BASIC INFORMATION

Course	Statistics
Degree program	Global Bachelor's Degree in International Business
School	Social Sciences and Communication
Year	2nd
ECTS	6 ECTS (150 hours)
Credit type	DR
Language(s)	English
Delivery mode	Campus-based
Semester	2ND semester
Academic year	2020/2021
Coordinating professor	Jesús Muñoz Sepúlveda

2. PRESENTATION

This course offers detailed information about statistical techniques. Specifically, it focuses on the most common indicators and measures of descriptive statistics (using both the unidimensional and two-dimensional perspective) and the utility of index numbers. All these statistical indicators will allow to carry out an exhaustive and rigorous analysis of the main economic and financial variables. Additionally, it also introduces some concepts of the probability theory and random variables (discrete and continuous).

3. COMPETENCIES AND LEARNING OUTCOMES

Basic skills:

- BS1: Students must demonstrate a deep knowledge and understanding of a field of study that is based on secondary education and that, whilst supported by advanced textbooks, involves acquaintance with the vanguard of their area of study.
- BS2: Students must apply their knowledge to their work and vocation in a professional way and must demonstrate their skills in sustaining arguments and solving problems within their field of study.
- BS3: Students must be able to gather data, usually within their field of study, interpret it and make judgments and considerations on relevant social, scientific or ethical issues.
- BS4: Students must be able to convey information, together with ideas, problems and solutions to a specialized or non-specialized audience.

- BS5: Students must have developed the necessary learning skills so as to undertake subsequent studies with autonomy.

Cross-disciplinary skills:

- CS4: Analysis and synthesis skills: Being able to break down complex situations into their constituent parts, and also to assess other alternatives and approaches in order to find the best solutions. Synthesis seeks to reduce complexity in order to facilitate understanding and/or problem solving.
- CS5: Capacity to apply knowledge: Being able to use knowledge acquired in academic contexts in situations that resemble as closely as possible the reality of the chosen future profession.
- CS6: Oral and written communication skills: The ability to transmit and receive information, ideas, opinions and attitudes for the purposes of comprehension and action, oral communication involving speech and gestures, and written communication writing and/or graphics.
- CS8: Information management: The ability to find, select, analyze and integrate information from different sources.
- CS12: Critical reasoning: The ability to analyze an idea, phenomenon or situation from different points of view and take a personal approach to it based on rigor and objective reasoning, and not on intuition.
- CS13: Problem solving: The ability to resolve a confusing issue or a complicated situation that stands in the way of achieving a goal and where there is no predefined solution.
- CS15: Responsibility: The ability to fulfill the commitments a person makes to themselves and to others when performing a task and trying to achieve a set of goals as part of the learning process. The ability of any individual to acknowledge and accept the consequences of their own actions.
- CS16: Decision-making: The ability to make a choice between two or more existing alternatives to effectively resolve different situations or problems.
- CS18: Use of information and communication technologies (ICT): The ability to use information and communication technologies effectively as a tool for finding, processing and storing information, as well as for developing communication skills.

Specific skills:

- SS7: Ability to use the management tools available in the area of marketing and commercial management, in the context of international business.
- SS8: Capacity to use the management tools available in the area of administration and finance, in the context of international business.
- SS11: Ability to analyze and evaluate macroeconomic information in new competitive environments when making strategic business decisions.
- SS15: Ability to perform market analysis prior to making decisions on international expansion and business growth.

Learning outcomes:

- LO1: The student will be able to summarize and interpret both quantitative and qualitative information related to different economic phenomena in order to understand national and international economic realities.

- LO2: The student will be able to use and construct index number and measures of concentration that are useful in several courses of the degree, as well as to interpret the most common indicators of descriptive statistics.
- LO3: The student will be able to carry out an exhaustive quantitative analysis using different statistical tools, instruments and methods.

