Information about the subject

Degree: Master's Degree in Teacher Training for Secondary Education, Baccalaureate, Vocational Training and Language Teaching

Faculty: Teaching and Educational Sciences

Code: 1020043   **Name:** Innovation and educational research in didactics of Technology

Credits: 6   **ECTS**   **Year:**   2024-25 **Semester:** 2

Module: Specific Module

Subject Matter: Technology's Education   **Type:** Basic formation

Department: Mathematics, **Na**tural Sciences and Social Sciences applied to Education

Type of learning: Classroom-based learning

Language(s) in which it is taught: Spanish

Lecturer/-s

Name and surname: **Dr. D. Carlos Ferreira-Gauchía**   carlos.ferreira@ucv.es

Module organization

BASIC THEORETICAL TRAINING

Subject Matter	ECTS	Subject	ECTS	Year/semester
Complements for disciplinary training	6	Technology in Secondary Education	6	1/1
Learning and teaching of the corresponding subjects	12	Didactics of Techonology	6	1/1
		Didactic Resources for Teaching in Technology	6	1/2
Innovation in teaching and introduction to educational research	6	Innovation and Research in Didactics of Technology	6	1/2

Recommended Knowledge

Not required

Learning outcomes

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

Code	Learning outcomes
RA	Understand the concept of quality to analyze critically teaching practices.
RB	Identify the most common situations related to the teaching and learning process.
RC	Knowing transform a simple educational approach in a sequence of activities by selecting the most appropriate educational material.
RD	Understand the concept of innovation and evaluation in relation to the classroom.
RE	Be able to design a short research project and evaluate the outcome.
RF	Learn important information about issues related to specific teaching.
RG	Knowing how to relate theory and practice to build teacher knowledge.
RH	Knowing how to communicate a brief didactic or research in a formal situation.

Competences

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

Code	Generals	Weighting			
		1	2	3	4
CG1	Competence in the application of acquired knowledge and problem solving abilities, encountered in new or unfamiliar environments; and, initiated within broader contexts or multidisciplinary scopes relative to one's field of study;			X	
CG2	Capability to integrate knowledge and determine complex judgment calls based on information which incorporates, but is not limited to, reflections on social and ethical responsibilities associated with pertinent knowledge and judgments;				X
CG3	Knowledge of effectively communicating summations (and sustaining relative rational or arguments) to specialized and unspecialized audiences, in a clear and unambiguous manner.				X
CG4	Having learned skills that enable them to continue studying in a self-directed or autonomous manner within the majority of circumstances;				X
CG5	To Know the curriculum related to the specialization and the didactics of teaching and learning. A knowledge of the different professions will be included for vocational training.		X		
CG6	To plan, develop and evaluate the teaching and learning process enhancing educational activities to facilitate the acquisition of the different competences, taking into account the level and previous training of students to guide them, both individually and in collaboration, with other teachers and school professionals.			X	
CG7	To look for, obtain, process and communicate information (oral, printed, audiovisual, digital, or multimedia), transforming it into knowledge that will be applied in the teaching and learning process.			X	
CG8	To set the curriculum that will be established in a school. Develop and implement teaching methodologies, for both groups and individually, taking into account the diversity of students.			X	
CG9	To design and develop learning processes with special attention to equity, education and emotional values, equal rights and opportunities between men and women, civic education and respect for human rights that make life easier in our society, making decisions and building a sustainable future.			X	
CG10	To acquire strategies to encourage student effort and enhance their capacity to learn by themselves and with others, and develop thinking skills and decision-making abilities to facilitate autonomy, confidence and personal initiative.			X	
CG11	To know the processes of interaction and communication in the classroom, mastering social skills necessary to promote learning and			X	

	coexistence together in the classroom, dealing with problems of discipline and conflict resolution.				
CG12	To design and carry out formal and informal activities that make the center a place of participation and culture in the environment where it is located. Perform the functions of mentoring and guiding students in a collaborative and coordinated way. Participate in the evaluation, research and innovation of teaching and learning.			X	
CG13	To know the rules and institutional organization of the education system and models of quality in schools.			X	
CG14	To know and analyze the historical characteristics of the teaching profession, its current status, perspectives and interaction with the social reality of the time.	X			
CG15	To inform and advise families about the process of teaching and learning and personal counseling, to know the academic and professional development of their children.	X			

Code	Specifics	Weighting			
		1	2	3	4
CE1	To know the cultural and educational value of the specific subjects and the content that is taught.	X			
CE2	To know the history and perspectives of the classroom subjects in order to transmit a dynamic point of view.		X		
CE3	E3. To know contexts and situations in which the various course content is used or applied.	X			
CE4	To know the theoretical and practical processes in teaching and learning different classroom subjects.		X		
CE5	To transform the educational plan in work activities.			X	
CE6	To acquire some criteria to select and develop educational resources.			X	
CE7	To foster a climate that facilitates learning and evaluates the contributions of the students.		X		
CE8	To integrate in the teaching-learning process a training for the use of media studies.				X
CE9	To learn strategies and evaluation techniques and to understand the evaluation as a tool to regulate and encourage the effort			X	
CE10	To know and apply innovative teaching proposals in the field of specialization.				X
CE11	To analyze critically the process of teaching, the practicum and the direction using quality indicators.				X
CE12	To identify the problems of teaching and learning and to propose alternatives and solutions.				X
CE13	To understand and apply methods and techniques of research and evaluation and to be able to design and develop research, innovation and evaluation.				X

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
RA, RB, RC, RD, RE, RF, RG, RH	40%	Summative and final theoretical-practical test (open questions, objective test questions, practical case solutions, single case, etc.).
RB, RC, RE, RG, RH	30%	Process evaluation: portfolios, presentation of work, guides, oral and written evidence of all types of activities.
RC, RH	10%	Oral presentation of group and individual works.
RA, RB, RC, RD, RE, RF, RG, RH	20%	Continuous evaluation: individual monitoring of attendance at face-to-face sessions and active participation in theoretical-practical classes, seminars, tutorials and field work.

