



## Teaching Guide

| Teaching Guide           |                                                                                                                                                                                                                                                                                                                                                          |        |                                                                                                                  |           |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------|-----------|
| Identifying Data         |                                                                                                                                                                                                                                                                                                                                                          |        |                                                                                                                  | 2020/21   |
| Subject (*)              | Design and management of research projects                                                                                                                                                                                                                                                                                                               |        | Code                                                                                                             | 614522023 |
| 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 | Obligatory                                                                                                       | 3         |
| Language                 | SpanishGalician                                                                                                                                                                                                                                                                                                                                          |        |                                                                                                                  |           |
| Teaching method          | Hybrid                                                                                                                                                                                                                                                                                                                                                   |        |                                                                                                                  |           |
| Prerequisites            |                                                                                                                                                                                                                                                                                                                                                          |        |                                                                                                                  |           |
| Department               | Ciencias da Computación e Tecnoloxías da InformaciónComputaciónDereito PrivadoDereito PúblicoEnxeñaría de ComputadoresFisioterapia, Medicina e Ciencias Biomédicas                                                                                                                                                                                       |        |                                                                                                                  |           |
| Coordinador              | Martin Santamaria, Maria Jose                                                                                                                                                                                                                                                                                                                            | E-mail | maria.martin.santamaria@udc.es                                                                                   |           |
| Lecturers                | Martin Santamaria, Maria Jose<br>Pazos Sierra, Alejandro<br>Rodriguez Brisaboa, Nieves<br>Seoane Rodriguez, Jose Antonio                                                                                                                                                                                                                                 | E-mail | maria.martin.santamaria@udc.es<br>alejandro.pazos@udc.es<br>nieves.brisaboa@udc.es<br>jose.antonio.seoane@udc.es |           |
| Web                      | https://moodle.udc.es/course/view.php?id=47531                                                                                                                                                                                                                                                                                                           |        |                                                                                                                  |           |
| General description      | O obxectivo deste curso é proporcionar ao alumno os fundamentos necesarios que lle permitan xestionar adecuadamente todo o proceso de xeración, xestión e comunicación dun proxecto de investigación.                                                                                                                                                    |        |                                                                                                                  |           |
| Contingency plan         | 1. Modifications to the contents<br><br>2. Methodologies<br>*Teaching methodologies that are maintained<br><br>*Teaching methodologies that are modified<br><br>3. Mechanisms for personalized attention to students<br><br>4. Modifications in the evaluation<br><br>*Evaluation observations:<br><br>5. Modifications to the bibliography or webgraphy |        |                                                                                                                  |           |

## Study programme competences

| Code | Study programme competences                                                                                                                                                                                                                                                       |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A10  | CE10 - Draft a bioinformatics research project, anticipating obstacles and possible alternative strategies to resolve them.                                                                                                                                                       |
| 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                                                                                                                                                                                                           |
| 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                                                                                                                                                                                    |
| 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                                     |
| 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 |                                                             |
| Xestionar adecuadamente todo o proceso de xeneración, xestión e comunicación dun proxecto de investigación no campo da bioinformática |  | AJ10                        | BJ3<br>BJ4<br>BJ5<br>BJ8<br>CJ1<br>CJ2<br>CJ4<br>CJ5<br>CJ8 |

| Contents                                       |                                                                                                                                                                                                                                                                                       |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topic                                          | Sub-topic                                                                                                                                                                                                                                                                             |
| Deseño e Xestión de proxectos de investigación | <ul style="list-style-type: none"> <li>- Metodoloxía para a experimentación científica</li> <li>- Xestión de proxectos de investigación</li> <li>- Bioética, protección de datos e propiedade intelectual</li> <li>- Técnicas de presentación e comunicación de resultados</li> </ul> |

| Planning                                                                                                                        |                       |                      |                               |             |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|-------------------------------|-------------|
| Methodologies / tests                                                                                                           | Competencies          | Ordinary class hours | Student's personal work hours | Total hours |
| Supervised projects                                                                                                             | B3 B8 C1 C2 C4        | 4                    | 16                            | 20          |
| Seminar                                                                                                                         | A10 C5 C8             | 2.5                  | 0                             | 2.5         |
| Problem solving                                                                                                                 | A10 B3 B4 B8 C1 C2 C4 | 4                    | 8                             | 12          |
| Guest lecture / keynote speech                                                                                                  | A10 B4 B5 C5 C8       | 15                   | 22.5                          | 37.5        |
| Personalized attention                                                                                                          |                       | 3                    | 0                             | 3           |
| (*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students. |                       |                      |                               |             |

| Methodologies                  |                                                                                                                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodologies                  | Description                                                                                                                                                                                         |
| Supervised projects            | Os traballos tutelados permiten ao alumno familiarizarse dende un punto de vista práctico coas cuestións expostas nas clases teóricas.                                                              |
| Seminar                        | Presentación de exemplos de proxectos de investigación no ámbito da bioinformática                                                                                                                  |
| Problem solving                | Posta en práctica dos conceptos explicados nas sesións maxistras.                                                                                                                                   |
| Guest lecture / keynote speech | Exporanse en clases teóricas os conceptos que o alumno debe coñecer para empezar unha carreira investigadora con éxito e desenvolver proxectos colaborativos utilizando as ferramentas dispoñibles. |

| Personalized attention                 |                                                                                                                                                                                                                                                                                           |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodologies                          | Description                                                                                                                                                                                                                                                                               |
| Supervised projects<br>Problem solving | A atención personalizada na realización dos traballos tutelados e na solución de problemas será imprescindible para dirixir aos alumnos no desenvolvemento do traballo/problemas que se lle asignen.<br><br>A atención personalizada levarase a cabo a través de Teams, Moodle y/o email. |

| Assessment    |              |             |               |
|---------------|--------------|-------------|---------------|
| Methodologies | Competencies | Description | Qualification |



|                     |                          |                                                                |    |
|---------------------|--------------------------|----------------------------------------------------------------|----|
| Supervised projects | B3 B8 C1 C2 C4           | Avaliación dos traballos tutelados desenvolvidos polo alumnos. | 60 |
| Problem solving     | A10 B3 B4 B8 C1 C2<br>C4 | Avaliación da posta en práctica dos coñecementos adquiridos.   | 40 |

## Assessment comments

## Sources of information

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Basic</b>         | <ul style="list-style-type: none"><li>- M. Anandarajan and A. Anandarajan (2010). e-Research Collaboration Theory, Techniques and Challenges. Springer Berlin Heidelberg</li><li>- J. López Yepes (1995). La aventura de la investigación científica: guía del investigador y del director de investigación. Síntesis</li><li>- Joshua Schimel (2011). Writing science. Oxford University Press</li><li>- Barbara Gastel and Robert A. Day (2016). How to write and publish a scientific paper. Greenwood</li></ul> |
| <b>Complementary</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Recommendations

### Subjects that it is recommended to have taken before

### Subjects that are recommended to be taken simultaneously

### 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.