COURSE: FINAL DEGREE PROJECT

SUBJECT MATTER: Final Degree Project
MODULAR: Final Degree Project
PROGRAM: Degree in Biotechnology

GENERAL FEATURES *

Type: ☐ Basic training, ☑ Compulsory, ☐ Elective
☒ Final Degree Project, ☐ Practicum

Duration: Semestral

Semester / s: 8

Number of ECTS credits: 12

Language / s: Spanish, Catalan, English

DESCRIPTION

SHORT DESCRIPTION AND JUSTIFICATION (of the meaning of the course in relation to the studies. Between 100 and 200 words)

The Final Degree Project (TFG) consist of the realization, presentation and defense of a project by the prospective graduate student. The work must be previously defined as a project, and must include elements of research or industrial innovation, representing an approach to professional practice.

The TFG aims to develop in the future graduate students the capacity to understand and apply advanced tools and technologies to achieve established objectives within a field of Biotechnology.

The project is intended to be multidisciplinary in nature, so that it integrates different competences acquired during the undergraduate courses.

In addition, the TFG will allow the student to progress in the ability to communicate effectively both orally and in writing, to work as a team, to incorporate contemporary aspects related to the exercise of their profession and to recognize the need for continuous training for their proper professional development.

The TFG will be conducted in a research team under the supervision of a professor of the degree. The director of the TFG may also be an IQS professor with the previous authorization of the Degree’s Coordinator. Under the same academic guarantees, and always under the tutorship of a professor of the Degree, the TFG may also be carried out in other institutions, such as other national or international universities, public or private research centres and companies. The TFG will culminate in the writing of a report and its presentation and defense in front of an academic tribunal.

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COMPETENCES (of the course placed in relation to the pre-assigned competences in the subject matter)

- That students are able to communicate information, ideas, problems and solutions to both specialized and non-specialized audiences (CB4).
- That students develop those learning skills necessary to undertake further studies with a high degree of autonomy (CB5).
- Be able to assess the impact of their professional activity on the sustainable development of society (T3).
- Be able to incorporate contemporary aspects related to the exercise of their profession (T5).
- Be able to design processes and experiments to carry out the activities in the different fields of Biotechnology according to the established requirements (E5).
- Be able to integrate the knowledge and tools of biotechnology for their application to different industrial sectors that use, develop or produce biotechnological products or processes (E6).
- Be able to analyse, integrate and interpret data and information in the field of Biosciences (E7).
- Be able to assess the risks in the use of chemical and biological substances (E8).

PREVIOUS REQUIREMENTS * (modules, subject matters, courses or knowledge necessary for the follow-up of the subject. State previous courses required to be completed)

To begin the TFG student must have passed 80% of the contents of the Degree (192 credits).

For the presentation of the TFG, the student must have passed all other subjects of the Degree (228 ECTS) and have achieved level B2 (CEF) in English.

CONTENTS (List the content of the course, with up to two level detail)

The TFG consists of three parts:

1. Individual work by the student.
   a. The work will be carried out under the supervision of a professor of the degree in a research team of the Institute or at other institutions in which there is an agreement to include this activity.
   b. The work to be carried out must be previously defined as a project in which the subject to be studied, its relevance, the objectives and the methodology are detailed.
   c. The work must include elements of research, innovation or application of technology, and it is usually not acceptable to carry out only bibliographical compilations.

2. Writing of a report on the work carried out.
a. The work done will be incorporated in a written report that will be reviewed by the same professor-director of the TFG.

b. The format of the Report will be structured as a typical scientific work. At the beginning of the report, a summary of the project will be included in Catalan, Spanish and English, whatever the language is used in the report.

3. Presentation and defense of the project in front of a tribunal designated for this purpose.
   a. The student will present the work in public session in front of a tribunal appointed by the Dean. The duration of the oral presentation and defense of the project will be about 20 minutes, a period that includes the questions and clarifications that may be formulated by the tribunal.
   b. The tribunal will ordinarily be composed of three professors of the degree, although a specialist from other university centers or from the company may also participate.

