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## Logistics and operation management

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### Course aims and intended learning outcomes

The course aims at outlining the contribution of logistics and operations management to corporate competitiveness. Students will learn how and why the design of the product itself and of its production and distribution process can drive such performances as quality, speed, flexibility and cost-effectiveness. They will be instructed on how to carry out an assessment of processes' current performance and to identify improvement priorities. Lastly, the course will address the most relevant best practices suitable for achieving improvement targets.

At the end of the course students will be:

- familiar with the main concepts and theories concerning logistics and operations management;
- able to analyze logistics and manufacturing processes through the frameworks and concepts learnt during the course;
- able to solve managerial problems in the context of logistics and operations management, collecting relevant data, analyzing it through the concepts and theories addressed during this course and providing insights on the ethical aspects of the problem under analysis;
- able to communicate in a clear and effective way their knowledge, ideas and improvement suggestions to both managers and novices of this field;
- able to keep on learning the topics of logistics and operations management, widening their knowledge and understanding of this subject through the reading of further materials and the real-life experience in challenging contexts.

### Course content

- The strategic role of Innovation and Operations in manufacturing and service companies.
- Overview of the New Product Development Process: main stages and managerial approaches.
- “Design for” techniques.
- Production processes' typologies.
- Overview of the design decisions of an operating system.
- Process analysis.
- Technology as a lever for process innovation.
- Process improvement. Overview of the most relevant approaches:
- Lean Management.
- Six Sigma.
- Theory of Constraints.
- Supply Chain Management.
- Sustainable Operations Management.



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## Reading list

### *Attending students*

A list of mandatory and optional readings will be available after each class on the Blackboard.

### *Non attending students*

J.R. MEREDITH-S.M. SHAFER, Operations Management, John Wiley & Sons, 2013, fifth edition.

## Teaching method

The teaching method will be interactive. For each core topic of the course a case-study or a simulation will be used, according to a “learning by doing” approach. Furthermore, the presence of guest speakers will let the students directly experience the implementation of up-to-date practices and to discuss them with executives from both operations departments and innovation/design ones.

## Assessment method and criteria

Attending students will be assessed through a weighted average, as follows:

- 30% group assignments and presentations; during the course two group assignments will be carried out. They will consist of case-studies or companies’ supply chains assessments and will require the preparation of a report in the form of a .ppt presentation, in which students will provide a detailed description of the way they addressed and solved the problem. Also an oral presentation will be requested. These assignments will aim at developing and assessing students’ ability to: 1) communicate their knowledge and ideas in an effective way; 2) solve managerial problems collecting relevant data, analyzing it through the concepts and theories addressed during this course; 3) keep on learning the topics of logistics and operations management, widening their knowledge in contexts of the two assignments.
- 70% final written exam, consisting of both multiple-choice and open questions. Multiple choice questions will be exclusively on theoretical topics. Open questions will be on mini-cases and on theoretical topics. Multiple choice questions will aim at assessing students’ familiarity with main concepts and theories concerning logistics and operations management. Open questions will require the writing up of short essays (some of them also with calculations) in order to assess students’ ability to analyze logistics and manufacturing processes through the frameworks and concepts learnt during the course.

Non attending students will be assessed through a written exam consisting of multiple choice and open questions, referred to the entire textbook. All questions will be theoretical. No exercise or mini-case will be present in the exam.

At the end of the course, a mock-exam will be uploaded on Blackboard.