

Master's Dissertation

Code: 42905
ECTS Credits: 9

2025/2026

| Degree | Type | Year |
|------------------------|------|------|
| Biotecnología Avanzada | TFE | 1 |

Contact

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Teaching groups languages

You can view this information at the [end](#) of this document.

Prerequisites

For an optimal follow-up of this module it is necessary to have a basic training on Biotechnology and basic abilities in working in a laboratory.

Objectives and Contextualisation

The objective of this module is performing and presenting in a public defense a research work on a topic related to Biotechnology, in which the student integrated the knowledge, abilities and competences acquired in the master, and it will be possible to perform the work either in academic or company laboratories.

Learning Outcomes

1. CA17 (Competence) Conceive, design, manage and develop projects in the biotechnology industry.
2. CA18 (Competence) Use one's own methodologies for the rational design and improvement (synthetic biology and metabolic engineering) of enzymes, organisms and cell lines for industrial and therapeutic applications.
3. CA19 (Competence) Work in a multidisciplinary team.
4. CA20 (Competence) Demonstrate the ability to synthesize, analyse alternatives and engage in critical debate.
5. KA17 (Knowledge) Identify and recognize problems in a professional biotechnological innovation and research context.
6. KA17 (Knowledge) Identify and recognize problems in a professional biotechnological innovation and research context.
7. KA18 (Knowledge) List the biological, molecular, and methodological principles underpinning microorganisms for application to the biotechnology and pharmaceutical industries.
8. KA18 (Knowledge) List the biological, molecular, and methodological principles underpinning microorganisms for application to the biotechnology and pharmaceutical industries.
9. KA19 (Knowledge) Demonstrate the ability to publicly defend scientific work on topics related to Biotechnology, integrating the knowledge, competences and skills acquired from the master's degree.
10. SA21 (Skill) Seek solutions and apply them in a professional biotechnological context of innovation and research.

11. SA21 (Skill) Seek solutions and apply them in a professional biotechnological context of innovation and research.
12. SA22 (Skill) Provide the knowledge necessary to define the basis or opportunities for originality in the development and/or application of ideas in a biotechnology research context.
13. SA23 (Skill) Integrate knowledge and address the complexity of formulating judgments based on information that, despite being incomplete or limited, includes reflections on the social and ethical responsibilities associated to the application of such knowledge and judgments.
14. SA24 (Skill) Communicate one's conclusions in a clear, precise and well-founded manner, together with supporting scientific principles, adapting discourse to specialist and non-specialist audiences, and demonstrating autonomy in learning and the dissemination of knowledge in the biotechnological field.

Content

The final master project will be presented in a scientific article format including the following sections: Introduction, Objectives, Materials and Methods, Results and Discussion, Conclusions and Bibliography. The work presented must be based on the research topic developed during the time allocated for the module realization.

Activities and Methodology

| Title | Hours | ECTS | Learning Outcomes |
|---|-------|------|--|
| Type: Directed | | | |
| Follow-up of the Master final project | 10 | 0.4 | CA19, CA20, KA18, SA21, SA23, CA19 |
| Type: Supervised | | | |
| Follow-up of the developed research activities | 142 | 5.68 | CA19, CA20, KA19, SA24, CA19 |
| Preparation of the written report and public presentation | 30 | 1.2 | CA20, KA17, KA18, KA19, SA21, SA23, SA24, CA20 |
| Type: Autonomous | | | |
| Own work in a research laboratory | 40 | 1.6 | CA17, CA18, CA20, KA17, KA18, SA21, SA22, SA23, CA17 |

The training activities are directly related to the performance of the research project and mostly correspond to the follow-up of the laboratory work, planning of experiments and evaluation of the obtained results. These are activities mostly supervised that are complemented by own work from the student, in aspects such as the study of bibliography and the preparation of the written report of the work and its oral defense.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continuous Assessment Activities

| Title | Weighting | Hours | ECTS | Learning Outcomes |
|---|------------------------|-------|------|--|
| Evaluation of the presentation and oral discussion | 1/3 of the final score | 0.9 | 0.04 | CA20, KA19, SA24 |
| Evaluation of the written report | 1/3 of the final score | 2 | 0.08 | CA17, CA18, KA17, KA18, SA21, SA22, SA23 |
| Report from the advisor of the master final project | 1/3 of the final score | 0.1 | 0 | CA17, CA18, CA19, KA17, KA18, SA21, SA22, SA23 |

The evaluation of the final master project is based on three aspects:

- 1) Report from advisor/advisors of the final master project (1/3 of final score).
- 2) Score given to the written final report of the project by a commission of three professors or researchers in the Biotechnology domain (1/3 of final score)
- 3) Score given to the oral presentation and discussion of the work performed by a commission of three professors or researchers in the Biotechnology domain (1/3 of final score).

Bibliography

The bibliography will be provided by the advisor of the Master thesis according to the topic of the work to be developed.

Software

Not applicable

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.