The following table shows the relationship between the competencies developed during the course and the learning outcomes pursued:

Competencies	Learning outcomes
BS1, BS2, BS3, CS1, CS5, CS8, CS13, CS15, CS18, SS8, SS11	LO1: The student will be able to summarize and interpret both quantitative and qualitative information related to different economic phenomena in order to understand national and international economic realities.
BS1, BS3, BS5, CS5, CS8, CS16, SS7	LO2: The student will be able to use and construct index number and measures of concentration that are useful in several courses of the degree, as well as to interpret the most common indicators of descriptive statistics.
BS2, BS4, BS5, CS1, CS6, CS8, CS12, CS13, CS16, CS18, SS7, SS8, SS11, SS15	LO3: The student will be able to carry out an exhaustive quantitative analysis using different statistical tools, instruments and methods.

4. CONTENT

Unit 1. Introduction. Sources of information

1.1 Organizing quantitative and qualitative data.

1.2 Frequency distribution table.

Unit 2. Descriptive statistics

2.1 Measures of central tendency: Mean, Median and Mode.

2.2 Measures of dispersion: Variance, Standard Deviation and Variation Coefficient.

2.3 Measures of shape: Skewness and Kurtosis.

Unit 3. Describing the Relation between Two Variables.

3.1 Scatter Diagrams and Correlation.

3.2 Variance and linear correlation coefficient.

Unit 4. Index number

Unit 5. Probability Theory

5.1 Introduction to Probability Theory.

5.2 Discrete Random Variables.

5.3 Continuous Random Variables.

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Master class
- Case study method
- Cooperative learning
- Problem-based learning

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Campus-based mode:

Learning activity	Number of hours
Master Classes	40 hours
Autonomous Learning	35 hours
Formative Assessment	10 hours
Problem Solving	25 hours
Tutoring Sessions	5 hours
Collective Work	20 hours
Case Studies	15 hours

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Assessment system	Weight
Activity 1: Problem set 1	5%
Activity 2: Class exercise	5%
Activity 3: Problem set 2	5%
Activity 4: Problem set 3	5%
Activity 5: Group Work	30%
Activity 6: Final exam	50%

When you access the course on the *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

7.1. First exam period

To pass the course in the first exam period, you must obtain a **final course grade of at least 5 out of 10 (weighted average)**.

In any case, **you will need to obtain a grade of at 4.0 in the final exam** in order for it to count towards the final grade along with all the grades corresponding to the other activities.

7.2. Second exam period

To pass the course in the second exam period, you must obtain a **final grade of at least 5 out of 10 (weighted average).**

In any case, **you will need to obtain a grade of at 4.0 in the final exam** in order for it to count towards the final grade along with all the grades corresponding to the other activities.

The student must deliver the activities not successfully completed in the first exam period after having received the corresponding corrections from the professor, or those that were not delivered in the first place.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Activity 1: Problem set 1	Week 8-9
Activity 2: Class exercise	Week 9-10
Activity 3: Problem set 2	Week 12-13
Activity 4: Problem set 3	Week 14-15
Activity 5: Group Work	Week 16-17
Activity 6: Final exam	Week 17-18

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAPHY

Here is the recommended bibliography:

- Sullivan, M. Fundamentals of Statistics, Pearson, 5th Edition, 2018.
- Martín Pliego, F.J. Introducción a la Estadística Económica y Empresarial. S.A. Ediciones Paraninfo, 3ª Edición. 2004.
- Groebner, D.F., Shannon, P.W. and Fry, P.C. Business Statistics: A Decision-Making Approach. Pearson, 9th Edition, 2013.
- Carlberg, C. Statistical Analysis: Microsoft Excel 2010. Que Corporation, 2011.

10. DIVERSITY MANAGEMENT UNIT

Students with specific learning support needs:

Curricular adaptations and adjustments for students with specific learning support needs, in order to guarantee equal opportunities, will be overseen by the Diversity Management Unit (UAD: Unidad de Atención a la Diversidad).

It is compulsory for this Unit to issue a curricular adaptation/adjustment report, and therefore students with specific learning support needs should contact the Unit at unidad.diversidad@universidadeuropea.es at the beginning of each semester.

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation.