



Teaching Guide

Identifying Data					2017/18
Subject (*)	Master thesis	Code	614522025		
Study programme	Mestrado Universitario en Bioinformática para Ciencias da Saúde				
Descriptors					
Cycle	Period	Year	Type	Credits	
Official Master's Degree	2nd four-month period	Second	Obligatoria	12	
Language	SpanishGalicianEnglish				
Teaching method	Face-to-face				
Prerequisites					
Department					
Coordinador	Pereira Loureiro, Javier	E-mail	javier.pereira@udc.es		
Lecturers	Pereira Loureiro, Javier	E-mail	javier.pereira@udc.es		
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General description	O Tráballo Fin de Mestrado é un exercicio orixinal a realizar individualmente, consistente nun proxecto integral no ámbito da bioinformática dende unha perspectiva tecnolóxica ou das ciencias da vida ou da saúde. De natureza profesional ou investigadora no que se sintetizan as competencias da titulación, e que para superalo presentárase e defendérase diante dun tribunal universitario, cando se teñan superados os outros créditos da titulación.				

Study programme competences / results

Code	Study programme competences / results
A1	CE1 - Ability to know the scope of Bioinformatics and its most important aspects
A10	CE10 - Draft a bioinformatics research project, anticipating obstacles and possible alternative strategies to resolve them.
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.
B6	CG1 - Search for and select the useful information needed to solve complex problems, driving fluently bibliographical sources for the field
B7	CG2 - Maintain and extend well-founded theoretical approaches to enable the introduction and exploitation of new and advanced technologies
B8	CG3 - Be able to work in a team, especially of interdisciplinary nature
C1	CT1 - Express oneself correctly, both orally writing, in the official languages of the autonomous community
C2	CT2 - Dominate the expression and understanding of oral and written form of a foreign language
C3	CT3 - Use the basic tools of the information technology and communications (ICT) necessary for the exercise of their profession and lifelong learning
C4	CT4 - Be able to analyze the real situation, formulate and implement solutions based on knowledge and aimed at the common good and the exercise of open, educated, critical, committed, democratic and solidary citizenship.
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		
Saber desenvolver, presentar e defender ante un tribunal un proxecto integral de Informática biomédicas de natureza investigadora no que se sintetizan as competencias adquiridas no título	AJ1 AJ10	BJ1 BJ2 BJ3 BJ4 BJ5 BJ6 BJ7 BJ8	CJ1 CJ2 CJ3 CJ4 CJ5 CJ6 CJ7 CJ8

Contents	
Topic	Sub-topic
No Traballo Fin de Mestrado, o estudante debe realizar un proxecto integral de bioinformática , de natureza investigadora ou profesional, no que se sintetizan as competencias adquiridas na titulación.	Para proceder a súa defensa, o estudante deberá ter superados os créditos do resto das materias do mestrado.

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Oral presentation	A1 A10 B1 B2 B3 B4 B5 B6 B7 B8 C1 C2 C3 C4 C5 C6 C7 C8	2	3	5
Supervised projects	A10 A1 B1 B2 B3 B4 B5 B6 B7 B8 C1 C2 C3 C4 C5 C6 C7 C8	15	270	285
Personalized attention		10	0	10

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

Methodologies	
Methodologies	Description
Oral presentation	O traballo fin de mestrado será defendido fronte a un tribunal que será establecido pola Comisión Académica para cada convocatoria
Supervised projects	O alumno deberá facer un traballo no ámbito da bioinformática ou a informática da saúde orixinal tutorizado por un profesor da titulación coa posibilidade de codirección de outros profesionais ou investigadores relacionados coa temática do traballo

Personalized attention	
Methodologies	Description
Oral presentation	Durante o traballo o alumno deberá recibir atención personalizada por parte do seu tutor ou tutores.
Supervised projects	A atención personalizada é fundamental para definir, orientar, supervisar e delimitar o traballo, así como para preparar a proba oral.

Assessment			
Methodologies	Competencies / Results	Description	Qualification



Oral presentation	A1 A10 B1 B2 B3 B4 B5 B6 B7 B8 C1 C2 C3 C4 C5 C6 C7 C8	Presentación oral e defensa ante un tribunal. A presentación debe plasmar de maneira resumida as características e a profundidade do traballo realizado. No turno de preguntas debe demostrarse claridade e coñecemento sobre as cuestións planteadas polo tribunal.	30
Supervised projects	A10 A1 B1 B2 B3 B4 B5 B6 B7 B8 C1 C2 C3 C4 C5 C6 C7 C8	Realización dun proxecto integral e orixinal no ámbito da bioinformática de natureza investigadora ou profesional. Os elementos a valorar son: - Orixinalidade, calidade e alcance do traballo presentado (40%) - Memoria (30%)	70

Assessment comments

Na web do mestrado publicarase a normativa e procedementos para a defensa dos traballos

Sources of information

Basic	- FIC (2017). Normativa TFM Bioinformática. Web da Facultad de Informática
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

Practicum (professional practice)/614522018

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.