

Degree programme	Type	Course
Modelling for Science and Engineering	PRO	1

Contact lecturer

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Prerequisites

None.

Group languages

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

Objectives

Students will carry out their internships in companies (public or private) or in institutions such as research centres and/or university departments. The aim is to introduce students to the professional environment, whether they intend to pursue doctoral studies or to enter the private sector. These internships provide the essential practical learning component and establish a direct link for collaboration between the academic and professional sectors.

Learning outcomes

- CA36 (Perform professional tasks related to modelling with ethical, sustainability, gender equality and/or social justice responsibility.) Perform professional tasks related to modelling with ethical, sustainability, gender equality and/or social justice responsibility.
- CA37 (Work in multidisciplinary teams on the development of modelling projects proposed by companies and/or research centres.) Work in multidisciplinary teams on the development of modelling projects proposed by companies and/or research centres.
- CA38 (In the professional environment, effectively communicate the procedures and results required to solve problems posed by the centre hosting the student for their internship.) In the professional environment, effectively communicate the procedures and results required to solve problems posed by the centre hosting the student for their internship.
- KA27 (Identify the knowledge acquired on mathematical modelling that facilitates entry into the labour market.) Identify the knowledge acquired on mathematical modelling that facilitates entry into the labour market.
- KA28 (Identify the programming languages and environments that are required to solve problems posed in a professional context.) Identify the programming languages and environments that are required to solve problems posed in a professional context.
- SA37 (Critically assess the implementation of modelling techniques and/or tools carried out in a particular professional context.) Critically assess the implementation of modelling techniques and/or tools carried out in a particular professional context.
- SA38 (Implement original computational tools to provide solutions to new challenges and problems posed by the centre hosting the student for their internship.) Implement original computational tools to provide solutions to new challenges and problems posed by the centre hosting the student for their internship.

- SA39 (Interpret the results and predictions obtained from applying a model to the problem-solving posed in a specific professional context.) Interpret the results and predictions obtained from applying a model to the problem-solving posed in a specific professional context.

Contents

There are no theoretical contents for this module.

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Work planning	6	0.24	CA36, CA37, CA38, KA27, KA28, SA37, SA38, SA39
Development of practices	290	11.6	CA36, CA37, CA38, KA27, KA28, SA37, SA38, SA39

On the module's Virtual Campus, you will find a list of companies and research centres where students enrolled in this Master's programme have completed their internships in recent years.

An internship agreement must be signed between the University and the host organisation. This procedure is managed by the Academic Administration Office of the Faculty of Science, as the agreement is formally signed by the Dean of the Faculty of Science, the representative appointed by the host organisation, and the student. The agreement must clearly specify the name of the company supervisor, the academic supervisor at the University, the internship dates, and the work plan.

The total workload is 300 hours, corresponding to the 12 ECTS credits assigned to this course.

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	Weight	Hours	ECTS	Learning outcomes
Report written by the student	20%	4	0.16	CA36, CA37, KA27, KA28, SA37, SA38, SA39
Report done by the tutor appointed for the centre	80%	0	0	CA36, CA37, CA38, KA27, KA28, SA37, SA38, SA39

The evaluation of this module takes into account two items:

The first is a report prepared by the tutor designated by the company, which consists of filling out a form assessing certain aspects of the work performed by the student. The mentioned form will be available on the Virtual Campus. The company tutor must send it to the student, who will then have to submit it through an assignment that will be enabled on the Virtual Campus.

The second is a descriptive report written by the student explaining what they have been doing at the company / Research Center. The report should be between 6 and 12 pages long following the outline below:

- Personal information
- Dates of the stay at the company
- Company details. Tutor assigned by the company

- Explanation of the nature of the company
- Teamwork you have performed
- Specific description of the tasks carried out during your stay at the company
- Evaluation of the work done with the knowledge and skills acquired in relation to the master's studies
- List of problems encountered and procedures followed to resolve them
- Evaluation of personal work and suggestions
- Assessment of the experience and personal suggestions

Both documents must be submitted on the subject's Virtual Campus before June 25 at 11.59 p.m..

Bibliography

There are no specific references.

Software

There is no specific software

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(PEXTm) Pràctiques externes i pràcticum (màster)	1	English	second semester	afternoon