Operations Management

Academic Year: (2019 / 2020)   **Review date: 24-04-2019**

Department assigned to the subject: Department of Business Administration

Coordinating teacher: ORTEGA DIEGO, JAIME

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 2

STUDENTS ARE EXPECTED TO HAVE COMPLETED

Statistical Methods

COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.

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