



## Teaching Guide

| Identifying Data                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |           |                                                                                                                                                             |
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| Subject (*)                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | Code      | 2019/20                                                                                                                                                     |
| Work Placement                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       | 610441021 |                                                                                                                                                             |
| Study programme                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |           |                                                                                                                                                             |
| Mestrado Universitario en Bioloxía Molecular , Celular e Xenética |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |           |                                                                                                                                                             |
| Descriptors                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |           |                                                                                                                                                             |
| Cycle                                                             | Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Year  | Type      | Credits                                                                                                                                                     |
| Official Master's Degree                                          | Yearly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | First | Optional  | 9                                                                                                                                                           |
| Language                                                          | Spanish                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |           |                                                                                                                                                             |
| Teaching method                                                   | Face-to-face                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |           |                                                                                                                                                             |
| Prerequisites                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |           |                                                                                                                                                             |
| Department                                                        | BioloxíaCiencias Biomédicas, Medicina e FisioterapiaCiencias da SaúdeFisioterapia, Medicina e Ciencias BiomédicasPsicoloxía                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |           |                                                                                                                                                             |
| Coordinador                                                       | Cerdan Villanueva, Maria Esperanza                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       | E-mail    | esper.cerdan@udc.es                                                                                                                                         |
| Lecturers                                                         | Arufe Gonda, María del Carmen<br>Cerdan Villanueva, Maria Esperanza<br>Cid Blanco, Angeles<br>Díaz Varela, Jose<br>Folgueira Otero, Mónica<br>Gonzalez Siso, Maria Isabel<br>Insua Pombo, Ana Maria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       | E-mail    | maria.arufe@udc.es<br>esper.cerdan@udc.es<br>angeles.cid@udc.es<br>jose.diaz.varela@udc.es<br>m.folgueira@udc.es<br>isabel.gsiso@udc.es<br>ana.insua@udc.es |
| Web                                                               | <a href="http://ciencias.udc.es/MBMCG/">http://ciencias.udc.es/MBMCG/</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |           |                                                                                                                                                             |
| General description                                               | <p>Las prácticas externas constituyen un periodo de aprendizaje profesional en empresas e instituciones colaboradoras.</p> <p>Coordina las practicas externas María Esperanza Cerdán Villanueva.</p> <p>Aunque por defecto aparecen en la aplicación como profesorado sólo los profesores que tutorizaron prácticas en el curso anterior, todos los profesores oficialmente asociados al Máster BMCG pueden participar como tutores académicos de las prácticas externas, además cada empresa designa para cada alumno a un tutor en la empresa.</p> <p>External practices constitute a period of apprenticeship in companies and institutions .</p> <p>Coordinates the external practices Esperanza Cerdán Villanueva.</p> <p>Although only appear in the application as teachers those who participated in external practices in the previous year, all teachers officially associated with the Master BMCG can participate as academic tutors of external practices, and each company appoints for each student a tutor in company.</p> |       |           |                                                                                                                                                             |

## Study programme competences

| Code | Study programme competences                                                                                                                                                                                              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A1   | Skills of using usual techniques and instruments in the cellular, biological and molecular research: that are able to use techniques and instruments as well as understanding potentials of their uses and applications. |
| A2   | Skills of working in a sure way in the laboratories knowing operation handbooks and actions to avoid incidents of risk.                                                                                                  |
| A3   | Skills of understanding the functioning of cells through the structural organization, biochemistry, gene expression and genetic variability.                                                                             |
| A8   | Skills of having an integrated view of the previously acquired knowledge about Molecular and Cellular Biology and Genetics, with an interdisciplinary approach and experimental work.                                    |
| A13  | Skills to become a professional in health, pharmacy, veterinary, animal production, biotechnology or food sectors.                                                                                                       |
| B4   | Organization and work planning skills: that are able to manage the use of the time as well as available resources and to organize the work in the laboratory.                                                            |
| B6   | Skills of team work: that are able to keep efficient interpersonal relationships in an interdisciplinary and international work context, with respect for the cultural diversity.                                        |



|    |                                                                                                                                                                                                                          |
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| B7 | Personal progress skills : that are able to learn from freelance way, adapting to new situations, developing necessary qualities as the creativity, skills of leadership, motivation for the excellence and the quality. |
| C4 | Acting as a respectful citizen according to democratic cultures and human rights and with a gender perspective.                                                                                                          |
| C5 | Understanding the importance of entrepreneurial culture and the useful means for enterprising people.                                                                                                                    |
| C6 | Acquiring skills for healthy lifestyles, and healthy habits and routines.                                                                                                                                                |
| C7 | Developing the ability to work in interdisciplinary or transdisciplinary teams in order to offer proposals that can contribute to a sustainable environmental, economic, political and social development.               |
| C8 | Valuing the importance of research, innovation and technological development for the socioeconomic and cultural progress of society.                                                                                     |

