COURSE OF STUDY *Economics and Enterprise Management*
ACADEMIC YEAR *2024-2025*
ACADEMIC SUBJECT *– Project and Production Management*

General information	
Year of the course	I, II, III Year – Elective Course
Academic calendar (starting and ending date)	II Semester (17 February – 30 May 2025)
Credits (CFU/ETCS):	6
SSD	Industrial Mechanical Plants
Language	Italian
Mode of attendance	Strongly recommended (in presence)

Professor/ Lecturer	
Name and Surname	Giovanni Mummolo
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Telephone	
Department and address	*Via Lago Maggiore (angolo via Ancona)*
Virtual room	
Office Hours (and modalities: e.g., by appointment, on line, etc.)	Thursday 11:30 – 13.00 (at my office) or on-line (Teams) by appointment

Work schedule			
Hours			
Total	Lectures	Hands-on (exercises, seminars)	Out-of-class study hours/ Self-study hours
150 hours	48 hours		102 hours
CFU/ETCS			
6	6		

Learning Objectives	The course of Project and Industrial Production Management aims to provide concepts and methods of management for 'project type' and production by parts systems. In the first part of the course, fundamentals of project management and techniques for network planning of project activities under resource constraints. In the second part, fundamentals of strategic and aggregate planning for defining production and material requirement plans.
Course prerequisites	*Basics of Math*

Teaching strategies	Theoretical subjects and exercise and practical cases.
Expected learning outcomes in terms of	
Knowledge and understanding on:	At the end of the course students will have theoretical and practical knowledge for: ○ Planning and control of an engineering project; ○ Allocating resource under constrained and shared resources ○ Identifying strategic drivers for strategic and aggregate industrial production planning;

	○ Defining the Master Production Planning ○ Material Requirement Planning and Management
Applying knowledge and understanding on:	○ Recognize and face with a production planning problem of an engineering project ○ Know tools for project progress control ○ Identify, formulate, and solve basic problems of industrial production planning
Soft skills	• *Making informed judgments and choices* *The student will be able to:* ○ Improve her/his judgement capability; ○ Identify, case by case, best solutions; ○ Optimize project planning and control of 'projects' and industrial production systems; • *Communicating knowledge and understanding* *At the end of the course attendance, the student will be able to:* ○ Describe strategic factors of Project Management; ○ Express by adequate specialistic terms; ○ Develop communication abilities, both oral and written, also by classroom discussion, factories visits, and final examination. • *Capacities to continue learning* *At the end of the course, the student will be able to:* ○ Autonomously face with new engineering project planning problems; ○ Identify adequate models and methods to tackle new problems; ○ Improve the knowledge of project planning and control models and of industrial production models.
Syllabus	
Content knowledge	**Engineering Project Planning and Control (3 ECTS)** Planning and Control of Engineering Projects. Organizational structure of an Engineering-Procurement-Construction (EPC) company. Basics of engineering contracts. Planning project's activities. Network Techniques (Critical Path Method - CPM, Program Evaluation and Review Technique - PERT). Resource allocation. Project control. **Planning and Control of Industrial Production (2 ECTS)** Levels and steps of industrial production management. Performance measures of production systems. Aggregate planning (single product; multi-product). Planning bills. Master Production Schedule. **Materials Requirement Planning (1 ECTS)** Inventory Management. Economic Order Quantity. Periodic Order Quantity. Safety stocks. Material Requirement Planning (MRP). Inventory Performance Indexes. Kanban system and JIT.
Texts and readings	1. PMBok Guide, Project Management Institute, 2017 2. De Toni A.F., Panizzolo R., Villa A., Sistemi di Gestione della Produzione, 2018 Isedi; 3. Production/Operations Management: Concepts, structure & Analysis, R. Tersine, North-Holland; *Lectures' Notes and Power Point slides*
Notes, additional materials	Course Slides - Video
Repository	Educational materials are available on TEAMS platform

Assessment	
Assessment methods	Oral examination of 30 minutes duration. The focus of the test consists to

	evaluate the capability of students adopting tools and solution approaches learned in the course to full real case study. Evaluate the knowledge of students on topics expressed in the full course,in terms of expressive abilities and proper terminology.

Assessment criteria	• *Knowledge and understanding*
	  ○ Level of details of topics developed
	• *Applying knowledge and understanding*
	  ○ Level of application of knowledge to practical cases.
	• *Autonomy of judgment*
	  ○ Critical reasoning capability
	• *Communicating knowledge and understanding*
	  ○ Clarity of exposition
	  ○ Appropriateness of language and technical terms
	• *Capacities to continue learning*
	  ○ Reasoning capability development

Final exam and grading criteria	*Final vote is assigned in 30 units. The exam will be intend as passed in case of a vote greater than or equal to 18/30.*
Further information	