

- Faculté des sciences
- www.unine.ch/sciences

Microbial ecology (3BL2238)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en biologie	Cours: 30 pg	Voir ci-dessous	3

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Printemps

Equipe enseignante

Pilar Junier & Saskia Bindschedler

Contenu

This teaching will focus on presenting modern approaches in microbial ecology and recent research in this field, including the research performed in our laboratory in the field of sustainable agriculture. This will be combined to a practical work consisting in elaborating the conceptual framework of a specific research area, identifying research questions & hypotheses and translating this into an experimental plan. Finally, the writing of a report will allow synthesizing the work carried out during the practical part. In addition, the students will participate to the workshop on "Visions of Sustainable Agriculture", which complements the content of the lecture and presents a concrete example of the application of microbial ecology in the context of sustainability.

Forme de l'évaluation

The evaluation of this teaching is based on a graded continuous assessment, consisting of the following points:

1. Active participation to the discussions in the overall course: 10%
2. Production of a summary on the concept of microbiome: 20%
This summary consists in an individual summary of maximum 1000 words which should highlight the conceptual framework of the microbiome. The deadline to handle this document is 29.03.2021.
3. Production of a literature summary (group work): 30%
Starting from the discussion of the concept of microbiome, we will define specific topics to be addressed in the form of a 15 min presentation in groups (10%) and a literature review (3000 words; 20%). Deadline for the written part: 03.05.2021.
4. Final report on the practical part: 40%
Each student will have to provide an individual report in the form of a brief research proposal (examples will be provided during the lectures). The content of this report will be defined during the practical part of this teaching. The sections that should appear in the report are: Introduction, with question and hypotheses; Experimental plan; Expected results; Reference list. The report should not be more than 3 pages (Arial font, size 11) without figures and references. The deadline to hand out the report is 04.06.2021.

Documents described in 2, 3, and 4 should be sent per e-mail as a pdf file to both teachers.

In case of an insufficient evaluation, an updated version of the report will be required together with a 30 minutes oral presentation (15 minutes presentation and 15 minutes questions) that will allow assessing the extent of the candidate's knowledge on the topics developed in this teaching. After the publication of results, the student has the responsibility to contact the teacher in advance in order to define a date to hand out the report as well as a date for the oral presentation. The oral presentation should take place within one week after the date by which the report has been handed out. The oral evaluation does not necessarily need to take place within an exam session, but it should be organized at the latest 5 days before the end of the following exam session.

Documentation

Review articles will be provided to the students and specific scientific articles will be discussed during the lectures.

Pré-requis

Basic concepts in microbiology of a Bachelor level

Forme de l'enseignement

Lectures, seminars, practical work, and discussion of scientific articles

- Faculté des sciences
- www.unine.ch/sciences

Microbial ecology (3BL2238)

Objectifs d'apprentissage

Au terme de la formation l'étudiant-e doit être capable de :

- Interpret recent scientific information in the field
- Illustrate methods discussed in the theoretical lectures for the accomplishment of a scientific project.
- Discuss current topics in microbial ecology in the context of sustainable agriculture
- Identify a scientific goal
- Develop a research project
- Provide critical feedback in the projects of peers
- Establish a scientific hypothesis
- Outline a research question on the topic

Compétences transférables

- Explain a scientific question
- Translate theoretical knowledge into practice
- Review scientific literature
- Invent a novel idea