

## COURSE INFORMATION

### Research Methods and Techniques in Psychology

BASIC COURSE INFORMATION		
<b>Name:</b> Research Methods and Techniques in Psychology / Métodos y Técnicas de Investigación en Psicología		
<b>Module:</b> Research Methods, Designs and Techniques		
<b>Code:</b> 202310204	<b>Año del plan de estudio:</b> 2008	
<b>Type:</b> Mandatory (Obligatoria)	<b>Academic year:</b> 2020-2021	
<b>Credits:</b> 6	<b>Year:</b> 1 <sup>st</sup>	<b>Semester:</b> 2 <sup>nd</sup> semester (spring)
<b>Teaching language:</b> English		

TEACHING STAFF				
<b>Coordinator:</b> Jesús Gómez Bujedo				
<b>Centre/Department:</b> Faculty of Education, Psychology and Sports Science / Clinical Experimental and Social Psychology				
<b>Area:</b> Methodology of the Behavioral Sciences				
<b>Office:</b> Laboratory of experimental Psychology (Pavilion 8, Pabellón 8), office 31		<b>E-mail:</b> <a href="mailto:jesus.gomez@dpces.uhu.es">jesus.gomez@dpces.uhu.es</a>		<b>Telf.:</b> --
<b>URL Web:</b>				
<b>PROVISIONAL Office hours, fall semester<sup>1</sup>:</b>				
<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
	<b>11:15-12:15</b>	<b>10.00-12:00</b>	<b>9:00-11:00</b>	
			<b>13:30-14:30</b>	
<b>Office hours, spring semester:</b>				
<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
	<b>11:15-12:15</b>	<b>10.00-12:00</b>	<b>9:00-11:00</b>	
			<b>13:30-14:30</b>	
<b>Professor:</b> Fermín Fernández Calderón				
<b>Department:</b> Faculty of Education, Psychology and Sports Science / Clinical Experimental and Social Psychology				
<b>Area:</b> Methodology of the Behavioral Sciences				
<b>Office:</b> 28		<b>E-mail:</b> <a href="mailto:fermin.fernandez@dpces.uhu.es">fermin.fernandez@dpces.uhu.es</a>		<b>Telf.:</b> +34 959 218438
<b>URL Web:</b>				

<sup>1</sup> The schedule is subject to changes in both semesters after the publication of this document; Students are advised to check for updates in the notice boards of the Departments.

<b>PROVISIONAL Office hours, fall semester <sup>2</sup>:</b>				
<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
	11.15-14.15		11.15-14.15	
<b>Office hours, spring semester:</b>				
<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
	10.00-11.15			11.00-14.30
	13.15-14.30			

### PROGRAMME

**REQUIREMENTS AND / OR RECOMMENDATIONS:** None

There are no mandatory requirements. However, the following skills or interests are recommended:

- Completing the course *Fundamentals of Methodology in Psychology* in the fall semester.
- Personal computer skills (writing documents, use of spreadsheets, internet search, etc.).
- Interest in research.
- Interest in improving your communication skills in English.

**BASIC**

**COMPETENCES (BC):**

- BC1. Demonstrate to understand and have acquired knowledge about an area of study that starts from basic Secondary Education, and is often at supported by advanced textbooks, but also includes some aspects that involve knowledge related to the forefront of their field of study.
- BC2. Know how to apply their knowledge to their work or vocation in a professional way. They should also possess the skills that are usually demonstrated through the elaboration and defence of arguments and in problem solving within their area of study.
- BC3. Gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.
- BC4. Be able to convey information, ideas, problems and solutions to both specialised and non-specialised audiences.
- BC5. Develop the learning skills required to undertake further studies with a high degree of autonomy.

