

Escuela Politécnica

### Goi Eskola Politeknikoa | Mondragon Unibertsitatea

Course: 2025 / 2026 - Course planning

# [MLB102] Advanced Production Concepts

#### **GENERAL INFORMATION**

Studies UNIVERSITY MASTER'S DEGREE IN Subject ?

PRODUCTIVE LOGISTICS OPERATIONS

MANAGEMENT

Mention / Field of Semester 1 Course 1 specialisation

Character COMPULSORY

Plan 2025 Modality Face-to-face Language EUSKARA/CASTELLANO

Total hours 40 class hours + 72.5 non-class hours = 112.5 total Credits 4,5 Hours/week 0

4.5

Total:

#### 2030 AGENDA GOALS







### **PROFESSORS**

APAOLAZA PEREZ DE EULATE, UNAI

#### REQUIRED PREVIOUS KNOWLEDGE

**Subjects** Knowledge

(No previous knowledge required) (No specific previous subjects required)

LEARNING RESULTS				
LEARNING RESULTS	KC	SK	AB	ECTS
ML081 - Distinguishes the different contexts, types of plant, types of production and their characteristics and limitations in real contexts		х		3,9
<b>ML301</b> - Works in multidisciplinary teams, without distinction, with a cooperative and participative attitude and efficiently communicates the results obtained orally and in writing in different languages. Without any limitation of accessibility to achieve the established objectives.	x		x	0,3
ML302 - Understands the impact of their profession on the environment in order to practice with social responsibility	x			0,3

KC: Knowledge or Content / SK: Skills / AB: Abilities

### **SECONDARY LEARNING RESULTS**

RML113 [!] Distingue los diferentes contextos, tipos de planta, tipos de producción y sus características y limitaciones en contextos reales

LEARNING ACTIVITIES	СН	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.	10 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	10,5 h.	12,5 h.	23 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams		18 h.	18 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	25,5 h.	12 h.	37,5 h.
Practical work in workshops and/or laboratories, individually and/or in teams	4 h.	5 h.	9 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	24%	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, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	36%	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
Individual written and/or oral tests or individual coding/programming tests	40%	Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 40 h. NCH - Non-class hours: 57,5 h. TH - Total hours: 97,5 h.

#### Mondragon Unibertsitatea Goi Eskola Politeknikoa Escuela Politécnica Superior

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RML301 [!] Trabaja en equipos multidisciplinares, sin distinción ninguna, con actitud cooperativa, participativa y comunica eficiente los resultados obtenidos de forma oral y escrita en distintos idiomas. Sin ninguna limitación de accesibilidad para alcanzar lo

LEARNING ACTIVITIES			СН	NCH	TH
Development and writing of records, reports, presentation projects/work experience/challenges/case studies/experindividually and/or in teams				7,5 h.	7,5 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	6		
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	50%	(/\	No mecha	anisms)	
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	50%				

CH - Class hours: 0 h. NCH - Non-class hours: 7,5 h. TH - Total hours: 7,5 h.

LEARNING ACTIVITIES		СН	NCH	TH
Development and writing of records, reports, presentatio projects/work experience/challenges/case studies/experindividually and/or in teams			7,5 h.	7,5 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS		
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, aboratory practical work, term projects, end of degree	100%	(No r	nechanisms)	

### CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY				
Learning resources	Bibliography			
Technical articles Moodle Platform Class presentations Video projections Specific Master Software Slides of the subject	Goldratt, E. M., & Cox, J. F. (1984). The goal: Excellence in manufacturing. North River Press Umble, M., and Srikanth, M. L., (1995) Synchronous manufacturing: principles for world-class excellence. Spectrum Publishing Goldratt, E. M. (1997). Critical chain. Great Barrington, MA: North River Press Cox III, J. F., & Spencer, M. S. (1997). The constraints management handbook. CRC Press Goldratt, E. M., & Gibler, N. A. (1999). El síndrome del pajar: cómo extraer información del océano de datos Smith, D. (2000). The Measurement Nightmare, How the Theory of			

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Superior

Constraints can Resolve Conflicting Strategies. Policies and Measurements St Lucie Press/APICS Series on Constraints Management

Cox, J., III & Schleier, J. (2010). Theory of constraints handbook, New York, McGraw Hill Professional

Hopp, W. J., & Spearman, M. L. (2011). Factory physics. Waveland Press

Cox III, J.F., Boyd, L.H., Sullivan, T.T., Reid, R.A., and Cartier, B., (2012) The TOCICO Dictionary (Second Edition). McGraw-Hill Education

Heizer, J., Render, B., & Parra, J. L. M. (2015). Dirección de la producción y de operaciones: decisiones estratégicas

Ptak, C. & Smith, C. (2016). Demand Driven Material Requirements Planning (DDMRP), Industrial Press

Project Management Institute (2017). A guide to the project management body of knowledge (PMBOK guide) (6th Edition). Project Management Institute, Inc

Ptak, C. & Smith, C. (2017). Precisely wrong: Why conventional planning systems fail. South Norwalk, CT: Industrial press, Inc

Ptak, C. & Smith, C. (2018). The Demand Driven Adaptive Enterprise. South Norwalk, CT: Industrial press, Inc

Pittman, P.H., and Atwater, J.B. (2022) ASCM SUPPLY CHAIN DICTIONARY, 17th edition. American Production and Inventory Control Society