



Information about the subject

Degree: Bachelor of Science Degree in Psychology

Faculty: Faculty of Psychology

Code: 291104 **Name:** Fundamentals and Analysis of Data

Credits: 6,00 **ECTS Year:** 1 **Semester:** 1

Module: RESEARCH FUNDAMENTALS AND METHODOLOGY

Subject Matter: STATISTICS **Type:** Basic Formation

Field of knowledge: Health Sciences

Department: Personality Psychology, Treatments, and Methodology

Type of learning: Classroom-based learning / Online

Languages in which it is taught: Spanish

Lecturer/-s:

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Module organization

RESEARCH FUNDAMENTALS AND METHODOLOGY

Subject Matter	ECTS	Subject	ECTS	Year/semester
STATISTICS	12,00	Fundamentals and Analysis of Data	6,00	1/1
		Psychometrics	6,00	2/1
RESEARCH METHODS, DESIGNS AND TECHNIQUES	6,00	Research Methodology	6,00	4/1
MODERN LANGUAGE	6,00	Scientific English	6,00	1/1

Recommended knowledge

The student is not assumed to have special knowledge of mathematics or statistics applied to the social sciences. However, he or she must know the fundamentals of data analysis corresponding to access to university. Mainly, this knowledge refers to basic descriptive statistical concepts, summary statistics, calculation and probability.



Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 Demonstrating the acquisition of a mental representation of the main research methods and techniques as well as their importance and usefulness.
- R2 Building a work team in order to practically apply the knowledge acquired through the presential activities and individual work.
- R3 Obtaining and organizing information from different sources (journals, books, videos, Internet).
- R4 Acquiring a correct mental representation of the theoretical-practical contents of the module.
- R5 Obtaining and organizing information from different sources (journals, books, videos, Internet) in order to create a test or for other purposes.



Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

SPECIFIC	Weighting			
	1	2	3	4
CE1 Analyzing needs and requests of addressee functions in different contexts.			X	
CE5 Identifying differences, problems and needs.			X	
CE7 Analyzing and assessing interaction processes, group dynamics and group and inter-group structures.			X	
CE12 Selecting and correctly using tools, products and services and identifying those people and group concerned.			X	
CE13 Designing and adapting tools, products and services to requirements and restrictions.	X			
CE14 Contrasting and checking tools, products and services (prototypes and pilot studies).	X			
CE25 To be able to measure and to collect relevant data for the evaluation of the interventions				X
CE26 Writing oral and written reports.		X		
CE27 Knowing and adapting to the psychology code of ethics.			X	
CE35 To know research methods and data analysis techniques.			X	
TRANSVERSAL	Weighting			
	1	2	3	4
CT1 Capacity to analyze and synthesize.			X	
CT2 Capacity to organize and plan.				X



CT3	Mastering Spanish oral and written communication.			X
CT4	Command of a foreign language.	X		
CT5	Knowing and applying Basic ITC skills related to Psychology.	X		
CT6	Capacity to manage information (capacity to look for and analyze information coming from different types of sources)			X
CT7	Problem solving.			X
CT9	Capacity to work in team.			X
CT12	Interpersonal skills.	X		
CT14	Critical capacity.			X
CT15	Ethics.	X		
CT16	Capacity to develop and update competences, skills and knowledge following professional standards.		X	
CT18	Capacity to produce new ideas (creativity).			X
CT25	Self-criticism ability: being able to critically assess one's performance.			X
CT30	Social commitment.	X		
CT35	Being able to develop audio-visual presentations.		X	
CT36	Being able to collect information using different kinds of sources.		X	



Assessment system for the acquisition of competencies and grading system

In-class teaching

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R5	60,00%	Oral and/or written tests employed in initial, training and/or summative student assessment.
R1, R2, R3, R4, R5	20,00%	Attendance and active participation: lessons, group assignments and tutoring sessions. It will be monitored and registered by the teacher.
R2, R3	20,00%	Group assignments.

Observations

CRITERIA FOR AWARDING HONORS:

To receive the honors award, students must achieve a final grade of 9.5 and above, demonstrating levels of excellence in oral and/or written exams used in the final, formative, and/or summative assessments, group assignments, as well as attendance and active participation. According to general regulations, only one honors award can be granted per 20 students, not for fractions thereof; an exception is made for groups of fewer than 20 students in total, for which one honors award may be granted.

OTHER RELEVANT ASPECTS OF THE EVALUATION:

To pass the course, the student must individually pass the different assessment systems (oral and/or written exams used in the final, formative and/or summative evaluation, group assignments, as well as attendance and active participation).

The final or summative assessment is conducted through a written and/or oral exam.

Online teaching

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R5	70,00%	Final evaluation consisting of essay questions and hypothetical scenarios.
R1, R2, R3, R4, R5	5,00%	Submitted tasks
R1, R2, R3, R4, R5	5,00%	Periodical assessment through questionnaires
R2, R3	20,00%	Attendance and participation in synchronic communication activities.



Observations

In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded.

Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1 Teacher presentation of contents, competency analysis, explanation and demonstration of capacities, abilities and knowledge in the classroom (presential modality).
- M2 Teacher-supervised groupwork sessions: case studies, diagnostic tests, problems, fieldwork, IT room, visits, data searches, libraries, web, Internet, etc. Building knowledge significantly through interaction and student activities (presential modality).
- M3 Supervised monographic sessions with shared participation.
- M4 Application of interdisciplinary knowledge.
- M6 Personalized attention in small groups. Training and/or orientation period by a teacher aimed at revising and discussing the materials and topics presented in the lessons, seminars, lectures, assignments, etc.
- M7 Set of oral and/or written tests employed in initial, training or summative assessment of the student.



