



UNIVERSIDAD AUTÓNOMA DE MADRID

## 33208 - MASTERS THESIS

This is a non-sworn translation intended to provide students with information about the course

### Information of the subject

**Code - Course title:** 33208 - MASTERS THESIS

**Degree:** 721 - Máster en Investigación Farmacológica (2018)

**Faculty:** 106 - Facultad de Medicina

**Academic year:** 2023/24

### 1. Course details

#### 1.1. Content area

The Master's Thesis will provide the student with first hand and practical knowledge on the different steps of research activity. This includes establishing hypothesis and experimental design, election and use of the appropriate techniques, data collection and analysis, data interpretation and discussion, as well as written and oral communication.

#### 1.2. Course nature

Master Final Project

#### 1.3. Course level

Máster (EQF/MECU 7)

#### 1.4. Year of study

1

#### 1.5. Semester

Second semester

#### 1.6. ECTS Credit allotment

30.0

#### 1.7. Language of instruction

English

#### 1.8. Prerequisites

Previous attendance to the General and Specialized Modules of the Master. Level B2 in English is required since the subject will be taught in that language.

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## 1.9. Recommendations

Students will be provided with a list of tutors and Master's thesis subjects so that they may contact the research groups at the beginning of the master.

## 1.10. Minimum attendance requirement

This activity is mandatory to achieve the master's degree.

## 1.11. Subject coordinator

Manuela Garcia Lopez

<https://autoservicio.uam.es/paginas-blancas/>

## 1.12. Competences and learning outcomes

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### 1.12.1. Competences

#### **BASIC AND GENERAL**

GE1 - Acquire the knowledge, skills and abilities necessary to carry out an innovative quality research in Pharmacology

CB6 - Possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context

CB7 - Know how to apply the acquired knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of interest

CB8 - The ability to integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.

CB9 - That the students know how to communicate their conclusions and their knowledge to specialized and non-specialized publics in a clear and unambiguous way.

CB10 - Posses the learning skills that will allow the students to continue studying in a way that will be largely self-directed or autonomous.

#### **TRANSVERSAL**

T4 - Possess a high sense of responsibility, on a personal, professional and social level in the fields of the University, the company and public administrations.

T3 - Ability to take the initiative at work, work as a team, cooperate with internal and external elements, organize and properly manage the work and direct it to specific objectives.

T2 - Ability to carry out effective scientific and technical communication, both in a specialized environment and in more general environments, including the educational.

T1 - Ability to carry out a self-learning plan, perform an autonomous consultation of the bibliography and databases at the scientific, technical or regulatory level.

#### **SPECIFIC**

ES-4 - Know the most common therapeutic targets in cardiovascular disease or diseases of the nervous system and assess their physiological significance and their therapeutic projection.

ES-5 - Be able to identify potential new therapeutic targets in cardiovascular and central nervous system diseases, assess their biological significance and their therapeutic potential.

ES-6 - Know and apply the most common experimental techniques and models, both in research in Cardiovascular Pharmacology or in research in Psychoneuropharmacology.

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ES-7 - Be able to design and carry out studies in animal models for pharmacological research, according to the scientific, ethical and regulatory principles that condition them.

ES-8 - Be able to carry out the handling and analysis of data from pharmacological investigations.

ES-9 - To know from an eminently practical point of view, the different phases of the experimental work in Pharmacology, including experimental design, the choice and use of experimental techniques and animal models, as well as the processing and analysis of results, together with their presentation and discussion.

ES-10 - Design and develop research plans in Pharmacology.

### 1.12.2. Learning outcomes

The student will perform a research on a research line offered by one of the collaborating laboratories. Throughout the stay, the student will participate in the daily research tasks, i.e., designing, performing, analyzing and interpreting the experiments. At the end of the stay and based on the results obtained, the student will write, present and publicly defend a Master's Thesis.

### 1.12.3. Course objectives

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### 1.13. Course contents

The proposed research topics in Cardiovascular Pharmacology and Neuropsychopharmacology are found in the web

site: [http://www.uam.es/ss/Satellite/Medicina/es/1242667165286/subhome/Master\\_Universitario\\_e](http://www.uam.es/ss/Satellite/Medicina/es/1242667165286/subhome/Master_Universitario_e)

The original research work carried out in one of the research groups assigned to the Master's Degree in

1. **The written work or "Master's Thesis"** will have a maximum length of 40 pages. Times New Roman

- Cover, with title, author and director (s) of the work.
  - Index.
  - Summary (maximum 300 words) and keywords (maximum 5).
  - Introduction, with background and justification of the work done.
  - Objectives and hypotheses.
  - Material and methods.
  - Results, including tables and figures.
  - Discussion.
  - Conclusions.
  - Bibliography, according to the Vancouver format for articles in scientific journals.
  - In the event that the student is a co-author of publications related to the thesis, these may

Along with the presentation of the written work of the Master's thesis, a **confidential report will be delivered**

2. **The oral presentation** will be made publicly before a committee formed by three professors, according

3. The public presentations of Master's final work are part of the academic activities of the Master and, th

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### 1.14. Course bibliography

Bibliographic references will be original research works or recent reviews, distributed by the teachers or obtained by the students after the corresponding search in PubMed

## 2. Teaching-and-learning methodologies and student workload

### 2.1. Contact hours

		N° of hours	%
Contact hours	Research seminars attendance	10	1,3
	Weekly lab work (thirty five hours x eighteen weeks	630	
	Data mining, reading scientific literature.... related to the topic of the MT	60	
Independent study time	Writing the text of the MT and preparation of Presentation of the MT	50	8
<b>Total hours: 25 h x 30 ECTS</b>		<b>750 h</b>	6,6

### 2.2. List of training activities

#### RESEARCH WORK

The student will be fully integrated in a research laboratory during the experimental period of the Master's Thesis. During this period he/she will learn the design, performance, and discussion of the results. Moreover, he/she will assist the Scientific Seminars Teófilo Hernando during that period which are mandatory.

## 3. Evaluation procedures and weight of components in the final grade

### 3.1. Regular assessment

1. A continuous evaluation by the tutor will evaluate the attitude and experimental work performed by the student.
2. The written presentation, oral presentation and defense of the Master's thesis will be evaluated by a committee composed by different professors.

#### 3.1.1. List of evaluation activities

1. **Continuous evaluation by the tutor** (20% ).
2. **Master's thesis:** written text, oral presentation, discussion and defense of the Master's thesis will be evaluated by a commission of professors from the Master (80% ).

### 3.2. Resit

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#### 3.2.1. List of evaluation activities

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## 4. Proposed workplan

The workplan will be performed with the master's thesis tutor.

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