Use of Languages

Principal working language: catalan (cat)

Objectives and Contextualisation

The main objective of the Final Master is to learn firsthand the scientific method. Thus, the students should participate in the design, implementation and presentation of the results of a research project or work placement.

The Master Thesis involves the preparation of a report, and the public defense of the research work that had previously been developed. The main objective is that the student can integrate the set of skills and competences acquired in the master’s degree. In order to get maximum performance, the R & D project will be developed as an extension of the practices carried out in the professional and research module of the corresponding specialty.

In the Master Thesis the students must demonstrate:

a) They have acquired the skills trained in the master

b) Their reflective and critical capacity

c) Its ability to raise a research problem, design a project to find answers, to critically analyze the results and conclusions based and proven.

d) Ability to present and defend the results.
Competences

- Analyse and correctly interpret the molecular mechanisms operating in living beings and identify their applications.
- Analyse research results to obtain new biotechnological or biomedical products to be transferred to society.
- Communicate and justify conclusions clearly and unambiguously to both specialist and non-specialist audiences.
- Conceive, design, develop and synthesise scientific and/or biotechnological projects within biochemistry, molecular biology or biomedicine.
- Develop critical reasoning within the subject area and in relation to the scientific or business context.
- Identify and propose scientific solutions to problems in molecular-level biological research and show understanding of the biochemical complexity of living beings.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
- Use and manage bibliography and IT resources related to biochemistry, molecular biology or biomedicine.
- Use scientific terminology to account for research results and present these orally and in writing.
- Work individually and in teams in a multidisciplinary context.

Learning Outcomes

1. Analyse research results to obtain new biotechnological or biomedical products to be transferred to society.
2. Communicate and justify conclusions clearly and unambiguously to both specialist and non-specialist audiences.
3. Design and conduct a research project in the field of biochemistry, molecular biology or biomedicine.
4. Develop and apply knowledge of the molecular mechanisms of normal physiological processes in living beings within a real R+D+I project or a production process at a public or private organisation.
5. Develop critical reasoning within the subject area and in relation to the scientific or business context.
6. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
7. Propose innovative projects in biochemistry, molecular biology or biomedicine, starting from a holistic perspective on the knowledge acquired.
8. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
9. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
10. Use and manage bibliography and IT resources related to biochemistry, molecular biology or biomedicine.
11. Use scientific terminology to account for research results and present these orally and in writing.
12. Work individually and in teams in a multidisciplinary context.

Content

A R+D project will be developed. In order to make the most of this performance, this activity will be carried out as an extension of the practices developed in the mandatory practical module of the corresponding specialty.

The written report of the Master Thesis will have the following characteristics:

1. Structure: While accepting different types of Master report according to the conducted research, we believe that their content should have the following chapters:

   - Title and signatures of the student and tutor(s)
Methodology

In order to make the most of the research project, this activity will be carried out as an extension of the practices developed in mandatory practical module of the corresponding specialty.

Activities

<table>
<thead>
<tr>
<th>Title</th>
<th>Hours</th>
<th>ECTS</th>
<th>Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of a R &amp; D project in a research laboratory</td>
<td>200</td>
<td>8</td>
<td>1, 4, 5, 3, 7, 6, 8, 9, 12, 10</td>
</tr>
<tr>
<td>Type: Autonomous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing and dissertation of Master's Thesis</td>
<td>24</td>
<td>0.96</td>
<td>1, 4, 5, 7, 6, 8, 9, 12, 10, 11</td>
</tr>
</tbody>
</table>

Assessment

The evaluation committee will evaluate the master thesis according to the final report and the oral defense. Each mark will count 50% of the total.
For both specialties, students may choose to perform the oral defense of the presentations during the last half of July or the first of September.

To be evaluated, the student must deliver to the Coordinator of the corresponding specialty the final report, before the established deadline. In addition, the student will have to make the oral presentation. If any of these requirements is not fulfilled, then the final grade will be "No avaluable".

If plagiarism is detected in any of the works submitted, the student will fail the whole module.

### Assessment Activities

<table>
<thead>
<tr>
<th>Title</th>
<th>Weighting</th>
<th>Hours</th>
<th>ECTS</th>
<th>Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Master Thesis</td>
<td>50%</td>
<td>0</td>
<td>0</td>
<td>1, 4, 5, 3, 7, 6, 8, 2, 9, 12, 10, 11</td>
</tr>
<tr>
<td>Oral Presentation of Master Thesis</td>
<td>50%</td>
<td>1</td>
<td>0.04</td>
<td>1, 4, 5, 3, 7, 6, 8, 2, 9, 12, 10, 11</td>
</tr>
</tbody>
</table>

### Bibliography

The bibliography will be specific for each project.