

Academic Year: ( 2019 / 2020 )

Review date: 26-04-2019

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: LOPEZ CUADRADO, JOSE LUIS

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

**REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)**

The following subjects will be interesting to follow up the material:

- Writing and Communication Skills
- Principles of Informatics Engineering
- Software Verification Techniques

**OBJECTIVES**

General competences

Capacity to analyze and abstract. (PO b)

Capacity to organize and plan. (PO c)

Motivation for quality and continuous improvement. (PO h)

Problem solving. (PO b)

Team work. (PO d g h)

Capacity to apply theoretical concepts to the practice. (PO b c d e k)

Oral and written communication. (PO g)

Critical reasoning. (PO h)

Specific competences:

- Cognitive (To know) (PO b c d e f)

1. Knowledge of the importance of information systems in the corporative domain.
2. Knowledge of methodologies for the implementation and set up of the packetd information systems.
3. Knowledge of business management applications and its implementation in corporative domains.
4. Knowledge of the existing business models.

- Procedimental/Instrumental (to know how to do) (PO d e f g)

1. Design solutions of information systems based on the existing technologies.
2. Plan and manage the development of one of those solutions.
3. Distinguish and assess the solutions found in the market.

- Attitudinal (To be) (PO d e f g k)

1. Capacity to generate new ideas (creativity).
2. Concern for quality.
3. Success motivation.
4. Interest for researching and seeking solutions to new problems.

General Competences

CG2. To be able to generate new ideas (creativity), anticipate new situations and adapt to team working, being also able to work in an autonomous way.

Specific competences of Information Systems area.

CESI1. Ability to integrate CIT solutions and business processes in order to satisfy the information requirements of the organizations, allowing them to achieve their objectives in an effective and efficient way, giving them competitive advantages.

CESI2. Ability to determinet the requirements of an CIT system of an organization, considering security aspects and fulfilling the rules and laws in force.

CESI4. Ability to understand and to apply the principles and practices of the organizations, acting as link between technical and management communities and taking active part in the users training.

Soft Skills

- \* Communication
- \* Teamwork

## DESCRIPTION OF CONTENTS: PROGRAMME

1 Introduction to Corporate Information Systems: definition, types and applications. Knowledge management. Business models.

- 1.1 Previous Concepts
- 1.2 Definition.
- 1.3 Corporatoins and Information Requirements.
- 1.4 ERP
- 1.5 CRM
- 1.6 Corporate Portals.
- 1.7 Workflow.
- 1.8 DSS
- 1.9 Business models

2. Systems Plan and Project's Plan.

- 2.1 Informations System Plan. Concept.
- 2.2 Informations System Plan. Contents.
- 2.3 Informations System Plan and business strategy.
- 2.4 IS Development alternatives.
- 2.5 Project Plan. Concept.
- 2.6 Project Plan. Contents.
- 2.7 Project Plan. Standards.

3. Information Systems Development: Management of Commitments. Alternatives.

- 3.1 Commitment: Concept.
- 3.2 Responsibility for commitments.
- 3.3 Managing failed commitments.
- 3.4 Consequences of Not-Management
- 3.5 Managing the commitment.
- 3.6 Contract.

4. Integral Corporate Project Management.

- 4.1 The software development process.
- 4.2 Process standard.
- 4.3 Integral activities.
- 4.4 Corporate Project Organization.
- 4.5 Configuration Management in Corporate Projects
- 4.6 Process Maturity.

5. Time management. Planning and control.

- 5.1 Time management in corporate projects.
- 5.2 Corporate Project Planning.
- 5.3 Planning techniques.
- 5.4 Planning levels. Multi-project planning in corporate environmets.
- 5.5 Project control. Importance of project control in corporate environments.
- 5.6 Control issues.
- 5.7 Types of project control.
- 5.8 Project control techniques.

6. Size and resources estimation.

- 6.1 The estimation process.
- 6.2 Software metrics: concept and types.
- 6.3 Applying a size measure.
- 6.4 Applying a process measure.

7. Quality management. Defects.

- 7.1 Quality in corporate software
- 7.2 Product Quality vs Process Quality
- 7.3 Quality costs.
- 7.4 Quality standards.
- 7.5 Quality assurance
- 7.6 Defects Management.
- 7.7 Testing overview.
- 7.8 The test plan.

8. Corporate Information Systems deployment. Change management.

- 8.1 Deployment of the corporate information system.

- 8.2 Deployment of standard systems vs Custom-made software.
- 8.3 Deployment strategies.
- 8.4 Change in corporation.
- 8.5 Changes derived from a new corporate information system.
- 8.6 Resistance to change
- 8.7 Maintenance. Types and services.

## 9. Audits.

- 9.1 Audits in software.
- 9.2 Types of audits.
- 9.3 Audits in corporate projects.
- 9.4 Audit reports.

## LEARNING ACTIVITIES AND METHODOLOGY

Lectures: Their aim is to achieve the specific cognitive competences of the subject. (PO b, c, d, e, f) (CG2, CESI1, CESI2, CESI 4)

Practice: They develop the specific instrumental competences afore mentioned. They also aim to develop the specific attitudinal competences. The work involves carrying out the implementation and customization of a business management application as a team. (PO c d e f g h k) (CG2, CESI1, CESI2, CESI 4)

Academic Work Supervised:

- with professor attendance: Execution of a study from some guidelines introduces by the professor of one of the subject's contents. The work will be presented in class. (PO b c e) (CESI 4)
- without professor attendance: Exercises and complementary lectures proposed by the professor. (PO d h k) (CESI 4)

Exercises and Exam: Exercises and final evaluation tests. (PO b, c, k) (CESI 1, CESI 2, CESI 4)

## ASSESSMENT SYSTEM

The exercises and exams, besides being used as a learning activity, have the double aim of being a measure for the evaluation system. The evaluation system includes the assessment of the academic activities, both supervised and practical, according to the following weighted.

Exam: 30% (PO b c k) (CESI1, CESI 2, CESI4)

Practice: 50% (PO b c d e f g h k) (CG2, CESI1, CESI 2, CESI4)

Academic Work Supervised:

With Professor Assistance: 10% (PO b c e) (CESI 4)

Without Professor Assistance: 10% (PO d h k) (CESI 4)

It is necessary to obtain at least 4 points of 10 in the Exam.

<b>% end-of-term-examination:</b>	30
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	70

## BASIC BIBLIOGRAPHY

- Gómez Vieites, Álvaro Sistemas de información : herramientas prácticas para la gestión empresarial , Ra-ma.
- Roger Pressman Ingenieria del Software. 6ª ED. 2006, Mc Graw Hill.
- Steve MC Connell Desarrollo y Gestión de proyectos informaticos, Addison WESley.
- W. Humphrey Managing Technical People: Innovation, Teamwork and the Software Process, Addison Wesley.

## ADDITIONAL BIBLIOGRAPHY

- IPFUG 4.0 International Function Point Users Group (IPFUG).: function Point Counting Practices Manual, IPFUG. Ohio. 1994.
- ISO/IEC 15504.: Draft Standard for Software Process Assessment (Parts 1-9)., ISO 1997.
- Paulk, M. et al.: Capability Maturity Model for Software. Technical Report CMU/SEI-93-TR24, SEI. 1993.
- Whitgift, David. Methods and tools for software configuration management, Methods and tools for software configuration management.

