



COURSE DATA

Data Subject

Code	43311
Name	Introduction to final project
Cycle	Master's degree
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
2150 - M.D. in Advanced Physics	Faculty of Physics	1	Second term

Subject-matter

Degree	Subject-matter	Character
2150 - M.D. in Advanced Physics	8 - Research training	Optional

Coordination

Name	Department
ZUÑIGA ROMAN, JUAN	180 - Atomic, Molecular and Nuclear Physics

SUMMARY

The contents of the course **Introduction to the Master Thesis** are the same as ones of the Master's Thesis. This course is aimed at students who have chosen a more experimental or observational topic of the Master's Thesis and arises as a booster for them to study experimental or observational techniques, specific research question addressed, learning the operation of data acquisition systems in the case of ongoing experiments or astronomical observation programs, or acquire the necessary skills to manage the software for data analysis.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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



Other requirements

OUTCOMES

2150 - M.D. in Advanced Physics

- 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 demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Ser capax de gestionar informaci3n de distintas fuentes bibliogr3ficas especializadas utilizando principalmente bases de datos y publicaciones internacionales en lengua inglesa.
- Saber organizarse para planificar y desarrollar el trabajo dentro de un equipo con eficacia y eficiencia.
- Ostentar la preparaci3n para tomar decisiones correctas en la elecci3n de tareas y en su ordenaci3n temporal en su labor investigadora y/o profesional.
- Poseer la capacidad para el desarrollo de una aptitud cr3tica ante el aprendizaje que le lleve a plantearse nuevos problemas desde perspectivas no convencionales.
- Estar en disposici3n para seguir los estudios de doctorado y la realizaci3n de un proyecto de tesis doctoral.
- Comprender de una forma sistem3tica el campo de estudio de la F3sica y el dominio de las habilidades y m3todos de investigaci3n relacionados con dicho campo.
- Concebir, dise1ar, poner en pr3ctica y adoptar un proceso sustancial de investigaci3n con seriedad acad3mica.
- Realizar un an3lisis cr3tico, evaluaci3n y s3ntesis de ideas nuevas y complejas en el 3rea de la F3sica.
- Analizar una situaci3n compleja extrayendo cuales son las cantidades f3sicas relevantes y ser capax de reducirla a un modelo parametrizado.



- Evaluar la validez de un modelo o teoría propuesto por otros miembros de la comunidad científica.
- Saber modelizar matemáticamente los problemas físicos sencillos nuevos, conectados con problemas conocidos. Ser capaz de expresar en términos matemáticos nuevas ideas.
- Elaborar una memoria clara y concisa de los resultados de su trabajo y de las conclusiones obtenidas en el área de la Física.
- Exponer y defender públicamente el desarrollo, resultados y conclusiones de su trabajo en el área de la Física.
- Saber utilizar las fuentes bibliográficas, bases de datos científicas, resúmenes, artículos completos, documentación, etc. tanto en formato tradicional como electrónico, necesarios para tener una visión clara de los antecedentes, originalidad, interés y viabilidad de un estudio concreto.
- Adquirir soltura con las aplicaciones informáticas necesarias para la elaboración de memorias sobre el trabajo realizado así como de los resultados obtenidos en el trabajo de investigación.
- Adquirir la capacitación para la utilización de instrumental científico altamente especializado.

LEARNING OUTCOMES

At the end of the teaching-learning process the student should be able to:

1. Carry out a research project within a line of research in a specialty of the Master.
2. Use sources of information, scientific databases, abstracts, full articles, documentation, etc.. both traditional and electronic format, necessary to have a clear view of the history, originality, interest and viability of a particular study.
3. Develop a clear and concise report of work performed and the results obtained in the research.
4. Present and defend a clear and concise, to a specialized audience, development, results and conclusions of a research work.
5. Demonstrate by performing the tasks of a research work, the ability to apply gained research experience in the planning and implementation of future studies within the field of physics or related fields.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	60,00	100
Development of individual work	50,00	0
Study and independent work	40,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

This subject is designed as a support to the tasks needed to prepare the Master Thesis so the teaching methodology is the same as the used in the Master's Thesis

EVALUATION

The subject of Introduction to the Master Thesis shares objectives, content and skills with the Master's Thesis so that is evaluated simultaneously using the same evaluation systems. The responsible for the training of students towards the subject is the proper guardian / tutor or director / director of the Master's Thesis.