

UE Genetics - BIO332 -



ECTS
6 crédits



Composante
Département
de la licence
sciences et
technologies
(DLST)



Période de
l'année
Automne (sept.
à dec./janv.)

Diplômes intégrant cet élément

- Licence Sciences de la vie
- Licence Chimie

- **Langue(s) d'enseignement:** Anglais
- **Ouvert aux étudiants en échange:** Non
- **Code d'export Apogée:** YAX3BI92

Présentation

Description

This is an introductory course to the concepts of genetics in prokaryotic and eukaryotic cells as well as in population genetics. In particular, it deals with the different mechanisms of horizontal gene transfer in bacteria and their use for genetic mapping. It also discusses the different types of Mendelian and non-Mendelian hybridism in eukaryotic organisms and describes examples in human genetics. Finally, it introduces the basic concepts of population genetics (Hardy-Weinberg principle, breeding regime and evolutionary forces). The acquisition of this knowledge will be worked on in practical exercises and the practical sessions will enable students to familiarise themselves with the basic techniques of bacterial genetics (transformation, selection, restriction map).

Heures d'enseignement

TD	TD	21h
CM	CM	28,5h
TP	TP	12h

Pré-requis recommandés

Biomolecular constituents of the cell (BIO131), basics of cell biology (BIO231)

Notions of genetics at scientific baccalaureate level: cell cycles (mitosis, meiosis), probabilities (product and sum of probabilities rules).

Période : Semestre 3

Compétences visées

- Master the concepts of transformation, conjugation and transduction in bacteria
- Master the common segregation of alleles and phenotypes in monohybridism and polyhybridism in eukaryotes
- Know the particular segregations of alleles and phenotypes (sex-linkage, genetic interactions, genetic linkage)
- Know how to calculate a genetic distance
- Know the Hardy Weinberg rules in population genetics
- Know how to purify, digest and analyse plasmid DNA

Infos pratiques

Contacts

Responsable pédagogique

Daniel Perazza

✉ daniel.perazza@univ-grenoble-alpes.fr

Lieu(x) ville

➤ Grenoble



Campus

➤ Grenoble - Domaine universitaire