Teaching Guide			
Identifying Data			2024/25
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	BioloxíaCiencias da Computación e Tecnoloxías da InformaciónEnxeñaría de ComputadoresFisioterapia, Medicina e Ciencias BiomédicasMatemáticas		
Coordinador	Sanchez Maroño, Noelia	E-mail	noelia.sanchez@udc.es
Lecturers	Dorado de la Calle, Julian Eiras Franco, Carlos Fariña Martinez, Antonio Fernández Lozano, Carlos Ladra González, Susana Puente Castro, Alejandro Sanchez Maroño, Noelia Vila Taboada, Marta	E-mail	julian.dorado@udc.es carlos.eiras.franco@udc.es antonio.farina@udc.es carlos.fernandez@udc.es susana.ladra@udc.es a.puentec@udc.es noelia.sanchez@udc.es marta.vila.taboada@udc.es
Web	www.master.bioinformatica.fic.udc.es/		
General description	This subject allows the student to acquire the skills of the degree through work in companies or public institutions. Its objective is to complete the master's training with stays in these collaborating institutions in which to experience the development of research or professional activity in a productive environment. From the Faculty of Informatics, agreements are established with different companies or institutions for the realization of these curricular practices. However, it is not a closed list, but is open to new relationships depending on the interest of companies or students.		

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 AJ6 AJ7	BJ1 BJ2 BJ3 BJ4 BJ5 BJ8	CJ3 CJ5 CJ6 CJ7 CJ8
Acquisition of communicative linguistic skills (comprehension, expression, etc.) spoken and written in professional environments.		BJ4 BJ8	
Obtaining the necessary techniques for making a report on a job done in a work environment.	AJ3 AJ6	BJ4 BJ8	CJ3
Adaptation to new professional environments.		BJ8	
Experience of the student's professional performance and the assigned functions in a real company environment.	AJ3 AJ6 AJ7	BJ1 BJ2 BJ3 BJ4 BJ5 BJ8	CJ3 CJ5 CJ6 CJ7 CJ8
Training to be part of a work team in the different positions assigned	AJ3 AJ6 AJ7	BJ1 BJ2 BJ3 BJ4 BJ8	CJ6

Contents	
Topic	Sub-topic
External internships in companies or public institutions in the field of bioinformatics.	Internships are carried out in companies and institutions in the field of bioinformatics and applied technology in the life and health sciences. The student will be supervised by a professional and an academic tutor. The student must submit a final report. The professional tutor must issue a report on the activities carried out. 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.

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 he is carrying out. At the end of the internship, the student will hand in a report in which he lists and explains in detail the tasks carried out, the technological environment used - tools, standards and methodologies -, avoiding questions that could be considered confidential. The professional tutor will send a confidential report to the subject coordinator and the academic tutor evaluating the student in different aspects. In accordance with the Regulation of External Academic Practices of the students of the University of A Coruña (Approved by the Governing Council of April 23, 2013 and modified by the agreements of the Governing Council of 02/27/2015, 09/29/2015, 05/29 /2018, 04/06/2019 and 03/11/2022) the academic tutor will be in charge of "Evaluating, if necessary, and proposing the qualification of the curricular internship period" (Article 28, i)). and for that it will take "as a basis the follow-up of the student, the report of the person in charge of the tutoring in the collaborating institution, the follow-up reports issued and the final report drawn up by the student" (article 30). In this master's degree, the report of the professional tutor and the final report drawn up by the student will be decisive for the evaluation.	100

Assessment comments
For reports, the generic UDC forms will be used, available at the time of writing this guide here: https://www.udc.es/es/emprego/practicas/Modelosdeconvenioseformularios/ Due to academic regulations, the number of Matrícula de Honor (MH) is limited (usually only 1), the procedure for granting it will be: All students who obtain a grade equal to or higher than 9.5 will be candidates for the MH.A committee formed by the academic tutors of the candidates for the mention of MH will decide the student/s who will achieve the MH.

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, 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
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.