

## [GDW302] DESIGN METHODOLOGY I

### GENERAL INFORMATION

<b>Studies</b>	DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING		<b>Subject</b>	DESIGN METHODOLOGY	
<b>Semester</b>	1	<b>Course</b>	2	<b>Mention / Field of specialisation</b>	
<b>Character</b>	COMPULSORY				
<b>Plan</b>	2022	<b>Modality</b>	Face-to-face	<b>Language</b>	EUSKARA/CASTELLANO
<b>Credits</b>	6	<b>Hours/week</b>	3.44	<b>Total hours</b>	62 class hours + 88 non-class hours = <b>150 total hours</b>

### 2030 AGENDA GOALS



### PROFESSORS

VILCHEZ SANCHEZ, MIREN

### REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
<i>(No specific previous subjects required)</i>	<i>(No previous knowledge required)</i>

### LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
<b>GDR208</b> - To define a product applying the user-centered design methodology and using the appropriate tools		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

	ECTS
<b>ENAE02</b> - Knowledge and understanding: A systematic understanding of the key aspects and concepts of their branch of engineering.	0,56
<b>ENAE03</b> - Knowledge and understanding: Sufficient knowledge of their branch of engineering, including some knowledge at the forefront of their field.	0,25
<b>ENAE04</b> - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,24
<b>ENAE06</b> - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,52
<b>ENAE08</b> - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,8
<b>ENAE09</b> - Engineering projects: Understanding of the different methods and ability to use them.	0,48
<b>ENAE10</b> - Research & innovation: Ability to perform bibliographic searches, to use databases and other sources of information.	0,8
<b>ENAE13</b> - Practical application of engineering: Ability to select and use suitable equipment, tools and methods.	0,8
<b>ENAE14</b> - Practical application of engineering: Ability to combine theory and practice in order to solve engineering problems.	0,8
<b>ENAE16</b> - Practical application of engineering: To be aware of the implications of the practical application of engineering.	0,24
<b>ENAE17</b> - Transversal competences: To work effectively, both individually and in a team.	0,16
<b>ENAE18</b> - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,08
<b>ENAE19</b> - Transversal competences: Demonstrate that they are aware of the responsibility implied in the practical application of engineering, the social and environmental impact, and show commitment with professional ethics, responsibility and regulations of the practical application of engineering.	0,08
<b>ENAE20</b> - Transversal competences: Demonstrate that they are aware of entrepreneurial practices and project management, in addition to risk control and management and understand their limitations.	0,08
<b>ENAE21</b> - Transversal competences: To recognise the need for and be able to voluntarily develop continuous learning.	0,11
<b>Total:</b>	<b>6</b>

### SECONDARY LEARNING RESULTS

**1RGD290** (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                      3 h.                      3 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:** 3 h.  
**TH - Total hours:** 3 h.

**1RGD291** (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                      3 h.                      3 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:** 3 h.  
**TH - Total hours:** 3 h.

**1RGD293** (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                      3 h.                      3 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:** 3 h.  
**TH - Total hours:** 3 h.

**RGD211** [!] *Definir las especificaciones de producto argumentando las decisiones tomadas*

**LEARNING ACTIVITIES**

**CH**                      **NCH**                      **TH**

Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints                      10 h.                      10 h.                      20 h.  
 Carrying out exercises and solving problems individually and/or in teams                      20 h.                      27,5 h.                      47,5 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP MECHANISMS**

<p>Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems</p> <p>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</p>	<p>30%</p> <p>70%</p>	<p>Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems</p> <p>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</p>
<p><b>CH - Class hours:</b> 30 h.  <b>NCH - Non-class hours:</b> 37,5 h.  <b>TH - Total hours:</b> 67,5 h.</p>		

**1RGD292 (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	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)		
<p><b>CH - Class hours:</b> 2 h.  <b>NCH - Non-class hours:</b> 1 h.  <b>TH - Total hours:</b> 3 h.</p>				

**1RGD294 (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			3 h.	3 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)		
<p><b>CH - Class hours:</b> 0 h.  <b>NCH - Non-class hours:</b> 3 h.  <b>TH - Total hours:</b> 3 h.</p>				

**RGD212 [!] Conoce y aplica las herramientas adecuadas a utilizar en las diferentes fases de desarrollo de producto.**

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		10 h.	17,5 h.	27,5 h.
Carrying out exercises and solving problems individually and/or in teams		20 h.	20 h.	40 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	60%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems		
Presentation and defence of exercises, case studies, computer practical work, simulation practical work,	40%	Individual written and/or oral tests or individual coding/programming tests		

laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems

**CH - Class hours:** 30 h.

**NCH - Non-class hours:** 37,5 h.

**TH - Total hours:** 67,5 h.

## CONTENTS

1- Analysis Phase: Analysis of the market, product, use and positioning. 2- Ideation Phase: Conceptual search and formal search. 3- Development Phase: Design and Development in detail.

## LEARNING RESOURCES AND BIBLIOGRAPHY

### Learning resources

- [!] *Apuntes de la asignatura*
- [!] *Presentaciones en clase*
- [!] *Artículos de carácter técnico*
- [!] *Consultas en páginas web relacionadas con el tema*

### Bibliography

<https://katalogoa.mondragon.edu/janium-bin/sumario.pl?id=20210922103940>