**TRANSVERSAL**

**COMPETENCES (TC):**

- TC1. Be completely fluent in Spanish, mastering the different styles and the specific languages required to develop and communicate the acquired knowledge in the scientific and academic environment.
- TC2. Develop a critical attitude, being able to analyse and synthesize.
- TC3. Develop an attitude of inquiry that permanently enables to review and deepen in the knowledge.
- TC4. Acquire Computer and Information Skills (CI2) and apply them

<sup>2</sup> The schedule is subject to changes in both semesters after the publication of this document; Students are advised to check for updates in the notice boards of the Departments.

working.

- TC5. Master strategies for active job search and entrepreneurship.
- TC6. To promote, respect and safeguard human rights, democratic values, social equality and environmental sustainability, without discrimination on the basis of birth, race, sex, religion, opinion or other personal or social circumstances.

**SPECIFIC**

**COMPETENCES (S):**

- S1. Know and understand the characteristics, functions, contributions and limitations of the different theoretical models in Psychology
- S6. Know and understand the research methods and designs, as well as the data analysis and interpretation techniques in Psychology
- S19. Observe the deontological commitments of Psychology

**COURSE-SPECIFIC**

**COMPETENCES (CS):**

- CS1. Effectively get information from books and specialised journals and other documentation sources
- CS2. Elaborate written and spoken reports
- CS3. Know and observe the deontological commitments of Psychology
- CS4. Know the characteristics of the scientific method and the steps of scientific research
- CS5. Identify psychological variables
- CS6. Identify the appropriate research methodology for a research objective in Psychology
- Communicate scientific results

**LEARNING OUTCOMES:**

After taking this course, students will develop the transversal and specific competencies described above. Learning these competences now will allow that the students understand the relevance of scientific research and its outcomes in their future professional practice. Also, students will be able to plan and carry out the basic features of the research methods described during the course as part of a research group. On the other hand, the different educational activities aim to encourage and develop several transversal competencies of the Grade in Psychology, such as teamwork abilities, science communication skills, and the relevance of ethical issues in Psychology.

**METHODOLOGY**

Educational activities	# Hours	Presence (%)
Large group classes: The teacher will make a presentation of the theoretical content. Along with this theoretical exposition, practical activities will be undertaken to enhance learning of the concepts presented. A list of tasks shall also be assessed to strengthen the knowledge acquired and that will be proposed at the beginning of the course.	33	100%
Small groups classes: small groups classes will be held, in part, in the computer rooms of the Campus del Carmen. In every practice the teacher initially will set out the objectives of the practice and the tasks in it. Students should make use of STATA software to solve the tasks. The practices will end with a discussion of the results obtained in order to	12	100%

strengthen the tools and methodological concepts used.		
Autonomous and/or supervised work: individual or collective supervision, self-evaluation activities, use of virtual forums, solving exercises, documentation and bibliography search, reading, document analysis, research design or planning, elaboration of individual or collective reports, etc.	105	0%
Other activities: Each course could specify additional activities and the time allocated for them.	0	

**Teaching activities:**

Teaching methodology	Mark
Lectures: including theoretical expositions and presentations, but also problem solving, debates, etc.	X
Practical classes: (either in the classroom or in the computer room, etc.); case examples or problem solving; visits; document analysis (readings, audio-visual material, etc.)	X
Direct tutoring: seminars individual or smaller group assignments, etc.	X

**Detailed description of the teaching activities:**

**DIRECT TUTORING:** Students shall interview the teacher, in his/her office hours, in order to answer questions, request additional guidance, correct exercises, etc. Tutoring schedules will be published at the start of the course.

**CONTENT**

**BLOCK 1. General topics**

**Unit 1: Introduction**

Scientific theories and its support: the systematization of knowledge acquisition through the scientific method. Steps of the scientific inquiry: research question, planning, data gathering and analysis, conclusions and communication. Degree of complexity of knowledge: descriptive, relational, predictive and causal. Requirements for each type of knowledge. Research methods or schemes.

