uc3m Universidad Carlos III de Madrid

Bachelor Thesis

Academic Year: (2019 / 2020) Review date: 26-03-2019

Department assigned to the subject: Electronic Technology Department, Physics Department

Coordinating teacher:

Type: Bachelor Thesis ECTS Credits: 12.0

Year: 4 Semester:

OBJECTIVES

CB2. Students can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study

CB3. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues

CB4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences

CB5. Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy

CG1. Analyze and synthesize basic problems related to physics and engineering, solve them and communicate them efficiently.

CG4. Solve mathematical, physical, chemical, biological and technological problems that may arise within the framework of the applications of quantum technologies, nanotechnology, biology, micro- and nano-electronics and photonics in various fields of engineering.

CE22. Design, plan and estimate the costs of an engineering project.

CT1. Work in multidisciplinary and international teams as well as organize and plan work making the right decisions based on available information, gathering and interpreting relevant data to make judgments and critical thinking within the area of study.

CT2. Present and write a topic correctly or compose a speech in a logical order, providing accurate information in accordance with established grammatical and lexical rules.

CT3. Assess the reliability and quality of information and its sources using such information in an ethical manner, avoiding plagiarism, and in accordance with academic and professional conventions in the field of study.

CT4. Acquire and handle basic humanistic knowledge to complete the student's cross-sectional formative profile.

RA2. To be able, using arguments, strategies and procedures developed by themselves, to apply their knowledge and abilities to the successful solution of complex technological problems that require creating and innovative thinking; RA3. To be able to search for, collect and interpret relevant information and data to back up their conclusions including, whenever needed, the consideration of any social, scientific and ethical aspects relevant in their field of

study;

RA4. To be able to successfully manage themselves in the complex situations that might arise in their academic or professional fields of study and that might require the development of novel approaches or solutions;

RA5. To be able to communicate, in a precise and clear manner, knowledge, methodologies, ideas, problems and solutions in their field or specialty to any kind of audience (specialist or not);

RA6. To be aware of their own shortcomings and formative needs in their field of specialty, and to be able to plan and organize their own training with a high degree of independence.

LEARNING ACTIVITIES AND METHODOLOGY

AF1. THEORETICAL-PRACTICAL CLASSES. Knowledge and concepts students mustacquire. Receive course notes and will have basic reference texts. Students partake in exercises to resolve practical problems

AF5. ORAL PRESENTATION OF BACHELOR'S DEGREE FINAL PROJECT. The student defends their Project before a tribunal, clearly presenting the corresponding points with resolution of any problems arising in the Project.1 hour/100% on-site

AF6. EXTERNAL INTERNSHIPS. Internships carried out in external entities, companies and public or private institutions. Subjects with 6 ECTS entail a minimum of 141 hours and subjects with 12 ECTS entail a minimum of 282 hours. 100% on-site

MD5. TUTORING FOR EXTERNAL INTERNSHIPS. Individualized academic help and guidance from tutor (individual tutoring sessions) or in-group (group tutoring) for the proper development, orientation and monitoring of internships carried out by students in external entities. The academic tutor may employ the reports from the entity or institution tutor as support.

ASSESSMENT SYSTEM

SE5. FINAL EVALUATION OF INTERNSHIPS. The evaluation is based on that made by the academic tutor as the internship was carried out, the final report of the tutor from the entity where the internship took place, and the written report prepared and presented by the student. 100% of the evaluation