

# 2023/2024

# **Bachelor's Degree Final Project**

Code: 103166 ECTS Credits: 12

Degree	Туре	Year	Semester
2503852 Applied Statistics	OB	4	0

# Contact

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# Teaching groups languages

You can check it through this <u>link</u>. To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

# Teachers

Ana Alejandra Cabaña Nigro

# 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**

See the Catalan version.

## Competences

- Analyse data using statistical methods and techniques, working with data of different types.
- Critically and rigorously assess one's own work as well as that of others.
- Design a statistical or operational research study to solve a real problem.
- Formulate statistical hypotheses and develop strategies to confirm or refute them.
- Identify the usefulness of statistics in different areas of knowledge and apply it correctly in order to
  obtain relevant conclusions.
- Make efficient use of the literature and digital resources to obtain information.
- Select and apply the most suitable procedures for statistical modelling and analysis of complex data.
- Select statistical models or techniques for application in studies and real-world problems, and know the tools for validating them.
- Select the sources and techniques for acquiring and managing data for statistical processing purposes.

- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Use quality criteria to critically assess the work done.

## **Learning Outcomes**

- 1. Apply techniques of descriptive statistics, inferential statistics and/or data mining to perform the relevant analyses.
- 2. Choose and apply the most suitable procedures for statistical modelling and analysis of complex data.
- 3. Choose suitable sources of information for developing the bachelor's degree final project.
- 4. Choose the most suitable statistical techniques for analysing the data obtained.
- 5. Critically assess the work done on the basis of quality criteria.
- Design suitable statistical studies to solve the problems formulated in the bachelor's degree final project.
- 7. Determine which statistical procedures are the most suitable for performing the task at hand.
- 8. Formulate statistical hypotheses and develop strategies to confirm or refute them.
- 9. Justify the choice of certain techniques rather than others.
- 10. Make effective use of references and electronic resources to obtain information.
- 11. Reappraise one's own ideas and those of others through rigorous, critical reflection.
- 12. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- 13. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- 14. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.

## Content

The final degree works (TFG) may be rather theoretical (some topic of statistics that is not worked on any of the subjects of the degree) 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 examples of practical application of the results studied. 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.

## Methodology

See the Catalan version.

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.

#### Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Bibliographic inquiry	15	0.6	
Type: Autonomous			
autonomous learning	59	2.36	
work completion	225	9	

## Assessment

Evaluation of the TFG occurs in two phases. First, a jury made up of three members of the faculty evaluates, giving up to a maximum of 8 points, the working document (written memory) delivered to the Virtual Campus.

Afterwards, the Presentation is assessed according to the previous result. For works with scores less than 7.2 (about 8), the Presentation is evaluated by the tutor himself with a maximum of 2 points. In this situation, the final grade will be at most 9 (Work + Presentation).

The student who scores greater than or equal to 7.2 points in the memory, may decide that the Presentation is evaluated by his guardian/a, increases the rating to 2 additional points (in this case, the final grade will be at most 9), or alternatively make the Presentation before the Special Jury and increase the score obtained up to 2.5 additional points.

In each call, the maximum number of pupils eligible to submit to the Special Jury is 40% above the TFG registration of the corresponding call (ordered according to the Labour note). If a student decides to make the presentation in the Special Court, but it is outside the 40% mentioned above, the presentation will be assessed by his director with the possibility of increasing the rating to 2 points.

Title	Weighting	Hours	ECTS	Learning Outcomes
Contents	70%	0.5	0.02	7, 11, 1, 5, 6, 4, 8, 9, 14, 13, 12, 2, 3, 10
Debate	10%	0.25	0.01	11, 5, 9, 10
Presentation	20%	0.25	0.01	11, 5, 9, 10

## **Assessment Activities**

## 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 software required for the TFG.