



IDENTIFYING DATA

Designing Research and Innovative Proposals in Experimental Sciences

Subject	Designing Research and Innovative Proposals in Experimental Sciences			
Code	V02M066V01206			
Study programme	(*)Máster Universitario en Profesorado en Educación Secundaria Obligatoria, Bacharelato, Formación Profesional e Ensino de Idiomas. Especialidade: Ciencias Experimentais. Bioloxía-Xeoloxía; Física e Química			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	2nd
Teaching language	Galician			
Department				
Coordinator	Yebra Ferro, Miguel Ángel			
Lecturers	González Fernández, Pío Manuel Serra Rodríguez, Julia Asunción Yebra Ferro, Miguel Ángel			
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Web				
General description				

Competencies

Code	
A1	(*)Coñecer os contidos curriculares das materias relativas á especialización docente correspondente.
A2	(*)Coñecer o corpo de coñecementos didácticos ao redor dos procesos de ensino e aprendizaxe respectivos.
A3	(*)Planificar, desenvolver e avaliar o proceso de ensino e aprendizaxe potenciando procesos educativos que faciliten a adquisición das competencias propias dos respectivos ensinos, atendendo ao nivel e formación previa dos estudantes, así como á orientación dos mesmos, tanto individualmente como en colaboración con outros docentes e profesionais do centro.
A6	(*)Deseñar e desenvolver metodoloxías didácticas tanto grupais como personalizadas, adaptadas á diversidade dos estudantes.
A8	(*)Adquirir estratexias para estimular o esforzo do estudante e promover a súa capacidade para aprender por se mesmo e con outros e desenvolver habilidades de pensamento e de decisión que faciliten a autonomía, a confianza e iniciativas persoais.
A10	(*)Deseñar e realizar actividades formais e non formais que contribúan a facer do centro un lugar de participación e cultura na contorna no que está situado.
A12	(*)Participar na avaliación, investigación e a innovación dos procesos de ensino e aprendizaxe, comunicando as súas conclusións e as razóns que as sustentan á comunidade educativa e outros profesionais da educación.
A18	(*)Aplicar os coñecementos adquiridos e a capacidade de resolución de problemas a contornas educativas novas ou pouco coñecidos.
A42	(*)Coñecer e aplicar propostas docentes innovadoras no ámbito da especialización cursada.

B1 (*)Utilizar bibliografía e ferramentas de procura de recursos bibliográficos xenerais e específicos, incluíndo o acceso por Internet.

B3 (*)Potenciar a capacidade para o traballo en contornas cooperativas e pluridisciplinares

Learning aims

Expected results from this subject	Training and Learning Results
Know the curricular contents of the relative subjects to the corresponding teaching specialization.	A1
Know the body of didactic knowledges around the processes of teaching and respective learning.	A2 A3
Schedule, develop and evaluate the process of teaching and learning boosting educational processes that facilitate the acquisition of the own competitions of the respective teachings, attending to the level and previous training of the students, as well as to the orientation of the same, so much individually how in collaboration with other @docente and professionals of the centre.	A3
Design and develop didactic methodologies so much *grupais how customized, adapted to the diversity of the students.	A6
Purchase strategies to stimulate the effort of the student and promote his capacity to learn by same and with others and develop skills of thought and of decision that facilitate the autonomy, the confidence and personal initiatives.	A8
Design and realize formal activities and no formal that contribute to do of the centre a place of participation and culture in the surroundings in the that is situated.	A10
Take part in the evaluation, investigation and the innovation of the processes of teaching and learning, communicating his conclusions and the reasons that support them to the educational community and other professionals of the education.	A12
Apply the knowledges purchased and the capacity of resolution of problems to educational surroundings news or little known.	A18
Know and apply innovative teaching proposals within the scope of the specialization studied.	A42
Use bibliography and tools of research of bibliographic resources generals and specific, including the access by Internet.	B1
Boost the capacity stop the work in #cooperative surroundings and *pluridisciplinares	B3

Contents

Topic

The previous ideas	Methodologies and basic techniques of investigation and educational evaluation.
Types of designs of investigation.	
Possibilities of the new technologies in the educational investigation.	Innovative educational projects in the teaching of the sciences
Strategies of innovation in the teaching of the sciences.	
Planning of the investigating or innovative action.	
Investigation-action.	

Planning

	Class hours	Hours outside the classroom	Total hours
Case studies / analysis of situations	4	20	24
Projects	5	25	30
Classroom work	3	6	9
Introductory activities	3	9	12

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Case studies / analysis of situations	Analysis and evaluation of handsome works by students of secondary
Projects	Realization of a small project of susceptible investigation to be carried the classroom
Classroom work	Design of proofs to know the previous ideas of the students and also realization of conceptual diagrams
Introductory activities	Exhibition of different innovative experiences by part of the teacher

Personalized attention

Methodologies	Description
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Introductory activities	Works of investigation realized by students of secondary and baccaureate. Innovative projects The previous ideas of the students
Case studies / analysis of situations	Works of investigation realized by students of secondary and baccaureate. Innovative projects The previous ideas of the students
Projects	Works of investigation realized by students of secondary and baccaureate. Innovative projects The previous ideas of the students
Classroom work	Works of investigation realized by students of secondary and baccaureate. Innovative projects The previous ideas of the students

Assessment

	Description	Qualification
Case studies / analysis of situations	Know the problematic related with the works of investigation in the secondary	25
Projects	Realization of one project of investigation that put in practice during it prácticun with the students	30
Classroom work	Design of diagramas conceptual for secondary and baccaureate and preparation of proofs to know the previous ideas of the students in subjects of experimental sciences	20
Introductory activities	Exhibition of subjects appropriates the education of the experimental sciences doing upsetting in the innovative activities	25

Other comments on the Evaluation

Sources of information