

**COURSE DATA****Data Subject**

Code	34841
Name	Project management
Cycle	Grade
ECTS Credits	6.0
Academic year	2021 - 2022

Study (s)

Degree	Center	Acad. Period
1407 - Degree in Multimedia Engineering	School of Engineering	3 Second term

Subject-matter

Degree	Subject-matter	Character
1407 - Degree in Multimedia Engineering	5 - Desarrollo del Software Multimedia	Obligatory

Coordination

Name	Department
MARTINEZ DURA, JUAN JOSE	240 - Computer Science

SUMMARY

This course “Project Management” is part of the subject “Software Engineering and Project Management”. Its general objective is that students gain the ability to properly apply all previously acquired knowledge to the design, development and evaluation of projects and reports in the field of Computer Engineering, applying the methodology and the basic principles of economics, management, auditing and business organization. It is a compulsory subject that is taught quarterly basis in the third year of the degree of Multimedia Engineering in the second quarter. The curriculum consists of a total of 6 ECTS.

In general terms, the objectives of the course are:

- Primarily, to enable students to successfully face the real project management of any type within the computer industry and to a large extent, information technology and communications (ICT).



- Know the general theory of project management and the reasons against judicial management within an IT organization.
- Introduce the concept of Information Systems Plan, from the perspective of strategic plan computer within an organization and its relationship with project management.
- To know the different phases of the life cycle of a computer project.
- To understand the features that should have documentation of a project, technical report and the presentation and defense of a project.
- Know the technical feasibility ICT projects.
- Learn the techniques of economic evaluation of projects in the field of Multimedia Engineering.
- Learn the techniques of planning and project control.
- Understand the relationship between the technical aspects to be addressed in a draft plan and information systems of an organization.
- To present the basic elements of an audit of IT projects and their difference from the computer internal control methodologies

From the educational point of view, the subject has a practical approach and is primarily focused on the development of practical skills for the engineer who must use their professional development as a project manager, or as part of the project team. In achieving the above objectives, the student must have acquired a number of skills related to management of both material and human resources in the planning and implementation of any ICT project.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

The course, given its general nature, does not need a specific background, although it is recommended to have attended the courses Engineering, Society, University and Business, in order to have an initial perception of the world of a Company. On the contrary, it does provide very direct connections in those subjects in which the work is embodied in a project such as Software Engineering.

OUTCOMES



1405 - Grado en Ingeniería Multimedia

- MM3 - Be able to implement methodologies, technologies, processes and tools for the professional development of multimedia products in a real context of use by applying the appropriate solutions for each environment.
- MM5 - Know how to apply the theoretical and practical resources to deal with a multimedia application as a whole.
- MM6 - Conceive, design, and implement projects related to multimedia products by using engineering methodologies, applying the principles of human resources management and applying economic principles.
- MM20 - Be able to assess the risks and development times for the production of multimedia software and hardware.
- MM21 - Communicate effectively, both in writing and verbally, knowledge, procedures, results and ideas related to ICT and specifically to multimedia, and know their socioeconomic impact.
- MM28 - Be able to solve problems with initiative, decision-making and creativity and to communicate and transmit the knowledge, abilities and skills of a multimedia engineer.

LEARNING OUTCOMES

The learning results of the course “Project Management” are:

- Understand the basic principles of Management and Project Management in the field of Multimedia Engineering, and be able to use them to create, analyze and select plausible alternatives capable of responding to the problems of their area of work.
- Determine the appropriate tools for achieving the main goals of quality, cost and time sought in project management.
- Know the different types of projects.
- Learn to identify the entities involved throughout the life cycle of a project.
- Know the technical feasibility analysis.
- Be able to document a project both from the technical side and management.
- Know the organizational structure of a company.
- Learn the techniques of planning and project control
- Know the computer audit process and procedures associated with their development.
- Write and develop projects in the field of Multimedia engineering.
- Know the professional organization and basic track procedures. Knowing the current legislation and in particular regarding privacy and information security.



- Be able to work on computers in your field of work or multidisciplinary.
- Have ability to manage information and use of Information Technology and Communications
- Possess organizational skills and planning, particularly in the field of business. Have applied knowledge of business organization.
- Possess critical thinking skills, creativity and decision making.
- Ability to gather and interpret information and make judgments on issues of social, scientific, technological or ethical.
- Knowledge of methodologies, tools and disciplines standardized direction and management of projects.
- To master the basic techniques for implantation of both a computer internal control mechanism within an organization as an audit.
- Have to continue learning skills and update their training throughout working life with a high degree of autonomy.

In addition to the specific objectives mentioned above, during the course will encourage the development of several generic skills, among which include: analysis and synthesis of any problems related to ICT, the argument from rational and logical criteria, the expression accurate and organized development of problems in a systematic and organized, personal work, the proper allocation of time and, finally, the capacity for teamwork.

