

Degree	Type	Year
Neurosciences	TFE	1

## Contact

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## Teaching groups languages

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

## Prerequisites

According to the characteristics of this module, the students must have a host research group (and a research supervisor) in order to fulfill the requirements of the module.

Due to the structure of the master program, all students should have passed module 3 (Scientific Skills in Neuroscience) before starting to develop his/her research project.

Good knowledge of English and skills to work with databases and literature search programs is highly recommended.

## Objectives and Contextualisation

The ultimate goal of this module is to have a public presentation and defense of a research work in an area of expertise related to neuroscience and performed by the student, under the appropriate guidance by an expert (advisor) in the field.

Specific objectives of this module are:

- Develop working capacities at a scientific laboratory, primarily related with the neuroscience field.
- Develop communication skills at the written and spoken levels.
- Develop the ability to design, develop and defend a research strategy based on a proposed objective(s).
- Develop the ability to communicate scientific data to a broad spectrum audience, not necessarily with the same scientific background.
- Develop the capacity of integration, synthesis and abstraction.
- Develop the ability to discuss scientific data in an open environment, to accept criticisms and to present appropriate refusals taking into account the scientific knowledge.
- Develop working capacities and collaborative skills in multidisciplinary environments.

## Learning Outcomes

1. CA17 (Competence) Compile the knowledge acquired from the context of the neurobiology of cognition and behaviour to propose new working hypotheses to deepen our knowledge of the neurobiology of cognition.
2. CA18 (Competence) Communicate the knowledge acquired from the field of neuroscience in a clear and unambiguous way to both specialist and non-specialist audiences.
3. CA19 (Competence) Apply the knowledge acquired about the central and peripheral nervous systems to solve new challenges related to your area of study in neuroscience.
4. CA20 (Competence) Conduct research work, in a scientific laboratory, in a specific area of neuroscience, under the supervision of an expert in that area.
5. KA15 (Knowledge) Identify appropriate techniques for the implementation of a working hypothesis in the context of neuroscience.
6. KA16 (Knowledge) Identify the contribution of research in various areas of neuroscience research to good health, as well as its impact.
7. SA16 (Skill) Investigate the techniques that allow the study of the neurobiological basis of behaviour in neurodegenerative processes and neuroprotective strategies.
8. SA17 (Skill) Discuss scientific data on a particular aspect of neuroscience in a multidisciplinary working group.
9. SA18 (Skill) Analyse the scientific literature in the context of neuroscience to propose and contextualise a research topic that will lead to the completion of your Final Master's Degree Project.

## Content

This module has three main parts:

1. Laboratory work: this is done within a research group within the area of neuroscience or related fields.
2. Written report (Master Thesis)
3. Public dissertation and defense

Meta-analysis or literature review-based works are not accepted as a research project. In the case of works from the same group/laboratory, the repetition of data or the inclusion of data already published and/or not derived from the project developed will not be allowed; similarly, the use of variables generated from the same experimental data must also be adequately justified.

While the specific laboratory work of each student is a matter of the student's advisors, here we provide guidelines on formal aspects of the written report and the dissertation (oral defense), together with the criteria the committee will take into account for grading purposes (see Methodology and Evaluation).

## Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Research project execution	325	13	
Type: Supervised			
Writing of report - Including literature search and data mining	49.5	1.98	

### A. Research project

To be developed by each student under the guidance of an advisor.

This implies laboratory work; including design, realization and analysis of one or more experiments, depending upon the project developed.

## A. Report

The written report should have the general structure of a scientific paper. Some indications are given below, however, specific information will be provided via Campus virtual and at the web page of the master (<https://masterneurociencias.uab.cat/en/programme/module-6-research-project>)

Overall, authors instructions from *Journal of Neuroscience* must be followed.

### A1. Language

The report may be written in any of the official languages of the UAB: Catalan, Spanish, or English.

### A2. Text

The written report should contain 25-35 numbered pages. Times 12 is the only accepted font. Line spacing should be 1.5.

### A3. Figures and Tables

Figures and Tables should be embedded within the text. Legends to figures and tables may be written in a smaller letter size.

### A4. General organization

The report should be organized under the following headlines (in this order):

- Title page. Including: Title, author's name, name of supervisor and location
- Certificate from supervisor (detailed instructions will be found in the Aula Moodle)
- Index (table of contents)
- List of abbreviations
- Abstract (limit of 250 words)
- Introduction: it should not be a comprehensive review; rather, a concise set up of the question.
- Objectives (specific aims of the research project): these should be numbered and be as concise as possible.
- Materials and Methods
- Results
- Discussion (Results and Discussion may be combined)
- Conclusions: these should derive from the experimental work, in line with the objectives. Avoid atomization of conclusions. Regardless of the language chosen for the rest of the report, conclusions must be written in English.
- References (40 maximum) (*Journal of Neuroscience* citation style must be followed).

## B. Public dissertation

### B1. General

The research project will be presented in a public session to an evaluating committee of three experts in the field of Neurosciences. The combined scientific expertise of the committee members, who will be appointed by the module coordinator, will cover the main research programs of the INstitute of Neuroscience. Each student will have a 10-15 min to center the question, lay the objectives, explain the results and put them in context, and present the conclusions of his/her work. Afterwards, the committee will discuss the presentation with the student during a period of time at the committee's consideration.

### B2. Language

The student and the committee members may use any of the official languages of the UAB: Catalan, Spanish, or English.

### B3. Visual support

Presentations will be supported with slides, but movies or blackboard may also be used alone or in combination.

#### Use of AI:

In this course, the use of Artificial Intelligence (AI) technologies is not allowed in any of its phases. Any work that includes fragments generated with AI will be considered a lack of academic honesty and may result in a partial or total penalty in the grade of the activity, or greater sanctions in serious cases.

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
Audiovisual support for oral presentation	10%	0	0	CA17, CA18, CA19, SA16, SA17
Oral presentation and defense of research project	60%	0.5	0.02	CA17, CA18, CA19, KA16, SA16, SA17, SA18
Tutor's evaluation	10%	0	0	CA17, CA18, CA19, CA20, KA15, KA16, SA16, SA17, SA18
Written report	20%	0	0	CA17, CA18, CA19, CA20, KA15, KA16, SA16, SA17, SA18

The research project requires only a total of about 300 hours of the student's time. Consequently, for successful completion the student is not required to present a whole account of any problem relevant to neuroscience, but an introduction to the basics of biological science. Therefore, evaluation will be based primarily on the student's ability to:

- make hypotheses
- design, carry out and interpret experiments that test the hypotheses
- draw conclusions from such experiments, and
- communicate the complete process in an effective manner (even to non-experts in the subject)

The potential "scientific impact" of the work will not constitute a priority in terms of the final qualification.

Final scores are decided by an evaluation committee, taking into account three parts:

- Evaluation form the tutor (Responsible of the research project)
- Written report - 20% of the final score
- Audiovisual support for oral presentation - 10% of the final score

- Oral presentation and defense - 60% of the final score

Detailed indications of the scoring procedure and the rubrics of evaluation to be used will be available at the Aula Moodle of the subject.

The student will obtain the qualification of NOT EVALUABLE if he/she does not present the written report within the established deadlines and/or he/she does not present and defense his/her work.

Single evaluation: This subject is, by default, a single evaluation subject.

## **Bibliography**

There are no specific references.

## **Software**

This subject does not use any specific software.

## **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.