

Course Syllabi

CODE 205

NAME Statistics Methods

Credits 6 ECTS

Period Fall Semester

Course Specifications

Classes will be held in the classroom, including problem-solving sessions both with and without the use of computers. Individual effort is expected from students.

Objectives and contents

The course has a dual focus: on the one hand, to describe the usual concepts and procedures in statistical analysis, probability calculation, and hypothesis testing, by proposing and solving small-scale problems; and on the other hand, to code these procedures using the R language, which allows for solving problems involving large volumes of data. It is recommended to learn the language in the early stages of the educational process to enable problem-solving at both levels.

Contents

1. Descriptive Statistics: Descriptive Statistics for One and Multiple Variables.
2. Statistical Models: Simple and Multiple Linear Regression. Statistical Modelling.
3. Time Series: Time Series Decomposition.
4. Probability Calculation: Probability. Random Variables and Distributions. Notable Distributions.
5. Statistical Inference: Point Estimation and Confidence Intervals. Parametric Hypothesis Testing. Non-Parametric Estimation.

The assessment model will be as follows:

- Two partial exams will be conducted during the course.
- If the arithmetic mean of both partial exams is 5 or higher, the student will pass the subject and will not need to take the final exam.
- If the mean is below 5, the student will have to take the final exam covering all the subject material at the official examination session.

Remaining Examination Sessions: The assessment will consist of a single exam.

A student will be considered as NOT PRESENTED for the subject if they do not attend any partial exams or the final exam, and will be considered PRESENTED if they attend any partial exam or the final exam.

Lecturer

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