2EL2210 – Operations and supply chain management

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Department: DÉPARTEMENT GÉNIE INDUSTRIEL ET OPÉRATIONS
Language of instruction: ANGLAIS
Campus: CAMPUS DE PARIS - SACLAY
Workload (HEE): 60
On-site hours (HPE): 35,00
Elective Category : Business Sciences
Advanced level : No

Description
This module provides an introduction to challenges in the management of operations and supply chains. It explores decisions involved in designing, planning and piloting production and distribution systems, both for goods and services. The main challenge in these systems is to ensure that the right product or service is delivered at the right place and the right time, in the quantity and at the quality required by the customer, while making efficient use of resources.
In this context, it is crucial to understand industrial systems at different levels (supply chain, factory, warehouse, workshops, machine), to identify processes, to assess economic and environmental challenges and to develop quantitative and qualitative methods and tools to improve the performance of these systems.

Examples will be drawn from various industrial sectors.

Quarter number
SG8

Prerequisites (in terms of CS courses)
None

Syllabus
This module will explore:

• The organisational dimension of production and distribution systems
• The performance of production systems through different perpectives
• Qualitative and quantitative methods aimed at improving the performance of production and distribution systems
• The implementation of these approaches, including feasibility, adaptability, limitations and change management

Class components (lecture, labs, etc.)
Lectures and applications on exercises and study cases. Part of the content will be as reading assignments and videos to study individually before classes.

Grading
A project and a final written exam of 2 hours

Course support, bibliography
Lecture slides and notes, videos, study cases and exercises.

Textbooks:
Slack N, Chambers S, Johnston R. Operations management. 5. ed. Harlow: Prentice Hall/Financial Times 2009.
Holweg M, Davies J, Meyer Ad, et al. Process theory : the principles of operations management. First ed. Oxford: Oxford University Press 2018.
Chopra S, Meindl P. Supply Chain Management. Strategy, planning and operation. 5th. ed. New York, NY: Pearson Education 2012.

Resources

Lectures, case studies, testimonies from professionals

Learning outcomes covered on the course

Diagnose issues and to assess performance in industrial operations systems.
Select the relevant fundamental tools and concepts to improve the performance of operations and supply chains.

Description of the skills acquired at the end of the course
This course will address the following competencies:

- C1 Analysing, designing and realising complex systems with scientific, technological, human and economic components
    - C1.2 Using and developping relevant models, choosing the righjt modelling scale and simplifying hypotheses to address the problem
    - C1.3 Resolving the problem through approximating, simulating and experimenting

    - C1.5 Leveraging a broad scientific and technical knowledge base in a transdisciplinary effort
- C2 Developing specific knowledge of a scientific or industrial domain et a professional domain
    - C2.1 Exploring a scientific or engineering domain or discipline
- C4 Understanding value creation for organisations and their clients
    - C4.1 Being customer-oriented. Identifying/analysing needs, stakes and constraints for other stakeholders, including on a social and economic level.
    - C4.2 Identifying the value created by a solution for a client and the market. Being able to identify opportunities and seize them.