**BLOK 2. Unitary studies**

**Unit 2: Qualitative methods**

Case studies: objectives, characteristics, type of studies, data collection and analysis.  
 Ethnographic studies: objectives, characteristics, type of studies, data collection and analysis.  
 Action Research: objectives, characteristics, type of studies, data collection and analysis. Quality assurance in studies employing qualitative methods.

**Unit 3: Observational methods**

Objective and characteristics. Type of observational studies. Units of analysis: subjects vs individuals. Molar-Molecular definitions of behavior. *Ad libitum* registries, narrative registries and arbitrary observation codes: Which one is more arbitrary? Participant selection: focal and multifocal sampling. Time sampling and event-sampling. Selection of time units. Descriptive and sequential data analysis. Quality criteria: Validity and reliability of observations. Threats to validity and

techniques to avoid them.

#### **Unit 4. Survey methods**

Objectives and characteristics. Definition of population and sample. Sample of subjects and sample of objects. Subject sampling methods. Instruments for object presentation: Surveys, questionnaires, scales and tests. Selection of objects. Data collection procedures. Research designs using surveys. Data analysis in survey research. Quality criteria: reliability and validity. Threats to validity and techniques to avoid them.

#### **BLOCK 3. Relational studies**

#### **Unit 5. Experimental method with groups of subjects**

Objectives. The logic of experiments. Concept of experimental design. Manipulation, measurement and control. The "Max-Min-Con" rule. Internal and external validity: threats and techniques to avoid them. Phases of an experiment. Cross-sectional and longitudinal strategies. Interaction between variables. Classification of experimental designs with groups of subjects. Data analysis in experimental studies. Quality assurance.

#### **Unit 6. Single case experimental designs**

Objectives and characteristics. Pre-experimental basic design, AB. Internal and external validity in single case experimental designs. Reversal designs. Non reversal designs. Data analysis in n-of-one experimental designs. Quality assurance.

#### **Unit 7. Quasi-experimental methods**

Objective and characteristics. Control of extraneous variables and assignment of experimental units. Types of quasi-experimental designs. Data analysis in quasi-experimental designs. Quality assurance.

#### **Unit 8. Ex post facto methods**

Characteristics. Prospective and retrospective ex post facto studies: classification. Data collection and analysis in ex post facto studies. Quality assurance.

#### **BLOCK 4. Practical sessions**

#### **Unit 9. Writing research reports: scientific writing workshop**

Characteristics of scientific writing. Scientific and literary styles.

#### **Unit 10. Practical sessions in research design in Psychology**

#### **BIBLIOGRAPHY**

##### **Recommended Handbook**

- Shaughnessy, J. J., Zechmeister, E. B., & Zechmeister, J. S. (2014). *Research Methods in Psychology* (10th ed.). New York: McGraw-Hill

##### **Other recommended material**

- American Educational Research Association, American Psychological Association, National Council on Measurement in Education (2014). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.
- Burke, J. (2004). *Educational research: quantitative, qualitative and mixed*

*approaches*. Boston: Pearson Education.

- Davies, M.B. (2007). *Doing a successful research project: using qualitative or quantitative methods*. Basingstoke: Palgrave Macmillan.
- Creswell, J.W. (2008). *Educational Research. Planning, conducting and evaluating quantitative and qualitative research*. New Jersey: Pearson International
- Hand, D.J. (2004). *Measurement theory and practice: the world through quantification*. London: Arnold
- Shaughnessy, J. J., Zechmeister, E. B., & Zechmeister, J. S. (2012). *Research Methods in Psychology* (9th ed.). New York: McGraw-Hill

## **ASSESSMENT**

Two assessment modalities will be considered: Continuous evaluation (Classroom based modality) and Single final evaluation (Single Distance learning modality):

### **Continuous evaluation:**

1. For all students except those who meet the terms specified in article 8 of the evaluation regulation of the University of Huelva.
2. The assistance is mandatory for the students in this modality. A maximum of three justified absences will be allowed (with the proper certification); in the case of a higher number of absences, the student will not be evaluated in June.

