UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Statistics for Tourism: Models and Applications

2223-1-F7601M051

Learning objectives

By the end of this course, students will be able to apply statistical methods to analyze and predict tourism phenomena and evaluate the efficacy of intervention policies.
In particular, students can:

- describe and identify adequate methods to analyze a specific tourism phenomenon and motivate the method chosen
- evaluate the efficacy of intervention policies using suitable tools
- perform statistical analysis using the software R: descriptive analysis, parameter estimation, interpretation, and critically assessment of the results obtained
- explain the methods and communicate the results to an audience that might not be familiar with statistical methods

Contents

The course aims to introduce statistical methods to analyze and predict tourism phenomena and evaluate the efficacy of intervention policies.
After recalling basic statistical concepts, we introduce the models to explain the tourism demand and evaluate the efficacy of intervention policies. We then consider the statistical models to predict tourism flows. We illustrate the methods using data from national and international sources

Detailed program

Basic statistical concepts:

- Measure of centrality
- Measure of variability
- Relationships between two variables (regression and contingency)
- Probability and random variables

Linear operators:

- periodic and non-periodic lag operator
- periodic and non-periodic difference operator
- application of difference operators to remove trends from time series

Dynamic analysis of tourism demand:

- autoregressive (AR), moving average (MA) and non-seasonal, and seasonal mixed (ARMA) models
- non-seasonal and seasonal ARIMA models;

Analysis of intervention policies in tourism

- formalization of intervention variables
- specification of the intervention response functions
- model specification and estimation for intervention analysis

Predict tourism flows based on:

- deterministic and stochastic univariate models
- simple and multiple regression models
- basics of qualitative methods.

Prerequisites

None

Teaching methods

Lectures and tutorials. The tutorials illustrate the statistical methods introduced and their application using national and international data

Assessment methods

A written exam consisting of theoretical questions, exercises and result interpretation

Textbooks and Reading Materials

Slides and material on the e-learning page

Reference books:

- Pasetti, P. (2002). Statistica del turismo. Carocci editore
- Metcalfe, A. V., Cowpertwait, P. S. (2009). Introductory time series with R. Springer-Verlag New York
- Piccolo, D. (1990). Introduzione all'analisi delle serie storiche. La Nuova Italia Scientifica

Additional material suggested during the course

Semester

Second semester

Teaching language

Italian

Sustainable Development Goals