

1. BASIC INFORMATION

Course	APPLIED STATISTICS IN PSYCHOLOGY
Degree program	PSYCHOLOGY
School	Biomedical and Health Sciences
Year	1st
ECTS	6
Credit type	Mandatory
Language(s)	English
Delivery mode	Campus-based
Semester	Second
Academic year	2020-2021
Coordinating professor	Lucía Poggio, PhD

2. PRESENTATION

“Applied Statistics in Psychology” is taught in the second semester of the first year of the Bachelors’ degree in Psychology.

Psychology is the scientific study of the mind and behavior. In this course, you will learn the critical skills of descriptive and inferential statistics as tools for evaluating data from psychological research.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CBM1: Students should be able to demonstrate knowledge and understanding in an area of study that has its basis in general secondary education, and that, whilst supported by advanced textbooks, also includes some aspects that entail an acquaintance with the latest developments in their field of study.
- CBM2: Students should be able to apply their knowledge to their work or vocation in a professional way, and should possess the competencies that are usually demonstrated when preparing and defending arguments and resolving problems in their area of study.
- CBM3: Students should be able to gather and interpret relevant data (usually in their area of study) to make judgments that involve considering important social, scientific or ethical issues.
- CBM4: Students should be able to transmit information, ideas, problems and solutions to both specialized and non-specialized audiences.

- CBM5: Students should have developed the learning skills necessary to undertake further studies with a high degree of autonomy.

Core competencies in Psychology:

- CBPS2: Knowing the basic laws of different psychological processes in the field of Health Psychology.
- CBPS4: Knowing the biological bases of human behavior and of psychological functions.
- CBPS5: Knowing the psychosocial principles of the functioning of groups and organizations.
- CBPS8: Knowing different research designs, as well as procedures for formulating and verifying hypotheses and for interpreting results, and being able to apply them in the field of Health Psychology.

Cross-curricular competencies:

- CT4: Analysis and synthesis skills: The ability 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.
- CT5: Capacity to apply knowledge: The ability to use knowledge acquired in academic contexts in situations that resemble as closely as possible the reality of the chosen future profession.
- CT8: Information management: The ability to find, select, analyze, and integrate information from different sources.
- CT11: Planning and time management: The ability to set goals and choose the means to achieve them, using time and resources effectively.
- CT12: 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.
- CT13: 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.
- CT16: Decision making: The ability to make a choice between the existing alternatives in order to effectively resolve different situations or problems.
- CT17: Teamwork: The ability to actively participate and cooperate with other people, areas and/or organizations in order to achieve common goals.
- CT18: 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 competencies:

- CE4: Being able to describe and measure variables (personality, intelligence and other aptitudes, attitudes, etc.) and cognitive, emotional, psychobiological and behavioral processes.
- CE5: Being able to identify differences, problems and needs.
- CE6: Being able to diagnose in accordance with the criteria of the profession

- CE12: Knowing how to select and administer instruments, products and services, and being able to identify the individuals and groups concerned.
- CE13: Knowing how to design and adapt instruments, products and services, according to requirements and restrictions.
- CE14: Knowing how to check and validate instruments, products and services (prototypes or pilot tests).
- CE25: Knowing how to give precise and appropriate feedback to care recipients.
- CE26: Being able to prepare verbal and written reports.

Learning outcomes:

- LO1: Collect, analyze and interpret data.
- LO2: Learn the importance of statistics for the analysis of human behavior.
- LO3: Hold a critical view on the evaluation systems and statistical models.
- LO4: Discover and practice several statistical techniques.

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

Competencies	Learning outcomes
CBM1 CBPS8 CE4, CE25, CE26	LO1: To collect, analyze and interpret data
CBM2 CBPS2 CE6, CE28	LO2: To learn the importance of statistics for the analysis of human behavior
CBM4, CBM5 CBPS4, CBPS5 CE5	LO3: To hold a critical view on the evaluation systems and statistical models
CBM3 CBPS8 CE12, CE13, CE14	LO4: To discover and practice several statistical techniques

4. CONTENT

UNIT 1: Introduction to Statistics

UNIT 2: Descriptive Statistics

UNIT 3: Correlation and regression

UNIT 4: Foundations of Inferential Statistics

UNIT 5: t-tests

UNIT 6: Analysis of Variance

5. TEACHING-LEARNING METHODOLOGIES

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

- Lectures
- Debates
- Quizzes or simulations
- Use of computer programs

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
Practical activities	20 h
Problem solving	25 h
Lectures	30 h
Self-study	50 h
Test of knowledge	5 h
Research	15 h
Tutorials	5 h
Debates	10 h
Case studies	10 h
TOTAL	150 h

Online mode:

Learning activity	Number of hours
Practical activities	20 h
Problem solving	25 h
Lectures	30 h
Self-study	50 h
Test of knowledge	5 h
Research	15 h
Tutorials	5 h
Debates	10 h
Case studies	10 h
TOTAL	150 h

7. ASSESSMENT

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

Assessment system	Weight
<i>Test of knowledge</i>	50%
<i>Case analysis and problem solving</i>	20%
<i>Reports and writings</i>	15%
<i>Learning folder</i>	10%
<i>Poster</i>	5%

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
In-class activity 1 (Unit 1)	Week 2
Assignment 1 (Unit 1)	Week 3
In-class activity 2 (Unit 2)	Week 3
In-class activity 3 (Unit 2)	Week 3
In-class activity 4 (Unit 2)	Week 4
In-class activity 5 (Unit 2)	Week 4
Assignment 2 (Unit 2)	Week 5
In-class activity 6 (Unit 3)	Week 5
In-class activity 7 (Unit 3)	Week 6
In-class activity 8 (Unit 3)	Week 6
In-class activity 9 (Unit 3)	Week 7
In-class activity 10 (Unit 3)	Week 7
In-class activity 11 (Unit 3)	Week 8
Assignment 3 (Unit 3)	Week 8
In-class activity 12 (Unit 4)	Week 9
In-class activity 13 (Unit 4)	Week 9
In-class activity 14 (Unit 4)	Week 10
Assignment 4 (Unit 4)	Week 11
Assignment 5 (Unit 5)	Week 12

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

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- Meehl, P.E. (2013). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence*. Echo Point Books & Media.
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- Shaughnessy, J. J., Zechmeister, E. B., y Zechmeister, J. S. (2012). *Research Methods in Psychology*. New York: Mc Graw-Hill.

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.