Course guide
220673 - 220673 - Mathematics for Management

Last modified: 19/04/2023

Unit in charge:	Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit:	749 - MAT - Department of Mathematics.

Degree: MASTER'S DEGREE IN MANAGEMENT ENGINEERING (Syllabus 2012). (Optional subject).

Academic year: 2023   **ECTS Credits:** 3.0   **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Antoni Magaña Nieto

Others:

TEACHING METHODOLOGY

The course is divided into three parts:
(1) Theory classes
(2) Guided activities classes
(3) Self-study

In the theory classes, teachers will introduce the basic concepts and methods of the Mathematics for Management. Tehy will also illustrate them with examples, in order to facilitate their understanding.

In the guided activities classes, teachers propose some problems and guide the students to apply the previously introduced concepts to solve them.

Students need to work on the material provided by teachers in different ways: they have to assimilate the basic concepts of the subject and they ought to know how to apply them to solve problems.

LEARNING OBJECTIVES OF THE SUBJECT

The main objective of the course is to introduce the students the basic concepts of Mathematics for Management: simple and compound interests, annuities and loans.

STUDY LOAD

Type	Hours	Percentage
Hours large group	8,0	10.67
Hours medium group	3,0	4.00
Guided activities	16,0	21.33
Self study	48,0	64.00

Total learning time: 75 h

CONTENTS

Module 1: The growth of money

Description:
- Simple and compound interests.
- Simple and compound discounts.

Full-or-part-time: 23h
Theory classes: 2h
Practical classes: 1h
Guided activities: 4h
Self study : 16h

Module 2: Annuities

Description:
- Immediate and due annuities
- Constant annuities
- Annuities with payments in geometric progression
- Annuities with payments in arithmetic progression

Full-or-part-time: 26h
Theory classes: 3h
Practical classes: 1h
Guided activities: 6h
Self study : 16h

Module 3: Loans

Description:
- Amortized loands and amortization schedules
- The French method
- The Sinking Fund method

Full-or-part-time: 26h
Theory classes: 3h
Practical classes: 1h
Guided activities: 6h
Self study : 16h

GRADING SYSTEM

The final grade depends on three activities:

(1) Solving problems of Module 1, weight 25%.
(2) Solving problems of Modules 1 and 2, weight 25%.
(3) Final exam (Modules 1, 2 and 3), weight 50%.