Project Management — 2016/2017

Code: 43335
ECTS Credits: 6

Degree	Type	Year	Semester
4314660 Computer Engineering	OB	1	1

Contact

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Teachers

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Use of languages

Principal working language: english (eng)

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

- L00 Contents Presentation.
- L01 Different Level of Methodologies (Portfolio / Program / Project / Development / Quality).
- L02 Estimations, Planning and Proposal.
- L03 Project Management as PMI (PMBOK) & Quality Management.
- L04 Expectations to Requirements.
- L05 Acquisitions Management.
- L06 Risk Management (Identification, Assessment Qualitative and Quantitative, Documentation).
- L07 Human Resources Management (I), Recruitment & Organization.
- L08 Risk Management (Response, Documentation).
- L09 Project Scope Management.
- L10 PRINCE2.
- L11 Meetings Management (Kick Off Presentation).
- L12 Monitoring & Control.
- L13 Human Resources Management (II), Direction & Motivation.
- L14 Cost Management & Management Through Cost.
- L15 Crisis Management.
- L16 Communications Management.
- L17 Closing the Project.
- L18 ITIL / ISO 20000 (Service Management) / ISO 27000.
- L19 Summary.

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. 90% Dossier of the project, composed by the deliveries of each case given previously.
2. 10% Presentations in class.
3. Increase of the final note according to the resolution of some cases (better proposed solutions or achieved results).
4. Decrement of the final note according to the changes requested of cases already closed.
5. Total minimum mark 5 out of 10.

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Dossier of the project, composed by the deliveries of each case given previously.	90%	0	0	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22
Presentations in class.	10%	0	0	2, 3, 8, 11, 14

Bibliography

- Basic
  - A Guide to the Project Management Body of Knowledge (PMBOK Guide) (Fifth Edition). PMI. 2013.
  - 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
  - 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.