

**Información del Plan Docente**

<b>Academic Year</b>	2018/19
<b>Subject</b>	27106 - Statistics
<b>Faculty / School</b>	100 - Facultad de Ciencias
<b>Degree</b>	446 - Degree in Biotechnology
<b>ECTS</b>	6.0
<b>Year</b>	1
<b>Semester</b>	First semester
<b>Subject Type</b>	Basic Education

**Module****1.General information****1.1.Aims of the course****1.2.Context and importance of this course in the degree****1.3.Recommendations to take this course****2.Learning goals****2.1.Competences**

On completion of the module the student should

be able to tabulate, display and summarize sets of data

understand the basic concepts of probability

be able to calculate probabilities for simple experiments

recognize random variables in real cases

construct confidence intervals

perform parametric and non parametric test and taking decisions

fit simple linear models

**2.2.Learning goals****2.3.Importance of learning goals**

### **3. Assessment (1st and 2nd call)**

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

### **4. Methodology, learning tasks, syllabus and resources**

#### **4.1. Methodological overview**

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures and problem-solving sessions with the statistical software package R with R commander.

Students are expected to participate actively in class throughout the semester.

Further information regarding the course will be provided on the first day of class Lectures supported by problem-solving sessions and the use of the statistical software package R with R commander

#### **4.2. Learning tasks**

The course includes the following learning tasks:

- Lectures
- Problem-solving sessions with the statistical software package R with R commander
- Moodle

#### **4.3. Syllabus**

The course will address the following topics:

1. Introduction to probability and statistics
2. Descriptive statistics
3. Probability and random variables
4. Statistical inference: point and interval estimation, parametric and non- parametric hypothesis testing.
5. Introduction to linear regression analysis

Software: R with R commander, [www.R-project.org](http://www.R-project.org).

#### **4.4. Course planning and calendar**

Schedules of lectures and problems will coincide with the officially established and will be available at: <https://ciencias.unizar.es/grado-en-biotecnologia>.

The places, calendar and groups for training and practical sessions will be established in coordination with the rest of matters at beginning of course. The Coordinator will produce the groups of students for these activities at beginning of course to avoid overlaps with other subjects.

For students enrolled in the subject, places, times and dates of lectures and practical sessions will be public via Bulletin Board advertisements of the grade on the platform Moodle at the University of Zaragoza, <https://moodle2.unizar.es/add/>, and in the moodle page for the course. These routes will be also used to communicate enrolled students their distribution by groups of practical sessions, which will be organized by the coordination of degree. Provisional dates will be available on the website of the Faculty of Sciences in the corresponding section of the Degree in

<https://ciencias.unizar.es/grado-en-biotecnologia>.

In this web there will be also available the dates of exams.

#### **4.5. Bibliography and recommended resources**