Information systems engineering

Academic Year: (2020 / 2021) **Review date: 10/07/2020 10:08:17**

Department assigned to the subject:

Coordinating teacher: FRAGA VAZQUEZ, ANABEL

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 2

OBJECTIVES

Specific competencies of the subject:
1. Ability to manage the quality of developments, processes, systems, services, applications, and products. (CB6, CB7, CG2, CG8)
2. Ability to analyze information needs that arise in an environment adequately summarize and present at appropriate times. (CB8, CB9, CG3, CG12, CE1)
3. Ability to design information systems through a standard design of information systems. (CB8, CB9, CB10, CG1, CG9, CG11)

Learning outcomes:
o Known assessment methodologies and certification systems and IT products. (RA1, RA2)
o Knowing or international standards and national standards, European and relating to the quality of information technology. (RA4)
o Know the alternatives for data architectures. (RA2, RA3)
o Be able to select the most appropriate architecture for an information system. (RA4, RA5)
o Be able to carry out the construction of an information system. (RA3)
o Be able to carry out proper presentation of research conducted by the student. (RA5)
o Be able to conduct discussions of a view with the knowledge acquired during the course and following the rules. (RA6)
o Be able to manage new technologies for learning in situ or remotely. (RA4, RA5)

DESCRIPTION OF CONTENTS: PROGRAMME

1. Methods and techniques to analyze and measure the information needs of a software system based on ITIL.
2. data architectures that support the outcome of the sizing in various systems , evaluating the different systems available KOS .
3. Learning ITIL. Aiding the student with individualized tutoring if certification is needed.
4. Learning ISO20000.
5. Learning COBIT.
6. Learning CMMI.
7. Basic learning Systems Audits.
8. Basic learning Systems Engineering.

LEARNING ACTIVITIES AND METHODOLOGY

Lectures.
o Oriented or teaching specific skills of matter. In them, the knowledge that students should acquire will be presented. To facilitate their development the students will have basic texts of reference that allows them to complete and deepen those subjects in which they are most interested. In addition, students have access to standards and standards to be considered in audits and certification systems.

Individual or group practices.
o Within this subject practices, they will be carried out, which will be in group or individual, where students must analyze various topics given in class related to information technology, infrastructure,

and technology for the design of information systems.

The classes can be delivered through video conferencing systems to adapt students to new technologies.
Academically supervised activities.
o Resolution of practical exercises where they think the concepts taught in class.

Work study student staff.
o Oriented especially the acquisition of the capacity for self-organization and planning of individual work and learning process.
o Oriented or skill acquisition discussion, assertive presentation and summary capabilities.
o Oriented or professional certification of ITIL if the student wishes.

Group tutorials.
o During the quarter a collective mentoring I indovidual if necessary will be done.

ASSESSMENT SYSTEM

% end-of-term-examination/test:	40
% of continuous assessment (assigments, laboratory, practicals…):	60

The evaluation goal is to elucidate the accomplishment grade of the learning outcomes, for that reason it will be evaluated the individual and group oriented work made by the students. The evaluation will pursue a continual evaluation based on exercises, practical case studies analysis and presentations in class.

The learning process will be continuous and will give continual feedback of progress to the student.

The final grade will consider individual activities and group oriented activities.

BASIC BIBLIOGRAPHY

- Asuncion Gomez-Perez, Oscar Corcho, Mariano Fernandez-Lopez Ontological Engineering: with examples from the areas of Knowledge Management, e-Commerce and the Semantic Web., Springer.

- Barbara McNurlin, Ralph Sprague, Tung Bui Information Systems Management, Prentice Hall.

- Bass, L. Clements, P. Kazman, R. Software Architecture in Practice, Addison-Wesley Professional.

- Bushmann et al. Pattern-Oriented Software Architecture, Wiley.

- ITSMF ISO/IEC20000: A pocket guide, ITSMF.

- Jack J. Champlain Auditing Information Systems, Wiley.

- M. Fowler UML Distilled A Brief Guide to the Standard Object Modeling Language, Addison-Wesley, 2004

- Martin Fowler UML Distilled: A Brief Guide to the Standard Object Modeling Language, Addison-Wesley Professional.

- OGC-ITSM ITIL v3: Fountations and Pocket Guide, ITSMF.

- Somerville Software Engineering., Addison Wesley.