# 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 management2 – Operations performance3 – Operations strategy4 – Managing product and service innovation6 – Process design7 – The layout and look of facilities10 – Planning and control12 – Supply chain management13 – Inventory management16 – Operations improvement17 – Quality management17 (supplement) – Statistical process control | 1 – Operations management2 – Operations performance3 – Operations strategy4 – Process design 5 – Innovation and design in services and products7 – Layout and flow10 – The nature of planning and control12 – Inventory management13 – Supply chain management17 – Quality management17 (supplement) – Statistical process control18 – 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 119/4/202314:30-18:30  | Course IntroductionStrategic Operations Management: overview of the design choices and the strategic alignment approach  | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 220/4/202310:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 326/4/202314:30-18:30 | Measuring and improving productivity in manufacturing companies | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 427/4/202310:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 53/5/202314:30-18:30 | Measuring and improving time in manufacturing companies | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 64/5/202310:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 710/5/202311:30-14:30 | Measuring and improving quality in manufacturing companies | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 811/5/202310:30-14:30 | Case study | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 924/5/202314:30-18:30 | Lean Manufacturing | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 1025/5/202310:30-14:30 | Guest speakerFinal recap | V. D’Angelo | Hands-out uploaded on Blackboard |
| Lesson 1131/05/202314:30-18:30 | The evolution of LogisticsAn effective and efficient Supply ChainThe distribution network setup | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 1201/06/202310:30-14:30 | Exercises: best location analysis | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 1307/06/202314:30-18:30 | Stock Management introductionPractical applications of cross matrices | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 1408/06/202310:30-14:30 | Exercises: Cross Analysis | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 1514/06/202314:30-18:30 | Strategic Sourcing & Supplier Management | M. Palumbo | Hands-out uploaded on Blackboard |
| Lesson 1615/06/202310:30-14:30 | Business Case: the Supply Chain of the Future | M. Palumbo | Hands-out uploaded on Blackboard |