# Logistics and operations management

## Prof. Viviana D’Angelo; Prof. Michele Palumbo

***COURSE AIMS AND EXPECTED 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 productivity, 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 CONTENTS***

* The strategic role of Innovation and Operations in manufacturing and service companies;
* Production processes’ typologies.
* Overview of the design decisions of an operating system;
* Process analysis in manufacturing processes;
* Performance measurement in manufacturing companies;
* Lean Manufacturing approach;
* Supply Chain Management evolution;
* Effective and efficient distribution assets: Service Level and Total Logistics Cost;
* Stock management in concrete warehousing and handling solutions;
* Make or buy choices referred to logistics: tertiarization, outsourcing and strategic partnership;
* Transportation: pricing, contract management, pre-invoicing and supplier choice;
* Strategic approach to Procurement Sourcing and Supplier Management.

***READING LIST***

***Attending students***

Materials uploaded on Blackboard (slides, cases, additional readings) will be considered mandatory

***Non attending students***

Slack and Brandon-Jones, *Operations Management*, Pearson, 9th edition (selected chapters):

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| **Slack and Brandon-Jones, Operations Management 9th edition** | **Slack and Brandon-Jones, Operations Management 7th edition** |
| 1 – Operations management  2 – Operations performance  3 – Operations strategy  4 – Managing product and service innovation  6 – Process design  7 – The layout and look of facilities  10 – Planning and control  12 – Supply chain management  13 – Inventory management  16 – Operations improvement  17 – Quality management  17 (supplement) – Statistical process control | 1 – Operations management  2 – Operations performance  3 – Operations strategy  4 – Process design  5 – Innovation and design in services and products  7 – Layout and flow  10 – The nature of planning and control  12 – Inventory management  13 – Supply chain management  17 – Quality management  17 (supplement) – Statistical process control  18 – Operations improvement |

***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.

***ASSESSMENT METHOD AND CRITERIA***

**Attending students** will be assessed though:

* 50% of the grades based on the final written exam which will consist of 14 multiple choice questions (1,5 point each) and 1 numerical exercise or case study (11 points).
* 50% of the grade based on in class group work

The exam as an attending student can be taken in the first two dates after the end of the course.

**Non attending students** will be assessed through a written exam consisting of 14 multiple choice questions (1,5 point each) and 1 open question (11 points), referred to the entire textbook.

***NOTES AND PREREQUISITES***

The course will be taught in English.

***Detailed Schedule***

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| ***Lesson*** | ***Topic*** | ***Professor*** | ***Materials*** |
| Lesson 1  19/4/2023  14:30-18:30 | Course Introduction  Strategic Operations Management: overview of the design choices and the strategic alignment approach | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 2  20/4/2023  10:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 3  26/4/2023  14:30-18:30 | Measuring and improving productivity in manufacturing companies | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 4  27/4/2023  10:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 5  3/5/2023  14:30-18:30 | Measuring and improving time in manufacturing companies | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 6  4/5/2023  10:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 7  10/5/2023  11:30-14:30 | Measuring and improving quality in manufacturing companies | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 8  11/5/2023  10:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 9  24/5/2023  14:30-18:30 | Lean Manufacturing | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 10  25/5/2023  10:30-14:30 | Guest speaker  Final recap | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 11  31/05/2023  14:30-18:30 | The evolution of Logistics  An effective and efficient Supply Chain  The distribution network setup | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 12  01/06/2023  10:30-14:30 | Exercises: best location analysis | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 13  07/06/2023  14:30-18:30 | Stock Management introduction  Practical applications of cross matrices | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 14  08/06/2023  10:30-14:30 | Exercises: Cross Analysis | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 15  14/06/2023  14:30-18:30 | Strategic Sourcing & Supplier Management | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 16  15/06/2023  10:30-14:30 | Business Case: the Supply Chain of the Future | M. Palumbo | Hands-out uploaded on Blackboard |