# Business Analytics

## Prof. Luca Bagnato

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The aim is that of getting the students started in research methods in the fields of quantitative business and marketing. The course is interdisciplinary and will concentrate on data analysis mostly from an applied perspective.

At the end of the course the students should be able to:

- choose and apply, by using the statistical software SPSS, the right statistical tool in order to recover and summarize information from the different kind of data;

- answer to business research questions using the statistical techniques presented during the course.

***COURSE CONTENT***

1. Review of descriptive statistics and inference
2. Review of Matrix Algebra
3. The multivariate normal distribution
4. Simple and multiple linear regression
5. The chi-squared test of independence
6. Cluster analysis
7. Independent samples *t*-test
8. Anova
9. Introduction to SPSS

***READING LIST***

The course will have a rather “applied” nature, but the student may refer to textbooks such as:

* R.M. Warner, Applied Statistics. From Bivariate Through Multivariate Techniques, 2013, Sage.
* L.S. Meyers, G. Gamst, A.J. Guarino. Applied Multivariate Research. Design and Interpretation, 2016, Sage.

Slides of the course are available in Blackboard.

***TEACHING METHOD***

Theory will be followed by many hands-on exercises. Half course will be devoted to the presentation of theory and models which will be implemented and applied (in the other half of the course) via the SPSS software. A detailed *syllabus* with dates and contents of the course will be available.

***ASSESSMENT METHOD AND CRITERIA***

At the end of the course students are required to take a written exam using the Personal Computer. The exam consists in solving three empirical exercises (about ten points each) related to three different datasets. Each exercise contains three/four questions whose points are reported in the exam test (exam simulations are provided on Blackboard). In particular, the students will use SPSS providing a word document (a report) containing answers and comments about the different analyses. Depending on the results attained, the written test may be supplemented by an oral exam to complete the student assessment. The final mark assigned on completion of the course is based on this evaluation procedure.

The exam procedure is the same in each exam session and applies to attending and non-attending students.

Additional information will be provided on Blackboard.

***NOTES AND PREREQUISITES***

**Prerequisites.** The course requires previous experience in statistics at the level of undergraduate courses usually taught in Italian universities.

 **Office hour for students.**Information on office hours available on the teacher's personal page at <http://docenti.unicatt.it/>.