

UE Development and differentiation



- > **Teaching language(s):** English
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** YAMB8U16

Presentation

Description

The aim of this course is to study development and cell differentiation as the result of multiple interactions of genetic and epigenetic regulations organized into networks. In this context, the module is in direct and logical continuity with the master 1 module "Molecular Genetics and Epigenetics". This "Development and Differentiation" module will take examples from a wide range of organisms including prokaryotes, protists (protozoa), and higher eukaryotes such as plants and animals.

The module is divided into three major themes: Gametogenesis and Early Development, Organogenesis and Tissue Differentiation and finally, Cell Differentiation and Environment with the concern to always draw examples from the diversity represented along the tree of life.

Together with the module "Molecular Genetics and Epigenetics", this course will give an integrated overview of cell differentiation and development and how these activities are orchestrated and regulated by genetic and epigenetic factors. This will be illustrated by examples coming from a wide range of organisms. Therefore, this course is strongly recommended as a preparation to the PHEDD M2 program and would also be grounding to other M2 programs such as NN and IMID.

Course parts

UE Development and differentiation - TD	Tutorials (TD)	18h
UE Development and differentiation - CM	Lectures (CM)	29h

Period : Semester 8

Skills

Targeted skills:

At the end of this module, the students should be able to:

- Recapitulate the main developmental steps of the models described in the lectures and their most important regulatory pathways;
- Describe some important genetic and epigenetic regulations involved in development and cell differentiation;
- Explain the experimental strategy used in a scientific publication;
- Explain experimental details of classical experiments used in the field of development and cell differentiation;
- Conclude and be critical about a series of experiments;
- Propose experimental strategies to answer questions related to development and cell differentiation.

Useful info

Contacts

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Place

> Grenoble

Campus

> Grenoble - University campus