



Ref.	M14
MODULE	MANAGEMENT OF CONSTRUCTION WORKS
ECTS	6
Year/Semester	Y1/S1
Class hours	4 h/week * 12 weeks = 48 h
Schedule	Wednesday, 16:30-18:30 B121 + Friday, 09:00-11:00 B121
	In the weeks of Visiting Teachers, the schedule will be adjusted
Teaching location	FEUP, Porto, Portugal

1. OBJECTIVES + LEARNING OUTCOMES

- Understand the endogenous and exogenous conditions that affect a site, its safety conditions and risk factors of accidents, strategies for workspace efficiency and prevention of accidents.
- Be acquainted with procurement models and evaluation of bids. Internationalization of Project Management in Construction (PMC) and its effects; FIDIC contracts, laws and acculturation.
- Be aware of technologies and processes for digital control of works and their integration with BIM.
- Plan activities, allocate resources and follow the progress of the works using a well-known software in Cl.
- Make use of the competencies of HR in improving PMC; efficient use of subcontractors and selfemployed persons.
- Discuss ethical and professional conduct aspects of HR management in Cl.

2. TOPICS

- 1. Management of constructions in the perspective of the contractor: Organization of contractors; Stakeholders in the construction phase; Responsibilities and insurance; Direction of works general view
- 2. Budgeting and Work Planning. Subcontracting. Technical and economic control of construction works.
- 3. Site planning and work preparation. Supply management.
- 4. Planning control and EVM
- 5. Productivity, sensoring and monitoring construction sites
- 6. Construction digitalization
- 7. Time scheduling with Primavera P6. Activities, relationships, resources, progress following up.
- 8. BIM 4D Time scheduling using a BIM software (REVIT and NAVISWORKS)

3. References

- Winch, G M (2009). Managing Construction Projects. Wiley- Blackwell. ISBN: 978-1405184571
- Dupin, P. (2014). Le Lean appliqué à la construction. Paris, France : Eyrolles, ISBN 978-2212138320
- Anthony, Robert; Govindarajan, Vijay (2007). Management Control Systems. Mc-Graw-Hill/Irwin. ISBN 007-125410-2
- Chase, Richard; Jacobs, F.; Aquilano, Nicholas (2006). Operations Management for Competitive advantage. McGraw-Hill/Irwin. ISBN 978-0-07-111552-0
- Oracle. Primavera P6 User's Manual.
- CE Database (ASCE) <u>http://ascelibrary.org/</u>
- European Construction Sector Observatory Digitalisation in the construction sector Analytical Report April 2021.

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4. TEACHING STAFF

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5. Planning

Wk.	Dates 23/24	Topics	Staff
1	11/09 to 15/09	Welcome week	
2	20/09		JAF
	22/09	· · · · · · · · · · · · · · · · · · ·	JAF
3	27/09	1. General view of the contractor's activity – construction phase	JAF
	29/09		JAF
4	04/10	- 2./3. Budgets: cost estimation and control, Site planning, schedule planning	JAF
	06/10		JAF
5	11/10		JAF
	13/10		JAF
6	18/10	- -	JAF
	20/10		JAF
7	25/10		HCS
	27/10	4. Planning, control and EVM	HCS
8	30/10 to 03/11	No classes for this module – extra classes on week 11	
9	08/11	5. Productivity, sensoring and monitoring construction sites (Collaboration of	HCS+DC
	10/11	PhD Diego Calvetti)	HCS+DC
10	15/11		JPPM
	17/11	- 0. DIVI 4D	JPPM
11	21/11 to	7 Primayora P6	EB
	24/11		EB
12	29/11	6. Construction digitalization (Collaboration of MSc Pedro Meda)	HCS+PM
	01/12	National Holiday	
13	06/12	6. Construction digitalization (Collaboration of MSc Pedro Meda)	HCS+PM
	08/12	National Holiday	
14	13/12	No classes for this module – extra classes on week 11	
	15/12		







6. Assessment

6.1. Normal assessment

The module will be assessed by:

- Courseworks, to be developed during the teaching period (one opportunity during classes);
- Exam, at the end of the teaching period (two opportunities).

Group Courseworks	1	25%
(Primavera P6 week -topic 7)		
Group Coursework Topics 1, 2 and 3	1	25%
Individual Coursework – topic 8	1	10%
Exam (topics 1 to 6)	2	40%
		100%

6.2. Resit assessment

In the case of students that failed the module in the normal assessment, and as the next instance of the module will occur when they will not be in FEUP, the following procedure will be followed:

- Re-submission of ONE of the Individual Courseworks (at student's choice);
- Taking the exam of the new instance of the module, to be done at the university where the student is residing, at the same date/time and similar to the one delivered in FEUP;
- The previously obtained grades for the Group Courseworks and for the Individual Coursework will be considered for the calculation of the final grade.

FEUP, September 2023