



Scuola Superiore
Sant'Anna



Applied Statistics for Social Science

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Course Description

The course intends to provide a systematic introduction to quantitative approaches to data collection and analysis in the social sciences. Emphasis will be placed on the development of statistical concepts and statistical computing skills, rather than mathematical details.

An introduction to Stata, software for statistical analysis is also provided along the course. This will be useful for the Stata course by Prof. Nicola Orsini.

Students will have the opportunity to develop a critical understanding of the use of statistics in contemporary social science, to think about their own data, to think of ways to assess the data's appropriateness, extracting the most information using the most common statistical methods and to critically review papers that make use of statistics.

Moreover, the course will be preceded by two lectures of **Prof. Ron S. Kenett** (<http://www.kpa-group.com/en/about-kpa/ron-kenett-cv-page>) introducing methods on how to conduct "Effective research" and to help evaluate whether the right information is provided to the right decision maker, at the right time and in the right way.

Lectures Topics

Linear regression model with one or more predictors; logit and probit models, introduction to multivariate analysis (cluster and factor analysis). The course contents might be changed depending on the level of knowledge of the class.

Prerequisites

The course will assume knowledge of descriptive statistics (Frequency Distributions and their Graphic Representations, Measures of Central Tendency, Measures of Dispersion),

sampling distributions, hypothesis testing and confidence intervals. Please write contact me for any doubt about the topics which will be taken for granted.

Assignments:

During the course, weekly assignments will be given, which are combination of readings and computer exercise using Excel/Stata.

Suggested Books

It is strongly suggested/required that you choose at least one Statistics textbook to study before the course. Basic statistic concepts are taken for granted!. Here some example of text books:

- Understanding Statistics: An Introduction for the Social Sciences", Daniel B Wright - Applied statistics of economist di Lewis
- Fox, John. 1997. Applied Regression Analysis, Linear Models, and Related Methods. Thousand Oaks, CA: Sage
- Freedman, David; Robert Pisani; and Roger Purves. 1998. Statistics. 3rd Edition. New York: Norton.
- Agresti, Alan and Finlay, Barbara. 1997. Statistical Methods for the Social Sciences Upper Saddle River, NJ: Prentice Hall.

Course Schedule, November-December 2016:

Effective Research I (Prof. Kenett): 09/11/2016 – 09:00-13:00

Effective Research II (Prof. Kenett): 10/11/2016 – 09:00-13:00

Linear Model: Bivariate and Multiple Regression: 15/11/2016 – 14:30-16:30

Linear Model: Interpretation, Hypothesis Testing, Diagnostics: 17/11/2016 - 14:30-16:30

Logit/Probit Part A: 22/11/2016 - 14:30-16:30

Logit/Probit Part B: 24/11/2016 - 14:30-16:30

Multivariate analysis A: 29/11/2016 - 14:30-16:30

Multivariate analysis B: 01/12/2016 - 14:30-16:30