Management and information systems

Academic Year: (2022 / 2023)   **Review date: 30/05/2022 22:37:14**

Department assigned to the subject: Mechanical Engineering Department

Coordinating teacher: DURAN HERAS, ALFONSO

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Basic computer science background, including a programming language. General Business Management and Administration background.

OBJECTIVES

Skills and knowledge to organize and manage companies
Skills and knowledge on strategy and planning, applied to different organizational structures
Knowledge of Management Information Systems, industrial organization, production and logistic systems and quality management systems.
Skills and knowledge in integrated project management

DESCRIPTION OF CONTENTS: PROGRAMME

* Foundations of Information Systems (IS)
  ** General concepts: Data, Information, Information Systems
* IS Procurement / Development
  ** Custom develoment vs. package acquisition
  ** Development methodologies. Technological foundations
  ** Open Software. Open Source.
*Telecommunications
  ** Distributed IS. Networks: LAN, WAN
  ** Cloud computing. Technological foundations
* Information Management
  **Database Management Systems
* Integrated IS.
  ** Interfunctional business processes.
* Implementation and adaptation of IS / Integrated IS
  ** Who adapts to whom? BPR vs. customization
* IS for Management (Executive Information Systems)
  ** Decision Support Systems
  ** Data warehouses. Big Data
* Current IS trends
  ** IT evolution. Hw, Sw, Security.
  ** Inter-company IS. Electronic Commerce
  ** IS and strategic management
  ** Other trends

LEARNING ACTIVITIES AND METHODOLOGY

Learning activities :
* Lectures. (0,4 ECTS)
* Exercise resolution sessions. Exercises solved in the classroom to ensure assimilation of the contents. (0,4 ECTS)
* Computer lab or case discussion sessions (0,2 ECTS)

* Personal student work, including study and tests. Might include completion of a MOOC (2 ECTS)

Learning methodologies:
* Lectures by the instructor, supported by computer and audiovisual tools. Bibliography to complement the learning process will be provided.
* Resolution of practical cases, exercises, etc. ... proposed by the instructor, either individually or as a group
* Class presentation / discussion, moderated by the instructor, of practical cases and contents related with the subject
* Individual or group preparation of reports or analysis (mainly during the computer lab sessions and through the assigned MOOC)

ASSESSMENT SYSTEM

% end-of-term-examination/test: 60

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

The assessment system will encompass the continuous evaluation of the student activity (encompassing, if applicable, the completion of a MOOC), as well as an assessment through a final written exam, that will globally evaluate the knowledge, skills and capabilities acquired throughout the course. Percentages: 40% (Continuous evaluation) and 60% (final written exam).
Minimum grade at final exam to pass the course: 4

In the extraordinary (make-up) evaluation, continuous evaluation grade will only be taken into account if this leads to a higher grade.

BASIC BIBLIOGRAPHY

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

ADDITIONAL BIBLIOGRAPHY

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