

## 69171 - Research and Innovation Activities

### Syllabus Information

**Academic year:** 2024/25

**Subject:** 69171 - Research and Innovation Activities

**Faculty / School:** 110 - Escuela de Ingeniería y Arquitectura

**Degree:** 615 - Máster Universitario en Robótica, Gráficos y Visión por Computador / Robotics, Graphics and Computer Vision

**ECTS:** 3.0

**Year:** 1

**Semester:** Second semester

**Subject type:** Optional

**Module:**

### 1. General information

The objective of the course is to understand how research activity is developed, at an international level, applied to robotics, computer graphics and computer vision, and to be able to understand both the scientific context of a contribution as well as the process, from the idea to its subsequent publication and presentation.

Robotics, computer graphics and computer vision are cutting-edge fields in which scientific research is a key part. The ability to understand the process by which scientific contributions are developed is fundamental for the student to be able to interpret scientific contributions, develop as researchers and be able to communicate the results of their work.

This Master degree offers advanced training in robotics, graphics and computer vision. This course allows the student to know some of the related latest research results, developments and innovations and to attend various invited seminars by experts in related subjects.

### 2. Learning results

The student will be able to:

- Understand and evaluate the main contents of research articles on robotics, computer vision and/or computer graphics and related topics.
- Understand the main contents of expert talks on research or innovation topics on robotics, vision and/or computer graphics and related topics.
- Organize and structure technical papers on research or innovation topics in robotics, computer vision and/or computer graphics and related topics.
- Understand the operation of scientific outreach events.
- Present technical content on research or innovation in different fields.

### 3. Syllabus

The course will consist of the realization of all the steps that occur during a conference by the students, and will consist of the following blocks.

1. Introduction: fundamental parts of the research process, scientific publication, dissemination and funding.
2. Writing a paper
3. Review of a paper
4. Presentation and dissemination of a paper
5. Attendance at seminars by other researchers, entrepreneurs or experts on robotics, vision and/or computer graphics and related topics.

### 4. Academic activities

The course consists of 3 ECTS credits that correspond to an estimated student dedication of 75 hours distributed as follows:

- Lectures: 24h
- Problem solving and case studies: 6h
- Study. Practical application or research work: 42h.
- Evaluation: 3h

### 5. Assessment system

Both in the continuous evaluation and in the global evaluation, the procedure is as follows:

**E02 [60%] - Directed work.** Different written reports will be considered, including article or technical report writing and article or technical report revision. The scientific quality, clarity and potential reproducibility of the content will be evaluated. In the reviews, the writing and the capacity for constructive criticism will be valued. Each student will be able to select from among the seminars offered the most appropriate to his/her interests.

**E03 [40%] - Oral presentations and debates.** Within this section the presentation or presentations of the corresponding article or report will be valued, taking into account the clarity, conciseness and preparation of the presentation. Participation in the discussions of the different presentations and seminars will also be taken into account.

In order to pass the course it will be necessary to pass the E02 type test with at least a grade of 5 out of 10 points (N2), and the E03 type test with a grade of at least 5 out of 10 points (N3).

In case of passing both tests, the final grade will be calculated according to the following formula:  $0.5*N2+0.5*N3$ .

If neither N2 nor N3 is passed, the final grade will be the higher of the two.

In case of not passing N2 or N3, the grade will be that of the failed test.

## **6. Sustainable Development Goals**

4 - Quality Education

8 - Decent Work and Economic Growth

9 - Industry, Innovation and Infrastructure