Teaching Guide					
Identifying Data					2018/19
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		Obligatory	12
Language	SpanishGalicianEnglish				
Teaching method	Face-to-face				
Prerequisites					
Department					
Coordinador			E-mail		
Lecturers			E-mail		
Web	www.master.bioinformatica.udc.es				
General description	The Master's Thesis is an original exercise to be done individually, consisting of a comprehensive project in the field of bioinformatics from a technological perspective or from the life sciences or health. Professional or researcher in which the competences of the degree are synthesized, and that to overcome it will be presented and defended in front of a university court, when they have overcome the other credits of the degree.				

Study programme competences	
Code	Study programme competences
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		
Saber desenvolver, presentar e defender ante un tribunal un proxecto integral de Informática biomédicas de natureza investigadora no que se sinteticen 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 investigadiora ou profesional, no que se sinteticen 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	Ordinary class hours	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	A1 A10 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 frente 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 Supervised projects	Durante o traballo o alumno deberá recibir atención personalizada por parte do seu tutor ou tutores. A atención personalizada é fundamental para definir, orientar, supervisar e delimitar o traballo, así como para preparar a proba oral.

Assessment			
Methodologies	Competencies	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 cuestiones planteadas polo tribunal.	30
Supervised projects	A1 A10 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 naturaleza 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	- Web master Bioinformatica (2018). Normativa TFM Máster Bioinformática. https://www.master.bioinformatica.fic.udc.es/
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, sensoring 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.