

Course Unit	Software Project Management	Field of study	Information Systems
Master in	Informatics	School	School of Technology and Management
Academic Year	2023/2024	Year of study	1
Type	Semestral	Semester	2
Workload (hours)	162	Contact hours	T - 60 TP - 60 PL - TC - S - E - OT - O -
Level	2-1	ECTS credits	6.0
Code		5060-710-1203-00-23	

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) Paulo Jorge Teixeira Matos

### Learning outcomes and competences

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

1. have consolidated knowledge of project planning and management, namely in the scope of software development;
2. apply good practices and methodologies of software engineering to enhance the results of planning and managing software projects;
3. know how to use specific tools for planning and monitoring the evolution of a project;
4. prepare the risk management plan: identification and classification of risks, definition of the monitoring plan and definition of the contingency plan;
5. selection and management of project operators;
6. execute the closing of the project: delivery of the project, evaluation of resources and project execution, retention of lessons learned, cataloging and depositing of artefacts, project closing.

### Prerequisites

Before the course unit the learner is expected to be able to:  
Not applicable.

### Course contents

Introduction to Project Management; Identification of the main phases involved in project management and presentation of methodologies (related with software development) used in each phase (elaboration of the project execution plan; elaboration of the project's risk management plan, execution of the project and closing of the project); Presentation and use of specific tools for project management; Use of a project management tool for planning a project and monitoring its execution.

### Course contents (extended version)

1. Introduction to Project Management
  - General concepts of project management
  - Standards and certifications in project management
  - Stakeholders in project management
  - Main phases of a project
  - Types of contracts for project execution
  - Organizational structure
  - Software engineering in project management
  - Development models
2. Project planning
  - Software tools to support project planning
  - Scope and terms of opening of a project
  - Project analytical structure using software design techniques
  - Characterization of activities
  - Estimation of cost, time and resources
  - Gantt and network diagrams
  - Resource allocation
  - Replanning considering restrictions and leveling the use of resources
  - Reference baseline
  - Key performance indicators
3. Project execution management
  - Support tools for project management
  - Baselines
  - Creation of the project team
  - Delegation
  - Monitoring and control of execution
  - Project status and progress meetings
  - Reporting on project status and progress
4. Project closure
  - Project delivery
  - Evaluation of resources and project execution
  - Retention of lessons learned
  - Cataloging and depositing artifacts
  - Project closing report.
5. Risk management
  - Causes and nature of risks
  - Project risk identification and classification
  - Risk monitoring planning
  - Contingency plans

### Recommended reading

1. Gestão de Projectos de Software, António Miguel, FCA-Editora de Informática, 5 Edição, 2015, ISBN 978-972-722-804-1
2. A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition, PMI, 2017, ISBN 1628253827
3. Project Management: A Systems Approach to Planning, Scheduling, and Controlling 12th, Harold Kerzner, Wiley, 2017, ISBN 9781119165354
4. Project Management: Achieving Competitive Advantage (4th Edition), Jeffrey K. Pinto, Pearson, 2015, ISBN-10: 0133798070

### Teaching and learning methods

This course is divided into theoretical lectures and practical lectures. In the theoretical lectures the project management subject is exposed using some practical examples and asking for student participation. In practical lectures the student is invited to use specific tools for planning and monitoring some project examples in a computing environment.

**Assessment methods**

1. Alternative 1 - (Regular, Student Worker) (Final, Supplementary)
  - Final Written Exam - 30% (Written test with minimum score of seven out of twenty)
  - Practical Work - 70% (Practical work to develop the artifacts necessary for project management)
2. Alternative 2 - (Regular, Student Worker) (Special)
  - Final Written Exam - 70% (Written test with a minimum score of seven out of twenty)
  - Practical Work - 30% (Practical work to develop the artifacts necessary for project management)

**Language of instruction**

1. Portuguese, with additional English support for foreign students.
2. English

**Electronic validation**

Paulo Jorge Teixeira Matos	Tiago Miguel Ferreira Guimaraes Pedrosa	José Eduardo Moreira Fernandes	José Carlos Rufino Amaro
23-02-2024	14-03-2024	15-03-2024	16-03-2024