

Academic Year: (2022 / 2023)

Review date: 05-05-2022

Department assigned to the subject: Business Administration Department

Coordinating teacher: BALBAS DE LA CORTE, ALEJANDRO

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Background on Mathematical analysis, probability Theory, Visual Basic and other Languages, Life Insurance and Pension Plans, Fixed Income, and Financial Markets.

OBJECTIVES

The main objective is the study of the most important and modern non-life actuarial models.

Next we will give the topics that the student must learn so as to get the main objective above

Content

- Premium principles
- Risk measurement and management
- Reinsurance
- Credibility theory
- Generalized linear models in insurance

Habilities:

- Risk analysis for existing products/portfolios and design of new products
- Risk management.

Attitude:

- Personal job
- Collaboration with other students.

DESCRIPTION OF CONTENTS: PROGRAMME**FIRST PART: RISK, PREMIUM PRINCIPLE AND REINSURANCE**

Risk measures

Frequency and severity

Premium principles

Reinsurance

SECOND PART: CREDIBILITY

Classical approach

Bühlmann approach

Bayesian approach

THIRD PART: GENERALIZED LINEAR MODELS

Beyond linear regression

Applications in insurance pricing

Applications in risk management

LEARNING ACTIVITIES AND METHODOLOGY

Theoretical lectures

Practical sessions

Programming in several languages

Applications with real life examples

ASSESSMENT SYSTEM

- Exercises: 20%.
- Projects 20%.
- Exam: 60%.

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40

BASIC BIBLIOGRAPHY

- Ohlsson and Johansson Non-life insurance pricing with generalized linear models, Springer, 2010
- Yiu Kuen Tse Nonlife actuarial models. Theory, methods and evaluation, Cambridge University Press, 2009