# COURSE DATA

| Data Subject | |
|---|---|
| **Code** | 33732 |
| **Name** | Educational measurement |
| **Cycle** | Grade |
| **ECTS Credits** | 6.0 |
| **Academic year** | 2024 - 2025 |

**Study (s)**

| Degree | Center | Acad. year | Period |
|---|---|---|---|
| 1307 - Degree in Pedagogy | Faculty of Philosophy and Educational Sciences | 2 | First term |

**Subject-matter**

| Degree | Subject-matter | Character |
|---|---|---|
| 1307 - Degree in Pedagogy | 72 - Methods of educational research | Obligatory |

**Coordination**

| Name | Department |
|---|---|
| BAKIEVA KARIMOVA, MARGARITA | 270 - Research Methodology, Educational Diagnosis and Assessment |
| GONZALEZ SUCH, JOSE | 270 - Research Methodology, Educational Diagnosis and Assessment |
| JORNET MELIA, JESUS MIGUEL | 270 - Research Methodology, Educational Diagnosis and Assessment |

# SUMMARY

This course is part of the curriculum of the degree of Pedagogy. Given the instrumental nature of this matter, we think that it is an essential course for any educator taking into account the requirements of its performance.

The main objective of this course is to give the student the basic information to understand the fundamentals of measurement in education, as well as the methods of elaboration of the instruments of measurement and its proper use.

Thus, we present a comprehensive programme, being aware that the material time of an only course could not cover it; However, we prefer to offer the student the overall vision of the subject and that it is the dynamics of the course which would raise the limits on the objectives we have set. In any case, consider two types of thematic nuclei: basic and specific. The first are necessarily taught, and the latter constitute a framework for the student.

The contents of this course serve as base and/or complement to other subjects.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

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

### Other requirements

This area is framed in the 2nd year of the degree, so that the student will have already or will be studying some matters that are the basis and complement knowledge which must possess to pursue her: introduction to the educational research, methods of collecting information and data analysis techniques. Practices will be held in the school computer room, which is why it is essential that the student already has skills in the management of the computer and knowledge of ICT.

## COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

### 1307 - Degree in Pedagogy

- Prepare and interpret technical, research and evaluation reports on educational actions, processes and results.
- Conduct prospective and evaluative studies on educational characteristics, needs and demands.
- Know the principles and fundamentals of attention to diversity in education and implement and coordinate educational interventions with persons or groups with special educational needs or in situations of risk, inequality or discrimination based on gender, class, ethnicity, age, disability and/or religion.
- Be able to evaluate educational policies, institutions and systems.
- Be able to evaluate educational and training resources.
- Be able to evaluate the teaching-learning processes and the educational agents.
- Develop quality management models and processes for education and training.
- Capacidad de resolución de problemas y toma de decisiones.
- Capacidad crítica y autocrítica.
- Gestión de la calidad.

- Diagnosticar necesidades, situaciones complejas y posibilidades de las personas para fundamentar las acciones educativas.
- Elaborar instrumentos para la recogida y análisis de información educativa.
- Capacidad de comunicación profesional oral y escrita en las lenguas propias de la Universitat de València.
- Capacidad de gestión de la información.
- Capacidad de trabajar en equipos multi e interdisciplinares.
- Capacidad para integrarse y comunicarse con expertos de otras áreas y en distintos contextos.
- Capacidad para desarrollar, promover y dinamizar habilidades de comunicación interpersonal.
- Compromiso con la identidad, desarrollo y ética profesional.
- Develop the capacity for organisation and planning.
- Capacidad de utilización de las TIC en el ámbito de estudio y contexto profesional.
- Skills in analysis and synthesis.
- Capacidad de adaptación a situaciones nuevas.
- Desarrollo de la innovación y la creatividad en la práctica profesional.
- Capacidad para realizar investigación educativa en diferentes contextos.
- Compromiso ético activo con los derechos humanos y la sostenibilidad.

## LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

At the end of the course the student is expected to be able to:

1. Develop and interpret educational achievement tests.
2. Prepare and interpret technical reports on performance tests and the level achieved by thestudents.
3. Carry out prospective and evaluative studies on educational characteristics, needs and demands,by building tests
4. Take into account the attention to diversity in the construction of tests, as well as elaborate testsspecific that do not produce bias in the measurement in Education.
5. Evaluate the students 'learning level and the students' teaching-learning processes
6. Properly use the ICT applications associated with the content of the subject.

## DESCRIPTION OF CONTENTS

## 1. Introduction

Educational Measurement and Evaluation in the context of the Educational Sciences. Models of measurement and evaluation. Historical development. The conceptualization of variables involved in the educational process. Analysis units and elements of quantification. Measurement, evaluation and evaluative research in education. Concepts. Common and differential aspects. Techniques and instruments for collecting information. Classification criteria. Techniques and instruments: classification and applications. Standardized instruments: Norm-refered and criterion-refered. Not standardized instruments. Types of test: evaluation of the performance and competence evaluation.

