



TECHNICAL SHEET OF THE SUBJECT

Data of the subject	
Subject name	Master Thesis
Subject code	DTC-MBD-599
Mainprogram	N/A
Involved programs	Máster Universitario en Big Data [First year] Máster Universitario en Ingeniería de Telecomunicación + Máster Universitario en Big Data [Second year]
Level	Postgrado Oficial Master
Quarter	Anual
Credits	6,0 ECTS
Type	Prueba Final Máster
Department	Department of Telematics and Computer Sciences
Coordinator	Carlos Morrás Ruiz-Falcó
Office hours	Ask by email

Teacher Information	
Teacher	
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Teacher	
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SPECIFIC DATA OF THE SUBJECT

Contextualization of the subject
Contribution to the professional profile of the degree
Within the professional profile of the master's degree in Big Data technology and advanced analytics, this subject aims to provide the student with the ability to analyze complex problems and provide solutions from a technical point of view, assessing both the technical viability and the economic impact of the same. This must be done by using the appropriate resources, selecting the appropriate methodology, consulting both the technical and applicable legal information, and finally being able to synthesize the results and present them to the
Prerequisites
To present the TFM the student must have all the Master's credits pass.



Competencies - Objectives

Competences

Competencies

CP1 Integrate architectures, artificial intelligence techniques, advanced data and visualization analysis and legal compliance to offer the optimal global solution.

CP2 Apply and integrate programmatic massive data flows.

CP3 Implement statistical analysis techniques and programming languages for Machine Learning in the context of Big Data, adjusting the methodology to the specificities of each data set to optimize the results obtained.

CP4 Implement the most appropriate techniques and tools for the visualization of complex data. Implement data processing techniques and use the most common tools appropriate to the conditions and requirements of specific cases.

CP5 Apply the ethical principles related to the collection, storage, and analysis of data, taking into account possible direct or indirect discrimination derived from decision-making.

CP6 Be able to effectively determine the objectives, priorities, methods and controls to perform tasks related to the planning of data exploitation and artificial intelligence projects, by organizing activities with the deadlines and available means.

CP7 Apply advanced knowledge in Big Data and data analytics to develop innovative solutions in projects and research, providing and evaluating optimal solutions for large-scale data processing and analysis.

Skills or abilities

HA1 Communicate orally and in writing with technical rigor, expository clarity and argumentative coherence to all types of interlocutors, technical and non-technical.

HA2 Work in multidisciplinary and/or international teams and adequately organize and lead group dynamics.

HA3 Develop the interpersonal skills required by current professional environments (empathy, tolerance, respect, ability to combine conflicting interests).

HA4 Manage, organize and adequately plan work and time, meeting objectives and quality standards.

HA5 Maintain continuous training and learning and adaptation to technological and scientific changes.

THEMATIC BLOCKS AND CONTENTS

Contents - Thematic Blocks

The Master's Thesis represents the final and practical application of the knowledge acquired during the degree and reflects the general quality of learning. Within the dynamic of searching for the highest technical quality of the projects and an adequate evaluation, the School relies on a Coordinator per content area, and on tutors, project directors, who are individually assigned to each student. This subject aims at the individual completion, by each student, of an engineering project directed by a Telecommunications Engineering professional. The subject is coordinated by a teacher (Coordinator).

All Master's Thesis must be original, developed by the student himself, and works that are merely descriptive or that are limited to the compilation of information are not admitted. At the end of the course, the student must present the project report, a standardized document that contains the work carried out, and must be qualified to present and defend it in public presentation. The report will be presented in Spanish or English. Only in the case of students whose Master's Thesis is carried out and evaluated in a foreign institution may it be authorized for the report to be presented in another language. In this case, an extensive summary in English, between 5 and 8 pages, with the typical sections of a technical article (Introduction, Methodology, Results and Discussion, Conclusions) must be included.



TEACHING METHODOLOGY

General methodological aspects of the subject

In-class Methodology: Activities

Training Activity	Hours
Expository and participatory master classes	20
Turies for the resolution of doubts	10

Non-Presential Methodology: Activities

Personal Study	25h
Proyect	125

SUMMARY STUDENT WORKING HOURS

PRESENTIAL HOURS	
Masterclass and general presentations	Tutorials to resolve doubts
20	10.00
NO PRESENTIAL HOURS	
Personal study	proyects
25	125



EVALUATION AND CRITERIA

Evaluation activities	Evaluation criteria	Weight
Final Master's work report	Project Difficulty Application of the acquired knowledge Solution and technological development Quality of the final presentation Written report Evaluation Report of the Director of Work	80 %
defense of the Master's Final Project	Visual quality of the presentation Synthesis capacity Use of examples and graphics Ability to respond to questions posed Clarity of conclusions	20 %

Ratings

The qualification, in a single call for the subject, will be obtained as:

80% of the grade for the master's final project, evaluated based on the document itself.

20% will be the grade for the presentations and defense work.

Failure to deliver Annex A or B within the corresponding deadline (consult the Subject Regulations available on the Final Degree and Master's Project Management Platform) may result in the qualification of the Work as Not Submitted.

WORK PLAN AND SCHEDULE

Activities	Date of realization	Delivery date
Project sheet (AnexoA)	Once the project is assigned.	Week 4



Syllabus
2024 - 2025

Writing a Descriptive Report (Anexo B)	First weeks of the course.	week 9
Preview presentations.	During the second semester.	Indicated by the Coordinator.
<div style="border: 1px solid black; padding: 5px; width: fit-content;">Project development.</div>	During the course	
Work supervision.	During course	Regularly, indicated by the Director.
Final defense and delivery of the definitive report.		At the end of the course between May and July, indicated by the Coordinator.

BIBLIOGRAPHY AND RESOURCES

Basic Bibliography

Regulations and templates provided to students through the subject platform.