

Course file

Study cycle	BACHELOR IN CIVIL ENGINEERING		
Course	CONSTRUCTION MANAGEMENT	Mandatory	<input checked="" type="checkbox"/>
		Optional	<input type="checkbox"/>
Course scientific area	MANAGEMENT	Category	E

Course category: B - Basic; C - Core Engineering; E - Specialization; P - Complementary.

Year: 2nd	Semester: 4th	ECTS: 4		Total: 108
Contact time	T: 22,5	TP: 22,5	PL:	S: OT:

T - Lectures; TP - Theory and practice; PL - Lab Work; S - Seminar; OT - Tutorial Guidance.

Course Director	Title	Position
Filipe Vasques	Doutor	Professor Adjunto

Learning objectives (knowledge, skills and competences to be developed by students)

(max. 1000 characters)

- A. Create awareness to the nature of construction projects and provide students with a correct sense of their life cycle, from the perspective of sustainability;
- B. Create adequate awareness to the nature and relevance of the management activity of construction enterprises;
- C. Sensitize students to the nature and relevance of each of the functions that the engineer may have within a construction project, and correspondent activity in the interest of sustainability;
- D. Make students able to use some basic techniques of investment analysis;
- E. Convey key concepts and provide students with basic planning skills;

Syllabus

(max. 1000 characters)

1. Definition of Project
2. Project Management: Roles and Objectives, integrating a sustainability perspective
3. Project Lifecycle and Asset Lifecycle: Phases and integration from a sustainability perspective, from the

Preliminary Program to the disability/reusal phase;

4. Identification of Context, Stakeholder Definition and Preliminary Program

5. Investment Analysis: Principles of financial mathematics, NPV, IRR ...

6. Procurement Processes, Analysis of Proposals and Contracts

7. Planning and Production management: planning methods: PERT / CPM, line balance, timeline, use of software tools

8. Team Management and Human Resources

9. Information Management

10. Performance Control and Reporting

11. Risk Management;

Demonstration of the consistency between the syllabus and the course objectives

(max. 1000 characters)

The contents of 1,2,3 and 4 connect directly with the objectives A, B and C.

Content 5 connects directly with objective D

The content 7 connects directly with the aim E.

The contents 6,8,9,10 and 11, complement the contents 1 to 4 in order to achieve the objectives B and C;

Teaching methodology (evaluation included)

(max. 1000 characters)

The teaching methodology includes the following components:

- General Lectures preceded by distribution of support elements, making them more useful and objective;
- Practical Classes, applying concepts and methodologies to the solution of problems and case presentation, including detailed discussion - these alternate with lectures for a more effective outcome;

Evaluation includes a written examination comprising questions about the theoretical concepts and principles, but mostly practical problems. The exam is worth 60% of the grade. The remaining 40% correspond to projects developed during the term about specific problems or themes.

Demonstration of the consistency between teaching methodology and the course learning objectives

(max. 3000 characters)

- The Lectures about the Syllabus contents, preceded by the distribution of support elements aim to create the foundation to achieve each objective in a specific and articulated manner, namely in the understanding of base concepts, definitions and methodologies of each module;

- The Practical Classes of concept and methodology application to the solving of problems and discussion of real cases framed in the syllabus contents aim to consolidate the contribution of the lectures with which they alternate for a more complemented outcome in the sense of a complete understanding of base concepts and methodologies, as well as their practical use;

Concerning evaluation, the written test (global test /exam) covers in equal parts the theoretical concepts and methodologies and practical problems on real cases, integrating all the objectives described

Notwithstanding, and given the time limitations of the exam, there is another component to the evaluation that corresponds to one or more projects of either solving of practical questions, case analysis or the development of specific themes, where one can explore situations with more detail and/or complexity.

Main Bibliography

(max. 1000 characters)

PMI, A Guide to the Project Management Body of Knowledge, 5th Ed, 2013

Silvius, G., Schipper, R., Planko, J., Brink, J. van den and Köhler, A. , Sustainability in Project Management, Gower Publishing, 2012

Gareis, R., Huemann, M. and Martinuzzi, A., Relating sustainable development and project management, IRNOP IX, Berlin, 2009.

MARTÍN, J. R. NAVAS – “Engenharia de Gestão de Projectos” – FCA, Lisboa - 2008

