



## Actuarial Science Fundamentals

04 - 08 Nov 2024  
Barcelona (Spain)



# Actuarial Science Fundamentals

**Ref.:** 15103\_254815 **Date:** 04 - 08 Nov 2024 **Location:** Barcelona (Spain) **Fees:** 4900 **Euro**

## Introduction:

Actuarial Science deals with evaluating risks and maintaining the economic stability of insurance or financial organizations.

Actuaries analyze past data and use that information to determine how much money should be set aside to cover the financial losses which could occur in the future.

This course has been carefully designed for trainees from a wide variety of backgrounds. Even if you don't have any background in, for example, calculus, the course has been designed so you can skip over these sections without affecting your understanding of the rest of the course.

You'll experience "hands-on" learning using Excel or an equivalent spreadsheet tool to project and investigate the financial condition of a company choosing appropriate strategies for the company through the use of simulations.

## Targeted Groups:

- Business Professionals
- Business Analysts
- Data Analysts
- Research Analysts
- Finance Professionals

## Course Objectives:

At the end of this course the participants will be able to:

- Have familiarity with several of the technical tools, computer languages, or software packages used by actuaries.
- Learn how actuarial science applies mathematical and statistical methods to assess risk in these industries and other professions.
- Experience "hands-on" learning using Excel or an equivalent spreadsheet tool to project.
- Develop communication, leadership, and teamwork skills, and understand their importance in the actuarial industry.
- Analyze actuarial data using advanced statistical techniques;

## Targeted Competencies:

- Analytical Problem Solving Skills
- Technical Skills
- Interpretation of large data sets
- Establishing data integration
- Developing dynamic dashboards and scorecards
- Reporting, analysis, and reconciliation

## **Course Content:**

### **Unit 1: Valuing Cash Flows:**

- Time Value of Money
- Present Value
- Accumulated Value
- Valuing Multiple Regular Payments

### **Unit 2: Applications of Valuing Cash Flows:**

- Equations of Value
- Example - Annuity Certain
- Application in Spreadsheets

### **Unit 3: Analysis of State Transitions:**

- Introduction to State Transitions
- Two State Model Active/Dead
- Calculating Probabilities using the Two-State Model

### **Unit 4: The Life Table:**

- Introduction to the Life Table
- Calculating Probabilities using the Life Table

### **Unit 5: Valuing Uncertain Cash Flows:**

- Expected Present Value
- Accumulated Value and Uncertainty

### **Unit 6: Modelling a Life Insurance Company:**

- The Life Insurance Company Scenario
- A Single Projection
- Analyzing the Simulation Output
- Reserves
- Adjustments to Reserves
- Additional Scenarios



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