



## GENERAL INFORMATION

Data of the subject	
Subject name	Manufacturing Engineering
Subject code	DIM-GITI-449
Main program	<a href="#">Bachelor's Degree in Engineering for Industrial Technologies</a>
Involved programs	Grado en Ingeniería en Tecnologías Industriales [Fourth year]
Quarter	Semestral
Credits	3,0 ECTS
Type	Optional
Department	Department of Mechanical Engineering
Coordinator	Mariano Jiménez Calzado

Teacher Information	
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## 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 style="list-style-type: none"><li>• Tests carried out at the end of class in the form of a test or short exercise</li></ul>	<ul style="list-style-type: none"><li>• Understanding of concepts.</li><li>• Theoretical justification of the practical results.</li></ul>	10 %
<ul style="list-style-type: none"><li>• Individual practical work.</li><li>• Group work</li></ul>	<ul style="list-style-type: none"><li>• Compression of concepts.</li><li>• Selection of manufacturing processes.</li><li>• Application of verification techniques.</li></ul>	15 %
<ul style="list-style-type: none"><li>• Laboratory reports.</li></ul>	<ul style="list-style-type: none"><li>• Understanding of concepts.</li><li>• Laboratory expertise.</li><li>• Justification of practical results.</li></ul>	25 %
<ul style="list-style-type: none"><li>• Final exam</li></ul>	<ul style="list-style-type: none"><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 (3ª edición). PRENTICE HALL HISPANOAMERICANA S.A. ISBN 9789688808467

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