

## [GCZ104] ELECTRONICS AND TOOLING

### GENERAL INFORMATION

<b>Studies</b>	DEGREE IN ENGINEERING IN ECO-TECHNOLOGY IN INDUSTRIAL PROCESS		<b>Subject</b>	ELECTRIC AND ELECTRONIC TECHNOLOGY
<b>Semester</b>	2	<b>Course</b>	3	<b>Mention / Field of specialisation</b>
<b>Character</b>	COMPULSORY		<b>Language</b>	EUSKARA
<b>Plan</b>	2017	<b>Modality</b>	Adapted Face-to-face	<b>Total hours</b>
<b>Credits</b>	4,5	<b>Hours/week</b>	2.17	39 class hours + 73.5 non-class hours = <b>112.5 total hours</b>

### PROFESSORS

ALACANO LOITI, ARGIÑE

### REQUIRED PREVIOUS KNOWLEDGE

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

### SKILLS

#### VERIFICA SKILLS

##### SPECIFIC

**GCIN05** - Knowledge concerning the fundamentals of electronics.

##### GENERAL

**G\_CB6** - To be able to respond adequately in complex situations or situations that call for innovative solutions in both the academic field and work environments within their field of study;

**GCCG2** - To have knowledge of basic subjects and technologies for the learning of new methods and technologies specific to Ecotechnology Engineering in Industrial Processes, and for an enhanced capacity to adapt to new situations.

**GCCG4** - To know how to perform measurements, calculations, valuations, studies, reports, task planning, and other activities pertaining to the field of Ecotechnology Engineering in Industrial Processes

##### CROSS

**GCCTR2** - To be able to do their job in cooperative, participatory environments, with awareness of social responsibility.

##### BASIC

**G\_CB2** - To be able to apply knowledge to occupational or professional tasks; have the necessary skills to pose and defend arguments, and to solve problems within their field of study

**G\_CB3** - To be capable of gathering and interpreting relevant data (normally within their field of study) in order to make judgements, reflecting on relevant matters of a social, scientific or ethical nature

**G\_CB4** - To be able to communicate information, ideas, problems and solutions to both expert and lay audiences

### LEARNING RESULTS

**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 and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams		5 h.	5 h.

#### EVALUATION SYSTEM

	W
Self-assessment	50%
Co-assessment	50%

#### MAKE-UP MECHANISMS

(No mechanisms)

**CH - Class hours:** 0 h.

**NCH - Non-class hours:** 5 h.

**TH - Total hours:** 5 h.

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

#### LEARNING ACTIVITIES

CH	NCH	TH
----	-----	----

Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams

5 h.

5 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP MECHANISMS**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

100%

(No mechanisms)

**CH - Class hours:** 0 h.

**NCH - Non-class hours:** 5 h.

**TH - Total hours:** 5 h.

**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 and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams

4 h.

4 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP MECHANISMS**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

100%

(No mechanisms)

**CH - Class hours:** 0 h.

**NCH - Non-class hours:** 4 h.

**TH - Total hours:** 4 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 and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams

4 h.

4 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP MECHANISMS**

Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems

100%

(No mechanisms)

**CH - Class hours:** 0 h.

**NCH - Non-class hours:** 4 h.

**TH - Total hours:** 4 h.

**RG301** [!] *Analiza los procesos energéticos y selecciona las variables más relevantes a medir*

**LEARNING ACTIVITIES**

**CH**

**NCH**

**TH**

Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams

1 h.

10,5 h.

11,5 h.

Conducting tests, giving presentations, presenting defences, taking examinations and/or doing

1 h.

1 h.

checkpoints			
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams		12 h.	12 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects		8 h.	8 h.
<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>	
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	50%	Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	30%		
Individual written and/or oral tests or individual coding/programming tests	20%		
<b>CH - Class hours:</b> 9 h.			
<b>NCH - Non-class hours:</b> 23,5 h.			
<b>TH - Total hours:</b> 32,5 h.			

<b>RGC302</b> [!] <i>Adquiere, procesa y monitoriza las variables previamente seleccionadas utilizando sistemas industriales</i>				
<b>LEARNING ACTIVITIES</b>		<b>CH</b>	<b>NCH</b>	<b>TH</b>
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints			2 h.	2 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams			20 h.	20 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects		10 h.		10 h.
Carrying out exercises and solving problems individually and/or in teams		20 h.	10 h.	30 h.
<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>		
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	14%	Individual written and oral tests to assess technical skills of the subject		
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	30%			
Individual written and/or oral tests or individual coding/programming tests	56%			
<b>CH - Class hours:</b> 30 h.				
<b>NCH - Non-class hours:</b> 32 h.				
<b>TH - Total hours:</b> 62 h.				

## CONTENTS

### LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Lab practical training	<a href="http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in k.pl?grupo=EKOTEKNOLOGIA32&amp;ejecuta=35">http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in k.pl?grupo=EKOTEKNOLOGIA32&amp;ejecuta=35</a>
Moodle Platform	
Slides of the subject	
Specific Master Software	