

## [GMX205] TECHNICAL WORKSHOP: MECHANICAL PROJECTS

### GENERAL INFORMATION

<b>Studies</b>	DEGREE IN MECHANICAL ENGINEERING		<b>Subject</b>	?
<b>Semester</b>	1	<b>Course</b>	3	<b>Mention / Field of specialisation</b>
<b>Character</b>	COMPULSORY		<b>Language</b>	ENGLISH
<b>Plan</b>	2017	<b>Modality</b>	Face-to-face	<b>Total hours</b>
<b>Credits</b>	3	<b>Hours/week</b>	1.94	35 class hours + 40 non-class hours = <b>75 total hours</b>

### PROFESSORS

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### REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	(No previous knowledge required)

### SKILLS

#### VERIFICA SKILLS

##### SPECIFIC

**G\_IN11** - To have project management knowledge and skills. To be familiar with the organisational structure and functions of a project office

##### GENERAL

**GMCT02** - To be able to manage and coordinate tasks in mechanical engineering projects

**GMCT03** - To build on basic concepts and technologies to expand knowledge of new theories and methods, and to acquire flexibility to adapt to new situations

**GMCT04** - To be able to take the initiative in problem solving, decision making, creativity, critical thinking, effective communication and the transfer of knowledge and skills in the field of mechanical engineering.

**GMCT05** - Possessing the knowledge for performing measurements, calculations, valuations, estimates, inspections, studies, reports, work plans and other similar tasks.

**GMCT06** - To be able to comply with specifications, regulations and standards

**GMCT07** - To be able to analyse and assess the social and environmental impact of technical solutions.

**GMCT08** - Ability to apply quality principles and techniques.

**GMCT09** - Possessing organisation and planning skills within the environment of the company and other institutions and organisations.

**GMCT10** - To be able to do their job in multilingual, multidisciplinary environments

**GMCT11** - Possessing the knowledge, understanding and ability to apply the legislation applicable to their work as an industrial engineering technician.

**GMCT12** - To be able to do their job in cooperative, participatory environments, with awareness of social responsibility.

##### CROSS

**GMCG02** - To be able to understand and apply knowledge to problem solving in complex work situations or specialised and professional environments calling for creative and innovative ideas, using self-developed arguments and procedures;

**GMCG03** - To be capable of gathering and interpreting data and information on which to base conclusions including, when necessary and pertinent, reflection on matters of a social, scientific or ethical nature in their field of study;

#### ENAE LEARNING RESULTS

	ECTS
<b>ENA103</b> - Knowledge and comprehension: Awareness of the multidisciplinary context of engineering.	2,48
<b>ENA105</b> - Analysis in engineering: The ability to identify, formulate and solve engineering problems in their speciality; choose and apply adequately established analytical, calculation and experimental methods; and acknowledge the importance of social, health and safety, environmental, economic, and industrial restrictions.	0,04
<b>ENA106</b> - Engineering projects: Ability to project, design and develop complex products (parts, components, finished products, etc.), processes and systems of their speciality, which meet the established requirements, including awareness of the social, health and safety, environmental, economic and industrial aspects, as well as selecting and applying appropriate project methods.	0,04
<b>ENA108</b> - Research and innovation: Ability to carry out bibliographic searches and consult and use databases and other information sources with discretion, in order to carry out simulation and analysis with the aim of conducting research on technical topics of their speciality.	0,04
<b>ENA111</b> - Practical application of engineering: Understanding of the applicable techniques and methods for analysis, design and research and their limitations in the field of their speciality.	0,04
<b>ENA114</b> - Practical application of engineering: Ability to apply standards of engineering practice in their speciality.	0,04
<b>ENA115</b> - Practical application of engineering: Knowledge of the social, health and safety, environmental, economic and industrial implications of engineering practice.	0,04
<b>ENA116</b> - Practical application of engineering: General ideas on economic, organisational and management issues (such as project, risk and change management) in the industrial and business context.	0,04
<b>ENA117</b> - Preparation of judgements: Ability to collect and interpret data and handle complex concepts within their speciality, in	0,04

order to make judgements that involve reflection on ethical and social issues.

