COURSE DATA

DATA SUBJECT

Code: 44703
Name: Master's final project
Cycle: Master's Degree
ECTS Credits: 30
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
2224 - Master's Degree in Research and Development in Biotechnology and Biomedicin	Facultat de Ciències Biològiques	1	Indefinite (Individuals)

SUBJECT-MATTER

Degree	Subject-matter	Character
2224 - Master's Degree in Research and Development in Biotechnology and Biomedicin	Master's final project	MASTER THESIS PROJECT

COORDINATION

PEREZ ORTIN JOSE ENRIQUE

SUMMARY

The Master Final Experimental Work is necessary to achieve the degree of Master in Research and Development in Biotechnology and Biomedicine. Professionally, it is the finding that the student is able to conduct an original research work. Specifically, it is intended that students: develop a research and experimental design, develop a scientific report and present their findings public. The tutor of the work must meet with the student to establish the general objective and specific objectives of the research work and carry out the design of experiments to be performed. Previously and / or in parallel with the foregoing the tutor shall provide the student the necessary literature on the subject or advise on how to obtain it. It will also be the role of the tutor of helping students acquire the necessary skills for use of experimental techniques associated research work.

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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

COMPETENCES / LEARNING OUTCOMES

2224 - Master's Degree in Research and Development in Biotechnology and Biomedicin

Access the necessary information within the specific subject area (databases, scientific articles, etc.) and have sufficient judgement to interpret and apply it.

Adquirir destrezas en el manejo de las metodologías avanzadas empleadas en las biociencias moleculares y en el registro anotado de actividades.

Apply critical reasoning and argumentation based on rational criteria.

Apply ethical and legal principles of scientific research in biotechnology and biomedicine.

Apply research experience acquired both in private companies and public organisations.

Apply science from a social and economic perspective, promoting the transfer of knowledge to society.

Apply the knowledge acquired to identify career opportunities and sources of employment.

Aprendizaje del uso de la instrumentación y equipamientos empleados en los laboratorios de biotecnología y biomedicina.

Aprendizaje en la redacción de artículos científicos en los campos de la Biomedicina y la Biotecnología.

Be able to integrate new technologies in their professional and/or research work.

Conocer las aplicaciones de los nuevos conocimientos emergentes en el diagnóstico, prevención y tratamiento de las enfermedades humanas.

Consider entrepreneurship as a professional alternative.

Critically analyse one's own work and that of colleagues.

Deepen understanding of the role of biotechnology and biomedicine professionals within the scientific and social context and their contribution to the economic model.

Demonstrate motivation for quality and continuous improvement, acting with rigour, responsibility and professional ethics.

Demonstrate respect for fundamental rights and equality between men and women.

Design multidisciplinary experimental strategies in the field of molecular biosciences to solve complex biological problems, especially those related to human health.

Develop scientific results obtained by oneself or other scientists into practical applications with social and/or economic profitability.

Gain personal skills that facilitate professional integration and development.

Make proper use of IT tools, statistical and data simulation methods, applying IT tools and statistics to biomedical and biotechnological problems.

Make rapid and effective decisions in complex situations within one's professional or research activity by developing new and innovative working methodologies adapted to the scientific/research, technological or professional field in which the activity takes place.

Master the scientific method, the design of experimental protocols and the interpretation of results in the biomedical and biotechnological fields.

Mejorar la capacidad de trabajar con seres vivos o muestras biológicas.

Mejorar la capacidad para trabajar de manera autónoma, responsable y rigurosa en el laboratorio, aplicando los conocimientos sobre los aspectos legales y prácticos en la manipulación y eliminación de agentes de riesgo.

Prepare, write and present reports and projects in public in a clear and coherent manner, defend them with rigour and tolerance and respond satisfactorily to any criticism that may arise from the presentation.

Project the knowledge, skills and competencies acquired to promote a society based on the values of freedom, justice, equality and pluralism.

