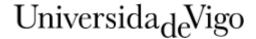
#### Subject Guide 2014 / 2015



#### **IDENTIFYING DATA**

### **Designing Research and Innovative Proposals in Experimental Sciences**

Subject Designing Research

and Innovative Proposals in Experimental Sciences

Code V02M066V01206

Study (\*)Máster

programme Universitario en Profesorado en Educación

Secundaria Obrigatoria, 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	aching Galician			
language				
Department				
Coordinator	Yebra Ferro, Miguel Ángel			
Lecturers	González Fernández, Pio Manuel			
	Serra Rodríguez, Julia Asunción			
	Yebra Ferro, Miguel Ángel			
E-mail	yebrama@edu.xunta.es			
Web		·		·
General				

#### Competencies

description

## 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 pluridisciplinarios

Learning aims		
Expected results from this subject	Train	ing 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 *pluridisciplinarios		В3

## Contents

Topic

The previous ideas

Types of designs of investigation.

Possibilities of the new technologies in the educational investigation.

Strategies of innovation in the teaching of the

sciences. Planning of the investigating or innovative action.

Investigation-action.

Methodologies and basic techniques of investigation and educationa	ı
evaluation.	

Innovative educational projects in the teaching of the sciences

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

Introductory activities	Works of investigation realized by students of secondary and baccalaureate. Innovative projects The previous ideas of the students
Case studies / analysis of situations	Works of investigation realized by students of secondary and baccalaureate. Innovative projects The previous ideas of the students
Projects	Works of investigation realized by students of secondary and baccalaureate. Innovative projects The previous ideas of the students
Classroom work	Works of investigation realized by students of secondary and baccalaureate. 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 secundary and baccalaureate and preparation of proofs to know the previous ideas of the students in subjects of experimental sciences	20
Introductory activities	Exhibition of subjects appropiates the education of the experimental sciences doing upsetting in the innovative activities	25

# Other comments on the Evaluation

# Sources of information