COURSE DATA

DATA SUBJECT

Code: 33200
Name: Degree final project in biotechnology
Cycle: Undergraduate Studies
ECTS Credits: 12
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1111 - Grado en Biotecnología	Facultat de Ciències Biològiques	4	Indefinite (Individuals)

SUBJECT-MATTER

Degree	Subject-matter	Character
1111 - Grado en Biotecnología	Degree final project in biotechnology	FINAL DEGREE PROJECT

COORDINATION

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SUMMARY

In the Final Degree Project (TFG), all the student's learning acquired over the previous three years comes together, representing the culmination of their ability to work as students. The main objective is for students to experience for themselves the challenges of independent work through the TFG, whether practical (laboratory-based), bibliographic (updating a topic), experimental design (preparation of a research project), design or analysis of industrial-scale facilities, or the design of teaching and/or outreach strategies and methodologies.

The TFG will take the form of a scientific or technical project (practical, bibliographic, or project-based, depending on the chosen modality) within a department of the Faculty of Biological Sciences, another faculty of the University of Valencia, another external centre, or a company that allows for this modality. Likewise, students may carry out the TFG abroad through an established mobility programme. The University of Valencia (UVEG), however, will ensure sufficient project opportunities for all available students, without prejudice to the possibility of students turning to external institutions.

The TFG must always be carried out under the supervision of an academic supervisor. Any PhD academic staff member (PDI doctor) of the University of Valencia linked to the knowledge areas involved in the teaching of the Biotechnology degree may act as an academic supervisor, as well as teaching staff from other knowledge areas, provided that the TFG committee authorises it. In the case of TFGs carried out outside the University of Valencia, any person holding a higher education degree who practices their profession independently may act as an external supervisor, provided that this is expressly authorised by the TFG committee. In such cases, the TFG Committee will also appoint an academic supervisor from the University of Valencia.

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PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

In order to enroll in the Bachelor's Thesis (Final Degree Project), it is necessary to have passed 156 credits and to be enrolled in all the remaining courses required to complete the degree program

COMPETENCES / LEARNING OUTCOMES

1102 -

Be able to practise professionally in the specific profiles of the degree, showing knowledge of the national and international reality in the biotechnology industry, market and public and private institutions.

Desarrollar habilidades a través de la utilización de diferentes medios ajenos a la titulación que permitan emprender estudios posteriores con un alto grado de autonomía.

Desarrollar un espíritu analítico y crítico para interpretar los resultados, y extraer de ellos las aplicaciones biotecnológicas.

Know how to present projects in all fields of biotechnology both orally and in writing, showing a collaborative attitude for teamwork with professionals from other fields.

Saber aplicar una metodología científica para la elaboración de trabajos bibliográficos, estados de la cuestión, y análisis e interpretación de las diferentes opciones en el ejercicio profesional.

Saber definir bien los conceptos base de la biotecnología y expresarse correctamente expresando dichos términos.

Ser capaz de diseñar un proyecto biotecnológico, desde su concepción hasta su aplicación profesional.

1111 - Grado en Biotecnología

Actuar con autonomía en el aprendizaje, tomando decisiones fundamentadas en diferentes contextos, emitiendo juicios en base a la experimentación y el análisis y transfiriendo el conocimiento a nuevas situaciones

Apply analytical, synthetic and critical thinking skills in the application of the scientific method.

Apply and understand knowledge in biotechnology and use that knowledge in professional contexts.

Assimilate ethical and legal principles in scientific research in biotechnology.

Carry out professional tasks specific to the degree profile by applying knowledge of the national and international reality of the biotechnology industry, markets, and public and private institutions.

Colaborar eficazmente en equipos de trabajo, asumiendo responsabilidades y funciones de liderazgo y contribuyendo a la mejora y desarrollo colectivo

Communicate ideas, problems and solutions within the field of biotechnology.

Conocer los elementos fundamentales de la comunicación y percepción pública de las innovaciones biotecnológicas y de los riesgos asociados a ellas

Conocer y comprender, desde el propio ámbito de la titulación, las desigualdades por razón de sexo y género en la sociedad; integrar las diferentes necesidades y preferencias por razón de sexo y de género en el diseño de soluciones y resolución de problemas

Contribuir en el diseño, desarrollo y ejecución de soluciones que den respuesta a demandas sociales, teniendo en cuenta como referente los Objetivos de Desarrollo Sostenible

Demostrar razonamiento crítico y autocrítico en el ámbito de la titulación, considerando aspectos tales como la ética profesional, los valores morales y las implicaciones sociales de las diferentes actividades realizadas

Design and carry out a complete protocol for obtaining and purifying a biotechnological product.

Develop cooperation skills with other professionals.

Disseminate and engage in public debate on issues related to biotechnology and its applications.

Participate in multidisciplinary teams, engaging in teamwork and collaboration.

Present and explain projects both orally and in writing in all areas of biotechnology, fostering a collaborative attitude in teamwork with professionals from other fields.

Propose creative and innovative solutions to complex situations or problems, typical of the area of ¿¿¿¿connection, to donate responses to the various professional and social needs

Que el estudiantado demuestre su capacidad para calcular correctamente los parámetros relevantes de un proceso o un experimento mediante la representación de los datos experimentales

Que el estudiantado demuestre su capacidad para utilizar las diferentes fuentes bibliográficas y bases de datos biológicos y usar las herramientas bioinformáticas

Saber comunicarse de manera efectiva, tanto de forma oral como escrita, adaptándose a las características de la situación y de la audiencia

Tener una visión integrada del proceso I+D+i desde el descubrimiento de nuevos conocimientos básicos hasta el desarrollo de aplicaciones concretas de dicho conocimiento y de la introducción en el mercado de nuevos productos biotecnológicos

Understand and apply the criteria for evaluating biotechnological risks.

