

**Project Management**

Code: 102760  
ECTS Credits: 6

Degree	Type	Year	Semester
2502441 Computer Engineering	OB	4	1

**Contact**

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**Use of Languages**

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

**Teachers**

Marta Prim Sabria  
Ramon Grau Sala  
Marc Talló Sendra  
Ian Blanes Garcia

**Prerequisites**

Those defined in the permanence regime of the UAB, within the section on enrolment progression. Being a fourth-year subject, it is necessary to have passed at least all the subjects in the first year and a total number of 120 credits from the first three years.

**Objectives and Contextualisation**

- Know and practice:  
Specific techniques (Theory / Simulations in class): Planning, Estimation, HR Management, Communication  
Management Methods  
Tools (Laboratory practices)
- To be able to decide which methods and techniques to use in each situation.
- On the other hand, in the part of practices, it is intended that part of the concepts presented are related to the development of the Final Degree Project.

**Competences**

- Capacity to design, develop, select and evaluate computer applications and systems, ensuring reliability, security and quality, in accordance with ethical principles, and applicable standards and legislation.
- Communication.
- Direct the activities associated with projects in the field of computing.

- Have the capacity to conceive, draft, organise, plan, develop and sign projects in the field of computer engineering for the conception, development and exploitation of computer systems, services and applications.
- Have the capacity to produce a list of technical conditions for a computer system that fulfils applicable standards and regulations.
- Know and apply basic elements of economics, human resource management, project organisation and planning, as well as legislation, regulation and standardisation in the field of computer projects.
- Know how to perform measurements, calculations, estimates, evaluations, assessments, studies, reports, task-planning and other similar computing jobs.
- Plan, conceive, deploy and direct computer projects, services and systems in all fields, overseeing their implementation and continuous improvement and monitoring their economic and social impact.
- Work in teams.

## Learning Outcomes

1. Accept and respect the role of the various team members, and its different levels of dependence.
2. Adapt to multidisciplinary and international environments .
3. Analyse and explain any security, health or hygiene risks in a project, indicating the measures established to avoid or minimise them.
4. Communicate efficiently, orally or in writing, knowledge, results and skills, both in the professional environment and before non-expert audiences.
5. Draft a list of technical conditions for a computer project.
6. Evaluate and explain, if necessary, the impact of the project on the prevention and solution of environmental and energy problems.
7. Identify the possible ethical conflicts that may be derived from a project and, should they exist, report on the associated risks.
8. Identify the regulations and provisions applicable to a project.
9. Identify the relevant parameters to measure, evaluate and plan computing tasks.
10. Identify, manage and resolve conflicts.
11. Know and understand the methodologies involved in the evaluation of computer applications and systems.
12. Know and understand the methodologies of project management.
13. Know and understand the methodology for planning projects (identification of objectives, identification of tasks, technical and economic feasibility study, work plan, etc).
14. Know and understand the methodology of project planning ( identification objectives , identifying tasks, technical and economic feasibility, work plan, etc).
15. Know and understand the project planning and management methodologies used in creating computer applications and systems.
16. Know and understand the techniques costing , budgeting , human resource management , organization of time and resources necessary for the proper planning and development of a project.
17. Know and understand the techniques to be applied to the evaluation, valuation, assessment and preparation of studies and reports on computer applications and systems.
18. Use efficiently ICT communication and transmission of ideas and results.
19. Work cooperatively.

## Content

### Theory:

- Topic 1. Introduction Project Management
- Topic 2. Selection of Projects
- Topic 3. Project Life Cycle
- Topic 4. Time Management
- Topic 5. Cost Management and Sustainability
- Topic 6. Management of Communications
- Topic 7. Project Scope Management
- Topic 8. Management of Integration

- Topic 9. Risk management
- Topic 10. Management of Human and Gender Resources
- Topic 11. Quality Management
- Topic 12. The figure of the Project Manager

## Methodology

### Format Course

- Lessons: Theoretical topics.
  - Self-preparation
  - Self-control
  - Consultations / Debates
- Techniques: Skills development.
  - Introduction
  - Review of concepts
  - Simulation
  - Role
- Practices:
  - Presentation of management tools and project planning.
  - Presentations in class.
  - Team work and exercises to work autonomously and to solve and discuss in the laboratory sessions.

