# uc3m Universidad Carlos III de Madrid

## Operations and Supply Chain

Academic Year: (2023 / 2024) Review date: 01-06-2023

Department assigned to the subject: Business Administration Department

Coordinating teacher: BERENGUER FALGUERA, GEMMA

Type: Compulsory ECTS Credits: 6.0

Year: 2 Semester: 1

#### **OBJECTIVES**

The student will be able to:

- Understand the basic operational and supply chain decisions of the firm.
- Understand the importance of planning and use basic planning and control tools.
- Understand the differences among the main production systems.
- Understand the importance of coordinating all actors in a supply chain

#### **DESCRIPTION OF CONTENTS: PROGRAMME**

- 1. Introduction to Operations Management.
- 2. Strategic Operations Decisions
- 3. Project Management
- 4. Estimation of demand (Forecast)
- 5. Process Analysis
- 6. Strategic decisions on quality management
- 7. Lean Operations
- 8. Supply Chain Management
- 9. Supply chain design
- 10. Green Supply Chains and the Circular Economy
- 11. Humanitarian Logistics

## LEARNING ACTIVITIES AND METHODOLOGY

Class Activities: The approach in this course includes lectures, cases, and several active learning sessions. The cases are intended to illustrate the basic concepts of operations management as they apply to a variety of organizations and industries. Because of the use of cases, the discussion between you, your classmates, and the instructor will be an important vehicle for learning these concepts. We will also have in-class guizzes and practice exercises.

Team Deliverables: There are 3 case submissions and 1 project deliverable. The dates and topics of all submissions are shown in the submissions schedule table of the Syllabus that will be distributed in class. All 4 deliverables are to be done in study teams. Students are responsible to form study teams on own. The team size should be 4 to 5 students. Details of each submission will be provided in Aula Global. Peer evaluations will be conducted at the end of the course.

Quizzes: A total of 3 Quizzes will be taken individually during some of the "grupos reducidos" sessions. Each quiz will be done closed book and closed notes, but a formula sheet will be allowed.

There will be two types of Office Hours, one type will be offered in-person at the instructor's office and the second type virtually (on Google Meet) by appointment. The specific times of the in-person office hours will be described in the syllabus of the course.

### **ASSESSMENT SYSTEM**

The grade for the course will be based on several components:

Continuous Evaluation (70%)

- Class attendance and participation (15%)
- Quizzes during practical sessions (grupos reducidos) (20%, 3 in-class quizzes but only the highest 2

scores will count, 10% each)

- Case study submission reports during theoretical sessions (magistrales) (20%, 3 Case deliverables in teams but only the highest 2 scores count)
- Final project (15%)

## Final Examination (30%)

The students who do not pass the course in the regular term have the option to participate in the extraordinary term (in June) to pass the course.

- 1. If the student has followed the continuous evaluation: the final course grade will be the maximum between the grade obtained in the extraordinary exam and the grade obtained as a composite of the grade from the continuous evaluation (70%) with the grade of the extraordinary exam (30%) instead of the grade of the final exam in the ordinary term.
- 2. If the student has not followed the continuous evaluation: the final course grade will be the grade obtained in the final extraordinary exam.

% end-of-term-examination: 30 % of continuous assessment (assignments, laboratory, practicals...): 70

#### **BASIC BIBLIOGRAPHY**

- Cachon and Terwiesch Matching Supply with Demand: An introduction to Operations Management, McGraw-Hill, 2018
- Chopra and Meindl Supply Chain Management: strategy, planning, and operation, Pearson, 5th Edition
- Heizer, J., Render, and Munro Operations Management: Sustainability and Supply Chain Management, Pearson, 12th Edition