uc3m Universidad Carlos III de Madrid

Research in Actuarial Science

Academic Year: (2019 / 2020) Review date: 08-04-2019

Department assigned to the subject: Business Administration Department

Coordinating teacher: BALBAS DE LA CORTE, ALEJANDRO

Type: Electives ECTS Credits: 5.0

Year: 2 Semester: 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Usual contents of Mathematical Analysis, Probability Theory, Financial Economics, Insurance Pricing (life and non life).

OBJECTIVES

Research methodologies in actuarial problems involving life insurance, non-life insurance and risk management.

DESCRIPTION OF CONTENTS: PROGRAMME

- Stochastic ruin models
- Stochastic longevity models
- Actuarial and financial risk management methods
- Computing the stochastic IBNR
- Pricing with Bayesian methods.
- Public and private pension plans

LEARNING ACTIVITIES AND METHODOLOGY

Lectures

Exercises

Study and discussion of several research papers

ASSESSMENT SYSTEM

Final exam (60%)

Exercises (20%)

Research papers (20%)

% end-of-term-examination: 60

% of continuous assessment (assigments, laboratory, practicals...): 40