### Purpose of the activities

- Theory: Complete overview.
- Techniques: Practice the main necessary techniques and improve skills.
- Practices:
  - Master management tools and project planning.
  - Know and practice the main aspects of the management of a project.
  - Facilitate the tasks that students should perform when they develop their Final Degree Project.

NOTE: The proposed teaching methodology and evaluation may undergo some modification depending on the restrictions on attendance that the health authorities impose.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practical sessions	26	1.04	2, 3, 1, 6, 4, 13, 14, 12, 15, 11, 16, 17, 18, 7, 9, 10, 5, 19
Theory sessions	24	0.96	2, 3, 6, 4, 13, 14, 12, 15, 11, 16, 17, 18, 7, 9, 5
Type: Supervised			
Preparation of activities	22	0.88	3, 1, 6, 4, 13, 14, 12, 15, 11, 16, 17, 18, 7, 9, 8, 10, 5, 19
Type: Autonomous			

## Assessment

### Calculation of the final grade:

- Theory (minimum 5 out of 10), which corresponds to 50% of the final base note. The theory grade will be the weighted average of the parts assessed:

Exams of evaluation of the theoretical knowledge and techniques of the subject (90%):

- 50% - 1st EXAM (October): Project Feasibility Study
- 50% - 2nd EXAM (January, date provided by the school): Implementation and monitoring of the Project
- In case of failing one of the parts with less than 4, or wanting to improve the grade: 100% Exam Repeat (date provided by the school). It will be necessary to perform an examination of both parts, regardless of whether you have failed one or both exams.

MINIMUM GRADE FROM PARTIALS TO MAKE AVERAGE: 4

Techniques exercises (10%): Exercises proposed in class, which must be delivered on the day indicated by the teacher. The exercises are not compulsory, but they are highly recommended and necessary to qualify for honors. Cannot be repeated.

Conference attendance 0,1 points to add to the final grade of theory for attendance at each of the conferences or activities proposed.

- Practices (minimum 5 out of 10), which corresponds to 50% of the final base note.

- Attendance at all practice sessions is mandatory.
- Closed laboratory practices that require preparation and previous work by students.
- The final note of practices will be the weighted average of the different practices. It is necessary to submit them all in order to pass the subject.
- The practices cannot be repeated.
- If the practices have been approved on a previous course, it will not be necessary to repeat them.

The dates of continuous evaluation and delivery of work will be published on the virtual campus and may be subject to programming changes for reasons of adaptation to possible incidents. Always be informed on the virtual campus about these possible changes since this is the platform for the exchange of information between teachers and students.

For each assessment activity, a place, date and time of revision in which the student can review the activity with the teacher will be indicated. In this context, claims can be made on the activity grade, which will be assessed by the professor responsible for the subject.

If the student does not show up for this revision, this activity will not be reviewed later.

### WITH HONORS:

- Option to apply for an honors degree, passing the final grade of the subject with a 9 and having completed and passed all the exercises in the theory classes. In case of a tie between several students, additional work can be requested.

### NOTICE:

Without prejudice to other disciplinary measures deemed appropriate, and in accordance with current academic regulations, irregularities committed by a student that may lead to a variation of the qualification will be qualified with a zero (0), and the work is considered as not handed in and will not be counted when evaluating the practical grade. The evaluation activities qualified in this way and by this procedure cannot be

repeated. If it is necessary to pass any of these assessment activities to pass the subject, this subject will be failed directly, with no opportunity to repeat it in the same course. These irregularities include, among others:

- The total or partial copy of a practice, report, or any other evaluation activity.
- Let anyone else copy.
- Present a group work not done entirely by the members of the group.
- Present as own, materials made by a third party, even if they are translations or adaptations, and in general works with non-original and exclusive elements of the student.
- Have communication devices (such as mobile phones, smart watches, etc.) accessible during the theoretical assessment tests-individual practices (exams).

