

Faculty of Biological, Agronomic and Environmental Engineering

BIR1322

General genetics

[45h+15h exercises] 5 credits

This course is taught in the 2nd semester

Teacher(s): Philippe Baret, Pierre Bertin
Language: French
Level: First cycle

Aims

This course aims to integrate notions of molecular and cellular biology as of biochemistry in the context of heredity. Module A (45h) presents the complexity of the gene as a concept, considered both as an information unit and as a molecular object. Module B (15h) aims the acquisition of the molecular (molecular markers) and conceptual tools for the study of genetic diversity.

Main themes

Expose and integrate the mendelian and molecular approaches of genetics. Describe the genome by cartography, both genetically and physically. Linking genetics with biochemistry through describing the regulating mechanisms and introducing development genetics. Introduction of the notion of quantitative trait for selection applications. Presenting the applications in classical agronomy and biotechnology.

In Module B, The genetic variety will be defined and integrated in a conservation perspective. A particular attention will be set on the estimation of genetic variety by means of molecular markers.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

The module A (45 hours) is taken by all the students of BIR13; the module B (15 hours) is followed only by the students BIRA and BIRE 13.

Other credits in programs

BIR13BA/A	Troisième année de bachelier en sciences de l'ingénieur, orientation bioingénieur (option : agronomie)	(5 credits)	Mandatory
BIR13BA/E	Troisième année de bachelier en sciences de l'ingénieur, orientation bioingénieur (option : environnement)	(5 credits)	Mandatory
VETE13BA	Troisième année de bachelier en médecine vétérinaire	(5 credits)	Mandatory