Biostatistics

Code: 100811
ECTS Credits: 6

2025/2026

Degree	Type	Year
Environmental Biology	FB	1

Contact

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Teaching groups languages

You can view this information at the end of this document.

Prerequisites

No specific prerequisites are required for this subject.

Objectives and Contextualisation

This subject is an introduction to statistics. Its objective is to transmit its usefulness in the analysis of data and the design of experiments and, to show which are the most appropriate tools according to the objectives of the study and the available data.

Learning Outcomes

1. CM04 (Competence) Integrate the gender perspective, both in the design of studies or the analysis of biological data, knowing how to distinguish the effects of sex and gender variables.
2. KM08 (Knowledge) Describe the different types of statistical and epidemiological analyses applied to solve biological problems in different areas.
3. SM05 (Skill) Select appropriate statistical tests and computing resources for each situation and set of biological data.
4. SM06 (Skill) Apply statistical and research design methodologies to solve biological and ecological problems, expressing the results appropriately.

Content

1. DESCRIPTIVE STATISTICS

2. INTRODUCTION TO PROBABILITY

3. RANDOM VARIABLES

4. DISCRETE AMB CONTINUOUS PROBABILITY DISTRIBUTIONS

4. INTERVAL ESTIMATION

5. STATISTICAL TESTS

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Master class	29	1.16	
Practices with computer	15	0.6	
Resolution of exercices	10	0.4	
Type: Supervised			
Fulfillment of assignments	16	0.64	
Tutorship	4	0.16	
Type: Autonomous			
Study	71	2.84	

To reach the contents of this subject it will be necessary to follow both the directed activities (master classes, problems and practices with computers) and the work of individual study outside the classroom.

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
Computational statistics exam	30%	1	0.04	CM04, KM08, SM05, SM06
Final exam	35%	2	0.08	KM08, SM06
First exam	25%	2	0.08	CM04, KM08, SM06
Homework	10%	0	0	KM08, SM06

Students will be evaluated according to the following guidelines:

1) The homework counts for 10% of the total grade.

2) Practical computer sessions count for 35% of the final grade.

3) Mid term exam: 25% of the final grade.

4) Final Exam: 35% of the final grade.

Students with a score < 5 (after 1,2,3,4), and only these students, may attend the reevaluation exam if they have been evaluated in at least two thirds of the activities. Then, the grade of this exam will replace that of the mid-term and final exams. Activities 1 and 2 cannot be re-evaluated.

Students not attending 50% of all evaluation activities will get the mark "Not assessable".

Guidelines for students in "unique global evaluation":

1. There will be the same three types of evaluations: exam, homework and computing.
2. Exams: There will be a single final exam including the full content of the course.
3. Homework: The student will be asked to make an oral presentation of one of the exercises that have been worked out in the problem sessions of the course.
4. Computing: The studen will be asked to solve some statistical problems using the computer software taught in the practical sessions.
5. All these evaluation procedures will take place the same day of the final exam.

Bibliography

- 1. Delgado, R. Probabilidad y Estadística para ciencias e ingenierías, Editorial Delta, 2008.
  2. Bardina, X., Farré, M. Estadística descriptiva, Manuals UAB, 2009.
  3. Devore, Jay L. Probabilidad y Estadística para ingeniería y ciencias, International Thomson Editores, 1998.
  4. Milton. J. S. Estadística para Biología y Ciencias de la Salud, Interamericana de España, McGraw-Hill, 1994.
  5. Moore, D. S. Estadística aplicada básica, Antoni Bosch editor, 2000.

Software

Statistical software R and R Studio

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this link. To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	211	Catalan	first semester	morning-mixed
(PAUL) Classroom practices	212	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	211	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	212	Catalan	first semester	morning-mixed
(PLAB) Practical laboratories	213	Catalan	first semester	morning-mixed
(TE) Theory	21	Catalan	first semester	afternoon