In case of failing the subject because any of the assessment activities does not reach the minimum grade required, the numerical score of the file will be the lowest value between 4.5 and the weighted average of the grades. With the exceptions that the qualification of "not evaluable" will be granted to students who do not participate in any of the assessment activities, and that the numerical score of the record will be the lower value between 3.0 and the weighted average of the grades if the student has committed irregularities in an act of evaluation (and therefore the pass for compensation will not be possible).

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exercises of techniques	5%	0	0	2, 1, 14, 12, 16, 17, 9, 8, 10, 19
Practices	50%	0	0	1, 4, 13, 14, 15, 11, 16, 17, 9, 5, 19
Theory exams	45%	2	0.08	2, 3, 6, 4, 13, 14, 12, 15, 11, 16, 17, 18, 7, 9, 8, 10, 5

## Bibliography

Reference bibliography:

- Eduardo Caamaño, PMP . Project Management Práctico, Editorial Círculo Rojo, Docencia.

Basic bibliography:

- The standard for project management and a guide to the project management body of knowledge (PMBOK guide) . PMBOK guide . Project Management Institute, entitat editora . 2021 . UAB Library
- Project management Robert J. Collins, editor . Collins, Robert J., 1950-2011 . UAB Library
- Project management / Gary R. Heerkens . Heerkens, Gary, author. 2002 . UAB Library
- Guía de los Fundamentos de la Dirección de Proyectos (cuarta edición). (Guía del PMBOK) Norma Nacional Americana ANSI / PMI. 2009.
- Scrum Guide. <http://www.scrumguides.org/>
- Scrum y XP desde las trincheras.  
<http://www.proyectalis.com/wp-content/uploads/2008/02/scrum-y-xp-desde-las-trincheras.pdf>.
- William R. Duncan (Director of Standards), A Guide to the Project Management Body of Knowledge, PMI Standards Committee, Project Management Institute. 1996.
- Robert J. Muller, Productive Objects, an Applied Software Project Management Framework, Morgan Kaufmann Publishers, Inc. 1998.
- Project & Program Risk Management, A guide to managing project risks & opportunities. R. Max Wideman, editor, 1992.
- Philip Metzger & John Boddie, Managing a Programming Project, Prentice Hall, 1996.

Complementary bibliography:

- Software Measurement Guidebook (Revision 1), Software Engineering Laboratory Series. 1995.

- Thomas C. Belanger, The Complete Planning Guide for Microsoft Project, Butterworth-Heinemann, 1996.
- Javier Garcia Cabañes, Técnicas de Investigación Operativa, Paraninfo, 1990.
- Roger S. Pressman, Software Engineering, a Practitioner's Approach, McGRAW-HILL (tercera edició), 1993.
- Roger S. Pressman, Ingeniería del Software, un Enfoque Práctico, McGRAW-HILL (segona edició), 1989.
- Richard Fairley, Ingeniería de Software, McGRAW-HILL.
- Ian Sommerville, Ingeniería de Software, Addison-Wesley.
- Christian W. Dawson, Projects in Computing and Information Systems, a Student's Guide, Addison-Wesley (segona edició), 2009.

Recommended URLs:

- Project Management:  
<https://thedigitalprojectmanager.com/project-management-books-20-best-books-for-project-managers/>
- Project Management Institute: <https://www.pmi.org/>
- Guide to the Project Management Body of Knowledge: <https://www.pmi.org/store>
- Software Measurement Guidebook de la NASA.

## Software

TRELLO:

Trello is a client and web interface project management software for iOS and android for organizing projects.

<https://trello.com/>

MONDAY PROJECT MANAGEMENT:

Project management software, from simple to complex projects, with monday.com.

<https://monday.com/>