

## **GENERAL INFORMATION**

Data of the subject		
Subject name	Manufacturing Engineering	
Subject code	DIM-GITI-449	
Mainprogram	Bachelor's Degree in Engineering for Industrial Technologies	
Involved programs	Grado en Ingeniería en Tecnologías Industriales [Fourth year]	
Quarter	Semestral	
Credits	3,0 ECTS	
Туре	Optativa (Grado)	
Department	Department of Mechanical Engineering	
Coordinator	Mariano Jiménez Calzado	

## **Teacher Information**

Teacher		
Name	Raquel María Lorente Pedreille	
Department	Department of Mechanical Engineering	
EMail	rmlorente@icai.comillas.edu	
Teacher		
Name	Xavier Soldani	
Department	Department of Mechanical Engineering	
EMail	xsoldani@icai.comillas.edu	
Teacher		
Name	Mariano Jiménez Calzado	
Department	Department of Mechanical Engineering	
Office	Alberto Aguilera 25 [D-007]	
EMail	mjimenez@icai.comillas.edu	
Phone	2358	
Teacher		
Name	Luis Rayado Guerrero	
Department	Department of Mechanical Engineering	
EMail	lrayado@icai.comillas.edu	
Teacher		
Name	Rodrigo Álvarez Hernández	
Department	Department of Mechanical Engineering	
EMail	rahernandez@comillas.edu	



# **DESCRIPTION OF THE SUBJECT**

### **Contextualization of the subject**

### Prerequisites

• Previous knowledge of Graphic Expression and use of CAD tools, as well as knowledge of Materials Science

### **Course contents**

#### Contents

- Introduction. Manufacturing Cycle. Information to establish a manufacturing cycle. Organization of production areas and resources. Technical and functional considerations in the electrical and mechanical field.
- Dimensional verification techniques. Metrological vocabulary (VIM). Causes of measurement error. Dimensional measuring instruments and their metrological properties.
- Welding processes. Types of welding: soft, strong, oxyacetylene, arc with covered electrode, TIG, MIG, resistance, friction, laser. Welding process. Defectology.
- Advanced transformation processes: additive manufacturing, technologies and application.

# **EVALUATION AND CRITERIA**

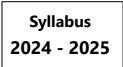
Evaluation activities	Evaluation criteria	Weight
<ul> <li>Tests carried out at the end of class in the form of a test or short exercise</li> </ul>	<ul><li>Understanding of concepts.</li><li>Theoretical justification of the practical results.</li></ul>	10
<ul><li>Individual practical work.</li><li>Group work</li></ul>	<ul><li>Compression of concepts.</li><li>Selection of manufacturing processes.</li><li>Application of verification techniques.</li></ul>	15
Laboratory reports.	<ul><li>Understanding of concepts.</li><li>Laboratory expertise.</li><li>Justification of practical results.</li></ul>	25
• Final exam	<ul> <li>Differentiation and application of different manufacturing and verification processes.</li> </ul>	50

### **BIBLIOGRAPHY AND RESOURCES**

**Basic References** 

• Mariano Jiménez Calzado. APUNTES-PRESENTACIONES MOODLE - ICAI DE INGENIERÍA DE FABRICACIÓN. Fichas técnicas de





procesos industriales.

 Mikell Groover. FUNDAMENTOS DE MANUFACTURA MODERNA: MATERIALES, PROCESOS Y SISTEMAS (3<sup>a</sup> edición). PRENTICE HALL HISPANOAMERICANA S.A. ISBN 9789688808467

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