<b>ENA118</b> - Preparation of judgements: Ability to manage complex technical or professional activities or projects of their speciality, taking responsibility for decision making.	0,04
<b>ENA119</b> - Communication and Teamwork: Ability to effectively communicate information, ideas, problems and solutions in the field of engineering and with society in general.	0,04
<b>ENA120</b> - Communication and Teamwork: Ability to operate effectively in domestic and international contexts, individually and as a team, and to cooperate with both engineers and people from other disciplines.	0,04
<b>ENA121</b> - Continued training: Ability to acknowledge the need for their own continued training and to undertake this activity throughout their professional life independently.	0,04
<b>ENA122</b> - Continued training: Ability to stay up to date on science and technology innovations.	0,04

**Total:** 3

### LEARNING RESULTS

**RG304** Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in writing.

#### LEARNING ACTIVITIES

	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	1 h.	2 h.	3 h.

#### EVALUATION SYSTEM

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

W

100%

#### MAKE-UP MECHANISMS

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence  
**Comments:** Continuous assesment and feedback of the project

**CH - Class hours:** 1 h.  
**NCH - Non-class hours:** 2 h.  
**TH - Total hours:** 3 h.

**RG305** Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in spoken form.

#### LEARNING ACTIVITIES

	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	1 h.	2 h.	3 h.

#### EVALUATION SYSTEM

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

W

100%

#### MAKE-UP MECHANISMS

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence  
**Comments:** Continuous assesment and evaluation of the project

**CH - Class hours:** 1 h.  
**NCH - Non-class hours:** 2 h.  
**TH - Total hours:** 3 h.

**RGM330** Identify and describe the key aspects of the process to create new companies, and be aware of the importance of generating and finding new business ideas, searching for relevant information

#### LEARNING ACTIVITIES

	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	8 h.	14 h.	22 h.
Individual study and work, tests and evaluations and check points	4 h.	2 h.	6 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	2 h.	2 h.	4 h.

#### EVALUATION SYSTEM

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

W

100%

#### MAKE-UP MECHANISMS

Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices  
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence

**Comments:** Work developed in the subject: %70 Semester project:

%30 **Comments:** Continuous assesment of the project and feedback

**CH - Class hours:** 14 h.  
**NCH - Non-class hours:** 18 h.  
**TH - Total hours:** 32 h.

**RG302 Analyze the intervening variables in the problem and propose actions for a stable situation.**

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	2 h.		2 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	100%	Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence <b>Comments:</b> Continuous assessment and project feedback

**CH - Class hours:** 2 h.  
**NCH - Non-class hours:** 0 h.  
**TH - Total hours:** 2 h.

**RG301 Assumes responsibilities in the work team, organizing and planning the tasks to be developed, facing the contingencies and encouraging the participation of its members.**

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	3 h.		3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	50%	Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence <b>Comments:</b> Continuous assessment and project feedback
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	50%	

**CH - Class hours:** 3 h.  
**NCH - Non-class hours:** 0 h.  
**TH - Total hours:** 3 h.

**RGM329 Manage time, costs, specifications and human and material resources to meet the objectives of a project**

LEARNING ACTIVITIES	CH	NCH	TH
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams	1 h.	10 h.	11 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	9 h.		9 h.
Individual and team exercises	4 h.	8 h.	12 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Individual written and oral tests to assess technical skills of the subject	80%	Individual written and oral tests to assess technical skills of the subject <b>Comments:</b> Continuous assessment and feedback of the project
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	20%	

**CH - Class hours:** 14 h.  
**NCH - Non-class hours:** 18 h.  
**TH - Total hours:** 32 h.

## CONTENTS

### 1. Management of the phases of a project:

Introduction.  
Definition.  
Planning.  
Execution.  
Monitoring and control.  
Completion and closure.

### 2. Entrepreneurship:

Entrepreneurial process  
From the Idea to the Business Opportunity.  
Saiolan-BIC GIPUZKOA  
High Growth Potential Projects/Businesses.

## LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	Inc 5000 anual: <a href="https://www.inc.com/inc5000/2019/top-private-companies-2019-inc5000.html">https://www.inc.com/inc5000/2019/top-private-companies-2019-inc5000.html</a>
Moodle Platform	
Class presentations	