



ACADEMIC PROGRAM

PROJECT MANAGEMENT

B.F.A. IN COMPUTER SCIENCE

MODALITY: ON CAMPUS

ACADEMIC YEAR: 2022-2023

| | |
|----------------------------|---|
| Name of the course: | Project Management |
| Degree : | Computer Science |
| Location: | Centro Universitario de Tecnología y Arte Digital |
| Area: | Multidisciplinary Fundamentals |
| Year: | 3º |
| Teaching period: | 1 |
| Type: | OB |
| ECTS credits: | 3 |
| Teaching modality: | On campus |
| Language: | English |
| Lecturer / Email | - |
| Web page: | http://www.u-tad.com/ |

SUBJECT DESCRIPTION

Area description

This area refers to the study and practice of the set of communication techniques and skills. In the subjects that belong to this area, content related to philosophical foundations, knowledge of the environment, the philosophy of innovation, business ethics, design and social responsibility, sociology of communication, etc. will be covered in relation to the humanist and generalist orientation of the degree. In addition, the relationship of this knowledge with artistic development will be addressed.

Subject description

This subject provides a detailed introduction to engineering project management, focused on the characteristics of software development projects.

The student is provided with a systematic description of the project management and control tools in the different areas of knowledge involved.

Projects are an important aspect of modern software companies. Therefore, the subject emphasizes the importance of understanding the relationships between project management and the rest of the management areas of the organization, as well as its strategic objectives.

The skills necessary for a good manager will also be discussed, from technical, cultural and interpersonal points of view. The vision that project management constitutes a discipline with its own methodologies and tools will be reinforced.

COMPETENCIES AND LEARNING OUTCOMES

Competencies

BASIC AND GENERAL SKILLS

GC10 Be able to work in an international context, as well as in diverse and multicultural environments.

GC11 Manage basic skills for interpersonal relations.

GC12 Express a critical and self-critical sense and the ability to analyze in order to evaluate different alternatives.

GC13 Valuing an ethical sense at work.

GC14 Knowing how to work in a team in multidisciplinary environments.

GC15 Being able to organize and plan.

GC16 - Be able to express oneself correctly in oral and written form.

GC18 - Managing information appropriately.

GC19 - Knowing how to make decisions and solve problems in the professional field.

CB1 That students have demonstrated knowledge and understanding in an area of study that starts from the basis of general secondary education, and is usually at a level that, although it is supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study.

CB2 Students are able to apply their knowledge to their work or vocation in a professional manner and possess the competences usually demonstrated through the development and defense of arguments and problem solving within their field of study.

CB3 That students have the ability to gather and interpret relevant data (usually within their area of study) in order to make judgements that include reflection on relevant social, scientific or ethical issues.

CB4 Students are able to convey information, ideas, problems and solutions to both specialist and non-specialist audiences.

CB5 That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

TRASVERSAL SKILLS

CT1 Deploy their knowledge, activities and values in cultural, sporting and social environments.

CT2 Show interest in acts of cooperation and civic solidarity.

SPECIFIC SKILLS

SC16 Understand the processes of the elements involved in an interactive artistic production

SC22 Understanding and communicating clearly and effectively the guidelines for the development of a project.

SC26 Understanding and knowing how to thematize the relationships between Technology - Society - Culture, in relation to the design of interactive products.

SC27 Recognizing the philosophical, social and political implications of technological designs and innovations.

SC28 Detecting the implications on ethical and legal limits of technological innovations.

Learning outcomes

Upon completion of the degree, the graduate will be able to:

- Use creative thinking techniques in the professional environment
- Propose ideas that can be transformed into designs and developments
- Analyze critically proposals related to software development
- Understand the historical environment of the current digital industry and the changes produced in society due to the inclusion of new digital media.
- To know the variety of company incorporation articles under the Spanish Law.
- To design the structure of the company with the aim of maximizing the contribution of the team.
- Relate intellectual property legislation to different scenarios (national, European and international).
- Identify the sources of relevant economic information and their content.
- Know different marketing techniques and their implications on the development of a digital entertainment product.
- Reflect on the ethical and legal limits of technological innovations.
- To interpret relevant economic, political and cultural data in the design of software design.
- To understand project management paradigms: waterfall and Agile
- To be able to sketch a project schedule and follow it using Gantt and PERT charts
- To know the principles of end user psychology
- To be able to design wireframes
- To develop a user-driven application
- To understand the function of color and shape in the development of interactive applications.

