

**COURSE DATA****Data Subject**

|                      |                        |
|----------------------|------------------------|
| <b>Code</b>          | 44663                  |
| <b>Name</b>          | Master's final project |
| <b>Cycle</b>         | Master's degree        |
| <b>ECTS Credits</b>  | 15.0                   |
| <b>Academic year</b> | 2021 - 2022            |

**Study (s)**

| <b>Degree</b>                          | <b>Center</b>         | <b>Acad. Period<br/>year</b> |
|--|-----------------------|------------------------------|
| 2221 - Master's Degree in Data Science | School of Engineering | 2 Annual                     |

**Subject-matter**

| <b>Degree</b>                          | <b>Subject-matter</b>       | <b>Character</b>   |
|--|-----------------------------|--------------------|
| 2221 - Master's Degree in Data Science | 15 - Master's final project | End Labour Studies |

**Coordination**

| <b>Name</b>          | <b>Department</b>            |
|----------------------|------------------------------|
| SORIA OLIVAS, EMILIO | 242 - Electronic Engineering |

**SUMMARY**

The Master's Thesis (TFM) is a compulsory subject that students must carry out to obtain the master's degree, once obtained all the credits of the master curriculum. It should consist of conducting a comprehensive project in the area of chemical engineering (technical, professional or research). It must be publically presented and defended individually and assessed for university tribunal. The main objective of TFM is that the student synthesizes the content and skills that have been acquired previously in its studies. . Always it will be developed under the supervision of a tutor to guide students in their development. The organization, application, development, mentoring, presentation, defense, assessment and administrative management of TFM is governed by the established regulations in the University, Faculty and Master



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

## COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

### 2221 - Master's Degree in Data Science

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Be able to assess the need to complete their technical, scientific, language, computer, literary, ethical, social and human education, and to organise their own learning with a high degree of autonomy.
- Be able to defend criteria with rigor and arguments and to present them properly and accurately.
- Capacidad de análisis y síntesis, en la elaboración de informes, en la exposición, comunicación y defensa de ideas.
- Ability to access and manage information in different formats for subsequent analysis in order to obtain knowledge from data.
- Capacidad de organización y planificación de actividades de investigación, desarrollo y consultoría en el área de ciencia de datos.
- Ability to autonomously make decisions and to properly and originally elaborate reasoned arguments, in order to obtain reasonable and contrastable hypotheses.
- Capacidad para trabajar en equipo para llegar a soluciones de problemas interdisciplinarios usando técnicas de análisis de datos.
- Ser capaces de asumir la responsabilidad de su propio desarrollo profesional y de su especialización en uno o más campos de estudio, aplicando los conocimientos adquiridos en la identificación de salidas profesionales y yacimientos de empleo.
- Extraer conocimiento de conjuntos de datos en diferentes formatos.



- Entender la utilidad de la ciencia de datos y sus elementos asociados, así como su aplicación en la resolución de problemas, eligiendo las técnicas más adecuadas a cada problema, aplicando de forma correcta las técnicas de evaluación y, finalmente, interpretando los modelos y resultados.
- Capacidad para visualizar de forma óptima conjuntos de datos para la extracción de conocimiento.
- Ability to solve classification, modelling, segmentation and prediction problems from a set of data.
- Modelar la dependencia entre una variable respuesta y varias variables explicativas, en conjuntos de datos complejos, mediante técnicas de aprendizaje máquina, interpretando los resultados obtenidos.
- Saber realizar las labores propias de su profesión incluyendo, entre otras, la adquisición y clasificación de datos de forma eficiente, aplicación de las técnicas de análisis de datos avanzado para llegar a la extracción de información (científica, de mercado, etc.) a partir de los mismos.

## LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

Ability to develop, present and defend before a commission a work related to the graduation profile that has been defined through the general objectives indicated in this report. Ability to perform specific work or research in the field of data science. Know how to apply the knowledge and skills acquired to aspects related to the performance of the profession

## WORKLOAD

| ACTIVITY   | Hours         | % To be attended |
|--|---------------|------------------|
| Graduation project                               |               | 100              |
| *Realización del Trabajo Fin de Máster           | 370,00        | 0                |
| Presentación y defensa del Trabajo Fin de Máster | 5,00          | 0                |
| <b>TOTAL</b>                                     | <b>375,00</b> |                  |

## TEACHING METHODOLOGY

Individual and original work done by the student and related to the employment and development of the methodologies and techniques learned and the skills acquired.

## EVALUATION



A committee of three members will carry out the assessment of the Master's thesis of every student. The tutor will send to the committee prior to the public defense a report with its evaluation.

The committee will evaluate: the quality of documentation (25%), the scientific and technical quality of the work (50%) and the oral presentation (25%). The committee will take into account the tutor report in assessing of the quality of documentation and the technical scientific quality of the work

## **ADDENDUM COVID-19**

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

**English version is not available**