

# UE Evolutionary biology of plants



ECTS  
6 credits

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

## Presentation

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

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

#### 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 synthesize 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.

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## Course parts

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

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## 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 interpret and to bring a critical view on experimental results

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## 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

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## Contacts

Program director

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## Campus

› [Grenoble - University campus](#)