CONTENTS

Project Management methodologies

Project Management tools

SUBJECT SYLLABUS

Topic 1.- Management framework

Project definition. Roles in a project. Structural of the organization. Project management office. Environment and assets of a project. Management methodology.

Topic 2.- Management processes

Management life cycle. Initiation. Planning. Execution. Control. Closing.

Topic 3.- Project selection and integration

Project selection. Constitution of a project. Management Plan. Integration of objectives in the management life cycle. Change control.

Topic 4.- Scope management

Planning. Specification. Scope definition. Decomposition into work packages. Validation and control of the scope.

Topic 5.- Time management

Definition of activities. Sequencing. Estimation of duration and resources. Calendar creation. Critical path. Control and contingency actions.

Topic 6.- Cost management

Cost estimate. Budget creation. Budget control. Earned value. Contingency actions.

Topic 7.- Quality management

Planning activities and inspection points. Quality assurance. QA. Deviation management.

Topic 8.- Risk management

Risk identification. Qualitative and quantitative analysis of risks. Planning and implementing responses. Risk monitoring.

Topic 9.- Software projects

Estimation and metrics in software. Software quality. Project management based on agile developments. Management of distributed developments.

Topic 10.- Team management

Resource planning. Estimation of needs. Development and motivational factors. Performance management and control.

Topic 11.- Communication and management of interested parties

Communication planning. Management and monitoring of communication. Identification of interested parties. Monitoring of project satisfaction and validation.

Topic 12.- Acquisition management

Plan acquisitions and subcontracting. Supplier selection. Control of suppliers and subcontractors.

Topic 13.- Negotiation

Preparation. Creation of trusting relationships. Power relations in negotiation. Conflict and resolution. Cultural considerations.

TRAINING ACTIVITIES AND TEACHING METHODOLOGIES

TRAINING ACTIVITIES

| LEARNING ACTIVITIES | Total hours | Hours of presence |
|---|-------------|-------------------|
| <i>Theoretical / Expository classes</i> | 15,43 | 15,43 |
| <i>Practical classes</i> | 10,57 | 10,57 |
| <i>Tutorials</i> | 2,00 | 2,00 |
| <i>Independent study and autonomous work of the student</i> | 20,57 | 0,00 |
| <i>Elaboration of work (group or individual)</i> | 21,43 | 0,00 |
| <i>Evaluation Activities</i> | 5,00 | 5,00 |
| TOTAL | 75 | 33 |

Teaching methodologies

Expository method or master lesson

Case learning

Learning based on problem solving

Cooperative or collaborative learning

inquiry learning

Flipped classroom methodology

Gamification

Just in time Teaching (JITT) or classroom on time

Expository method or master lesson

Case method

Learning based on problem solving

Cooperative or collaborative learning

inquiry learning

Flipped classroom methodology

Gamification

TEMPORAL DEVELOPMENT

DIDACTIC UNITS / TOPICS TIME PERIOD

Topic 1. Management framework Week 1

Topic 2. Management processes Week 2

Topic 3. Project selection and integration Week 3

Topic 4. Scope management Week 4

Topic 5. Time management Week 5

Topic 6. Cost management Week 6

Topic 7. Quality management Week 7

Topic 8. Risk management Week 8

Topic 9. Software projects Week 9

Topic 10. Team management Week 10

Topic 11. Communication and stakeholder management Week 11

Topic 12. Acquisition management Week 12

Topic 13. Negotiation Week 13

EVALUATION SYSTEM

| ASSESSMENT SYSTEM | MINIMUM SCORE RESPECT TO THE FINAL ASSESSMENT (%) | MAXIMUM SCORE RESPECT TO THE FINAL ASSESSMENT (%) |
|--|--|--|
| <i>Assessment of participation in class, exercises or projects of the course</i> | 10 | 30 |
| <i>Assessment of assignments, projects, reports, memos</i> | 10 | 60 |
| <i>Objective test</i> | 30 | 80 |

GRADING CRITERIA

| ASSESSMENT SYSTEM | ORDINARY EVALUATION | EXTRAORDINARY EVALUATION |
|--|---------------------|--------------------------|
| <i>Assessment of participation in class, exercises or projects of the course</i> | 20 | 10 |
| <i>Assessment of assignments, projects, reports, memos</i> | 30 | 10 |
| <i>Objective test</i> | 50 | 80 |

General comments on the evaluations/assessments

- SE1. The student will demonstrate with his work in the classroom, including virtual classroom activities and his general attitude towards his learning, whether he is trained in the competencies that are expected to be developed in this subject:

- o During the 13 topics, the student will be given access to evaluable activities in the virtual classroom, with multiple choice questions that will cover the content seen.

