

Academic Year: (2023 / 2024)

Review date: 11-05-2023

Department assigned to the subject: Business Administration Department

Coordinating teacher: USABEL RODRIGO, MIGUEL ARTURO

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 1

OBJECTIVES

Learning objectives

The student will be able to perform valuations of the main life insurance contracts along with reserve and premium calculations.

Learning outcomes

- a) Understanding the contracts, assurances and annuities, as random variables and the risk involved.
- b) Considering insurance contracts as signatures of future cash-flows.
- c) Knowledge of the theoretical basis of insurance premiums calculations.
- d) Understanding the concept of reserves and the most relevant calculation techniques.
- e) Design of multiple contingencies contracts: disability, death, etc.
- f) Design of multiple lives policies: widowhood, orphans, etc.
- g) Implementation of calculation algorithms in a programming language.

Learning skills

- a) Analysis and synthesis
- b) Problem solving approach
- c) Work team player.
- d) Critical reasoning
- e) Written and verbal communication

DESCRIPTION OF CONTENTS: PROGRAMME

Syllabus

- I. Assurances
 - a. Random variable interpretation.
 - b. Main types of contracts
 - c. Continuous and discrete assurances.
 - d. Mortality table calculations.
 - e. Computer-based algorithms and implementations
- II. Annuities
 - a. Random variable interpretation.
 - b. Future cash-flows study.
 - c. Main types of contracts.
 - d. Mortality table calculations.
 - e. Computer-based algorithms and implementations
- III. Premiums and reserves calculation.
 - a. Actuarial equivalence principles
 - b. The net future liabilities.
 - c. Future cash-flow studies.
 - d. Model with expenses
 - e. Legal types of premiums and reserves.
 - f. Computer-based algorithms.
- IV. Multiple contingencies contracts
 - a. Concept of disability
 - b. Workers' compensation packages.
- V. Multiple lives assurances
 - a. Widowhood policies
 - b. Orphan protection insurance

LEARNING ACTIVITIES AND METHODOLOGY

TEACHING METHODOLOGY

I. THEORETICAL CONTENTS

- a. Classroom interactive work.
- b. Web based materials and handouts
- c. Tutorial work.
- d. Recommended international bibliography.
- e. Office hours and email interaction.

II. PRACTICE

- a. Examples and exercises and previous exams classroom solving.
- b. Daily students' involvement and presentations.
- c. Computer work.
- d. Debates and bringing up different standpoints on topics. Critical thinking.

ASSESSMENT SYSTEM

The evaluation system is based on a written exam that will account for 100% of the grade.

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| % end-of-term-examination: | 100 |
| % of continuous assessment (assignments, laboratory, practicals...): | 0 |