

Genetics

Code: 101913
ECTS Credits: 6

Degree	Type	Year	Semester
2501230 Biomedical Sciences	FB	1	1

Contact

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Use of languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

Teachers

Amadeu Creus Capdevila
Massimo Bogliolo

Prerequisites

Being a course in the first semester of the first course of the degree, it will not be necessary to have previously knowledge or skills given by any of the courses of the degree.

However, the course cannot "start from scratch" since the learning of Genetics is part of the studies in secondary school. Basic knowledge of Genetics will ease the achievement of the competences of the course.

Objectives and Contextualisation

The science of Genetics studies all related to the hereditary material and inheritance of living beings. It is a basic and fundamental subject in biomedical sciences. The student will acquire a vision from the molecular point of view to population and evolutionary levels of organization. The main goals of this subject are: the comprehension of the basis and mechanisms of the inheritance; the genetic analysis of experimental data and the interpretation of the results; as well as, to achieve a global vision of Genetics.

Content

- 1.- Introduction to genetics.
- 2.- Classical genetics analysis. The chromosomal basis of inheritance.
- 3.- Independent assortment. Extensions of Mendelian genetics.
- 4.- Non-Mendelian inheritance.
- 5.- Human pedigree analysis and genetic counseling.

- 6.- Quantitative genetics
- 7.- Mapping eukaryote chromosomes by recombination
- 8.- Genetic population and evolution
- 9.- Genetic material
- 10.- Gene expression
- 11.- Regulation of transcription
- 12.- Mutation and repair