

Academic Year: (2019 / 2020)

Review date: 05-05-2020

Department assigned to the subject:

Coordinating teacher: ORTEGA DIEGO, JAIME

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Statistical Methods

OBJECTIVES

1. Gain a basic understanding of the concepts related to operations management
 2. Diagnose real-world problems in the field of operations management
- Ability of oral and written communication of the diagnoses and solutions that they propose
 - Capacity for teamwork
 - Develop learning ability and autonomous study
 - Know how to manage decision-making processes

DESCRIPTION OF CONTENTS: PROGRAMME

Class 1: Introduction to Operations Research. The Simplex Method

Readings:

001 Introduction to O.R.pdf

005 Modeling in O.R.pdf

015 Introduction to Linear Programming.pdf

015E Introduction to Linear Programming.xlsx

020 The Simplex Method.pdf

Hillier and Lieberman (2007) Introduction to Operations Research, McGraw Hill.

Cases/Exercises:

015 Introduction to Linear Programming.pdf

Class 2: The Transportation Problem / The Assignment Problem

Readings:

025 The Transportation Problem.pdf

030 The Assignment Problem.pdf

025E The Transportation Problem.xlsx

030E The Assignment Problem.xlsx

Hillier and Lieberman (2007) Introduction to Operations Research, McGraw Hill.

Cases/Exercises:

025 The Transportation Problem.pdf

030 The Assignment Problem.pdf

Class 3: Queueing Theory /Inventory Models

Readings:

035 Queueing Theory.pdf

055 Inventory Models.pdf

055E Inventory Theory.xlsx

Hillier and Lieberman (2007) Introduction to Operations Research, McGraw Hill.

Cases/Exercises:

035 Queueing Theory.pdf

Class 4: Decision Analysis

Readings:

050 Decision Analysis.pdf

050E Decision Analysis.xlsx

Hillier and Lieberman (2007) Introduction to Operations Research, McGraw Hill.

Cases/Exercises:

050 Decision Analysis.pdf

Class 5: Simulation

Readings:

040 Simulation.pdf

041E Learmouth-Lewis.xlsx

042E Pi Simulation.xlsx

Hillier and Lieberman (2007) Introduction to Operations Research, McGraw Hill.

Cases/Exercises:

040 Simulation.pdf

043E Investment Portfolio.xlsx

Class 6: Project Management

Readings:

060 Project Management CPM/PERT.pdf

065 Project Management Agile.pdf

Hillier and Lieberman (2007) Introduction to Operations Research, McGraw Hill.

Cases/Exercises:

060E Project Management.xls

Class 7: Quality Management

Readings:

070 Quality Management.pdf

Galgano A. (1993). Companywide Quality Management. Prentice Hall.

Ishikawa, K. (1991) What is Total Quality Control. The Japanese Way, Prentice Hall.

Cases/Exercises:

072 Helicopter CASE.pdf

071 Diagnosis CASE.pdf

Class 8: Lean

Readings:

075 Lean THEORY.pdf

Cases/Exercises:

072 Helicopter CASE.pdf

076 Lean CASE.pdf

Class 9: Six Sigma Part I

Readings:

080 SixSigma THEORY.pdf

Eckes, G. (2001) Making Six Sigma Last, Wiley.

Cases/Exercises:

072 Helicopter CASE.pdf

081 SixSigma CASE.pdf

Class 10: Six Sigma Part II

Readings:

080 SixSigma THEORY.pdf

Eckes, G. (2001) Making Six Sigma Last, Wiley.

Cases/Exercises:
072 Helicopter CASE.pdf
081 SixSigma CASE.pdf
080E DoE English.xlsx

LEARNING ACTIVITIES AND METHODOLOGY

Theoretical clases
Practical Clases
Group work
presentations
Individual tasks

Group Work

Discussing cases and preparing analyses outside of class helps to deepen your knowledge about Operations Management. Group work will be essential for the major group project.

Exam

There will be an in-class (closed-book) final exam. This exam will test both your mastery of the concepts and your ability to apply them.

Individual Participation

Active participation in the class is an essential part of the learning experience. You are expected to contribute both to the case discussion and to discussion during the lecture sessions.

ASSESSMENT SYSTEM

30 % Final Exam
70 % Group Cases (group reports and participation to the class)

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

BASIC BIBLIOGRAPHY

- Meredith, Jack R. Operations Management for MBA, John Wiley and Sons, 2012