

## 340037 - GEPR-N7017 - Project Management

Coordinating unit:	340 - EPSEVG - Vilanova i la Geltrú School of Engineering
Teaching unit:	717 - EGE - Department of Engineering Presentation
Academic year:	2018
Degree:	BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Compulsory)
ECTS credits:	6
Teaching languages:	Catalan, Spanish, English

### Teaching staff

Coordinator:	Manel Lopez Membrilla/José María Ibáñez García
Others:	Departament 717-EG: José María Ibáñez García. Manuel López Membrilla. Departament 732-OE: Ariadna Llorens García. Marta Díaz Boladeras. Departament 709-EE: Balduí Blanqué Molina

### Degree competences to which the subject contributes

#### Specific:

25. CE18. Know the organizational structure and functions of a project office.
34. D29. Knowledge of editing and technical documents representation.
35. D30. Knowledge of mythology, organization and management of projects.
36. D31. Knowledge of current rules, legislation and project transaction.
37. D32. Ability to carry out product projects, machines, mechanism and installations.
38. D42. Knowledge of design tools to apply them in design and redesign projects.
39. D43. Knowledge of design methodology.
41. D57. Ability to redesign products.
42. D58. Practical knowledge of industrial design methodology.
43. D60. Practical knowledge of design and component and complex product development.
44. D61. Practical knowledge of product detail design.
45. D63. Ability to edit, develop and manage an integral engineering project in an industrial design and product development context.
46. D64. Ability to handle with needed specifications, regulations, technique standards and legislation to develop the profession.

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49. D9. Ability to analyze and solve machine and mechanism design problems.

Transversal:

1. SELF-DIRECTED LEARNING - Level 1. Completing set tasks within established deadlines. Working with recommended information sources according to the guidelines set by lecturers.
2. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.
3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
4. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.
5. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 1. Planning oral communication, answering questions properly and writing straightforward texts that are spelt correctly and are grammatically coherent.
6. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 2. Using strategies for preparing and giving oral presentations. Writing texts and documents whose content is coherent, well structured and free of spelling and grammatical errors.
7. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
8. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.
9. ENTREPRENEURSHIP AND INNOVATION - Level 1. Showing enterprise, acquiring basic knowledge about organizations and becoming familiar with the tools and techniques for generating ideas and managing organizations that make it possible to solve known problems and create opportunities.
10. ENTREPRENEURSHIP AND INNOVATION - Level 2. Taking initiatives that give rise to opportunities and to new products and solutions, doing so with a vision of process implementation and market understanding, and involving others in projects that have to be carried out.
11. ENTREPRENEURSHIP AND INNOVATION - Level 3. Using knowledge and strategic skills to set up and manage projects. Applying systemic solutions to complex problems. Devising and managing innovation in organizations.
12. ENTREPRENEURSHIP AND INNOVATION: Knowing about and understanding how businesses are run and the sciences that govern their activity. Having the ability to understand labor laws and how planning, industrial and marketing strategies, quality and profits relate to each other.
13. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 1. Analyzing the world's situation critically and systemically, while taking an interdisciplinary approach to sustainability and adhering to the principles of sustainable human development. Recognizing the social and environmental implications of a particular professional activity.
14. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 2. Applying sustainability criteria and professional codes of conduct in the design and assessment of technological solutions.
15. SUSTAINABILITY AND SOCIAL COMMITMENT - Level 3. Taking social, economic and environmental factors into account in the application of solutions. Undertaking projects that tie in with human development and sustainability.
16. SUSTAINABILITY AND SOCIAL COMMITMENT. Being aware of and understanding the complexity of social and economic phenomena that characterize the welfare society. Having the ability to relate welfare to globalization and sustainability. Being able to make a balanced use of techniques, technology, the economy and sustainability.
17. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.
18. TEAMWORK - Level 2. Contributing to the consolidation of a team by planning targets and working efficiently to favor communication, task assignment and cohesion.
19. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
20. TEAMWORK. Being able to work as a team player, either as a member or as a leader. Contributing to projects pragmatically and responsibly, by reaching commitments in accordance to the resources that are available.

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21. EFFECTIVE USE OF INFORMATION RESOURCES - Level 1. Identifying information needs. Using collections, premises and services that are available for designing and executing simple searches that are suited to the topic.
22. EFFECTIVE USE OF INFORMATION RESOURCES - Level 2. Designing and executing a good strategy for advanced searches using specialized information resources, once the various parts of an academic document have been identified and bibliographical references provided. Choosing suitable information based on its relevance and quality.
23. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.
24. EFFECTIVE USE OF INFORMATION RESOURCES. Managing the acquisition, structure, analysis and display of information from the own field of specialization. Taking a critical stance with regard to the results obtained.

### Teaching methodology

#### Teaching methodology

Expository method / master class: it consists of the presentation of a logically structured topic in order to provide organized information, following appropriate criteria, which lead to a specific objective. This methodology is mainly focused on the oral presentation of the contents of the subject and carried out by the professors.

