uc3m Universidad Carlos III de Madrid

Digital Supply Chain

Academic Year: (2019 / 2020) Review date: 03-05-2019

Department assigned to the subject: Business Administration Department

Coordinating teacher: ALVAREZ GIL, MARIA JOSEFA

Type: Electives ECTS Credits: 6.0

Year: Semester:

OBJECTIVES

Students are asked to:

CB1. have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge from the vanguard of his field of study

CB2. know how to apply their knowledge to their work or vocation in a professional manner and have the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

CB3. have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues

CG1. know in depth the foundations of the scientific discipline of business administration (concept of company, institutional and legal framework, organization and management techniques).

CT2. Be able to correctly expose and write a topic or compose a speech following a logical order, providing accurate information and in accordance with established grammatical and lexical norms.

CT3. Be able to evaluate the reliability and quality of the information and its sources using such information in an ethical manner, avoiding plagiarism, and in accordance with the academic and professional conventions of the study area.

CT5. Know and be able to handle interpersonal skills on initiative and responsibility, negotiation, emotional intelligence, etc. as well as calculation tools that allow to consolidate the basic technical skills that are required in every professional field.

CE3. Know the operation of the different functional departments of a company (production, marketing, human resources, finances, etc.), and perform any management work in them with ease.

CE11 Know and know how to apply the existing planning tools in the company that competes in the digital age.

RA1. They have acquired advanced knowledge and demonstrated an understanding of the theoretical and practical aspects and the methodology of work in the field of business administration and digital technology with a depth that reaches the forefront of knowledge

RA3. Have the ability to collect and interpret data and information on which to base their conclusions including, when necessary and pertinent, reflection on issues of a social, scientific or ethical nature in the field of business of the digital era.

DESCRIPTION OF CONTENTS: PROGRAMME

- 1. Digital tools aiding Location and Transport decisions
- · Conditioning factors
- · Geographic Information systems
- · Software packages
- · Autonomous vehicles and connected cars
- 2.- Automated inventory and warehouse management; digital layout systems Inventories and their functions
- Digital inventory management
- · Digital tools for warehouse management
- · Software apps for layout decisions.
- 3.Industrial Internet of the Things (IIOT) and Industry 4.0 : short term programming, scheduling and preventive maintenance
- · What is IIOT?
- Types of short term programming and scheduling
- · Software tolos
- · Preventive maintenance and reliability: software apps.

- 4.-Internet of Things and Supply Chain Pros and cons of IOTs
- · Real time information and cloud sharing
- · Negotiation power with suppliers and customers Costs and profits

LEARNING ACTIVITIES AND METHODOLOGY

AF1. THEORETICAL-PRACTICAL CLASSES. They will present the knowledge that students should acquire. They will receive the class notes and will have basic texts of reference to facilitate the follow-up of the classes and the development of the subsequent work. Exercises, practical problems on the part of the student will be solved and workshops and evaluation tests will be carried out to acquire the necessary skills.

AF2. TUTORIES. Individualized assistance (individual tutorials) or group (collective tutorials) to students by the teacher.

AF3. INDIVIDUAL OR GROUP STUDENT WORK.

MD1 THEORY CLASS. Exhibitions in the teacher's class with support of computer and audiovisual media, in which the main concepts of the subject are developed and the materials and bibliography are provided to complement the students' learning.

MD2. PRACTICES. Resolution of practical cases, problems, etc. raised by the teacher individually or in groups. MD3. TUTORIES. Individualized assistance (individual tutorials) or group (collective tutorials) to students by the teacher. For subjects of 6 credits, 4 hours will be dedicated with 100% of attendance.

ASSESSMENT SYSTEM

SE1. FINAL EXAM. In which the knowledge, skills and abilities acquired throughout the course will be assessed globally.

SE2. CONTINUOUS ASSESSMENT. It will assess the work, presentations, performance in debates, classroom presentations, exercises, practices and work in the workshops throughout the course.

% end-of-term-examination: 60 % of continuous assessment (assignments, laboratory, practicals...): 40

BASIC BIBLIOGRAPHY

- Heizer, J., Render, B. and Munro, C. Operations Management: Sustainability and Supply Chain Management, Pearson, 2019