

SUBJECT TEACHING GUIDE

G743 - Industrial Production and Organisation

Degree in Mechanical Engineering

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Degree in Mechanical Engineering			Type and Year	Compulsory. Year 2
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Industrial Organisation and Production Module in Common with the Industrial Branch				
Course unit title and code	G743 - Industrial Production and Organisation				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS				
Name of lecturer	LAURA CASTAÑÓN JANO				
E-mail	laura.castanon@unican.es				
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 3. DESPACHO (S3044)				
Other lecturers	IGNACIO JOSE AMBROSIO DIAZ				

3.1 LEARNING OUTCOMES

- The purpose of the course is to teach the student the principal manufacturing technologies and methods applied in Industrial Organization.

4. OBJECTIVES

Generic knowledge of manufacturing engineering and systems and manufacturing processes and its location in the productive frame.

Capacity to characterize and understand the different elements involved in the manufacturing processes .

Knowledge about scientific and technical bases of manufacturing processes.

Knowledge about machine-tools, tools and tooling of the main manufacturing processes.

Regarding the content of the Subject under the profile of Administration of Companies , the students know the criteria and the tools in order to perform an economic and financial diagnosis of the company and develop actions that allow the improvement of the competitiveness. Regarding the content of the Subject under the profile of Production Management, the students must know the criteria and the tools of Lean Procurement in order to obtain the balance load-capacity.

6. COURSE ORGANIZATION

CONTENTS	
1	Forming and shaping Processes
2	Cutting technologies without chip removal.
3	Machining Processes (turning, milling, broaching...) - Cutting forces and power. Cutting fluids. Cutting regimes and fabrication.
4	Production Management. Quality.
5	Stocks Management.
6	Aggregated Planning.
7	Short and medium term operations planning. MRP, JIT.
8	Production Control.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Exam 1	Written exam	No	Yes	40,00
Work	Work	No	No	10,00
Exam 2	Written exam	Yes	Yes	50,00
TOTAL				100,00
Observations				
In order to pass the subject must be met each and every one of the following requirements:				
1) The mark of Exam 1 must be higher than or equal to 4.				
2) The mark of Exam 2 must be higher than or equal to 4.				
3)The mark calculated based on the following formula, $0.4 \cdot \text{Mark of Exam 1} + 0.1 \cdot \text{Mark of Project} + 0.45 \cdot \text{Mark of Exam 2} + 0.05 \cdot \text{Mark of Objective evidences}$, must be higher or equal to 5.				
Observations for part-time students				
The continuous evaluation is replaced by works and exams in the final evaluation.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Bloques 1, 2 y 3:

El mecanizado moderno-Sandvik Coromat

Tecnología de fabricación - Henar Miguelez y Cantero.

Metals Handbook - American Society for Metals.

Groover, M. P. (2007). FUNDAMENTOS DE MANUFACTURA MODERNA MATERIALES, PROCESOS Y SISTEMAS (3a. ed.).

GUADALAJARA: MCGRAW-HILL INTERAMERICANA.

KALPAKJIAN, S. (2008). MANUFACTURA, INGENIERIA Y TECNOLOGIA (5a. ed., 5a. reimp.). MEXICO: PEARSON EDUCACION.

Bloques del 4 al 8.

Análisis del Balance: Editorial Deusto.

Aspectos Tácticos de la Planificación de Operaciones (Tomo II): Autor: Machuca.

Heyzer, J. y Render, B. "DIRECCIÓN DE LA PRODUCCIÓN Y DE OPERACIONES. DECISIONES TÁCTICAS". Ediciones Pearson. Madrid. 8ª Edición. 2007. ISBN: 9788483223611

Heyzer, J. y Render, B. "DIRECCIÓN DE LA PRODUCCIÓN Y DE OPERACIONES. DECISIONES ESTRATÉGICAS". Ediciones Pearson. Madrid. 8ª Edición. 2007. ISBN: 9788483223604