

Treball de Fi de Màster**2012/2013**Code: 42243
ECTS Credits: 15

Degree	Syllabus	Type	Year	Semester
4313133 Còmput d'Altes Prestacions, Teoria de la Informació i Seguretat / High Performance Computing, Information Theory and Security	1094 Còmput d'Altes Prestacions, Teoria de la Informació i Seguretat / High Performance Computing, Information Theory and Security	O	1	0

Contact

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Use of languages

Principal working language: anglès (eng)

Prerequisites

There are no official requirements for being enrolled in this subject. However, the student must have an advisor in order to develop the research work.

Objectives and Contextualisation

The main objective of developing a research work is to apply all knowledge and abilities acquired in the master to a specific case.

This means that the student must:

1. Propose a scientific work applying the research methodology. The work can be academic or associated to a company, and must be accomplished within the master duration.
2. Search information related to the proposed work, and be able to critically assess the information sources.
3. Write scientific reports and papers.
4. Present scientific results.

Skills

- Analyse, synthesise, organise and plan projects related to information theory, security and high performance computing.
- Apply the methodology of research, techniques and specific resources for investigating and producing innovative results in a certain specialised field.
- Direct innovation and research projects and work teams in the area of information theory, security and high performance computing.
- Innovate in the search for new spaces / areas in one's field of work.
- Students must be capable of integrating knowledge and dealing with the complexity of formulating judgements on the basis of incomplete or limited information, including considerations of the social and ethical responsibilities associated to the application of their knowledge or judgements.
- Students must know how to communicate their conclusions and final reasons sustaining the same to specialised and unspecialised audiences in a clear and unambiguous manner.
- Students should know how to apply the knowledge acquired and their capacity for resolution to problems in new or little known environments in broader (or multidisciplinary) contexts related with their field of study.

Learning outcomes

1. Analyse, synthesise, organise and plan projects related with information theory, security and high performance computing
2. Apply the methodology of specific research, techniques and resources for investigating and producing innovative results in a certain specialised field
3. Innovate in the search for new spaces / areas in one's field of work
4. Plan and develop innovation and research projects with specific content related to the subjects developed by the student
5. Students must be capable of integrating knowledge and dealing with the complexity of formulating judgements on the basis of incomplete or limited information, including considerations of the social and ethical responsibilities associated to the application of their knowledge or judgements
6. Students must know how to communicate their conclusions and the reasons sustaining them to specialised and unspecialised audiences in a clear and unambiguous manner.
7. Students should know how to apply the knowledge acquired and their capacity for resolution to problems in new or little known environments in broader (or multidisciplinary) contexts related to their field of study.

Content

There are no specific contents in this subject. However, each student:

1. Must work autonomously, managing the tasks and objectives of the work.
2. Will have an advisor, who will help in formalizing the work objectives and solve methodological questions that may arise during its development.
3. Must design, develop, write a report, and make a presentation of a research work, in a topic related to the contents of the Master.

Methodology

1. Each student will have an academic advisor, who will guide the development of the research work jointly with the student.
2. The proper use of the related bibliography, the adequacy of the contents, and the proper use of the presentation rules will be supervised during the development of the work.
3. The teaching methodology will combine meetings between the advisor and the student, the student autonomous work, the students participation in research group meetings, and the presentation of results.

Activities

Title	Hours	ECTS	Learning outcomes
Type: Directed			
Meetings with the advisor	25	1	1, 2, 4, 6
Type: Supervised			
Meetings with the research group	25	1	1, 2, 5, 6, 7
Prepare and perform the presentation of the research work	25	1	6
Propose a scientific work	25	1	1, 3, 4
Write the work's report	50	2	6

Type: Autonomous				
Develop the research work	175	7	2, 3, 4, 5, 7	
Search and assess related bibliography	50	2	2, 3, 5, 6, 7	

Evaluation

The project will be assessed accordingly to the following weights:

- Assessment of the written report: 40%
- Advisor report: 40%
- Project oral presentation: 20%

Several factors will be taken into consideration to assess the development of the research work, including:

- Use of the appropriate sources of information
- Following the presentation and delivery directives
- Participation in complementary activities, such as conferences or workshops
- Relevance and significance of the work
- Quality of the final report (organization, language clarity and style)
- Technical contents
- Quality of the oral presentation (organization, language clarity and style, answers to the questions made by the committee members)

A qualified committee will be responsible for evaluating the project. This committee will consist of three Ph.D. professors of the master proposed by the Master's Commission.

This Commission will determine the dissertation dates for every student and the composition of the evaluation committees.

Project reports must be delivered to the members of the evaluation committee seven days before the dissertation date.

The oral presentation of the project will last 20 minutes approximately, and it will be followed by the questions of the committee members. During the presentation and the questions the session will be public, but after that the members of the committee will deliberate privately about the final grade of the project.

Finally, the results will be delivered to each student.

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Contents	To be decided by the assessment committee (around 40%)	0	0	1, 2, 3, 4, 5, 7
Presentation	To be decided by the assessment committee (around 30%)	0	0	1, 2, 5, 6
Report	To be decided by the assessment committee (around 30%)	0	0	1, 2, 4, 6

Bibliography

Ivan Valiela (2000). Doing Science: "Design, Analysis, and Communication of Scientific Research", Oxford University Press.

Recommended Websites:

<https://cv.uab.cat/>

Online version of the IEEE Standards Style Manual: <http://standards.ieee.org/guides/style/>

TDX : Tesis Doctorals en Xarxa: <http://www.tdx.cesca.es>

Teseo : tesis doctorales leídas en universidades españolas desde 1976 <http://www.mcu.es/TESEO/index.html>

RefWorks: <https://www.refworks.com/>