

Curricular Unit Form (FUC)

Course:	FIRST CYCLE IN MECHANICAL ENGINEERING					
Curricular Unit (UC)	Master Thesis				Mandatory	X
Scientific Area:	Energy and Systems Control/Mechanical Project, Manufacturing and Industrial Maintenance/ Engineering and industrial management					
Year: 1 ^o	Semester: 2 ^o	ECTS: 43,5		Total Hours:		
Contact Hours:	T:	TP:	PL:	S:	OT: 22,5	TT:
Professor in charge		Academic Degree /Title		Position		

T- Theoretical ; TP – Theory and practice ; PL – Laboratory ; S – Seminar ; OT –Tutorial ; TT – Total of contact hours

Entry into Force	Semester: Winter	Academic Year: 2016/2017
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Objectives of the curricular unit and competences (max. 1000 characters)

Conducting a research work in the context of the cycle of studies in Engineering and Industrial Management leading to the elaboration of a Master's Dissertation, Work Project or Internship of a Professional Nature. At the end of this course students should demonstrate the following competencies:

- Ability to solve problems in new and unfamiliar situations, in broad 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 ethical and social implications and responsibilities that constrain these solutions and judgments;
- Ability to communicate conclusions, knowledge and reasoning, clearly and unambiguously;
- Learning skills that enable lifelong learning in a fundamentally self-directed or autonomous way.

Syllabus (max. 1000 characters)

The Master Thesis program will involve bibliographic research work, laboratory and/or field work, being defined by the Scientific Coordination of the Course considering the interests expressed by the student. The final report should have an integrative character regarding the subjects learned during the Course where the following points should be addressed:

1. Introduction: what does the work consist of; how will the subject be studied.
2. Literature review: what is already known about the subject of 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 increasing knowledge of the topic.
5. Conclusions: what are the implications of work from a theoretical/practical point of view; what further work should be done to deepen knowledge.
6. References.
7. Annex.

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Demonstration of the syllabus coherence with curricular unit's objectives (max. 1000 characters)

The coordination of the Master will make available a list of themes available in each year. For the selection process, the student is provided with a fact sheet containing the title, the supervisor (s), the type of work (dissertation, project or internship), the place of work and whether other entities are involved, the objectives to be achieved, a brief description of the work with the respective plan and sometimes some supporting bibliography. These work proposals are analysed by the coordinating committee of the course to validate the feasibility of the works presented. After approval by the coordinating committee of the course the same goes for approval in the CTC.

Teaching methodologies (including evaluation) (max. 1000 characters)

The final master's work is developed autonomously by the student with the supervision of one or two supervisors. The Dissertation, Work Project or Professional Nature Internship report to be written at the end of the study cycle provides students with the possibility of synthesizing the knowledge acquired in the set of curricular units that make up the study cycle. The assessment and discussion will be held in a public assessment evidence by a Jury composed of 3 members appointed by the CTC, including the Supervisor. Members of the Jury should have the PhD degree or be recognized merit of Experts. The deliberations of the Jury shall be taken by a majority of the members constituting it by means of a justified roll-call vote, and no abstentions shall be permitted.

Demonstration of the teaching methodologies coherence with the curricular unit's objectives (max. 3000 characters)

The adopted teaching methodologies emphasize a theoretical monitoring and specific methodology of each Final Work of Master (which may be made in the areas of thesis, internship or project); and for the drafting of the respective final report, which is to be presented and discussed publicly.

Main Bibliography (max. 1000 characters)

Será definida de acordo com a área científica da Dissertação, Trabalho de Projeto ou Estágio de Natureza Profissional, inclui ainda toda a Bibliografia das restantes UCs do curso. Recomenda-se as seguintes referências: Eco, Umberto: Como se Faz uma Tese em Ciências Humanas. 6ªed, Trad. Ana Falcão Bastos e Luís Leitão, prefácio de Hamilton Costa. Lisboa: Editorial Presença, 1995. Philips, E.M. e 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 Poupá, Como Escrever uma Tese, Monografia ou Livro Científico Usando o Word. 5ª Edição, 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.