

Course Unit	Project Evaluation and Management		Field of study	Construction Management and Organization	
Master in	Construction Engineering		School	School of Technology and Management	
Academic Year	2023/2024	Year of study	1	Level	2-1
Type	Semestral	Semester	2	ECTS credits	6.0
Code	5024-419-1201-00-23				
Workload (hours)	162	Contact hours	T 15	TP 45	PL -
			TC -	S -	E -
			OT -	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Jorge Pedro Lopes

Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. understand the questions related to the economic functioning of construction and property firms within the context of the national and international economy
2. understand, analyse and apply methods and techniques for economic evaluation of projects and for property valuation
3. have knowledge of financial management of construction enterprises and apply cost control and estimation techniques

Prerequisites

Before the course unit the learner is expected to be able to:
demonstrate knowledge consistent with a first degree course

Course contents

The construction sector and the national economy. Project appraisal. Introduction to Financial Calculus. Economic appraisal of construction projects. Methods of economic appraisal. Economic appraisal of transport infrastructures. Plant management. Property valuation. Depreciation methods. Property valuation methods. Introduction to financial management of construction enterprises.

Course contents (extended version)

1. The construction industry and national economy
 - Employment, value added and gross production volume in the construction sector.
 - The organisational structure of construction projects.
2. Project Appraisal
 - Introduction to Financial Calculus.
 - Decision to accept or reject a project.
 - Decisions on building location.
 - Lease or buy decisions.
 - Selecting combination of interdependent systems.
 - Selection of building designs and building components.
 - Methods of economic appraisal- LCC, NW, CBR, IRR and Pay Back
 - Setting the study period. Modelling cash flows in current and constant prices.
 - Economic appraisal of transport infrastructures.
 - Plant management.
3. Property Valuation
 - Property valuation and property investment analysis.
 - Valuation objectives.
 - Valuation criteria.
 - Types of Value in property valuation.
 - Depreciation of Fixed Assets-Methods of Depreciation
 - Property valuation methods: Comparative or Sale Method; Income Method; Cost Replacement Method.
 - Taxation effect in property investments.
4. Introduction to financial management of construction enterprises
 - Revenues and expenditures
 - Sources of funding
 - Brief introduction to the Portuguese Accounting System
 - The Balance Sheet and Profit and Loss Statement
 - Economic and financial indicators and the regulatory framework of construction enterprises.

Recommended reading

1. Abecassis, F e Cabral, N (2006), *Análise Económica e Financeira de Projectos*, Fundação Calouste Gulbenkian, Lisboa
2. Adler, H (1987), *Economic Appraisal of Transport Projects: A Manual with Case Studies*, The World Bank EDI Series in Economic Development, The World Bank
3. Isaac, D and Steley, T (1990), *Property Valuation Techniques*, London
4. Ruegs, R and Marshall, H (1990), *Building Economics: Theory and Practice*, Van Nostrand Reinhold, New York
5. Walker, A (2002), *Project Management in Construction*, 4th ed, Blackwell Science

Teaching and learning methods

The course unit will be taught through a combination of lectures, practical classes aimed at the resolution of practical exercises.

Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final, Supplementary, Special)
 - Practical Work - 75%
 - Final Written Exam - 25%
2. Assessment for ERASMUS students - (Regular, Student Worker) (Final, Supplementary, Special)
 - Practical Work - 100% (This alternative includes presentation and discussions of the works)
3. Alternative 3 - (Regular, Student Worker) (Final, Supplementary)
 - Final Written Exam - 100%

Language of instruction

Portuguese, with additional English support for foreign students.

Electronic validation			
Jorge Pedro Lopes	Flora Cristina Meireles Silva	Manuel Teixeira Brás César	José Carlos Rufino Amaro
09-03-2024	09-03-2024	10-03-2024	16-03-2024