

Statistical Methods

Doctoral School in Statistics
Department of Statistical Sciences
University of Padova

Third edition: 2012

COURSE OBJECTIVES

The purpose of this course is to give an introduction to the statistical methods - and to related concepts - to University of Padova PhD students of other disciplines. Lectures will present the tools and concepts of statistical data analysis, which are routinely used in a variety of disciplines such as agriculture, medicine, biological sciences, economics, engineering and so on.

Prerequisites: basic Mathematics (undergraduate level). It would be advantageous to have some background knowledge of elementary Probability Theory.

COURSE ORGANIZATION

This is a 30-hours course. The teaching language will be English (unless all participants speak Italian). Lectures will be held by the Department of Statistical Sciences, Via C. Battisti 241, Aula ASID 17. A final poster session, organized at the end of the course, will offer to the participants the opportunity to get a new perspective on each other's research and gather new ideas.

COURSE DESCRIPTION

- Visualisation: plots including histograms, box plots, scatterplots, scatterplot matrices, etc.
- Summary statistics and goodness-of-fit tests. One- and two-sample examples, t and F distributions.
- Concepts of simulation: simple simulation experiments.
- Linear regression, including multiple linear regression. Associated inference problems. Regression diagnostics. Classical approaches to ANOVA. Model selection.
- Logistic regression and Poisson regression.
- Introduction to the design of experiments, observational studies and sampling methods.

READING LIST

- Nolan, D.A. & Speed, T. (2000). *Stat Labs: Mathematical Statistics Through Applications*. Springer.
- Venables, W.N. & Ripley, B.D. (2002). *Modern Applied Statistics with S*. Springer.
- Campbell, R.C. (1989). *Statistics for Biologists* (3rd ed.). Cambridge University Press.
- Devore, J.L. (2000). *Probability and Statistics for Engineering and the Sciences* (5th ed.). Duxbury Press, Pacific Grove, CA.
- Agresti, A. & Finlay, B. (2007). *Statistical Methods for the Social Sciences* (4th ed.). Prentice Hall

INSTRUCTORS

The main instructor will be Monica Chiogna. Other instructors might be enrolled according to the needs.

Monica Chiogna brief CV. Associate Professor of Statistics (Secs-S/01) by the Faculty of Statistics of the University of Padua since October 2001. Researcher in Statistics (S01A) by the University of Padua from April 1995 until September 2001. From June 1993 until April 1995 is Lecturer by the Department of Statistics of the University of Glasgow (Scotland). From October 1991 until September 1992 is visiting researcher by the Biostatistics Unit of the Medical Research Council (Cambridge, UK). She is Fellow of the Italian Statistical Society and of the Royal Statistical Society. She is Associate Editor of *Environmetrics*, and has served as referee for various statistical journals, among which “Journal of the Royal Statistical Society - Series B”, “Journal of the Royal Statistical Society - Series C: Applied Statistics”, “Statistics in Medicine”, “Journal of the American Statistical Association”, “Journal of the Italian Statistical Society”, “IEEE Transactions on Pattern Analysis and Machine Intelligence”, “American Journal of Epidemiology”. She has been member of the Scientific and Organizing Committee of various national and international workshops. Areas of interest: computational statistics, environmental statistics, medical statistics.

REGISTRATION

Students who intend to participate should register. Registration will open in March 2012. If you would like to be notified when registration opens, please send an email to the course administrator (dottorato@stat.unipd.it). Attendance is limited to the first 20 applicants satisfying the prerequisites. If the number of applicants is less than 5, the course will not be activated.

CREDITS

A certificate of attendance will be issued at the end of the course. If formal assessment is required, the course instructor should be informed before the start of the course.

Schedule



Calendar

« [Torna al calendario](#) Risultati per quando: **29/5/2012 - 29/9/2012** sui **Monica Chiogna**

Risultati: **16**

mar 29 mag 2012	12:30 – 14:30 16:30 – 18:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241 Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
mer 30 mag 2012	12:30 – 14:30 16:30 – 18:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241 Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
gio 31 mag 2012	12:30 – 14:30 16:30 – 18:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241 Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
lun 4 giu 2012	12:30 – 14:30 16:30 – 18:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241 Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
mar 5 giu 2012	12:30 – 14:30 16:30 – 18:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241 Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
mer 6 giu 2012	12:30 – 14:30 16:30 – 18:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241 Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
gio 7 giu 2012	12:30 – 14:30 16:30 – 18:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241 Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
ven 8 giu 2012	10:30 – 12:30	Statistical Methods - Asid 17 - Dip. Scienze Statistiche, Via Battisti 241
ven 21 set 2012	10:00 – 13:00	Statistical Methods - poster session - Dip. Scienze Statistiche, via Battisti 241