## 2. Item Analysis

Norm and Criterion referenced tests. The classical theory of the Tests. Definition, types and classification. Internal units. Stages in the construction of a performance test. Design and analysis of elements. Types of elements. Analysis of elements. Basic parameters: difficulty and discrimination. Efficiency.

## 3. Reliability and Validity

The reliability as internal structure of the measure. Strategies of analysis. Types of error. Validity of the tests. Fundamental concepts. Types of validity. Validity and bias of test.

## 4. Standards

The process of evaluation/classification of the test. The normative interpretation of the measure. Criterion refered measurement. Types of standards. Tests of normality. Establishment and determination of rules and standards. Standardization procedures. Calibration. Test equating.

## 5. Alternatives for Classic Measurement Models

Elements of criticism of classical test theory. Theory of the Generalizability. Item response theory. tailored tests. Computerized Adaptive tests. Criteria of quality of evidence. Critical analysis of its technical components. Interpretation of technical manuals of tests. Quality and ethics.

## WORKLOAD

| ACTIVITY | Hours | % To be attended |
|---|---|---|
| Theory classes | 30,00 | 100 |
| Computer classroom practice | 30,00 | 100 |
| Attendance at events and external activities | 2,00 | 0 |
| Development of group work | 5,00 | 0 |
| Development of individual work | 20,00 | 0 |
| Study and independent work | 18,00 | 0 |
| Readings supplementary material | 5,00 | 0 |
| Preparation of evaluation activities | 18,00 | 0 |
| Preparing lectures | 5,00 | 0 |
| Preparation of practical classes and problem | 10,00 | 0 |
| Resolution of case studies | 5,00 | 0 |
| Resolution of online questionnaires | 2,00 | 0 |
| **TOTAL** | **150,00** | |

## TEACHING METHODOLOGY

The methodology of work that we are going to develop in the course includes the following aspects:

***Theoretical classes.*** They will be based on the exhibition by the Professor of the theoretical aspects of the matter, using the master lesson participatory, or a debate on a specific topic, that allows to link up with the development of the contents to be exhibited below. During the development of the class, it will motivate students to participate in discussions and debates on the studied subject. In some classes a given text (articles of scientific journals, chapters specific to book or manual of use of standardized instruments) will be recommended to students and will be discussed in class at the level of general group.

***Practical classes***. In the context of the class, a programme of practical and applied, activities related to the theoretical content of the subject will be submitted to the student. The scheme of work will consist of the presentation by the Professor of practical activity is that they will develop and then the students should be practices on computers through the software installed for the purpose. During the development of practices, the Professor will attend all the doubts of the students during the execution of the same. Students must submit practices once completed, in order that the Professor can correct possible errors during the development of the course.

## EVALUATION

**The course evaluation will include:**

During the course the practices carried out will be evaluated and reviewed. Therefore, a continuous evaluation of the learning and the results of the students will be carried out.

At the end of the course there will be a theoretical test and a practical test on the contents of the subject. This evaluation will be fundamentally summative in nature.

A qualification test of the Theory will be carried out. This test will account for 50% of the subject.

Carrying out practical exercises in the classroom. If the student has attended 75% of the practices carried out, she will be able to present the practices applying the aspects that will be covered in the practical classes. Otherwise, she will carry out a practical exercise in the classroom at the time established for this purpose. These tests represent 50% of the total grade for the subject.

Carrying out voluntary activities proposed by the teacher.

The maximum grade obtainable by exams is 10 points, corresponding to the final grade. To pass the whole subject it is necessary to achieve at least 50% of the maximum marks assigned to each block, theoretical or practical. Obtaining a partial grade of less than 5 points necessarily entails its recovery.

The grading system will be expressed by means of a numerical qualification in accordance with that established in the regulations (RD 1125/2003 of September 5), fear that the European credit system and the qualification system in official university degrees will be established and Valid throughout the national territory. To consider:

• There is no difference in the evaluation procedure between the first and second call.

• The evaluation sections are recoverable on second call.

**Formative assessment:**

During the development of the subject, participation, interest in the subject, collaboration with classmates and active participation in class will be valued.

**Evaluation criteria**

*Theory*

- Mastery of specific terminology and conceptual precision.
- Active participation, commitment and interest.

*Practices*

- Class attendance.
- Active participation, commitment and interest.
- Quality of the work and practices carried out: adaptation to the theoretical concepts explained, elaboration, originality, incorporation of additional information, etc.
- Compliance with the established delivery deadlines.
- Clarity of work, organization of ideas, capacity for analysis and synthesis.
- Richness, originality and relevance of the interpretation of the data.

## REFERENCES

### Basic

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  Muñiz, J. (1997). Introducción a la Teoría de Respuesta a los Items. Pirámide.
  Olea, J.; Ponsada, V. y Prieto, G. (1999). Tests informatizados. Fundamentos y aplicaciones. Pirámide.
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