### **Evaluation and qualification:**

3. Final exam:
  - a. Format: 30 multiple-choice items with three answer options. Only one of the options will be correct.
  - b. Weight: This test counts 6 out of 10 points in the final score of the course.
  - c. Correction: Each correct answer will add a point while each error will diminish half a point. The maximum score (10) will be get with 30 points and a score of 5 will be get if the student achieves 15 points in the multiple-choice test.  
The score (between 0-10) is weighted as follows:  
$$\text{Weighed score} = \text{test score} * 6/10$$
  - d. Content: 80% of the multiple-choice test consists of items related to the theoretical block (lessons 1, 2 and 3), while 20% left consist of items related to the practical contents (lessons 4, 5 and 6).
  - e. Assessment: to pass the multiple-choice test it is necessary to get a score of 5 out of 10 (or 3 out of 6 when considering the weighted score). If the student fails the test, the student will have to repeat it in the September summon. In this case the score of the research project (see section 4 below) will not be added.
  - f. The multiple-choice test will have the same format in June and September. In case of failing this test in June the score will not be saved until September, so the student will have to repeat it.
4. Participation in a group research project.
  - a. It counts 4 out of 10 in the final score (presentation of written report: 3 points, oral presentation: 1 point).
  - b. The work group will be working on the research project from

February to June. Those students who give up the group work will get a 0 score in this part of the course.

c. Format:

- i. The work group will be compound by 4-5 students
- ii. The 4 possible points to get in the research project are distributed in:
  - 3 points: Development of a research and communication of its results through a written research report presented in APA format.
  - 1 point: Oral communication of the research report to the classmates.

5. September summons:

- a. In case of failing the course in June, the student could pass it in September. The student must pass the multiple-choice test. The score of the research project (paper + oral communication) developed in June will be added in September if the student gets, at least, a 5 out of 10 points in the multiple-choice test.
- b. The student in the "Classroom based modality" that fail in June can take the exam in September under the same modality, or choose to switch to the "Distance learning modality".

**Techniques and instruments of evaluation:**

- Multiple choice test
- Participation in a group research project
- Open questions exam

**Single final evaluation:**

This modality is designed for those students who certified the circumstances specified by article 8 of the evaluation regulation of the University of Huelva.

**Evaluation and qualification:**

This modality implies two exams:

- a) Multiple choice test. This test will be equal to those in "Classroom based modality"
  - a. To pass the multiple choice test the student must get 5 out of 10 points. This score will count 6 out of 10 in the final score of the course. To do this, the score will be weighted as follows: Weighed score = test score \* 6/10.
  - b. If the multiple-choice test is failed, the student will have to repeat it in September.
- b) Open questions exam.
  - a. This exam consists of different open questions related to research methods.
  - b. The maximum score in this exam will be 4 points.
  - c. The score in this exam **WILL NOT be saved** until September. If the student fails the multiple choice test in June, both the open questions exam and the multiple choice test, will be repeated in September.

**Techniques and instruments of evaluation:**



- Multiple choice test
- Open questions exam

**Evaluation in case of incidents:** The evaluation in case of incidents will consist of an open question exam (see Article 9 of the evaluation regulation of the University of Huelva).

#### **CONTROL AND FOLLOW – UP PROCEDURES**

Periodical communication through the virtual platform (Forums and messages)  
Individual and collective tutoring.



