

IDENTIFICATION

Course code : ESI-SPI-CI-AG4-S7-UE1-EC2
ECTS : 2

DURATION

Lectures : 10
Tutorial classes : 14
Labs : 0
Total : 24

Project :
Personnal work :

ASSESSMENT

TEACHING MATERIALS

LANGUAGE

English

CONTACT

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UE : UE7-PROD

COURSE : Logistics Systems

SCOPE OF THE COURSE

OBJECTIVES

The Logistics Systems course aims to provide engineering students with the knowledge and tools necessary to analyze, design, and optimize physical and information flows within an agri-food production system. It enables understanding the interactions between production, procurement, storage, and distribution, in a logic of industrial performance and adaptation to the specific constraints of insular systems.

COMPETENCE AND SKILLS

Upon completion of the module, the student will be able to : • Analyze and model the physical and information flows of a production system • Identify and optimize logistics flows (procurement, production, distribution) • Manage inventory and size procurement policies • Use planning tools (MPS, MRP, ERP integration) • Understand the integration of logistics systems within an ERP • Consider specific constraints of the agri-food sector (perishable products, traceability, regulations) • Integrate industrial performance and supply chain challenges

PROGRAM

1. Introduction to logistics systems (supply chain, physical and information flows, challenges in agri-food, insular constraints and perishable products)
2. Production planning (MPS, MRP, forecast-production alignment, ERP introduction)
3. Organization of production systems (types of production, manufacturing routings, capacity-load, production/logistics link)
4. Inventory management (role and types, safety stock, reorder point, cost/service trade-off)
5. Procurement and distribution (procurement strategies, supplier management, inbound/outbound flows, downstream logistics)

BIBLIOGRAPHY

• Christopher M., *Logistics and Supply Chain Management*, Pearson • Courtois A., Pillet M., *Gestion de production*, Éditions d'Organisation • Baglin G. et al., *Management industriel et logistique*, Economica • Fender M., Pimor Y., *Logistique & Supply Chain*, 7th edition, Dunod, 2016 • Le Moigne R., *Supply Chain Management*, Dunod, 2017

REQUIREMENTS

Basics in production management Notions of industrial systems Basics in applied mathematics Project management