582SM STATISTICAL METHODS FOR DATA SCIENCE

Aims

The course focuses on fundamental elements of statistical inference, along with some principles and statistical techniques useful for the analysis of complex data.

Knowledge and understanding: The student will be able to use appropriate statistical models and to select among alternative models using the relevant inferential approach.

Applied knowledge and understanding: The student will be able to use R for analyzing (possibly big) datasets and for drawing coherent inference on the model that could have generate the data and using it for decisions and predictions.

Teaching Format

The course will be delivered by traditional lectures and practical computer sessions. Students will be encouraged to participate at discussion on selected topics during the lectures. In the practical sessions the software R will be used to illustrate some of the main ideas and techniques by analysing some real datasets

Assessment

Written exam and discussion of a practical exercise. The written exam will contain exercises where the students will be required to show the knowledge of concepts and methods of statistics covered in the lectures.
The practical exercise will consist of the analysis of a real dataset or of a simulation study carried out by the student. The analysis will be presented and discussed by the students in a short seminar.