Use English to write reports and to interpret information from protocols, manuals and databases.

Work in laboratories, including safety procedures, waste management and accurate activity logging.

DESCRIPTION OF CONTENTS

The Final Degree Project (TFG) must enable the student body to demonstrate in an integrated way the training content received and the competences acquired associated with the Bachelor's degree.The topic of the TFG may be related to any area of Biotechnology. This topic may be developed according to one of the following six modalities:Short research project related to the degree, carried out at the University of Valencia or at an external institution.Bibliographic review (updating of a topic).Design and/or analysis of biotechnological systems at industrial scale.Experimental design project (preparation of a research project).Work on teaching and/or outreach strategies and methodologies.Development of a business plan for the commercialisation of a product or service related to biotechnology.

TFG reportThe TFG report must consist of a main document with a length between 8,000 and 13,000 words (excluding bibliography, index, abstract, keywords and abbreviations), and may include appendices or additional documentation. If the main document exceeds the specified length, the panel will consider this a negative factor in the evaluation.The TFG report may be written in any of the official languages of the University of Valencia or in English. The writing must be logical and grammatically correct. The general structure will be: introduction, objectives, methodology, results, discussion, conclusions and bibliography. If necessary, appendices may be included at the end.The virtual classroom of the TFG course provides the document "Guidelines for Writing and Formatting the TFG", which contains formal recommendations for each type of project.The TFG must be original; copying or reproducing external texts (either directly or through translation) is not permitted. When using materials (figures, images, tables, etc.) from other sources, proper citation is required. Both supervisors and assessors will have tools to detect plagiarism and the use of artificial intelligence. Plagiarism affects academic integrity and constitutes an unethical and punishable academic practice.Artificial intelligence may only be used as a support tool, and not as a substitute for reasoning, reflection and personal creativity. Any use must respect the principles of academic integrity, fairness and authorship.Academic and external supervisionThe TFG must always be carried out under the supervision of an academic supervisor. Any PhD academic staff member (PDI doctor) of the University of Valencia involved in the Biotechnology degree may act as supervisor, as well as teaching staff from other fields, provided that this is authorised by the TFG committee.In the case of TFGs carried out outside the University of Valencia, any person holding a higher education degree and practising independently may act as an external supervisor, provided that this is expressly authorised by the TFG committee. In such cases, the Committee will also appoint an academic supervisor from the University of Valencia. The role of this academic supervisor will be limited to advising the student and ensuring

compliance with academic and administrative requirements, as well as participating in assessment panels. TFG allocationThe topic of the TFG may be chosen in two ways:On one hand, students may propose a topic, agreeing with a supervisor from the University of Valencia or another research centre or biotechnology company to carry out the project in any of the accepted formats. This agreement must be submitted to the TFG Committee before 10 September.On the other hand, students may participate in the TFG allocation process, where, according to the selection order established based on the grade average as of 1 September, they choose their TFG from the available options (topic, format and supervisor).If a student does not participate in the allocation process, the Committee will assign a remaining available TFG ex officio.Evaluation CommitteeThe evaluation committee will be composed of three teaching staff members from the degree programme, in accordance with the criteria established by the CAT. Its functions will be: Review and control of Final Degree Project proposals.Final evaluation of the project.ion of the project.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at supplementary activities	250,00
Monitoring and tutoring of the bachelor's thesis	10,00
Presentation and defence of the bachelor's thesis	1,00
Total hours	**261,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Independent preparation of the bachelor's thesis	19,00
Preparation of the bachelor's thesis project	20,00
Total hours	**39,00**

TEACHING METHODOLOGY

MethodologyThe methodology to be followed for preparing the Final Degree Project (TFG) will be as follows:Initial approach: topic proposed or accepted by the academic supervisor.Preparation of a relevant bibliographic list including reference works, textbooks and general literature, as well as monographs and specialised journal articles.Reading of the bibliography.Preparation of a provisional outline of the project. Experimental development or design of research projects or industrial installations, depending on the case. Final writing of the project.Public presentation before a committee composed of degree teaching staff.

EVALUATION

Evaluation Criteria:- Confidential report of the director of the work.- Knowledge of the state of the selected topic.- Quality of the report, according to the canons of the discipline.- Quality of oral presentation.- Ability to argue and to use the appropriate terminology.

1. Completed work (80% of the final grade)

The overall quality of the submitted work will be assessed based on its scientific and technical quality (degree of achievement of objectives, methodological rigor, quality of the discussion and proposed solutions, appropriateness of bibliographic sources, synthesis skills and original contributions), the quality of the documentation (presentation and format, writing and language accuracy, document structure, quality of figures and graphs, appropriate length and correct use of references), and the oral presentation (quality of visual materials, clarity and structure, mastery of content, and time management).

2. Work defense (20% of the final grade)
The student's ability to defend the work will be assessed, considering the clarity and precision of responses, depth of understanding of the topic, strength of argumentation, critical ability to analyze limitations and implications, and identification of potential applications or future research direction.

REFERENCES

Day, R. A., & Gastel, B. (2022). How to write and publish a scientific paper (9th ed.). Greenwood.

Hernández Sampieri, R., Méndez Valencia, S., & Mendoza Torres, C. P. (2025). Fundamentos de investigación (2.ª ed.). McGraw-Hill Education.div>