

Knowledge Reuse

Academic Year: (2021 / 2022)

Review date: 24-07-2020

Department assigned to the subject:

Coordinating teacher: LLORENS MORILLO, JUAN BAUTISTA

Type: Electives ECTS Credits : 3.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

The student needs to know the fundamentals of information representation in electronic systems, as well as algorithmic principles and interfaces.

OBJECTIVES

CB6, CB7, CB8, CB9, CB10

CG1, CG2, CG3, CG4

CE1, CE2, CE12

The main learning outcomes are:

- Master the concepts of knowledge reuse at all levels of representation
- Be aware of the most modern standards.
- Know how to transmit the results of a recent research paper on the subject, previously agreed with the professor of the subject.
- Ability to critically analyze research work.

DESCRIPTION OF CONTENTS: PROGRAMME

This course aims to deepen the more advanced aspects of reuse practices applied to knowledge (including information and/or software).

The main objective is to enable students to master the concepts of knowledge reuse and recovery, as well as their direct application to Software Engineering, Systems Engineering, or any productive area of *¿¿* organizations. The consideration that knowledge is an asset more of the organizations about this subject to the processes of integration, information, and software in modern techniques of knowledge management.

The specific objectives of the subject are:

- o To study and to know the most modern models of representation of information.
- o To deepen in the models of software representation (Requirements, Logical Design, Physical Design, V&V, etc.).
- o Analyze the principles and methodologies of information retrieval.
- o Application of all previous foundations to the reuse of software and knowledge.
- o To know computer tools that allow the reuse of software and knowledge.

The different subjects of the subject will be presented by the professor of the same. In all cases, we will try to deepen the contents until we reach the known limits of the state of science, opening possibilities for possible expansion and leap towards the ways of research for students. In this way, it is intended to meet the essential objectives of offering future lines of work to the students of the subject.

At the end of the course, students should present and discuss research on the different subjects covered, with the aim of deepening their knowledge, as well as enhancing their critical capacity, presentation, and synthesis.

LEARNING ACTIVITIES AND METHODOLOGY

Theoretical-practical classes

Work in group to develop and present a project that implements a practical case of knowledge reuse applied to a specific type of information (physical models, mathematical formulas, etc.)

Individual student work

ASSESSMENT SYSTEM

Debate 20%
Final work 80%

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

BASIC BIBLIOGRAPHY

- Llorens et al. Generating domain representations using a relationship model, Elsevier Science Ltd. Oxford, UK, UK, 2005
- Llorens et al. RSHP: an information representation model based on relationships, Springer, 2004
- OMG Unified Modeling Language Specification 2.0 , OMG, www.uml.org

BASIC ELECTRONIC RESOURCES

- AEIS . INCOSE CHapter in Spain: <http://www.aeis-incose.org>
- INCOSE . INCOSE Web site: [Http://www.incose.org](http://www.incose.org)