Select and manage available resources (instrumental and human) to optimise research outcomes.

Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

Students should demonstrate self-directed learning skills for continued academic growth.

Students should possess and understand foundational knowledge that enables original thinking and research in the field.

Use inclusive and non-discriminatory language in all the above-mentioned areas of communication.

Work in a team, without discriminating between men and women, carry out professional or research work efficiently and acquire the ability to participate in research projects and scientific or technological collaborations.

DESCRIPTION OF CONTENTS

1. Master's Thesis

The content of the experimental project will be determined by the tutor. Students will be provided with a basic bibliography and objectives to be achieved. The project must be designed so that it can be completed during the academic year and fits within the workload outlined in this teaching guide.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at supplementary activities	0,00
Monitoring and tutoring of the master's thesis	50,00
Presentation and defence of the master's thesis	20,00
Total hours	**70,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Independent preparation of the master's thesis	0,00
Preparation of the master's thesis project	0,00
Total hours	**0,00**

TEACHING METHODOLOGY

In principle, it is anticipated that the research work preferably develops throughout the second semester of the academic year in which the student enroll the master and defended in July or September of this year. However, space development work will almost always depending on the evolution of the same in the laboratory.

Before starting work, each student will enroll, delivering a letter signed by himself and by the tutor(s) stating the title (the final will be slightly different), and a summary of an extension between 250 and 500 words including work objectives. The Academic Coordination Committee shall inform and student and Director of the approval or rejection of the inscription. The work must be designed so that implementation is feasible within the workload mentioned above. It should carry out a job in which present and analyze experimental results and / or bioinformatics. The tutor will provide students with a basic bibliography and objectives to achieve. Management periodically monitor (tutorials) work progresses according to the proposed objectives and at an appropriate pace for conclusion during the mentioned period.

At the end of the investigation, the student will prepare a report, within the limits of 20 and 40 pages in A4 format, with margins of 2.5 cm and 1.5 line spacing, Arial 12. The work may be presented in either of the two official languages of the University of Valencia or in English. 4 copies of the printed work will be presented (3 shall be returned to the board members in paper and digital format version (ENTREU

platform).

The memory structure will follow a scientific article:

On the first page shall contain the following legend: Master's thesis. Master in research and development in biotechnology and biomedicine. University of Valencia. Author (a). Director (s) and affiliation. Tutor (if applicable).

In the following pages will appear in this order: Summary (abstract) and keywords, Introduction, Materials and Methods, Results, Discussion (separate or combined) and Bibliography.The report will contain figures or tables needed to work more understandable.

The work must be submitted well in advance of the date of defense. The exact dates will be informed in each call.

The defense will consist of a public exhibition with a maximum duration of 20 minutes a period of approximately 10 minutes to answer the questions of the court.

EVALUATION

The score of the work will be based on three criteria:

1) General approach of the work (40%).
The quality of research, the difficulty of laboratory methods or the software used, and how the student has developed the objectives and originality of the approaches used are assessed.

2) Evaluation of the written memory (30%).
The student must submit a report of the research work (as described in the teaching methodology). In the drafting work memory correct and complete description of the experiments, the validity of the conclusions and conciseness and appropriate use of written language will be valued. the way in which the student has raised and discussed the results are also evaluated.

3) Evaluation of the oral presentation (30%).
The student will have to orally present the research during a period of approximately 20 minutes, and then subjected to a round of questions by the court. In this test the clarity of exposure, proper distribution of time between the filing of the problem and presentation of the results and conclusions, the correct use of measured language, matching the visual presentation, scientific knowledge that the student to demonstrate the issue and precision in the responses to questions.

The composition of the tribunal shall be adapted as determined by the Master's Academic Committee (CEC) and the rules of the University of Valencia.

REFERENCES

- Day, R. A. (1979). How to write and publish a scientific paper. ISI Press Philadelphia.