

Project Management

Code: 43335
ECTS Credits: 6

Degree	Type	Year	Semester
4314660 Computer Engineering	OB	1	1

Contact

Name: Yolanda Benítez Fernández
Email: Yolanda.Benitez@uab.cat

Use of languages

Principal working language: english (eng)

Teachers

Marc Tallo Sendra
Yolanda Benítez Fernández

Prerequisites

To have done the subject of Project Management in the Degree of Computer Sciences or one equivalent.

Objectives and Contextualisation

Framing suitably the Project Management between the most global paradigms (Portfolio, program or Service Management) and the most specialized (Construction or Development, or Quality).

Deepening some technical studied in Project Management and to introduce other new ones.

Improving the experience in | Project Management through the simulation of all the process.

Skills

- Apply the principles of economy and management of human resources and projects, along with legislation, regulations and standards in computer science.
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Communicate orally and in writing in English.
- Continue the learning process, to a large extent autonomously
- Design, develop, manage and evaluate mechanisms for certifying and guaranteeing data security in a local or distributed processing system.
- Direct work on computer systems, complying with current rules and guidelines and safeguarding the quality of the service.
- Display a capacity for general and technical management and management of research, development and innovation projects in companies and technology centres, in the field of computer engineering.
- Display a capacity for the preparation, strategic planning, coordination and technical and financial management of projects in all areas of computer engineering, applying criteria of quality and environmental sustainability.

- Integrate and apply the knowledge acquired and solve problems in new or little-known situations within broader (or multidisciplinary) contexts.
- Integrate computer engineering technologies, applications, services and systems to cover a broad range of multidisciplinary contexts.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Lead, plan and supervise multidisciplinary teams
- Lead research, development and innovation projects in companies and technology centres, safeguarding persons and goods and overseeing product quality and certification.
- Oversee, manage, audit and certify the quality of computing developments, processes, systems, services, applications and products.
- Propose, calculate and design products, processes and installations in all areas of computer engineering.
- Responsibly manage information and knowledge when leading multidisciplinary groups and/or projects.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Understand and apply ethical responsibility, legislation and codes of practice to professional activity in computer engineering.
- Undertake strategic planning, preparation, direction, coordination, and technical and financial management in the areas of computer engineering related to: computer systems, applications, services, networks, infrastructures or installations and software development centres or factories, applying criteria of quality and environmental sustainability, in multidisciplinary work environments.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.

Learning outcomes

1. Apply the principles of economy and management of human resources and projects, along with legislation, regulations and standards in computer science.
2. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
3. Communicate orally and in writing in English.
4. Continue the learning process, to a large extent autonomously
5. Direct work on computer systems, complying with current rules and guidelines and safeguarding the quality of the service.
6. Display a capacity for general and technical management and management of research, development and innovation projects in companies and technology centres, in the field of computer engineering.
7. Display a capacity for the preparation, strategic planning, coordination and technical and financial management of projects in all areas of computer engineering, applying criteria of quality and environmental sustainability.
8. Extend and practise communication techniques for project management.
9. Identify the principal methodologies and standards of the above organisational levels for the management of services: ITIL, ISO 20000, ISO 27000, for programme management PgMP Handbook (PMI), for project management: PMBOK (PMI), Prince2.
10. Integrate and apply the knowledge acquired and solve problems in new or little-known situations within broader (or multidisciplinary) contexts.
11. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
12. Interpret the standards for computer systems and projects, from ISO 27000 to the implications of the Spanish law on data protection (LOPD).
13. Lead, plan and supervise multidisciplinary teams
14. Manage human resources within a project (leadership, motivation, etc.).
15. Propose, calculate and design products, processes and installations in all areas of computer engineering.
16. Recognise the organisational complexity of the different levels (management of services, programmes and projects), what functions are assigned to each level and how they interrelate.
17. Responsibly manage information and knowledge when leading multidisciplinary groups and/or projects.
18. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.

19. Understand and apply ethical responsibility, legislation and codes of practice to professional activity in computer engineering.
20. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
21. Use the specific techniques for quality-management in projects (quality control, quality assurance and continuous improvement).
22. Use the specific techniques for risk management in a project.

Content

L0 - PRES - Presentation + Homework CV
 L1 - INTR - Introduction + Homework Questions
 L1 - INTR - PMBOK Presentation + Homework Study
 L1 - INTR - Different Level of Methodologies (Portfolio / Program / Project / Development / Quality)
 L1 - INTR - AGIL - Scrum
 P1 - PRC1 - Practical
 L2 - CICL - Project Life Cycle
 L2 - CICL - Project Life Cycle Exercise
 P2 - PRC2 - Practical
 L3 - COMU - Communications Management
 L3 - COMU - Project Life Cycle Exercise
 L3 - COMU - Meetings Management
 L3 - COMU - Meetings Management Exercise
 L4 - COST - Cost Management
 L4 - COST - Cost Management Exercises
 L5 - SCPE - Scope Management
 L5 - PLAN - Scope Management Exercise
 P3 - PRC3 - Practical
 L6 - PLAN - Time Management
 L6 - PLAN - Time Management Examples and Exercises
 L7 - TEAM - Work Team and Leadership
 L7 - TEAM - Work Team and Leadership Exercises
 P4 - PRC4 - Practical
 L7 - TEAM - End Work Team Interviews
 L8 - MEST - Metrics
 L8 - MEST - Estimations + Exercises
 L9 - QUAL - Quality and Closure
 L9 - QUAL - Quality Exercises
 S1 - SMRY - Summary Exercises
 P5 - PRC5 - Practical
 S2 - RSLE - Final Summary
 FP - EVAL - Final Project
 FE - EVAL - Final Exam

Methodology

Is been of a subject eminently practice, where the knowledge acquired in the subject of Project Management in the Degree has to be used.

It consists of a series of chained cases that cover the major part of the activities of a project manager.

It includes a simulation of the evolution of the project depending on the taken decisions in the former cases.

Weekly deliveries of the corresponding case have to be made. The delivery carried out will be able to be revised until the delivery of the following case (the former delivery is then closed). If needs to rectify a delivery already closed will have to be asked explicitly and will entail a penalization to the final score.

Activities

Title	Hours	ECTS	Learning outcomes
Type: Directed			
Magisterial sessions and Case Analysis.	45	1.8	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Type: Supervised			
Partial deliveries and final delivery with all the Project Documentation.	15	0.6	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Type: Autonomous			
Revision and study of the theory, enlargement of subjects, internal meetings and calculations to prepare the deliveries.	90	3.6	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Evaluation

General conditions:

1. Attendance and active participation are compulsory. At least an 80% of the lectures shall be attended. Absences might be compensated with a home-work after agreement with the teacher.
2. Oral presentations of a particular subject. Presentation in English is strongly advised.
3. The final dossier will be evaluated with the documentation of all the revised cases.

Evaluation criteria:

1. 40% final exam.
2. 40% practice cases.
3. 20% exercises.
4. All the part must be passed.
5. Total minimum mark 5 out of 10.

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Exercices	20%	0	0	2, 3, 8, 11, 14
Final exam and practice cases.	80%	0	0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22

Bibliography

- Basic
 - PMBOK Document on the Campus Virtual
 - PROJECT MANAGEMENT PRÁCTICO - (in Spanish) J. Eduardo Caamaño.
 - Kindle: <http://amzn.to/2bAUTTe>
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A Guide to the Project Management Body of Knowledge (PMBOK Guide) (Fifth Edition). PMI. 2013.

- Complementary

- 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.
- 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.