

Regression Methods

Academic Year: (2023 / 2024)

Review date: 20-04-2023

Department assigned to the subject: Statistics Department

Coordinating teacher: GRANE CHAVEZ, AUREA

Type: Compulsory ECTS Credits : 6.0

Year : 3 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Probability I-II
Statistical Inference Methods I-II
Linear Algebra
Calculus II

OBJECTIVES

Knowledge of least squares techniques in a linear regression model.

Learning of statistical regression software.

DESCRIPTION OF CONTENTS: PROGRAMME

The course is an introduction to the foundations of linear regression analysis.

1. Simple linear regression model. Ordinary least squares estimation.
2. Inference problems in the simple linear regression model. Analysis of variance and testing methods.
3. Multiple linear regression model.
4. Inference problems in the multiple regression model. Matrix notation, estimation and testing techniques.
5. Analysis of residuals and model diagnosis.
6. Introduction to generalized linear models.

LEARNING ACTIVITIES AND METHODOLOGY

Competences will be acquired by students both through theory classes and the resolution of assigned homework. There will also be practical classes of exercises. There will be also a final collective session to clarify doubts and revise material.

ASSESSMENT SYSTEM

Final exam: 40%; Continuous evaluation: 60%. This will consist in two midterm exams (30% + 30%).

% end-of-term-examination: 40

% of continuous assessment (assignments, laboratory, practicals...): 60

BASIC BIBLIOGRAPHY

- KUTNER, M. H., NETER, J, NACHSTEIM, C. J. and WASSERMAN, W. Applied Linear Statistical Models, 5th Edition. , McGraw-Hill Higher Education, 2004