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Methods and techniques aimed at development of research

Academic Year: (2020 / 2021)   **Review date: 06-07-2020**

Department assigned to the subject:

Coordinating teacher: SANCHEZ SEGURA, MARIA ISABEL

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 1

OBJECTIVES

Basic skills

-Students should be able to integrate knowledge and handle complexity, and formulate judgments based on information that was incomplete or limited, include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
-That students can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences in a clear and unambiguous.
-Students must possess the learning skills to enable them to continue studying in a way that will be largely self-directed or autonomous

General skills
-Ability to understand and apply research methods and techniques in the field of Computer Engineering.
-Ability to conceive, design or create, implement and adapt a substantial process of research and creation.
-Ability to apply acquired knowledge and to solve problems in new or unfamiliar environments within broader and multidisciplinary contexts, to be able to integrate this knowledge.
-Ability to develop properly and with some originality compositions written or reasoned arguments, drafting plans, work projects or scientific articles or reasonable hypotheses.
- Students must be able to convey in a clear and unambiguous to a specialized audience or not, results from scientific and technological research or field of advanced innovation, and the most important foundations on which they are based.

Specific skills
-Ability to guide research work in the field of Computer Engineering.
-Critical analysis of technical and scientific documents in the field of Computer Engineering.
-Know the meaning of scientific research.
-Let students know the types of publications that are generic and specific content.

DESCRIPTION OF CONTENTS: PROGRAMME
1.   Reflexions on research
2.   Research ethics
3.   Research process
4.   Techniques for finding research objectives: Identification and search of potential problems
5.   Sources of information: information related to the problem to solve
6.   Style Guides
7.   Scientific publications, specific sections.
8.   Systematic review
9.   Structuring scientific works
10.   Scientific writing
11.   General experimental methods in computer engineering
12.   Mechanisms to address a publication from the first draft to the final version
13.   Reviewing research papers
14.   Structure of a doctoral thesis; sections and motivation
15.   Tools that facilitate the research process
16.   Specific experimentation techniques.

ASSESSMENT SYSTEM

The character of this course is eminently practical so that the evaluation of the students will be made by the grades obtained in the practical works that will be carried out during the course.

The practical works will be published at the beginning of each academic year and the weight of this work will be indicated on the total mark of the subject.

In each work the student must reach at least half of the points assigned to said work.

% end-of-term-examination:	10
% of continuous assessment (assigments, laboratory, practicals…):	90

BASIC BIBLIOGRAPHY

 - Kate L. Turabian A Manual for Writers of Term Papers, Theses, and Dissertations , Press, 1996

 - Ranjit Kumar Research Methodology: A Step by Step Guide for Beginners, SAGE Publications, 1999

 - Ranjit Kumar Research Methodology: A Step by Step Guide for Beginners, SAGE Publications, 1999

 - Robert. K. Yin Case Study Research: Design and Methods , SAGE, 2013

 - Runeson, P., & Höst, M. Guidelines for conducting and reporting case study research in software engineering. , SPRINGER, 2009

 - University of Chicago The Chicago Manual of Style, Press Staff, 2003

 - Wayne C. Booth, Joseph M. Williams, Gregory G. Colomb The Craft of Research, Press, 2003