

**COURSE DATA****DATA SUBJECT****Code:** 33731**Name:** Data analysis in education**Cycle:** Undergraduate Studies**ECTS Credits:** 6**Academic year:** 2026-27**STUDY (S)**

Degree	Center	Acad. year	Period
1307 - Degree in Pedagogy	Facultat de Filosofia i Ciències de l'Educació	2	Second quarter

**SUBJECT-MATTER**

Degree	Subject-matter	Character
1307 - Degree in Pedagogy	Methods of educational research	COMPULSORY

**COORDINATION**

LOPEZ GONZALEZ MARIA EMELINA

BO BONET ROSA MARIA

**SUMMARY**

Through this subject it is intended to provide the student with basic information so that he or she can understand the formations of the methods and techniques for Data Analysis, predominantly quantitativus, and its application in the field of education. The analysis of Dades is produced with one more component than the professional performance of the pedagogue, in the general process aimed at responding to the questions that concern him.

It is necessary to review the main descriptive and inferential techniques consistent with the predominant research strategies in the educational field. The approach is essentially based on the understanding, the adjustment to what is to be responded to (decision making) and the interpretation of the information obtained. Therefore, it is considered fundamental to learn from the proposal of practical elements that work to connect the different theoretical and methodological aspects with the reality that we are interested in addressing.

**PREVIOUS KNOWLEDGE****RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE**

There are no specified enrollment restrictions with other subjects of the curriculum.



## OTHER REQUIREMENTS

The requirements that mark the degree verification.

## COMPETENCES / LEARNING OUTCOMES

### 1307 - Degree in Pedagogy

Apply and coordinate educational programmes and methodologies for personal, social and professional development.

Be able to evaluate the teaching-learning processes and the educational agents.

Be prepared for independent lifelong learning.

Capacidad crítica y autocrítica.

Capacidad de adaptación a situaciones nuevas.

Capacidad de comunicación profesional oral y escrita en las lenguas propias de la Universitat de València.

Capacidad de gestión de la información.

Capacidad de resolución de problemas y toma de decisiones.

Capacidad de utilización de las TIC en el ámbito de estudio y contexto profesional.

Capacidad para desarrollar, promover y dinamizar habilidades de comunicación interpersonal.

Capacidad para integrarse y comunicarse con expertos de otras áreas y en distintos contextos.

Capacidad para realizar investigación educativa en diferentes contextos.

Compromiso con la identidad, desarrollo y ética profesional.

Compromiso ético activo con los derechos humanos y la sostenibilidad.

Conduct prospective and evaluative studies on educational characteristics, needs and demands.

Desarrollo de la innovación y la creatividad en la práctica profesional.

Design educational plans, programmes, projects, actions and resources in different contexts.

Design programmes, projects and innovative proposals for training and for developing educational resources in work, family and institutional contexts, in both face-to-face and virtual environments.

Design training plans for teachers, trainers and other professionals that are suited to new situations, needs and contexts.



Develop quality management models and processes for education and training.

Develop strategies and techniques to promote participation and lifelong learning.

Develop the capacity for organisation and planning.

Diagnosticar necesidades, situaciones complejas y posibilidades de las personas para fundamentar las acciones educativas.

Elaborar instrumentos para la recogida y análisis de información educativa.

Gestión de la calidad.

Organise and manage schools and educational institutions, services and resources.

Prepare and interpret technical, research and evaluation reports on educational actions, processes and results.

Skills in analysis and synthesis.

Supervisar y evaluar planes, programas, proyectos y centros.

## DESCRIPTION OF CONTENTS

**1. Data analysis within the general research process.**

**2. Tools for data analysis.**

**3. Quantitative data analysis.**

**4. Qualitative data analysis.**

**5. Quality criteria in data analysis**

## WORKLOAD

### PRESENCIAL ACTIVITIES

Activity	Hours
Theory	15,00



Computer classroom practice	45,00
<b>Total hours</b>	<b>60,00</b>

### NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	7,50
Individual or group project	30,00
Independent study and work	20,00
Preparation of lessons	30,00
Preparation for assessment activities	2,50
Resolution of case studies	0,00
<b>Total hours</b>	<b>90,00</b>

### TEACHING METHODOLOGY

#### Theoretical Classes:

Theoretical classes consist of explanations by the faculty and contributions and comments from students on the essential readings and supplementary bibliography for each topic.

