

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

Code	43310
Name	Research placement
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
FABREGAT LLUECA, JUAN BAUTISTA	16 - Astronomy and Astrophysics
OLMO ALBA, GONZALO	185 - Theoretical Physics

SUMMARY

The subject of "Research stay" consists in a stay at a research center and a different research group to the group where the student will do the Master's Thesis. The course is designed as a complementary way to get into the experimental research knowledge of the operational areas of the Center and / or the research group where the stay is made. The course is designed for students who have chosen a more theoretical learning path, so that they can complete their training knowing the experimental research work in fields of physics related to their specialty. It can be also useful for students facing experimental or observational lines to complete their training in research groups clearly differentiated in methodology or objectives with respect to their own groups where they will develop the Master's Thesis. The contents of the course should serve to enhance the training of Masters students and provide them with an alternative view of the issues related to the research tasks and their interrelationships.



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 capaz de gestionar información de distintas fuentes bibliográficas 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 preparación para tomar decisiones correctas en la elección de tareas y en su ordenación temporal en su labor investigadora y/o profesional.
- Poseer la capacidad para el desarrollo de una aptitud crítica ante el aprendizaje que le lleve a plantearse nuevos problemas desde perspectivas no convencionales.
- Estar en disposición para seguir los estudios de doctorado y la realización de un proyecto de tesis doctoral.
- Comprender de una forma sistemática el campo de estudio de la Física y el dominio de las habilidades y métodos de investigación relacionados con dicho campo.



- Concebir, diseñar, poner en práctica y adoptar un proceso sustancial de investigación con seriedad académica.
- Realizar un análisis crítico, evaluación y síntesis de ideas nuevas y complejas en el área de la Física.
- Analizar una situación compleja extrayendo cuales son las cantidades físicas relevantes y ser capaz 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.
- Conocer el funcionamiento interno de un grupo de investigación.

LEARNING OUTCOMES

Knowing the internal way of working of a research group.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	0,00	100
TOTAL	0,00	

TEACHING METHODOLOGY

In the subject of "Research stay", students have to make a stay in a different group to group where they will make the Master Thesis Project. There is a supervisor for each specialty responsible for ensuring the criteria that define the subject and explained below:

- Each student has an official / director / supervisor of the research stay to be a doctor different than the Master Tutor.
- The research stay should take place in a group different to the research group of the Master Tutor.
- The duration of the stay is about three weeks full time (120 hours) plus the time of preparing the presentation of results (30 hours).
- Students should make a memory report of the activity, with the approval of the director / supervisor of the stay.
- The report must be presented orally during a short time in a session in which all memories of the same



specialty are presented. This session is intended to be attended by all the students and their stay supervisors. It is not required the assistance of tutors.

- The course is assessed by the professor responsible of the subject and the directors / supervisors of the research stays.

EVALUATION

SE7 - Oral presentation of the work in a public session.

SE10 - Report from the supervisor of the research stay.

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