UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Statistical Methods for Tourism Services Evaluation

2526-2-F7601M007-F7601M017M

Learning objectives

At the end of the course, the student will be able to:

- Acquire advanced knowledge of statistical methods for the analysis of tourism phenomena and the physical and social environment, with particular focus on categorical variables, spatial data, and logistic regression.
- Critically and appropriately apply statistical techniques to design, conduct, and interpret empirical research in the tourism sector, using statistical software (especially SPSS).
- Select and combine suitable statistical tools for the analysis of multivariate and spatial relationships, formulating well-founded judgments based on the results obtained.
- Communicate statistical analysis results effectively, both in written and oral form, in professional and multidisciplinary contexts.
- Develop autonomous and continuous learning skills in applied statistics, updating their competencies with reference to scientific literature and emerging analytical tools.

Contents

The course presents methods of univariate and multivariate statistical analysis, with particular focus on techniques most commonly used to study the environment, understood both as physical space (territory) and as the social context in which individuals live and work.
The techniques covered include: analysis of stochastic independence, logistic regression, cluster analysis, and an introduction to spatial data analysis. The course also includes the use of SPSS software for solving real-world problems and conducting empirical research in the field of tourism.

Detailed program

- *Analyzing Association between Categorical Variables*
  Agresti A., Finlay B. “Statistical Methods for the Social Sciences” *Pearson International Edition (fourth Edition)*

- Contingency tables

- Chi-Squared Test of Independence

- Residuals: Detecting the Pattern of Association

- Measuring Association In Contingency Tables

- *Logistic regression*

Agresti A. (2007) An Introduction to Categorical Data Analysis, John Wiley & Sons,

- Chap. 3 Generalized linear model, pag. 70-72

- Chap. 4 Logistic regression, pag. 99-106;110-113; 115-121

- Chap. 5 Building and Applying Logistic regression Models, pag.137-139; 141-143; 144-152;

- Chap. 6 Multicategory Logit Models, pag. 173-187

- *Cluster analysis*
  Bartholomew D.J., Steele F., Moustaki I., Galbraith J.I. (2008). Analysis of Multivariate social science data (2nd ed.). CRC Press, Chap 2

- *Introduction to spatial statistics*
  Schabenberger, O., & Gotway, C.A. (2005). Statistical Methods for Spatial Data Analysis (1st ed.). Chapman and Hall/CRC, Chap 1

Prerequisites

Knowledge of univariate descriptive statistics and the univariate and multivariate linear model.

Teaching methods

The module includes 20 hours of traditional classroom teaching (lectures) and 8 hours of interactive activities in the statistics lab (using SPSS).

If the physical laboratories are unavailable due to building renovations, part of the lab activities will be conducted remotely using the virtual lab environment.

Assessment methods

The assessment includes:

- a personal written test on the theoretical knowledge of the topics;
- a group project, which includes an oral presentation and a report on an original survey on the topic of tourism.

The final grade for the module will be a weighted average of the personal test (weight: 30%) and the group project (weight: 70%).

Textbooks and Reading Materials

- Agresti A., Finlay B. “Statistical Methods for the Social Sciences” *Pearson International Edition (fourth Edition).*
- Agresti A. (2007) An Introduction to Categorical Data Analysis, John Wiley & Sons,
- Bartholomew D.J., Steele F., Moustaki I., Galbraith J.I. (2008). Analysis of Multivariate social science data (2nd ed.). CRC Press, Chap 2
- Schabenberger, O., & Gotway, C.A. (2005). Statistical Methods for Spatial Data Analysis (1st ed.). Chapman and Hall/CRC, Chap 1

Semester

Second semester

Teaching language

English

Sustainable Development Goals

SUSTAINABLE CITIES AND COMMUNITIES