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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

BINDSCHEDLER Saskia, JUNIER Pilar

Contenu

This course will cover topics linking microbial ecology to sustainable agriculture. It will be split into two sections:

Theoretical lectures, exploring the following concepts: Microbiomes and microbiota; What is the soil microbiome? Brief overview of the methods to study microbiomes and microbes

Practical work exploring the concept of ecosystem services provided by the soil microbiome and focusing on describing the general context of a specific ecosystem service considering the continuum Plant-Fungi-Bacteria. In addition, a short grant proposal will be prepared as part of the practical work.

Forme de l'évaluation

The evaluation of this teaching is based on a graded continuous assessment, consisting of the following elements:
- Individual summary (max 1000 words) on the concept of soil microbiome (30%). Deadline: 20.03.2023.
- Presentation of a literature review on an ecosystem service provided by the soil microbiome (group of 4 students; 30%). Presentations on: 15.05.2023.
- Individual report on the practical part in the form of a brief research proposal: Introduction, with question and hypotheses; Experimental plan; Expected results; Reference list. Max 2000 words without counting figures and references (40%). Deadline: 02.06.2023.

In case of a grade below the pass grade (4), the student should contact the teachers to fix the topic of an essay and a second proposal to be handle two weeks before the end of the following exam session.

Modalités de rattrapage

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

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

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- 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