- o Access to the first activity will be given at the end of topic 3, and will include multiple choice questions that will cover the content seen in topics 1, 2, and 3. This activity will contribute 0.45% to the final grade.

- o Access to the second activity will be given at the end of topic 7, and will include multiple choice questions that will cover the content seen in topics 4, 5, 6, and 7. This activity will contribute 0.65% to the final grade.

- o Access to the rest of the activities will be given at the end of each remaining topic: 8, 9, 10, 11, 12, 13. Each of them will contribute 0.15% to the final grade.

- o Each of these evaluable activities with multiple choice questions will be active for 2 weeks, a period in which the student must respond.

- o Deliveries will not be allowed after the 2-week period has expired.

- o Each evaluable activity in the virtual classroom will be graded from 0 to 10, the set of all activities will contribute to a maximum of 20% of the final grade.

- SE2. To facilitate the assimilation and integration of key knowledge and skills, students will carry out work and projects that can be proposed individually or in groups:

- o During the 13 topics, the student will be given access to evaluable activities in the virtual classroom, with up to 3 works that will cover the content seen.

- o Each of the works will be communicated through a virtual classroom and will be active for 2 weeks, a period in which the student must deliver.

- o Submissions of work out of form and date without justified cause will not be permitted once the 2-week period has expired, and if accepted, a reduction of up to 50% in the late work grade would be applicable.

- o Each work delivered in the virtual classroom will be graded from 0 to 10, the group of all works will contribute to a maximum of 30% of the grade.

- o Each work submitted is understood as an exam, and will have the right to review.
- SE3. The objective test will contribute a maximum of 50% of the final grade, being necessary to obtain a 5.0 out of 10 to pass the subject, and will consist of:
 - o Twelve test questions that will cover content seen between topics 1 and 13 of the subject, with 0.5 points per question: 6 points out of 10 in total
 - o Two short questions to develop, on various aspects seen in the subject, with 1 point for each question: 2 points out of 10 in total
 - o A project planning exercise: 2 points out of 10 in total
- Ordinary call. To pass the subject in this call, it is essential that the final grade is at least 5.0 out of 10. No grades of any kind will be kept between different academic years.
- Extraordinary call. If the student does not pass the ordinary call, she may take the extraordinary call. The grades obtained in the SE1 and SE2 evaluation activities will be retained, applying the minimum assessment required with respect to your final grade, that is, SE1 will represent 10% of the final grade, and SE2 will represent 10%. Regarding SE3, a final exam will be taken that will represent 80% of the grade.
- Exams. The use of notes or programmable scientific calculators is not permitted under any circumstances, unless the teacher indicates otherwise.

General considerations about the development of classes:

- Active and constructive participation will be required from the student in the discussion of the issues, debates, and/or exercises that are proposed, necessary for the development of the classes.
- The use of mobile phones in the classroom is not allowed during the continuous evaluation period, unless expressly indicated otherwise by the teacher.
- Laptops may only be used to take notes or carry out an activity directed by the teacher. The teacher may withdraw the right to use the computer from those students who use it for activities that are not related to the subject (checking emails, news or social networks, consulting or preparing activities for other subjects, etc.).
- It is not allowed to consume drinks or food in the classroom. The presence of any type of drink on the tables is also not permitted, even in closed containers.
- The student will be required to behave well at all times during classes. Bad behavior that prevents the normal development of the class may lead to expulsion from the classroom, for a period to be determined by the teacher.

LIST OF REFERENCES (BOOKS, PUBLICATIONS, WEBSITES):

Basic Bibliography:

- PMBOK® Guide 6th Edition. Project Management Institute (2017)
- PMP Exam Prep 9th Edition. Rita Mulcahy. Ed. RMC Publications (2018).

- Project Management. The Managerial Process 7th Edition. Rik W. Larson, Clifford F. Gray. Ed. McGraw-Hill (2018).

Recommended Bibliography:

- Software Project Management in a Changing World. Günther Ruhe, Claes Wohlin. Ed Springer (2014)
- The Human Factor in Project Management. Denise Thompson. Ed. CRC Press (2019)
- Project Estimation Software. Dimitre Dimitrov. Ed. Apress (2020)
- The Mythical Man-Month. Frederick P. Brooks. Addison-Wesley (1995)
- The Hidden Rules of Successful Negotiation and Communication. Marc O. Opresnik. Ed. Springer (2013)

REQUIRED MATERIALS, SOFTWARE AND TOOLS

Type of classroom

Theory classroom

Board and projection system

Materials:

Personal computer with Windows

Software:

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