UE Evolutionary biology of plants

ECTS
6 credits

- **Teaching language(s):** English
- **Open to exchange students:** No

Presentation

Description

Course outline

Lectures

- The green lineage: groups and phylogenetic classification

- Conquest of the land by plants: Emergence from the aquatic environment and evolution of body plans

- Endosymbiosis in the plant kingdom: Mechanism, coordination of three genomes and consequences on physiology, development and metabolism

- Evolution of reproductive strategies: algae, mosses, ferns, spermaphytes

- Photosynthesis evolution (antenna structure, photoprotection, state transitions)

As well as several focussed lectures on the plant cell wall, the lipid metabolism, the evolution of microalgaes…

Bibliographic project

A group of 2 students will cover the bibliography on a specified scientific question proposed by a reference teacher. The reference teacher will indicate a review article and 2 break-through research articles to start with. Based on this information, the students will gather bibliographic references (i.e. up to 40 articles), read the corresponding articles and synthetize them in a collaborative written report. An oral presentation of their synthesis will be presented in front of the other students, leading to a discussion around the scientific question they cover.

Tutorials: Preparing, presenting and discussing a bibliographic project

To help prepare the bibliographic project, the student will benefit of 2 tutorials about techniques for bibliographic researches and a presentation of useful bibliographic resources (journals, databases, …) available through the UGA library, as well as a dedicated slot for collaborative work at the University library. A discussion will also be organized between the students and their reference teacher about the on-going bibliographic research and the structure of the written and oral reports.

Oral presentations of the bibliographic work will take place during discussions sessions with the complete group of students.

Course parts

UE Evolutionary biology of plants - CM	Lectures (CM)	28,5h
UE Evolutionary biology of plants - TD	Tutorials (TD)	16,5h

Recommended prerequisites

Pre-requisites:

- Knowing the bases of cell biology, gene regulation, and plant physiology
- Finding informations in a scientific article written in English
- Knowing how to intreprete and to bring a critical view on experimental results

Skills

- Targeted skills:

- Being able to describe the main characteristics of the green lineage, to explain the issues of the land conquest by plants and to compare reproductive strategies among major plants groups
- Searching for scientific bibliographic references related to a defined topic and finding the corresponding articles
- Searching, in a set of reviews and primary articles, for key/pertinent elements that inform on advances in a given scientific topic
- Putting a scientific question in the context of the state-of-the-art; Presenting (orally and in a written report) a synthetic view on a large amount of scientific data
- Understanding how scientific approaches and methodologies lead to knowledge elaboration
- Working in collaborative groups

Useful info

Contacts

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Campus

Grenoble - University campus