Curricular Unit Form (CUF)

Course
Master in Electrical Engineering

Curricular Unit
Dissertation or Project

Scientific Area
Electrical Engineering

ECTS
42,0

Professor in Charge
Luís Manuel dos Santos Redondo

Academic Degree /Title
PhD

Position
Professor Coordenador

Objectives of the curricular unit and competences
Carry out a research work or a project within a company in the context of the cycle of studies in Electrical Engineering leading to the preparation of a Dissertation or Project.
At the end of this course unit students must demonstrate the following skills:

- Ability to solve problems in new and unfamiliar situations, in extended and multidisciplinary contexts;
- Ability to integrate knowledge, deal with complex issues, develop solutions or make judgments in situations of limited or incomplete information, including reflections on the implications and ethical and social responsibilities that result or condition these solutions and judgments;
- Learning skills which enable lifelong learning to take place in a fundamentally self-oriented or autonomous manner;
- Ability to communicate the work done, knowledge and reasoning, in a document with introduction, state of the art, description of the work done and conclusions, in a clear and unambiguous way, as well as to summarise this in the form of a scientific article in English.

Syllabus
The Dissertation or Project program will involve bibliographic research, laboratory work and/or field work, being defined by the Scientific Coordination of the Course considering the interests expressed by the student. The final document must have an integrating character in relation to the subjects learned during the Course where the following points must be addressed:

1. introduction: what the work consists of; how the subject will be studied.
2. Literature review: what is already known about the subject of the work.
3. Methodology: how the problem will be addressed.

4. Discussion of the results: what is the greatest contribution of the work done; to what extent it contributes to the increase of knowledge on the subject.
5. Conclusions: what are the implications of the work from the theoretical/practical point of view; what future work should be done to deepen the knowledge.
6. References.
7. Annexes.

The student should also submit a summary of the work done in the form of a scientific article in English

Demonstration of the syllabus coherence with curricular unit's objectives

The coordination of the Master's will make available a list of themes available in a given year. For the selection process, the student will be provided with a form by theme that includes the title, the supervisor(s), the type of work, the place where the work is done and if other entities are involved, the objectives to be achieved, a summary description of the work with its plan and if any supporting bibliography is justified. Alternatively, the student may propose the development of a research topic.

These work proposals are analysed by the course coordinating committee to validate the viability of the work presented. After approval by the course coordinating committee, the course follows for approval at the CTC

Teaching methodologies (including evaluation)

The final Dissertation or Project work is developed autonomously by the student with the supervision of one or two supervisors. The Dissertation or Project document to be written at the end of the cycle of studies provides students with the possibility of synthesizing the knowledge acquired in the set of curricular units that make up the cycle of studies. The evaluation and discussion will be carried out in a public examination before a Jury composed of 3 members appointed by the CTC, including the Advisor. The test has a maximum duration of 90 minutes with the student having 20 minutes to present their work followed by the discussion where the student has the same time as the jury.

The members of the Jury must have the Degree of Doctor or be Specialists of recognized merit.

The deliberations of the Jury shall be taken by a majority of its members through a justified roll-call vote, with no abstentions being allowed

Demonstration of the teaching methodologies coherence with the curricular unit's objectives

The teaching methodologies adopted favour a theoretical and methodological follow-up specific to each Dissertation or Project; and necessary for the elaboration of the respective final document, which is intended to be presented and discussed publicly.

Main Bibliography

It will be defined according to the scientific area of the Dissertation or Project; it also includes all the Bibliography of the remaining UCs of the course.

The following references are recommended:

Echo, Umberto: How to Do a Thesis in Human Sciences. 6ªed, Trad. Ana Falcão Bastos and Luís Leitão, preface by Hamilton Costa. Lisbon: Editorial Presença, 1995.

Philips, E.M. and Pugh, D.S.. How to get a PhD. A handbook for students and their supervisors. 2nd ed, Open University Press, 1995.

Alexandre Pereira e Carlos Poupa, Como Escrever uma Tese, Monografia ou Livro Científico Using Word. 5th Edition, Silabo, 2012.

Yvonne N. (Nguyen) Bui, How to Write a Master's Thesis, 2nd edition, SAGE Publications, Inc., 2013

J S Graustein, How to Write an Exceptional Thesis or Dissertation: A Step-By-Step Guide from Proposal to Successful Defense, Atlantic Publishing Group Inc. 2014