**METHODOLOGY**

**LEARNING ACTIVITIES** *(Complete the table relating activities, workload in ECTS credits, and competences.)*

<table>
<thead>
<tr>
<th>Learning Activities</th>
<th>ECTS Credits</th>
<th>Competences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Case and Problem-Solving Sessions</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Seminars</td>
<td>0,2</td>
<td>CB4, T3, E5</td>
</tr>
<tr>
<td>Practical and Lab Work</td>
<td>11,1</td>
<td>CB5, T5, E5, E6, E8</td>
</tr>
<tr>
<td>Presentations</td>
<td>0,1</td>
<td>CB4, T5, E7</td>
</tr>
<tr>
<td>Personal Study</td>
<td>0,5</td>
<td>T5, E6</td>
</tr>
<tr>
<td>Assessment Tasks (Exams, Continuous Assessment...)</td>
<td>0,1</td>
<td>CB5, T3, E6, E7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>12,0</strong></td>
<td><strong>CB4, CB5, T3, T5, E5, E6, E7, E8</strong></td>
</tr>
</tbody>
</table>

**TEACHING METHODOLOGY** *(justify the teaching methodology in relation to the competences and course contents. Between 100 and 200 words)*

The TFG consists of carrying out a research project by the prospective graduate student in a scientific or industrial environment and for a relatively short period of time.

The director of the TFG, is responsible for supervising and assigning the tasks that the student must perform in the research group.

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SUBJECT MATTER: Final Degree Project

MODULE: Final Degree Project

PROGRAM: Degree in Biotechnology

Each research group specifically plans the development of the different training activities carried out by the students.

ASSESSMENT

ASSESSMENT METHODS * (Complete the table relating assessment methods, competences, and weight percentage in the course qualification)

<table>
<thead>
<tr>
<th>Assessment methods</th>
<th>Weight</th>
<th>Competences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Exam</td>
<td>30%</td>
<td>CB4, B5, T3, T5</td>
</tr>
<tr>
<td>Midterm Exam/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Assessment Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports and Presentations</td>
<td>30%</td>
<td>CB4, T3, E5, T5, E7</td>
</tr>
<tr>
<td>Lab or Field Work</td>
<td>30%</td>
<td>CB5, T5, E5, E6, E8</td>
</tr>
<tr>
<td>Projects</td>
<td></td>
<td></td>
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<tr>
<td>Host Student Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
<td>T3, T5</td>
</tr>
</tbody>
</table>

LEARNING OUTCOMES (Explanation of the student's achievements that allow the assessment of competences, relating them to the competences and the assessment methods)

- The main result of the TFG is the acquisition by students of the ability to understand advanced knowledge (CB4, E8) and use systems, components or processes, as well as new techniques and tools (E6) of Biotechnology.
- Likewise, through constant daily work the student must be able to design appropriate processes and experiments for each project case (E5), awakening his creativity and allowing the incorporation of contemporary aspects (T5, T3), as well as the need for permanent training (CB5).
- During the realization of the TFG, the student will work integrated in a team, developing the ability to communicate effectively with peers and with the director of the TFG to present their findings and propose new ways of solving problems (E7).

QUALIFICATION (Explanation of the qualification system)

Prior to the defense of the TFG in front of an academic tribunal, the Dean establishes a date when the director of the TFG must deliver an assessment report of the student. The report will contain information relating to:

1) The scientific technical skills achieved by the student (E5, E6, E7 and E8),
2) Creativity, written communication skills, team work capacity, understanding of the future and need for continuous training. (CB4, CB5, T3, T5).
3) Student performance and behavior.

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At the time of the public defense, the tribunal will assess the E5, E6, E7 and E8 competencies as well as the ability of the student to express oneself both in writing and in public CB4.

**ASSESSMENT OF THE COMPETENCES** (Describe the grading system for each competence in relation with the assessment tasks)

The grade of the competences CB5, T3 and T5 corresponds to the qualification provided by the director of the TFG.

The grade of the competences CB4, E5, E6, E7 and E8 corresponds to the average between the qualification provided by the director of the TFG and the qualification tribunal of the TFG.

**BIBLIOGRAPHY** (Recommended and accessible to the student.)

- Each project will have its own specific bibliography.

**DOCUMENT HISTORY**

**PREVIOUS REVISIONS** (Indicate date and author / s, first the most recent one)

**CURRENT REVISION** (Indicate date and author / s)

Mars 22nd 2019, Dr. Pablo Leivar

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