Expository / participatory class: assuming the characteristics of the expository method, this kind of lessons includes time for student participation and intervention through short activities in the classroom, such as direct questions, expositions of specific topics or problem-solving exercises linked to the given theoretical approach.

Cooperative learning: interactive approach to the work organization inside and outside the classroom, in which the students are responsible for their own learning and that of their classmates, in a joint responsibility relationship to achieve common goals.

Problem-solving exercises: situations in which students are asked to develop suitable or correct solutions by applying procedures for transforming the available information and interpreting the results.

Project-based learning: learning method based on the presentation of a problem proposed by the professors, which has to be solved by students, or in which students have to develop a scheduled project to solve a problem or deal with a task by planning, designing and carrying out a series of activities. Learning by discovery is the basis of these methods. The initial information provided by the professors is incomplete and the students have to complement it by studying the appropriate sources. The solution does not have to be unique.

Cases study: intensive and complete analysis of a fact, a problem or a real event in order to know it, interpret it, solve it, generate hypothesis, contrast the data, reflect on it, complete knowledge, diagnose it and, at times, test the possible alternative procedures to solve it.

### Learning objectives of the subject

#### Learning objectives of the subject

The general objective of the subject is to provide the students with the knowledge that enables the application of the carried out engineering studies in the development of projects related to products and facilities.

To know and understand the organization of a company and the sciences that run its activity. Capability to understand labour rules and relationships between planning, industrial and commercial strategies, quality and profits.

To know and understand the complexity of the typical economic and social phenomena of the welfare society. Capability to link the welfare state with globalization and sustainability. Be able to use technique, technology, economics and sustainability in a well-balanced and compatible way.

To communicate orally and in writing with other people about the results of learning, the elaboration of thinking and decision making. To participate in debates on topics of the own speciality.

Be able to work as a member of a team, either as a member, or performing management tasks in order to contribute to develop projects with pragmatism and sense of responsibility, assuming commitments considering the available resources.

To manage the acquisition, structuring, analysis and visualization of data and information in the field of speciality and to assess critically the results of this management.

To detect shortcomings in one's knowledge and overcome them through critical reflection and by choosing the best action to expand this knowledge.



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### Study load

Total learning time: 150h	Hours large group:	30h	20.00%
	Hours medium group:	0h	0.00%
	Hours small group:	30h	20.00%
	Guided activities:	0h	0.00%
	Self study:	90h	60.00%

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### Content

(ENG) -Project theory	Learning time: 15h Theory classes: 15h
<p><b>Description:</b> Project general theory: contents and specificities of industrial projects. Activities projects. Projects of specific facilities. Project files processing. Machines and mechanisms projects. Planning and programming of projects. Attributions and professional associations. Product projects: structure and content. Regulations. Industrial design. Ecodesign. Product lifecycle management (PLM). Innovation of new products.</p> <p><b>Related activities:</b> Linked activities. The proposal consists of learning by projects, that is to say, it is mainly based on solving real engineering problems, in which the solution is not preset, so that it brings students to the daily practice of professional work and become a good synthesis of the acquired knowledge. The pedagogical approach consists of helping students to solve the problems, with which they have to deal, by supervising their work and by necessary support lecturing, as well as evaluating the work done and which kind of development should be achieved, taking into account the limitations of a subject. To know and experiment all the fundamental processes in the planning of works and projects. It is intended that the student is able to plan, control and manage a project on his own.</p> <p><b>Specific objectives:</b> Specific objectives. Specifically, it is intended to introduce students to the procedures and methods for the correct development of industrial projects: the understanding of the basic concepts to design a project, the application of work methodologies (both in groups and individually) in project developing, the analysis of the problems to be solved and the constraints that surround the project developing and, finally, the evaluation of the adopted solutions in the development of the project. It is also aimed to introduce students to the procedures for the management of industrial projects.</p>	
(ENG) -Gestió de Projectes	Learning time: 15h Theory classes: 15h
<p><b>Description:</b> Es pretén introduir als alumnes en els procediments per a la gestió dels projectes industrials.</p> <p><b>Specific objectives:</b> Gestió de Projectes. Planificació, programació i control de projectes</p>	
(ENG) -Pràctiques	Learning time: 30h Laboratory classes: 30h
<p><b>Description:</b> Es pretén que els alumnes treballin les metodologies mes adients per a l'elaboració de projectes.</p>	

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### Qualification system

#### Assessment system

The assessment of the different departments in GEPR has the following weight in the final mark of the subject:

- Enginyeria Gràfica i Disseny (EG) 50%
- Organització d' Empresa (OE) 25%
- Enginyeria Elèctrica (EE) 25%

The monitoring of the subject is based on theoretical concepts and activities linked to the development of a project.

Each department involved will establish its assessment criteria: by continuous evaluation, mid-term tests or final exam.

The assessment system, according to article 4.1.3 of the current EPSEVG' s Academic Regulations of Degree and Master studies, also considers the reassessment, consisting of the mid-term or final exam for this subject.

### Bibliography