DESCRIPTION OF CONTENTS

1. An introduction to the Project Management

- 1.1 Project Definition
- 1.2 Project Phases
- 1.3 Project Management
- 1.4 Life cycle of the projects
- 1.5 Key Issues in Project management

2. Agile methodologies: SCRUM

- 2.1 Introduction
- 2.2 SCRUM methodology
- 2.3 Agile Project Management
- 2.4 Case Study

3. Scope management



- 3.1. Introduction to project scope
- 3.2. Phases of a project:
 - 3.2.1. Home Project
 - 3.2.2. Project definition
 - 3.2.3. Project Planning
 - 3.2.4. Verification of project
 - 3.2.5. Control of project changes

4. Time management

- 4.1. The context of the Planning Projects
- 4.2. Time Management in Projects
 - 4.2.1. Defining Activities
 - 4.2.2. Sequencing of Activities
 - 4.2.3. Estimated length of Activities
 - 4.2.4. Development Management Plan Temporary
 - 4.2.5. Temporal Control Management Plan

5. Cost management

- 5.1. Introduction
- 5.2. Cost Planning
- 5.3. Cost Estimating
- 5.4. Budget Estimating
- 5.5. Control of costs

6. Risk management

- 6.1. Certainty, risk and uncertainty
- 6.2. The risk throughout the life cycle of a project
- 6.3. Phases of Risk Management
- 6.4. Quantification of risk

7. Resource management

- 7.1. Introduction to Resource Management
- 7.2. Activities of Resource Management:
 - 7.2.1. Human Resource Plan
 - 7.2.2. Acquisition of the project team
 - 7.2.3. Development of the project team
 - 7.2.4. Address of the project team
- 7.3. Human Resource Management

**8. Control and monitoring of the project**

- 8.1. The control processes
- 8.2. procedures involved
 - 8.2.1. Control and status reports
 - 8.2.2. Management changes and problems

9. Economic aspects of a project

- 9.1. The economic engineering. Definition
- 9.2. Financial criteria for evaluating: Analysis in the preliminary stages of the project
- 9.3. Financial criteria for evaluating: Analysis in advanced stages of the project

10. Degree Project Documentation

- 10.1. Introduction.
- 10.2. Types of projects.
- 10.3. Structure of the Thesis
- 10.4. Standard errors of DP
- 10.5. Evaluation

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Laboratory practices	20,00	100
Classroom practices	10,00	100
Development of group work	15,00	0
Development of individual work	10,00	0
Study and independent work	10,00	0
Readings supplementary material	5,00	0
Preparation of evaluation activities	15,00	0
Preparing lectures	10,00	0
Preparation of practical classes and problem	15,00	0
Resolution of case studies	10,00	0
TOTAL	150,00	



TEACHING METHODOLOGY

The development of the course is structured around four pillars: learning with the teacher (theory sessions, problems and tutorials), seminars, workshops, laboratory sessions and completion of a project meeting all stages from the planning stage to the ultimate realization of the project document.

Group learning with the teacher

In the theory, sessions will use the lecture model. In them, the teacher will present the main contents of the course, using the media at your fingertips (presentations, transparencies, blackboard).

In the session problems, the teacher will explain a number of problems-type corresponding to items 5 and 6, through which the students learn to conduct economic feasibility studies and operating accounts (item 5) and obtain the schedule implementation of a project (item 6). Participatory approach will be used for such meetings, which is to prioritize the communication between students and student / teacher. To do this, tell the teacher beforehand what day will be dedicated to solving problems and what problems could be solved, so that the student attends these classes with the approach of the problems prepared in advance. Its resolution will be completed in class in groups of four or five students who then must go to the blackboard to explain the problem and resolve the doubts that have the other fellow.

Seminar-workshop (group work in problem sessions)

The theoretical concepts introduced in lectures will be complemented by conducting a series of seminar-workshops. These seminars will address topics such as systems development methodology of information-oriented government (Metric 3), professional associations in Multimedia, professionalization of the post of project manager, etc.. These seminars will be prepared for all the students organized in small groups (2-4 students). The teacher will select one group, at its option, to be submitted and after the exhibition, there will be a question and discussion by the teacher and other students. Both the exposure and involvement in class the other partners will be considered for final evaluation.

Additionally, the teacher will teach a seminar on final projects and training practices in Computer Engineering. Attendance at this seminar is mandatory, and students must make a summary of the above, you will finally have its value in the final grade for the course.

Laboratory sessions

Laboratory sessions are aimed at:

- Learning and management of project management tools both commercial (Microsoft Project) and free distribution (GranttProj).
- Make a spreadsheet like Microsoft Excel, to represent the scope of a project (EDT / WBS) and the study of their own operational and economic viability.

You are laboratory sessions will be organized around working groups of a maximum of two people.

