Statistical models for program evaluation

Caterina Giusti – First 3 CFU "Statistical Data Analysis II"
Vincenzo Mauro – Second 3 CFU "Statistical methods for policy evaluation and causal inference"

6 ECTS
SECS-S/01
Spring semester

Programme in English:

The aim of the course is to introduce students who have already studied the basic concepts of statistical inference and of the linear regression model to the analysis of categorical data, with a special focus on generalized linear models, and to inferential statistical methods for program evaluation.

The course will first introduce the distributions and inference for categorical data and for contingency tables. Then, the course will introduce generalized linear models, with a special focus on logistic regression.
In the second part, it will focus on providing a basic knowledge on methods for the impact evaluation of policies and programs. The main econometric methods used in impact analyses (Randomized Trials, PS Matching, Instrumental Variables, Regression Discontinuity Designs, Difference-in-Differences) will be introduced and described. The course also contains practical modules that use data and real examples to show the computational application of some of the methods presented.

During the course, exercises and case studies will be solved using the R and Stata software.

The exam will consist in a written and oral test.

Requirements Statistical Data Analysis I

Books:
- Agresti A. (2002) Categorical Data Analysis - Second Edition
- McCullagh P., Nelder J.A. (1989) Generalized Linear Models – Second Edition, Chapman & Hall
- Gertler, P.; Martinez, S.; Premand, P.; Rawlings, L.; Vermeersch, C. (2016). Impact Evaluation in Practice - Second Edition. Washington, DC: World Bank