Mention of Distinction: *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 9 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.
Single evaluation: *Exceptionally, those students who, for unforeseen, justified and accredited reasons, cannot undergo the continuous evaluation system and request it from the Coordination of the specialty, within the first month of teaching, may opt for this evaluation system.*
In this case, it will be evaluated as follows: the student will submit, through UCVnet, all the work carried out during the course, within the established deadlines. Likewise, you will take the evaluation test on the date assigned for this purpose.

Learning activities

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

M1	Supervised monographic sessions with shared participation
M2	Application of interdisciplinary knowledge
M3	Personalized and small group attention. Period of instruction and/or orientation carried out by a tutor with the objective of reviewing and discussing the materials and topics presented in classes, seminars, readings, completion of assignments, etc.
M4	Set of oral and/or written tests used in the initial, formative or additive evaluation of the student.
M5	Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to present or deliver in theoretical classes, practical classes and/or small group tutorials. Work done on the UCVnet
M6	Student study: Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. To present or deliver in theoretical classes, practical classes and/or small group tutorials. Work done on the UCVnet
M7	Presentation of content by the teacher, analysis of competencies, explanation and demonstration of capabilities, skills and knowledge in the classroom.
M8	Group work sessions in groups supervised by the teacher. Case studies, diagnostic analysis, problems, field study, computer classroom, visits, data search, libraries, online, Internet, etc. Meaningful construction of knowledge through student interaction and activity.

IN-CLASS LEARNING ACTIVITIES		
Activity	**Learning Outcomes**	**ECTS**
IN-PERSON CLASS: Presentation of content by the teacher, analysis of competencies, explanation and demonstration of capabilities, skills and knowledge in the classroom.	RA, RB, RC, RD, RE	1,15
PRACTICAL CLASSES: Group work sessions in groups supervised by the teacher. Case studies, diagnostic analysis, problems, field study, computer classroom, visits, data search, libraries, online, Internet, etc. Meaningful construction of knowledge through student interaction and activity.	RA, RB, RC, RD, RE, RF, RG, RH	0,8
SEMINAR: Supervised monographic sessions with shared participation	RA, RB, RD, RG, RH	0,06
EXHIBITION OF GROUP WORKS: Application of interdisciplinary knowledge	RA, RB, RC, RE, RF, RG, RH	0,06
TOURING: Personalized and small group attention. Period of instruction and/or orientation carried out by a tutor with the objective of reviewing and discussing the materials and topics presented in classes, seminars, readings, completion of assignments, etc.	RA, RB, RE, RF	0,04
EVALUATION: Set of oral and/or written tests used in the initial, formative or additive evaluation of the student.	RA, RC, RD, RE, RF, RG, RH	0,12
Total		**2,4**

LEARNING ACTIVITIES OF AUTONOMOUS WORK		
Activity	**Learning Outcomes**	**ECTS**
Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to present or deliver in theoretical classes, practical classes and/or small group tutorials. Work done on the UCVnet	RC, RD, RE, RF, RG, RH	1,44
Student study: Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. to present or deliver in theoretical classes, practical classes and/or small group tutorials. Work done on the university platform	RC, RD, RE, RF, RG, RH	2,16
Total		**3,6**

Description of the contents

Description of the necessary contents to acquire the learning outcomes:

CONTENT BLOCK	Contents
Action research processes: quality and improvement processes as the driving force of classroom work.	Research as a process of educational improvement. Classroom situations in teaching different subjects. Collaborative work: the educational team. Quality in education.
Research methodologies and techniques in education.	Main lines of research and evaluation in specific didactics. Methodological approaches: formulation of objectives and hypotheses, selection of strategies, obtaining and interpreting data and drawing conclusions. Information and knowledge: the transmission of knowledge.
Real or simulated experiential activities.	Teacher self-training. Didactic programming and educational materials.
Innovative teaching proposals in the field of specific didactics.	Innovation in specific didactics. Innovation as motivation: strategies and self-learning. The classroom as a creative space.
Teaching behavior through an observation laboratory.	Critical analysis of behaviors in the classroom. Training in audiovisual and multimedia communication. Effectiveness and efficiency in specific didactics. The construction of knowledge of the teaching profession.

Temporary organization of learning

BLOCK OF CONTENT/DICACTIC UNIT	Number of sessions	Hours
The Master's Final Project (TFM). What is the TFM? Requirements, types, extension, wording, etc. Defense of the TFM (the presentation, the formal oral, the scientific writing…)	1	2,5
Tools for research: EBSCO database. Managers for finding new references and documents: Mendeley and/or Zotero	1	2,5
Innovation. First questions: What is innovation? Why and why innovate? When to innovate? How to innovate? Characteristics of educational innovation. Areas of educational innovation	2	5
Resistance to change. Restricting factors.	1	2,5
Design and development of innovation projects: definition, purpose and participation requirements.	1	2,5
Characteristics and priority contents of an innovation project: methodology that should be used	1	2,5
Quality in education. Innovation as a quality factor in the educational system. Critically analyze the performance of teaching, good practices and guidance using quality indicators.	1	2,5
Reflection on teaching practice. Identify problems related to the teaching and learning of the subjects of the specialization and propose alternatives and solutions.	1	2,5
Educational investigation. Know and apply basic methodologies and techniques of educational research and evaluation and be able to design and develop research projects	2	5
Action-research as an educational research methodology	2	5

References

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