Universitat Autònoma de Barcelona

2019/2020

Master's Degree Dissertation

Code: 43856
ECTS Credits: 6

Degree	Type	Year	Semester
4315985 Geoinformation	OB	0	2

Contact

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Use of Languages

Principal working language: spanish (spa)

External teachers

Jordi Corbera Simó

Prerequisites

The Master's Degree Dissertation has to be done necessarily in the second semester, once the rest of the modules of the specialty have been completed.

Objectives and Contextualisation

The goal of the Master's Degree Dissertation is to be able to carry out an actual applied project to be choosen from the list of practical cases proposed and coordinated by the professors responsible of each spacialty (one coordinator for specialty). The Master's Degree Dissertation must be presented as a scientific and technical report and has to be defended in the presence of a committee made up of three teachers from the Master programme. The student has to demonstrate to have achieved the skills of the Master programme and that he or she is able to integrate them.

Competences

- Analyze user needs and the formal and interface requirements to define and design end- user geospatial applications in corporate environments or those open to the public.
- Apply programming methodologies and procedures, and those for implementation of geospatial applications for different types of platforms (desktop, web, mobile), using different programming paradigms and environments.
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Design and elaborate cartographic documents and, in general, geovisualization of geospatial data products, and implement the corresponding production and publication processes using analogue and digital media.
- Design and manage geospatial information application products or services.
- Design and manage geospatial information systems, integrating spatial and alphanumerical, relational and object-oriented data bases, in client-server distributed architectures, or those oriented to services.
- Design intelligent applications of geospatial information for managing cities and region (smart cities) and for managing their implementation.

- Develop and apply geospatial and alphanumeric information analysis methodologies to resolve urban or land management problems, generating useful information for the implementation of intelligent processes and for decision making.
- Develop imaginative, creative and innovative ideas in projects for geospatial information systems, services, products or applications.
- Direct and manage geospatial information systems, services, products and applications projects, from a strategic, technical, economic and human resources and materials angle.
- Integrate geospatial information technologies, services and applications with the aim of providing an optimal solution to each application case.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Use knowledge critically and understand and take on board the ethical responsibility, legislation and social implications of the use and diffusion of geospatial information and its derived products.

Learning Outcomes

1. Apply acquired knowledge and skills to real problem-solving in urban environments.
2. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
3. Define technological solutions that help to develop end-user geospatial applications tailored to specific situations and requirements.
4. Design and implement databases tailored to the needs of a real case.
5. Develop cartographic visualisation products that respond to the specific needs of an organisation.
6. Develop imaginative, creative and innovative ideas in projects for geospatial information systems, services, products or applications.
7. Direct and manage geospatial information systems, services, products and applications projects, from a strategic, technical, economic and human resources and materials angle.
8. Establish the technical project for producing and distributing geospatial information products or services.
9. Integrate geospatial information technologies, services and applications with the aim of providing an optimal solution to each application case.
10. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
11. Programme ubiquitous and smart web or mobile applications for geospatial information that respond to the needs of an organisation.
12. Satisfy spatial-analysis needs in a specific application dominion.
13. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
14. Use knowledge critically and understand and take on board the ethical responsibility, legislation and social implications of the use and diffusion of geospatial information and its derived products.

Content

Development and implementation of a methodological and technical solution for an actual specific need of an application, product or service with geospatial content proposed by an external organization (company, government or institution).

Methodology

The Master's Degree Dissertation is based mainly in the student autonomous work, which includes the practical work of development and implementations, bibliographical and documental search, and the writing of the formal report od the Dissertation as well as the material support for its oral presentation.

Autonomous work is complemented by directed activities like tutorials and supervised activities for testing and quality control of the project results. Directed and supervised activities are carried out by the academic tutor.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Tutorials	8	0.32	1, 3, 6, 7, 4, 5, 8, 9, 11, 10, 13, 2, 12, 14
Type: Supervised			
Results revision and quality control	8	0.32	1, 3, 6, 7, 4, 5, 8, 9, 11, 10, 13, 2, 12, 14
Type: Autonomous			
Research and development	104	4.16	1, 3, 6, 7, 4, 5, 8, 9, 11, 10, 13, 2, 12, 14

Assessment

a) Evaluation procedure and activities:

Assesment of the Master's Degree Dissertation includes both the evaluation of the formal report of the Dissertation (70% of the total grading) and the evaluation of the oral presentation of the Dissertation (30% of the grading).

b) Evaluation schedule:

Report of the Master's Degree Dissertation: Making during the 2nd semester. Submission at the end of semester, on July 3rd 2020.

Oral presentation of the Master's Degree Dissertation: Making during the 2nd semester. Oral presentation at the end of semester, on July 9th and 10th 2020.

c) Grade revision:

Once the grades obtained are published, students will have one week to apply for a grade revision by arranging an appointment with the corresponding teachers.

d) Procedure for reassessment:

The Master's Degree Dissertation can not be reassessed.

Plagiarism or copying in any activity will deserve a grade of 0 in this activity and could not be recovered. In case of repeated offence all the course grade will be FAIL. It is considered "copy" a work that reproduces all or a sunstantial part of another student's work. It is considered "Plagiarism" to present all or part of an author's published work without citation of the original sources, either analogic (e.g., paper) or digital. See more information over plagiarism at http://wuster.uab.es/web_argumenta_obert/unit_20/sot_2_01.html.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Oral presentation of the Master's Degree Dissertation	30	9	0.36	1, 3, 6, 7, 4, 5, 8, 9, 11, 10, 13, 2, 12, 14
Report of the Master's Degree Dissertation	70	21	0.84	1, 3, 6, 7, 4, 5, 8, 9, 11, 10, 13, 2, 12, 14

Bibliography

Not aplicable.