ANNEX II  
**ADDENDA FOR THE ADAPTATION OF THE COURSE GUIDE IN TEACHING  
 SCENARIOS A AND B FOR THE ACADEMIC COURSE 2021-22**

GRADE IN PSYCHOLOGY		
Course: Fundamentals of Methodology in Psychology		
Year	1	Semester
		Spring
SCENARIO A (semi presence teaching)		
Adaptation of the course content to online teaching		
<p><i>The experience of the spring semester during course 19-20 showed that both teachers and students need more time to adapt and learn the same content in a context of confinement and distance learning. This was more evident in the case of foreign students. In the event of an adaptation to total or partial online teaching the course contents will remain the same as far as it is possible, but the depth of the content will probably diminish.</i></p> <p><i>Large group classes will be taught online using the handbook and the main source of content. Given that most students use English as a second language, printed and written materials will be preferred. Videoconferences and presentations will be always optional and complementary, not mandatory.</i></p> <p><i>Small group classes will be taught in the classroom whenever possible.</i></p> <p><i>Individual tutorship and office hours will be offered in person and/or online if required.</i></p> <p><i>Exams will be carried out in the classroom if possible.</i></p>		
Adaptation of teaching activities and methodologies		
<p>Classes in <b>large groups</b> will be substituted for readings and assignments using a handbook. This decision was made to avoid relying too much in synchronous videoconferences or recorded voice, which could be very inefficient for students in different time zones and using English as their second language.</p> <p>Classes in <b>small groups</b> (practical classes) will be taught as described in the course guide. <b>Individual tutoring</b> will be substituted by on-demand video conferences and asynchronous questions via e-mail or in the forums in Moodle.</p> <p><b>Exams</b> will be carried out in the classroom if possible.</p>		
Teaching activities	Format (presence/online)	Description of the teaching methodology
Large group classes	Online	Readings and assignments using the handbook and the online platform.
Small group classes	Presence	As described in the course guide
Evaluation	Presence	As described in the course guide
Individual tutorship	Presence / Online	As described in the course guide or via videoconference if requested

**Adaptation of the evaluation system**

*The evaluation will take place in the classroom if possible, under the same premises and regulations described in the course guide. The exam will be divided in two parts to favour continuous evaluation: The first part will contain Blocks 1 and 2 and the second part Blocks 1 to 3 (continuous evaluation).*

Evaluation activity	Format (presence/online)	Description	Percentage
Exam (Blocks 1 & 2)	Presence	As described in the course guide	20%
Exam (Block 1 - 3)	Presence	As described in the course guide	40%
Group research project	Presence	As described in the course guide	40%

**SUMMARY**

**CONTINUOUS EVALUATION SYSTEM**

Evaluation activity	Format (presence/online)	Description	Percentage
Exam (Unit 1)	Presence	As described in the course guide	20%
Exam (Units 2 & 3)	Presence	As described in the course guide	40%
Group project	Presence	As described in the course guide	40%

**SINGLE FINAL EVALUATION SYSTEM**

Evaluation activity	Format (presence/online)	Description	Percentage
Multiple choice test	Presence	As described in the course guide	60%
Open questions exam	Presence	As described in the course guide	40%

*Any student who failed to pass the course in the June exams can try again in the September exams under the regulations described in the course guide for the September summons. The grades of the group project obtained in June can be saved. The student can choose whether to keep his/her score or to change to the single final evaluation system in September as described in the course guide.*

### SCENARIO B (Online teaching)

#### Adaptation of the course content to online teaching

*The experience of the spring semester during course 19-20 showed that both teachers and students need more time to adapt and learn the same content in a context of confinement and distance learning. This was more evident in the case of foreign students. In the event of an adaptation to online teaching the course contents will remain the same as far as it is possible, but the depth of the content will probably diminish.*

*Large group classes will be taught online using the handbook and the main source of content. Given that most students use English as a second language, printed and written materials will be preferred. Videoconferences and presentations will be always optional and complementary, not mandatory.*

*Classes in small groups (practical classes) will be substituted for individual assignments where students will have to design a research proposal adapted to their country and other individual characteristics.*

*Individual tutoring will be substituted by on-demand video conferences and asynchronous questions via e-mail or in the forums in Moodle.*

*Exams will be arranged in the virtual platform.*

#### Adaptation of teaching activities and methodologies

Classes in **large groups** will be substituted for readings and assignments using a handbook. This decision was made to avoid relying too much in synchronous videoconferences or recorded voice, which could be very inefficient for students in different time zones and using English as their second language.

