

- Faculté des sciences économiques
- www.unine.ch/seco

Title : Generalized Linear Models

Characteristics

- 3 ECTS credits
- Compulsory course for master in statistics
- Spring Semester
- Course : 2 hours
- Evaluation : written exam 2 hours
- Prerequisite : Basics of Statistics, Linear Regression Models

Teaching Team

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Objectives

At the end of the course, the students should be able to understand the principles, to apply the methods and to correctly interpret the results obtained using a Generalized Linear Model.

Contents

- Outline of Generalized Linear Models
- Logistic Regression Models
- Poisson Regression Models
- Loglinear Models for Contingency Tables
- Regression Models for Categorical Outcomes
- Proportional Odds Model for Ordinal Outcomes
- Regression Models for Asymmetric Outcomes (e.g. Gamma distribution)
- Introduction to Survival Analysis

Exercises Application of the methods using software R

Textbooks

- McCullagh, P. & Nelder, JA, *Generalized Linear Models*, 2nd edition, Chapman & Hall, 1989
- Chambers, JM & Hastie, TJ, *Statistical Models in S*, Wadsworth & Brooks/Cole, 1992
- Agresti, A, *An Introduction to Categorical Data Analysis*, Wiley, 1996