

Academic Year: ( 2021 / 2022 )

Review date: 05-07-2021

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.

<b>% end-of-term-examination:</b>	100
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	0