Classes in **small groups** (practical classes) will be substituted for individual assignments where students will have to design a research proposal adapted to their country and other individual characteristics.

**Evaluation** will be arranged online

**Individual tutoring** will be substituted by on-demand video conferences and asynchronous questions via e-mail or in the forums in Moodle.

Teaching activities	Format (presence/online)	Description of the teaching methodology
Large group classes	Online	Readings and assignments using the handbook and the online platform.
Small group classes	Online	individual assignment: writing a research proposal
Evaluation	Online	Platform or videoconference
Individual tutorship	Online	Using the virtual platform or videoconference if requested

### Adaptation of the evaluation system

#### Continuous evaluation:

Continuous evaluation will consist of three tests and one written assignment:

1. Asynchronous online quiz (Units 1 & 2, 10% of the final score). The quiz will take place using Moodle platform. The deadline will be published at least one week in advance. The test will comprise 20 items with three options. Errors will not discount points. Only correct answers above the number expected by chance ( $20 * 0.33 \approx 6$ ) will count. Any further correct answer will add points up to 20 (See the table below for a reference in the 0 - 10 scale).

Correct answers	Grade [0 – 10]
0	0,00
1	0,00
2	0,00
3	0,00
4	0,00
5	0,00
6	0,00
7	0,71
8	1,43
9	2,14
10	2,86
11	3,57
12	4,29
13	5,00
14	5,71
15	6,43
16	7,14
17	7,86
18	8,57
19	9,29
20	10,00

2. Asynchronous online quiz (Units 5 & 6, 20% of the final score). This test will have the same characteristics as the previous one.
3. Asynchronous online quiz (Units 7 & 8, 30% of the final score). This test will have the same characteristics as the previous one.
4. Individual assignment (Units 9 & 10, 40% of the final score). Students will have to design a research proposal adapted to their country or other individual characteristics. The specific format and the deadlines will be informed by the professors at least two weeks in advance.

If plagiarism is detected in any of the written assignments the rules specified in the evaluation guidelines of the University will be applied.

The final grade in the continuous evaluation option will be the sum of all four scores. No minimum requirement will be necessary to add a score.

### Single final evaluation

Only those students who ask in due time according to the rules of the University will be assigned to the single final evaluation option.

The single final evaluation option will consist of a single exam. Each student will respond to a 20 item 3 option test via videoconference with one of the professors of the course. The maximum duration will be one hour, and it will take place in the official date approved by the Faculty. Each correct answer will add one point, and each incorrect answer will subtract 0.5 points. Ten points will be considered as a 5 in a 0 – 10 scale.

The exam will include question regarding all the evaluable units.

### Incidences evaluation

Any student who demands it in the terms established by the University of Huelva will be allowed to participate in this evaluation. In any cases, this evaluation will be conducted via videoconference with one of the professors of the course.

### September evaluation

Any student who failed to pass the course in the June exams can try again in the September exams under the regulations described in for the Single Final evaluation above. The grades of the group project obtained in June can be saved. The student can choose whether to keep his/her score and take the exam for the remaining 60% of the grade or to change to the single final evaluation system in September as described in the course guide.

### SUMMARY

<b>CONTINUOUS EVALUATION SYSTEM</b>			
Evaluation activity	Format (presence/online)	Description	Percentage
Exam (Blocks 1 & 2)	Online	Asynchronous online quiz	10%
Exam (Units 5 & 6)	Online	Asynchronous online quiz	20%
Exam (Units 7 & 8)	Online	Asynchronous online quiz	30%
Individual written assignment	Online	Design a research proposal	40%
<b>SINGLE FINAL EVALUATION SYSTEM</b>			
Evaluation activity	Format (presence/online)	Description	Percentage
Multiple choice test	Online	Synchronous online quiz via videoconference	100%