Université de Neuchâtel

COURSE DESCRIPTION 2007-2008

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

Advanced Regression methods

Characteristics

- 6 ECTS credits
- Compulsory course for master in statistics
- Automn Semester
- Course : 2 hours, exercises : 2 hours
- Evaluation : 1 final project
- Prerequisite : --

Teaching Team

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Objectives

Master the modeling, estimation, inference and model adequate assessment techniques in the framework of linear and generalized linear models.

Content

Introduction and overview
Simlpe Linear Regression
Diagnostics and transformations for simple linear regression
Weighted least squares
Multiple linear regression
Diagnostics and transformations for multiple linear regression
Variable selection
Logistic regression models
Poisson regression models for count data
Constant coefficient of variation models
Survival models
Quasi-likelihood
Nuisance parameter issue and conditional likelihood

Exercises

Use what you learned in class to solve practice problems.

Textbooks (These are reference books. No text book is required)

Applied regression analysis, 3 ed, N. R. Draper and H. Smith
Generalized Linear Models 2 ed, P. McCullagh and J. A. Nelder