

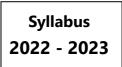
GENERAL INFORMATION

Data of the subject		
Subject name	Manufacturing Engineering	
Subject code	DIM-GITI-441	
Mainprogram	Bachelor's Degree in Engineering for Industrial Technologies	
Involved programs	Grado en Ingeniería en Tecnologías Industriales [Fourth year]	
Credits	6,0 ECTS	
Туре	Optional	
Department	Department of Mechanical Engineering	
Coordinator	Mariano Jiménez Calzado	
Teacher Information		
Teacher		
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Teacher		
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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.
- Casting processes. Classification. Manufacture of models, cores and molds. molding materials. Design and defectology. Finishing and control of cast parts.
- Sheet metal processes. Cold deformation: punching, bending, drawing. Hot deformation: forging, rolling, drawing and extrusion.
- Welding processes. Types of welding: soft, strong, oxyacetylene, arc with covered electrode, TIG, MIG, resistance, friction, laser. Welding process. Defectology.
- Machining processes. Variables and precision. Chip formation. Conventional machine tools. Holding tools. Cutting tools. Postmachining processes.
- Advanced transformation processes: additive manufacturing, technologies and application.

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

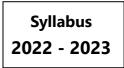
EVALUATION AND CRITERIA

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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