As support, materials located in the virtual space and various resources required by the dynamics of the course are provided. The theoretical content is intertwined with the practical work of the subject.

#### Practical Classes:

The practical work on the theoretical content consists of solving simple questions, with complementary comments, or analyzing research reports to recognize and interpret in context the key data analysis elements of the study in question. The objective is to gradually address the complex concepts of the subject in a more simplified manner. At the same time, the goal is to familiarize students with the types of issues they will need to address in the assessment of the subject. Specific data analysis practices are carried out in the computer lab using statistical packages commonly used in educational research, such as SPSS or Excel. It is important to highlight the essential role these tools play in data analysis for educational research.

Students have the opportunity to voluntarily complete and submit proposed practices, which must be uploaded to the virtual space on the scheduled date. The evaluation of these practices will have a direct, and always positive, impact on their final grade.

#### Specialized Tutorials:

If students require it, specialized tutorial sessions, group or individual, are available during the designated timeframe. These tutorials are held in the faculty's offices or in a designated classroom, if group sessions are held. They also serve as a mechanism for monitoring and supporting the study of the subject.

#### Complementary Activities:

Students receive information about the various complementary activities proposed by the Degree Academic Committee and about in-depth seminars on various topics.

#### Voluntary Work:



Students have the opportunity to voluntarily prepare a public presentation on a topic included in the course syllabus. This option is complementary to, and not a substitute for, the work scheduled for the course in the Teaching Guide.

## EVALUATION

### Assessment:

The assessment of the course is based on: (a) the bibliographic material indicated in each topic, (b) the content covered in the theoretical classes, including an explanation of the bibliographic material indicated in each topic, (c) the content covered in the practical exercises, (d) the score obtained in the practical exercises submitted.

### Instruments:

Exam on the theoretical and practical content.  
Practical exercises completed.

### Criteria:

Level of theoretical knowledge acquired.

Resolution of practical questions posed in the assessment exercise.

## REGULATIONS FRAUDULENT ACTS AND USE OF THE IAG

Fraudulent conduct in assessment tests and plagiarism in assessment work will be considered in accordance with the UV Assessment and Grading Regulations (ACGUV 108/2017) and the Protocol for Action against Fraudulent Practices (ACGUV 123/2020).

The use of technologies (including AI) to create assessment materials without prior and express authorization from the teaching staff will prevent them from being considered as self-authored and will be treated according to current regulations and the UV Code of Coexistence and Good Practices (ACGUV 300/2023, DOGV, no. 9747/18.12.2023).

## REFERENCES

### Referencias básicas

- Tourón, J. (Ed.), Lizasoain Hernández, L., Navarro Asencio, E. y López-González, E. (2023). *Análisis de Datos y Medida en Educación. Vol. I.* UNIR Editorial.
- Tourón, J. (Ed.), López-González, E., Navarro Asencio, E. y Lizasoain Hernández, L. (2023). *Análisis de Datos y Medida en Educación. Vol. II.* UNIR Editorial.

### Referencias complementarias



- Cohen, L., Manion, L. y Morrison, K. (2011). *Research Methods in Education* (7<sup>a</sup> ed.). London: Routledge (Caps. 34, 35, 36 y 38).
- Martínez-Arias, R., Chacón, J.C. y Castellanos-López, M.A. (2014). *Análisis de datos en Psicología y Ciencias de la Salud. Vol. I: Exploración de datos y fundamentos probabilísticos*. Madrid: EOS (Caps. 1, 3, 4 y 6)
- Martínez-Arias, R., Castellanos-López, M.A. y Chacón, J.C. (2014). *Análisis de datos en Psicología y Ciencias de la Salud. Vol. II: Inferencia estadística*. Madrid: EOS (Caps. 1, 3, 4, 5)
- Murillo, F.J. y Martínez-Garrido, C. (2022). *Análisis de datos cuantitativos con SPSS en investigación socioeducativa*. UNED
- Pardo, A., Ruiz, M.A. y San Martín, R. (2009). *Análisis de datos en ciencias sociales y de la salud. Vol. I*. Madrid: Síntesis
- Pardo, A. y San Martín, R. (2010). *Análisis de datos en ciencias sociales y de la salud. Vol II*. Madrid: Síntesis