

Academic Year: (2019 / 2020)

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Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: IGLESIAS MARTINEZ, JOSE ANTONIO

Type: Bachelor Thesis ECTS Credits : 12.0

Year : 6 Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Basic courses and all courses from the mandatory engineering module.

OBJECTIVES

The aim of this subject is for students to acquire knowledge and skills in the global aspects of computer engineering. It is therefore a mixture form of technical and social aspects of the profession.

To this end, students will carry out an original exercise to do individually consisting of a project in the area of specific technologies in Computer Engineering professional nature which synthesize and integrate the skills acquired in the teachings. The exercise must be presented before an academic court. To achieve this goal, the student must acquire the following program outcomes: a, b, c, e, g, h, i, j, k.

Competences:

1. Ability to analyze, synthesize, organize and plan the necessary information for the project, issuing a professional opinion, ethical, and rigorous for choosing the technology choices in the project development. (PO: e, f)
2. Using a combination of general and specialized knowledge of computer engineering to solve a problem or optimize the application of existing and emerging technologies. (PO: a, i)
3. Apply appropriate theoretical and practical methods for the analysis and problems solving and propose an appropriate solution among several alternatives (PO: b, c, e)
4. Designing and implementing computer engineering projects using the principles and methodologies concerning to computer engineering disciplines. (PO: b, e)
5. Defining, evaluating and selecting hardware and software platforms for the development of software applications and services of several complexity. (PO: k)
6. Designing, developing and maintaining software systems and applications using several methods of software engineering and programming languages appropriate to the type of application to maintain the quality levels required. (PO: a, c)
7. Designing and developing computer systems or centralized or distributed architectures integrating hardware, software and networks (PO: a, c)
8. Manage a project from a technical standpoint, economic and commercial, using planning tools and project management. (PO: h)
9. Communicate effectively, both orally and in writing, all results and documents relating to the project. (PO: g)
10. Preparation of documents following the standards proposed for BT. (PO: i, j)
11. Ability to write technical reports in English.

Basic Competences

CB2. That students know how to apply that knowledge to their work or professional vocation and possess the skills which are usually demonstrated by elaborating on and defending their arguments and resolving problems in their area of study;

CB3. Students should be able to compile and interpret relevant information (normally within their area of study) for issuing opinions which include a reflection on relevant themes of a social, scientific or ethical nature.

CB4. That students are able to transmit information, ideas, problems and solutions to both a specialised and non-specialist public;

CB5. That students have developed those learning skills required to undertake further studies with a considerable degree of autonomy.

General Competences

CG3. To be able of value different possible solutions from the technical, economical, professional and general and professional laws in force.

General Basic Competences

CGB4. Basic knowledge of computer use and programming, operating systems, databases and computer programmes applicable to engineering.

Computer Science and Engineering Common Specific Competencies

CECRI1. Ability to design, develop, select and evaluate applications and computer systems, assuring its reliability, security and quality, according the ethical principles and the rules and laws in force

CECRI8. Ability to analyze, design, develop and maintain applications in a robust, secure and efficient way, selecting the most adequate programming paradigm and languages.

CECRI18. Knowledge of the national, european and international rules and regulations in force.

Bachelor Thesis Specific Competences

CETFG1. Original work to be carried out individually and to be present

DESCRIPTION OF CONTENTS: PROGRAMME

Original work to be carried out individually and to be presented and defended before a university tribunal, consisting of a project within the scope of specific industrial engineering technologies of a professional nature in which the skills acquired on the degree course can be synthesised and integrated.

IMPORTANT: Bilingual students MUST write the Project memory in English.

LEARNING ACTIVITIES AND METHODOLOGY

Learning activities, methodology and tutorships will be organized according to the rules specified by the University and the EPS.

The students of 2011 plan should make self-study activities to acquire the English competences. In the university there are facilities to acquire the desired English level. Some are described below:

* All students can make English level test since they start the program, existing resource to acquire the different levels (on-line portal for idioms, conversation club, and idioms grants). All students will have available an IDIOM course in AULA GLOBAL with all the information and materials.

* Each academic course, each student can make twice an autodiagnosis for his/her level. The result allows to the Centro de Idiomas de la universidad to advice the student with the best options to enhance his/her skills.

The learning activities and methodology for the Trabajo Fin de Grado are specified in the corresponding university regulation: <http://www.uc3m.es/ss/Satellite/SecretariaVirtual/es/TextoMixta/1371212629223/>

ASSESSMENT SYSTEM

Formative evaluation will be conducted through committees that will evaluate the work of the TFG of each student individually.

It will take into account the students' work in the BT and presenting it in the final marks.

The global mark will take into account both aspects. A rubric will be used to evaluate the different aspects of the bachelor thesis.

It is mandatory to fulfill the competences of English language by including in the final report a summary written in English with a minimum length of 10 pages. This summary must include the sections introduction and conclusions. It is recommended to write the full text in English. The students of the English track must write the bachelor thesis completely in English.

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