| Learning outcomes                                                                                                                                                                                                                            |                             |     |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----|-----|
| Learning outcomes                                                                                                                                                                                                                            | Study programme competences |     |     |
| External practices contribute to the training of students towards their subsequent professional integration and enable access to learning techniques , protocols , skills and attitudes necessary for training and professional integration. | AR1                         | BR4 | CC4 |
|                                                                                                                                                                                                                                              | AR2                         | BR6 | CC5 |
|                                                                                                                                                                                                                                              | AR3                         | BR7 | CC6 |
|                                                                                                                                                                                                                                              | AR8                         |     | CC7 |
|                                                                                                                                                                                                                                              | AR13                        |     | CC8 |

| Contents                                                                                                                                                                                                                                                                                                                                                                  |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Topic                                                                                                                                                                                                                                                                                                                                                                     | Sub-topic |
| Once each student has been assigned to a company / institution, the tutor in the company will prepare a descriptive plan of the practical work and methodology. This plan will also include the timetables for the implementation of practices and methods of supervision by the tutor of the company. There is a standard form available on the website of Master BMCG . |           |

| Planning                                                                                                                        |                                   |                      |                               |             |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------|-------------------------------|-------------|
| Methodologies / tests                                                                                                           | Competencies                      | Ordinary class hours | Student?s personal work hours | Total hours |
| Introductory activities                                                                                                         | B7                                | 3                    | 0                             | 3           |
| Document analysis                                                                                                               | A1 A8                             | 0                    | 98                            | 98          |
| Laboratory practice                                                                                                             | A1 A2 A13 B4 B6 C4<br>C5 C6 C7 C8 | 90                   | 0                             | 90          |
| Summary                                                                                                                         | A1 A3 A8 C6 C8                    | 2                    | 30                            | 32          |
| Personalized attention                                                                                                          |                                   | 2                    | 0                             | 2           |
| (*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students. |                                   |                      |                               |             |

| Methodologies           |                                                                                                                                                                                                           |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodologies           | Description                                                                                                                                                                                               |
| Introductory activities | Interview and presentation of training plan. The academic tutor will supervise the student practices and procedures as well as informs necessary for the realization of external practices.               |
| Document analysis       | Analysis of literature and protocols necessary for the implementation of practices and understanding of its various applications to the solution of problems and the development of ideas for innovation. |
| Laboratory practice     | This methodology refers to practical work in the company / institution and its specific development for each case will be proposed by the tutor in the company.                                           |



|         |                                                                                                                                                                                                                                                                                                                                                                                    |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Summary | The student will develop a memory in which techniques and procedures developed during their stay in the company are collected and their personal assessment of the application of this knowledge to solve problems related to the fields of application of the Master and its potential for business development . There is a type format available on the website of the Master . |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Personalized attention             |                                                                                                                             |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Methodologies                      | Description                                                                                                                 |
| Introductory activities<br>Summary | The academic tutor will guide students in their choice of practical work and how to prepare and submit the written summary. |

| Assessment          |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                      |               |
|---------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Methodologies       | Competencies                      | Description                                                                                                                                                                                                                                                                                                                                                                                                          | Qualification |
| Laboratory practice | A1 A2 A13 B4 B6 C4<br>C5 C6 C7 C8 | The tutor in the company makes a report on the skills developed by the student.                                                                                                                                                                                                                                                                                                                                      | 50            |
| Summary             | A1 A3 A8 C6 C8                    | The student makes a report on the external practices that must be made ??with the approval of the company tutor and academic supervisor. There is a standard form of memory that is available to students on the website of the Master .<br><br>The academic tutor assesses the report of the tutor in the company and the report submitted by the student and in turn issued a report with a recommendation rating. | 50            |

| Assessment comments                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The overall process of assessing the PEX is based on three processes<br><br>a) The report by the tutor of the company<br>b) The report prepared by the academic tutor who assesses the report of the company tutor and memory prepared by the student<br>c ) The joint evaluation by the Commission of the Degree of the evidence collected in a) and b ) |

| Sources of information |                                                                                |
|------------------------|--------------------------------------------------------------------------------|
| Basic                  | Específico para cada actividade será indicado ao alumno polo tutor da empresa. |
| Complementary          |                                                                                |

| 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.