



## Teaching Guide

Teaching Guide				
Identifying Data				2021/22
Subject (*)	Practicum (professional practice)		Code	614522018
Study programme	Mestrado Universitario en Bioinformática para Ciencias da Saúde			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	1st four-month period	Second	Optional	3
Language	SpanishGalicianEnglish			
Teaching method	Face-to-face			
Prerequisites				
Department	Ciencias da Computación e Tecnoloxías da InformaciónEnxeñaría de ComputadoresFisioterapia, Medicina e Ciencias Biomédicas			
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Web	www.master.bioinformatica.fic.udc.es/			
General description	<p>Esta materia permite que o alumno poida adquirir as competencias da titulación a través de traballo en empresas ou institucións públicas. O seu obxectivo é completar a formación do mestrado con estancias nestas entidades colaboradoras nas que experimentar o desenvolvemento da actividade de investigación ou profesional nunha contorna productiva. Dende a Facultade de Informática establécense convenios con distintas empresas ou institucións para a realización destas prácticas curriculares.</p> <p>Na web da Facultade de Informática irase informando dos convenios ya establecidos, non sendo una lista pechada senon que está aberta a novas relación en función do interese das empresas o dos estudantes.</p> <p>Estas prácticas terán un titor académico asignado pola comisión académica e un titor da empresa designado pola propia empresa.</p>			
Contingency plan	<p>1. Modifications to the contents</p> <p>2. Methodologies</p> <p>*Teaching methodologies that are maintained</p> <p>*Teaching methodologies that are modified</p> <p>3. Mechanisms for personalized attention to students</p> <p>4. Modifications in the evaluation</p> <p>*Evaluation observations:</p> <p>5. Modifications to the bibliography or webgraphy</p>			

## Study programme competences / results

Code	Study programme competences / results
A3	CE3 ? To analyze, design, develop, implement, verify and document efficient software solutions based on an adequate knowledge of the theories, models and techniques in the field of Bioinformatics
A6	CE6 - Ability to identify software tools and most relevant bioinformatics data sources, and acquire skill in their use
A7	CE7 - Ability to identify the applicability of the use of bioinformatics tools to clinical areas.



B1	CB6 - Own and understand knowledge that can provide a base or opportunity to be original in the development and/or application of ideas, often in a context of research
B2	CB7 - Students should know how to apply the acquired knowledge and ability to problem solving in new environments or little known within broad (or multidisciplinary) contexts related to their field of study
B3	CB8 - Students to be able to integrate knowledge and deal with the complexity of making judgements from information that could be incomplete or limited, including reflections on the social and ethical responsibilities linked to the application of their skills and judgments
B4	CB9 - Students should know how to communicate their findings, knowledge and latest reasons underpinning them to specialized and non-specialized audiences in a clear and unambiguous way
B5	CB10 - Students should possess learning skills that allow them to continue studying in a way that will largely be self-directed or autonomous.
B8	CG3 - Be able to work in a team, especially of interdisciplinary nature
C3	CT3 - Use the basic tools of the information technology and communications (ICT) necessary for the exercise of their profession and lifelong learning
C5	CT5 - Understand the importance of entrepreneurial culture and know the means available to enterprising people
C6	CT6 - To assess critically the knowledge, technology and information available to solve the problems they face to.
C7	CT7 ? To maintain and establish strategies for scientific updating as a criterion for professional improvement.
C8	CT8 - Rating the importance that has the research, innovation and technological development in the socio-economic and cultural progress of society

Learning outcomes			
Learning outcomes		Study programme competences / results	
Have experience on research or professional activity within companies or public institutions in the field of bioinformatics and health informatics.		AJ3	BJ1
		AJ6	BJ2
		AJ7	BJ3
			BJ4
			BJ5
			BJ8
		CJ3	CJ5
		CJ6	CJ7
		CJ8	

Contents	
Topic	Sub-topic
External internships in companies or public institutions in the field of bioinformatics.	<p>Internships are carried out in companies and institutions in the field of bioinformatics and applied technology in the life and health sciences.</p> <p>The student will be supervised by a professional and an academic tutor.</p> <p>The student must submit a final report.</p> <p>The professional tutor must issue a report on the activities carried out.</p> <p>The final evaluation will be carried out by a committee of professors of the Master who will take into account the report submitted and the assessment of the professional tutor.</p>

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student's personal work hours	Total hours
ICT practicals	A3 A6 A7 B1 B2 B3 B4 B5 B8 C3 C5 C6 C7 C8	0	70	70
Personalized attention		5	0	5

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



Methodologies	
Methodologies	Description
ICT practicals	The internship will depend on the type of center where the work is carried out, which will also depend on the student's profile.

Personalized attention	
Methodologies	Description
ICT practicals	The internship requires the assignment of a professional tutor and an academic tutor.
	The professional tutor will monitor the student's work and supervise the work report.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
ICT practicals	A3 A6 A7 B1 B2 B3 B4 B5 B8 C3 C5 C6 C7 C8	The student will inform the academic tutor of the tasks being performed.	100
		At the end of the internship, the student will submit a report listing and explaining in detail the tasks performed, the technological environment used -tools, standards and methodologies-, avoiding issues that may be considered confidential.	
		The professional supervisor will submit a report evaluating the student's activity confidentially to the subject coordinator.	
		A committee of professors will evaluate the internship on the basis of the report submitted by the student and the report of the professional tutor.	

Assessment comments

Sources of information	
Basic	The templates and company request process is done through the virtual campus. The templates and company request process is done through the virtual campus.
Complementary	

Recommendations
Subjects that it is recommended to have taken before



Introduction to databases/614522002  
Introduction to molecular biology/614522004  
Genetics and molecular evolution/614522005  
Genomics/614522006  
Data structures and algorithmics for biological sequences/614522013  
Advanced processing of biological sequences/614522020  
New trends and applications in bioinformatics and biomedical engineering/614522021  
Biomedical knowledge management /614522022  
Design and management of research projects/614522023  
Computational intelligence for high dimensional data/614522024  
Biomechanical engineering, sensing and telemedicine/614522014  
Fundamentals of neuroscience/614522015  
Neuroengineering and innovation in neuroscience/614522016  
Health Information Systems/614522017  
Advanced medical visualization/614522019  
Computational intelligence for bioinformatics/614522012  
Fundamentals of bioinformatics/614522008  
Advanced statistical methods in bioinformatics/614522009  
Analysis of biomedical images/614522010  
High performance computing in bioinformatics/614522011  
Introduction to programming/614522001  
Probability. statistics and elements of biomathematics/614522007  
Foundations of Artificial Intelligence/614522003

## Subjects that are recommended to be taken simultaneously

Master thesis/614522025

## Subjects that continue the syllabus

## Other comments

(\*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.