- M8 Group preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be presented or handed in during theory lessons, practical lessons and/or tutoring sessions in small groups. Tasks done on the platform or other virtual spaces.
- M9 Students' independent study: individual preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be presented or handed in during theory lessons, practical lessons and /or small-group tutoring sessions. Tasks on the platform or other virtual spaces.
- M11 Teacher presentation of contents, competencies analysis, explanation and demonstration of capacities, abilities and knowledge on the virtual classroom.
- M12 Group work sessions via chat moderated by the teacher. Case studies –both real and fictional– aimed at building knowledge through interaction and students' activities. Critical analysis of values and social commitment.
- M13 Monographic sessions throughout the course, focused on current aspects and applications of the subject.
- M14 Set of oral and/or written tests employed in initial, training or summative assessment of the student.
- M15 Student's individual study: individual preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be discussed or turned in in electronic format.
- M16 Individualized attention for the monitoring and orientation in the learning process, performed by a tutor in order to revise and discuss the materials and topics, seminars, readings and assignments, etc.
- M17 Group preparation of readings, essays, problem resolution, seminars, assignments, reports, etc. to be discussed or handed in.
- M18 Participation and contributions to discussion forums related to the subject and moderated by the module's teacher.
- M19 Problem resolution, comments, reports to be handed in according to the deadlines throughout the course.



IN-CLASS LEARNING

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
ON-CAMPUS CLASS Teacher presentation of contents, analysis of competences, explanation and in-class display of skills, abilities and knowledge. M1, M2, M4, M6	R1	33,00	1,32
PRACTICAL CLASSES Group work sessions supervised by the professor. Case studies, diagnostic tests, problems, field work, computer room, visits, data search, libraries, on-line, Internet, etc. Meaningful construction of knowledge through interaction and student activity. M1, M2, M4, M6, M7, M9	R2, R5	15,00	0,60
SEMINAR Supervised monographic sessions with shared participation. M3	R1	2,50	0,10
GROUP WORK EXHIBITION Application of multidisciplinary knowledge. M2	R2	2,50	0,10
OFFICE ASSISTANCE Personalized and small group attention. Period of instruction and/or orientation carried out by a tutor to review and discuss materials and topics presented in classes, seminars, papers, etc. M6	R4	2,50	0,10
ASSESSMENT Set of oral and/or written tests used in initial, formative or additive assessment of the student. M1, M2, M3, M4, M6, M7, M8, M9	R1, R4	4,50	0,18
TOTAL		60,00	2,40



LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform M2, M6, M8	R1, R2, R3, R4, R5	30,00	1,20
INDEPENDENT WORK Student study: Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform. M1, M2, M4, M6, M9	R1, R2, R3, R4, R5	60,00	2,40
TOTAL		90,00	3,60



ON-LINE LEARNING

SYNCHRONOUS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Virtual session (distance learning) M11, M13, M19	R1, R2, R3, R4, R5	30,00	1,20
Virtual practical session (distance learning) M12, M13, M14, M17	R1, R2, R3	18,00	0,72
Seminar and virtual videoconference (distance learning) M12, M13	R3, R4	1,50	0,06
In-person or virtual assessment (distance learning) M14, M19	R1, R4	4,90	0,20
Individual tutoring sessions (distance learning) M15, M16, M17	R1, R2, R3, R4, R5	2,50	0,10
Discussion forums (distance learning) M11, M12	R2, R3	1,00	0,04
Continuous assessment activities (distance learning) M11, M12, M13, M14, M15, M16, M18, M19	R1, R2, R3, R4, R5	1,60	0,06
TOTAL		59,50	2,38

ASYNCHRONOUS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Individual work activities (distance learning) M11, M12, M13, M14, M15, M16, M18, M19	R1, R2, R3, R4, R5	60,00	2,40
Teamwork (distance learning) M12, M13, M14, M17, M18, M19	R1, R2, R3, R4, R5	30,50	1,22
TOTAL		90,50	3,62



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
Unit 1	Introduction to methodological pluralism
Unit 2	Unit II. Descriptive statistics with a single variable Topic 1. Frequency distribution Topic 2. Statistics that describes the distribution of a single variable
Unit 3	Unit III. Descriptive statistics with two variables Topic 1. Descriptive statistics with two variables Topic 2. Relational statistics (Correlation and Regression) Topic 3. Scale change
Unit 3	Introduction to inferential statistics: parameters and hypothesis testing



Temporary organization of learning:

Block of content	Number of sessions	Hours
Unit 1	5,00	10,00
Unit 2	10,00	20,00
Unit 3	10,00	20,00
Unit 3	5,00	10,00

References

References:

Suárez Falcón, Juan Carlos (2019). Introducción al Análisis de Datos. Aplicaciones en Psicología y Ciencias de la Salud. Sanz y Torres.

Amón, J. (2006). Estadística para Psicólogos I. Estadística descriptiva. Madrid: Pirámide.

Botella Ausina, J., Suero Suñe, M., & Ximénez Gómez, M. C. (2012). Analisis de datos en Psicología I. Pirámide, Madrid.

Pardo, A. y San Martín, R. (2006). Análisis de datos en Psicología II, 2º ed. Madrid: Pirámide