Completion of a project (group work)



The same groups that were formed for conducting the workshop seminars (from 2 to 4 students), should prepare a project to address content included in any of the knowledge areas included within the scope of Multimedia Engineering fulfilling all its stages, from the planning stage to the ultimate realization of the project document and presentation. The planning of this project will be using the tool MS Project (or similar) seen in the lab sessions, and a description of the range (EDT / WBS) and an economic study based on type EXCEL spreadsheet (or similar).

On the other hand, following a development based on traditional life cycle of systems development, each team must prepare the project documentation in 4 parts: memory, specifications, budgets and basic block diagram of the alternative proposal.

At the end of the semester, each team must provide a copy of your project and also must present and defend it. Excluded from the need for exposure of work, but not the presentation of documentation, those students who already made the presentation for one of the topics covered in the seminar-workshop.

Office Hours

The students have a schedule of tutorials aimed at solving the problems, doubts, work orientation, etc.. The schedule of these office hours will be indicated at the beginning of the academic year. They will also have the opportunity to clarify some questions via email or discussion forums by using the tool "Virtual Classroom", which gives the University of Valencia.

EVALUATION

Knowledge assessment will be done in two ways:

1) CONTINUOUS EVALUATION

Recommended method for students. The following factors are evaluated to obtain the final mark:

- 55% theoretical knowledge and problems (TEO).
- 25% of the laboratory (LAB)
- 20% of additional work (ART)

To be able to average it is necessary to obtain a minimum grade of 4,5 in each one of the parts, being necessary that the final note is equal to or superior to 5 to approve.

a) Theoretical knowledge and problems (TEO).

The note of theoretical knowledge and problems are assessed according to the following factors:

- 90% OF INDIVIDUAL TESTS OBJECTIVES. During the course there will be different written tests on theoretical knowledge and problems. It will be necessary to get a grade of 4 or higher in each test so that you can compensate. In the final examination of the first call, those parts that have not been passed in the partial tests will have to be recovered.



- 10% OF PROBLEMS. We will evaluate the different problems that are proposed to the students, either to perform in class or at home. This activity is not recoverable.

b) Laboratory (LAB).

The laboratory grade will be obtained by averaging the grade obtained in the N practical sessions. In order to obtain the grade of the laboratory it will be necessary to have presented all the practices and to have attended a minimum 80% of the classes.

c) Additional works (TRA).

The note of additional works will be obtained by averaging the grades obtained in each of the works by the weight assigned to each one. It will be necessary to obtain a mark of 4,5 or more in each work so that this part can be compensated.

The note of each work will be obtained in function of the written memory, and optionally it will be possible to value the public exhibition of the work done.

2) SINGLE EVALUATION SYSTEM AND SECOND CALL

This method will apply to any student who, for a reason reasoned and admitted by the teacher, can not attend regularly to classes and in the second call.

The following factors are evaluated to obtain the final mark:

- 55% theoretical knowledge and problems (TEO).
- 25% of the laboratory (LAB)
- 20% of additional work (ART)

To be able to average it is necessary to obtain a minimum grade of 4,5 in each one of the parts, being necessary that the final note is equal to or superior to 5 to approve.

a) Theoretical knowledge and problems (TEO).

The note of theoretical knowledge and problems are assessed by a single examination, not taking into account other factors such as attendance or problem exercises performed during the course.

b) Laboratory (LAB).

The laboratory grade will be obtained by averaging the grade obtained in the practical sessions, which must have been delivered, even if you have not attended the laboratory sessions.

c) Additional works (TRA).

The note of additional works will be obtained by averaging the grades obtained in each of the works by the weight assigned to each one. It will be necessary to obtain a mark of 4,5 or more in each work so that this part can be compensated.



The student must have submitted all the papers to approve, and only the part of the written report will be evaluated.

REFERENCES

Basic

- Referencia b1: Project Management Institute, "A Guide to the Project Management Body of Knowledge", 4th edition, Project Management Institute (2008), ISBN: 19-33890517
- Referencia b2: Domingo Ajenjo, A. Dirección y Gestión de Proyectos, un enfoque práctico. Editorial Rama, (2005). ISBN: 9701511301.
- Referencia b3: Martín, G; Dawson, C. El proyecto fin de carrera en ingeniería informática. Editorial Prentice Hall; ISBN: 84-20535605.

Additional

- Referencia c1: Pereña, J. "Dirección y Gestión de Proyectos". Editorial Díaz de Santos (1991). ISBN: 8479782498
- Referencia c2: Grashina M.N; Newell M.W, Preguntas y Respuestas Sobre La Gestión de Proyectos, Editorial Gestión 2000, (2005). ISBN: 9788480886864
- Referencia c3: Gómez, J. F; Coronel, A.J; Martinez de Irujo, L; Lorente, A. "Gestión de proyectos". FC Editorial. Madrid, (2000). ISBN: 84-28317747.

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

If it is required by the sanitary situation, the Academic Committee of the Degree will approve the Teaching Model of the Degree and its adaption to each subject, establishing the specific conditions in which it will be developed, taking into account the actual enrolment data and the space availability.