

## [GDC301] GRAPHIC EXPRESSION I

### GENERAL INFORMATION

<b>Studies</b>	DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING		<b>Subject</b>	GRAPHIC EXPRESSION	
<b>Semester</b>	1	<b>Course</b>	1	<b>Mention / Field of specialisation</b>	
<b>Character</b>	BASIC TRAINING		<b>Language</b>	EUSKARA	
<b>Plan</b>	2022	<b>Modality</b>	Face-to-face	<b>Total hours</b>	77 class hours + 73 non-class hours = <b>150 total hours</b>
<b>Credits</b>	6	<b>Hours/week</b>	4.28		

### 2030 AGENDA GOALS



### PROFESSORS

GARCIA ABAUNZ, MIKEL  
GUENETXEA SASIAIN, ENEKA

### REQUIRED PREVIOUS KNOWLEDGE

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

### LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
<b>G-RA02</b> - To demonstrate spatial vision and knowledge of graphic representation techniques, both through traditional methods of metric geometry and descriptive geometry, and through computer-aided design applications	x	x		5,4
<b>G-RTR1</b> - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and/or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,36
<b>G-RTR2</b> - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,24
<b>Total:</b>				<b>6</b>

KC: Knowledge or Content / SK: Skills / AB: Abilities

### ENAE LEARNING RESULTS

ENAE LEARNING RESULTS	ECTS
<b>ENAE02</b> - Knowledge and understanding: A systematic understanding of the key aspects and concepts of their branch of engineering.	0,8
<b>ENAE06</b> - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	2,28
<b>ENAE09</b> - Engineering projects: Understanding of the different methods and ability to use them.	0,64
<b>ENAE13</b> - Practical application of engineering: Ability to select and use suitable equipment, tools and methods.	1,48
<b>ENAE15</b> - Practical application of engineering: Understanding of applicable methods and techniques and their limitations.	0,8
<b>Total:</b>	<b>6</b>

### SECONDARY LEARNING RESULTS

#### 1RGD192 (1 sem)

#### LEARNING ACTIVITIES

	CH	NCH	TH
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	2 h.	1 h.	3 h.

#### EVALUATION SYSTEM

	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%

#### MAKE-UP MECHANISMS

(No mechanisms)

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

**TH - Total hours:** 3 h.

**RGD103** [!] *Representa diferentes tipos de piezas respetando las normas de dibujo técnico*

**LEARNING ACTIVITIES**

	<b>CH</b>	<b>NCH</b>	<b>TH</b>
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	6 h.		6 h.
Carrying out exercises and solving problems individually and/or in teams	29 h.	15 h.	44 h.

**EVALUATION SYSTEM**

**W**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	20%
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	10%
Individual written and/or oral tests or individual coding/programming tests	70%

**MAKE-UP MECHANISMS**

Individual written and/or oral tests or individual coding/programming tests

**CH - Class hours:** 35 h.

**NCH - Non-class hours:** 15 h.

**TH - Total hours:** 50 h.

**1RGD191** (1 sem)

**LEARNING ACTIVITIES**

	<b>CH</b>	<b>NCH</b>	<b>TH</b>
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.		1 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	1 h.	1 h.	2 h.

**EVALUATION SYSTEM**

**W**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	50%
Individual written and/or oral tests or individual coding/programming tests	50%

**MAKE-UP MECHANISMS**

(No mechanisms)

**CH - Class hours:** 2 h.

**NCH - Non-class hours:** 1 h.

**TH - Total hours:** 3 h.

**1RGD190** (1 sem)

**LEARNING ACTIVITIES**

	<b>CH</b>	<b>NCH</b>	<b>TH</b>
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	1 h.	2 h.	3 h.

**EVALUATION SYSTEM**

**W**

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	50%
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**MAKE-UP MECHANISMS**

(No mechanisms)

Individual written and/or oral tests or individual coding/programming tests 50%

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

#### **1RGD194 (1 sem)**

##### **LEARNING ACTIVITIES**

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

**CH** 1 h. **NCH** 2 h. **TH** 3 h.

##### **EVALUATION SYSTEM**

Individual written and/or oral tests or individual coding/programming tests

**W** 100%

##### **MAKE-UP MECHANISMS**

(No mechanisms)

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

#### **RGD104 [!] Acota y define las tolerancias necesarias de las piezas que forman un conjunto mecánico respetando las normas de dibujo técnico**

##### **LEARNING ACTIVITIES**

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

**CH** 29 h. **NCH** 50 h. **TH** 79 h.

Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning

6 h. 6 h.

##### **EVALUATION SYSTEM**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems 20%  
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 10%  
Individual written and/or oral tests or individual coding/programming tests 70%

##### **MAKE-UP MECHANISMS**

Individual written and/or oral tests or individual coding/programming tests

**CH - Class hours:** 35 h.  
**NCH - Non-class hours:** 50 h.  
**TH - Total hours:** 85 h.

#### **1RGD193 (1 sem)**

##### **LEARNING ACTIVITIES**

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

**CH** 1 h. **NCH** 2 h. **TH** 3 h.

##### **EVALUATION SYSTEM**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory

**W** 100%

##### **MAKE-UP MECHANISMS**

(No mechanisms)

exercises, term projects, challenges and problems

**CH - Class hours:** 1 h.

**NCH - Non-class hours:** 2 h.

**TH - Total hours:** 3 h.

## CONTENTS

1. Representation of parts1.1 Orthogonal representation and cuts1.2 Dimensioning2. Bolted joints3. Tolerances (dimensional, surface and geometric)4. Mechanical elements and interpretation of assemblies.5. Solid Works

## LEARNING RESOURCES AND BIBLIOGRAPHY

### Learning resources

[!] *Apuntes de la asignatura*

[!] *Consultas en páginas web relacionadas con el tema*

[!] *Plataforma Moodle*

### Bibliography

Técnicas Gráficas (Formación Profesional). Editorial Donostiarra.

Normalización del Dibujo Técnico. Editorial Donostiarra. Cándido

Preciado y Francisco Jesús Moral Kendu