

Degree	Type	Year
2503740 Computational Mathematics and Data Analytics	OB	4

Contact

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Teachers

Albert Ruiz Cirera

Teaching groups languages

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

Prerequisites

The rules of permanence establish a minimum of 160 ECTS of the degree passed to be able to enroll in the Final Project.

Objectives and Contextualisation

The Final Degree Project (TFG) is a subject of 12 ECTS (300 hours) of 4th year. This is the only compulsory subject of the course and in which all students will have to do an academic work. The training activities of the TFG are the realization of an essay and the preparation of its public defense. TFGs are not required to contain original results.

Projects, Papers and Presentations must be submitted to the Virtual Campus in pdf files. In the presentation the student must explain, at least, the approach and objectives of the work, the methodology and the sources or materials used, the state of the issue, the results obtained and the conclusions reached.

Learning Outcomes

1. CM54 (Competence) Present the motivation, development and conclusions of the work correctly and with ethical responsibility.
2. CM54 (Competence) Present the motivation, development and conclusions of the work correctly and with ethical responsibility.

3. CM55 (Competence) Develop the learning skills required to undertake subsequent studies with a high degree of autonomy.
4. CM55 (Competence) Develop the learning skills required to undertake subsequent studies with a high degree of autonomy.
5. CM55 (Competence) Develop the learning skills required to undertake subsequent studies with a high degree of autonomy.
6. KM41 (Knowledge) Identify the essential ideas of the proofs of some basic algebra theorems, adapting them to obtain other results.
7. KM41 (Knowledge) Identify the essential ideas of the proofs of some basic algebra theorems, adapting them to obtain other results.
8. SM49 (Skill) Effectively use a bibliography and electronic resources to obtain information.
9. SM50 (Skill) Actively demonstrate a high level of concern about the quality of their arguments when making the conclusions of their work public.
10. SM51 (Skill) Distinguish, when faced with a problem or situation, what is substantial from what is purely occasional or circumstantial.
11. SM52 (Skill) Apply critical thinking and rigour to validate or refute one's own and others' arguments.

Content

The final degree works (TFG) may be rather theoretical (some topic about the degree that is not worked on any of the studied subjects) or of a more practical nature (to study in depth a problem and / or specific data). In the first case it will have to contain a motivation and the arguments about the adaptation of the results studied in the degree. In the second case, it must contain an adequate theoretical foundation of the results that are used.

The student and the tutor will determine the content of the TFG when this subject begins. The work can be chosen from those proposed by the teachers of the degree or can be proposed by the same student within a line of interest offered by the professors of the Department of Mathematics or Sociology. In both cases you must have the approval of the degree coordinator.

The extension of the TFG can be variable but it is recommended between fifteen and thirty pages. The work can be presented in Catalan, Spanish or English. The first page will include a title, author and tutor, place and dates where the work is carried out. It will then follow a summary that will be in the same language of the text and with its English language version. Non-original content must have been clearly referenced in the bibliography that will appear at the end of the text.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Tutorships	15	0.6	
Work completion	225	9	
Type: Autonomous			
Autonomous learning	59	2.36	

Each student generates three materials that we call: Project, Work and Presentation. All these materials must be delivered to the Virtual Campus with the approval of the Tutor within the deadlines that will be made public in due course.

The project

When a student reaches an agreement with a Tutor, regardless of how the agreement was initiated, the student must write a consensual work project, with the approval of the Tutor that includes (a total of one or two pages):

1. Title of the Work (in lower case and capital letters, not in capital letters, maximum 80 characters).
2. Student and Tutor Names.
3. Objectives and approach of the Work with bibliography.

The job

The Work is the final document (also called memory) that will be delivered by the student after the whole process. The first page will include: Title, Author and Tutor, Date and Place where the Work takes place. It will be followed by a Summary in the same language of the text and the English language version.

The Introduction / Presentation will explain the approach and objectives of the work, the methodology and the sources or materials used, the previous state of the issue, the results obtained and the Conclusions reached. Non-original content must be clearly cited and the reference will be included in the Bibliography at the end of the text.

The Presentation

The Presentation is the material you will prepare for a 15 min presentation. of Labor. You will deliver it to the Campus a few days after the delivery of the Work and before the Reading.

When a student reaches an agreement with a Tutor, regardless of how the agreement was initiated, the student must write a consensual work project, with the approval of the Tutor that includes (a total of one or two pages):

- (1) Title of the Work (in capital letters, not in capital letters, maximum 80 characters).
- (2) Student and Tutor Names.
- (3) Objectives and approach of the Work with bibliography.

The job

The Work is the final document (also called memory) that will be delivered by the student after the whole process. The first page will include: Title, Author and Tutor, Date and Place where the Work takes place. It will be followed by a Summary in the same language of the text and the English language version. The Introduction / Presentation will explain the approach and objectives of the work, the methodology and the sources or materials used, the previous state of the issue, the results obtained and the Conclusions reached. Non-original content must be clearly cited and the reference will be included in the Bibliography at the end of the text.

The Presentation The Presentation is the material you will prepare for a 15 min presentation. of Labor. You will deliver it to the Campus a few days after the delivery of the Work and before the Reading.

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

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Contents	70%	0.5	0.02	CM55, KM41, SM49, SM50, SM51, SM52
Debate	10%	0.15	0.01	CM55, KM41, SM49, SM50, SM51, SM52

See the Catalan version.

Bibliography

Paul R. Halmos. Com cal escriure en matemàtiques. Butlletí de la Societat Catalana de Matemàtiques. Vol. 21, núm. 1, 2006. Pàg. 53-79.

<https://raco.cat/index.php/ButlletiSCM/article/view/221239>

Software

The Final Degree Project may include using specific software.

Language list

Information on the teaching languages can be checked on the CONTENTS section of the guide.

PROVISIONAL