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Advanced management frameworks and tools in CI 4.0

Academic Year: (2019 / 2020)   **Review date: 30-05-2019**

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: DURAN HERAS, ALFONSO

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)
No prerequisites

OBJECTIVES
BASIC COMPETENCES
CB7   That students know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study
CB8   That students are able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments
CB9   That students know how to communicate their conclusions and the knowledge and ultimate reasons that sustain them to specialized and non-specialized audiences in a clear and unambiguous way

GENERAL COMPETENCES
CG4   Knowledge and understanding of the management principles applicable to productive and service environments.
CG6   Capacity to adapt to changes in requirements associated with new products, new specifications and environments.

SPECIFIC COMPETENCES
CE10   Programmatic data processing capabilities in solving particular problems of the connected industry

LEARNING RESULT
After completing this subject matter, the student will be able to:
- Design new flexible production systems of low and medium complexity that are capable of producing on demand
- Manage the production of a medium-sized system and manage the supply

DESCRIPTION OF CONTENTS: PROGRAMME
- Production and logistics planning and control.
*** Operations strategy, design, R+D+I, service processes, distribution and warehousing
- Management frameworks and information systems in CI 4.0
*** SCM IS, ERP, implementation and tailoring. Decisions and DSSs
- Lean management and lean production
*** Lean operations, Lean Management, Lean Construction
- Project management tools
*** PMBOK
- Supply chain management and international SCM

FORMATIVE ACTIVITIES

AF1 Lectures
AF2 Practical sessions
AF4 Laboratory sessions
AF5 Tutorials
AF6 Group work
AF7 Individual work of the student
AF8 Midterm and final exams

Activity Code	Total Hours	Presential Hours	Student's presentiality (%)
AF1	12	12	100
AF2	6	6	100
AF4	3	3	100
AF5	2	2	100
AF6	25	0	0
AF7	25	0	0
AF8	2	2	100
TOTAL SUBJECT	75	25	33%

TEACHING METHODOLOGY

MD1   Teacher lectures with support of computer and audiovisual media, in which the main concepts of the subject are developed and the bibliography is provided to complement the students' learning.
MD2   Critical reading of texts recommended by the teacher of the subject: articles, reports, manuals and / or academic articles, either for further discussion in class, or to expand and consolidate the knowledge of the subject.
MD3   Resolution of practical cases, problems, etc. raised by the teacher individually or in groups.
MD4   Exhibition and discussion in class of topics related to the content of the subject, as well as case studies.
MD5   Writing reports and memorandum individually or within a workgroup.

ASSESSMENT SYSTEM

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SE1   Class participation
SE2   Continuous evaluation: Individual or group projects and assignments, midterms
SE3   Final exam

ASSESSMENT SYSTEM
SE2   40%
SE3   60%

% end-of-term-examination: 60

% of continuous assessment (assigments, laboratory, practicals…):   40

BASIC BIBLIOGRAPHY
 - Laudon, K.C.; Laudon, J.P. Management Information Systems: Managing the Digital Firm, Prentice Hall, 2017

 - PMI PMBOK guide, PMI, 2017

ADDITIONAL BIBLIOGRAPHY
 - Chase, R.B. Aquilano, N.J.; Jacobs, F.R. Operations Management, McGraw-Hill.

 - Henry C. Lucas Jr Information Technology: Strategic Decision Making for Managers, John Wiley & Sons.