27023 - Undergraduate Dissertation

Syllabus Information

Academic Year: 2020/21
Subject: 27023 - Undergraduate Dissertation
Faculty / School: 100 - Facultad de Ciencias
Degree: 453 - Degree in Mathematics
ECTS: 10.0
Year: 4
Semester: Second semester
Subject Type: ---
Module: ---

1.General information

1.1.Aims of the course

The aim of the dissertation is to enable students to apply and develop a range of skills and competences acquired throughout the degree. Students are expected to show their competence in planning, writing and defending a piece of research on a topic related to the degree. This process is mainly based on the student's autonomous work under the supervision of a director throughout the academic year.

1.2.Context and importance of this course in the degree

The undergraduate dissertation is a compulsory module.

The student is expected to complete his/her studies with the undergraduate dissertation. Thus, it is necessary to be enrolled in all the due credits to take this module. To defend the dissertation it is required to have no more than 12 credits pending (excluding the dissertation itself) and present a motivated, favorable report of the dissertation director.

1.3.Recommendations to take this course

The dissertation must be on a subject related to any of the modules of the degree. The competences to be acquired are common to all the modules. The student is encouraged to look for information well in advance about the subjects which could be offered by the teachers and groups he/she is more interested in.

2.Learning goals

2.1.Competences

When passing this module, the student gets the following competences:
- Be able to reach the objectives described in the paragraph *Learning goals*.
- Apply the mathematical knowledge in a professional way and pose and solve problems in the area of mathematics and its applications.
- Communicate, in a oral or written way, information, ideas, problems and solutions in the area of mathematics to both specialised or not specialised audience.
- Apply the learning abilities needed to start subsequent studies in mathematics with a high degree of autonomy.

2.2.Learning goals

To successfully defend the undergraduate dissertation, the student must be able to:
- Analyse a mathematical problem by himself/herself.
- Write mathematical texts in a ordered, rigurous way, according to the expected reader.
- Use scientific text processors, particularly LaTeX.
- Search the literature through MathSciNet, arxiv...
- Present mathematical results to a non specialised audience.

2.3.Importance of learning goals

The learning goals provide a basic formation in the degree. The competences and learning goals above described are essential in a graduate in mathematics.

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

The evaluation will be based both in the written dissertation and the presentation. It will refer to the items in the paragraph *Learning goals*.

The dissertation director will issue a reasoned report including a score. The student will present the dissertation to a committee of teachers of the departments involved in the degree. This committee will decide the final score according to the following rule: a 30% will be based on the director's score; another 30%, on the written dissertation; the remaining 40%, on the oral presentation.

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The director will help the student to understand the aim of the project, find the relevant literature and reach the ability to carry out the task. The student must try to work by himself under the supervision of the director.

A a result of his/her task, the student must present a dissertation, which should fulfill the norms adopted by the Faculty of Sciences. In particular, the dissertation must be written in LaTeX using the template available in Moodle and in the web of the Faculty.

Both the dissertation and the presentation can be prepared in Spanish or English.

4.2.Learning tasks

In a introductory session, the director will provide the student the guidelines to start preparing the dissertation.

To prepare the dissertation draft, the student is expected to engage in autonomous work (use of the library, review of the literature, writing of the draft of the dissertation and revisions of the draft).

Additionally, the student and the director can set up regular appointments for office hour consultation.

To help the students to achieve the necessary skills, an introductory course to LaTeX will be offered.

4.3.Syllabus

Due to its characteristics, this module does not have a common programme.

4.4.Course planning and calendar

- From June until the first days of September, the departments involved in the degree in Mathematics will present topic proposals for the undergraduate dissertations. Those proposals have to be approved by the CGC (Quality Assessment Committee) and around mid September, the approved proposals will announced. The CGC will guarantee that the number of proposals and the variety of subjects are suitable.
- An assignment process will follow. At the end, each student must have signed a commitment with a teacher who will assist the student to understand the proposal, find the relevant bibliography and get the necessary skills to perform the task. The student will be supervised by that teacher during the whole process.
- Detailed policies for undergraduate dissertations in Mathematics can be found at the Faculty of Sciences' website.
- Following the deadlines established by the Faculty of Sciences, the student will register the dissertation and present it.

For further information concerning the timetable, office hours, assessment dates and other details regarding this course please refer to the Faculty of Sciences website and Moodle.

4.5.Bibliography and recommended resources

Due to its characteristics, this module does not have a common bibliography.