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

Evolutionary ecology (3BL2216)

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

Daniel Croll

Contenu

Evolutionary ecology provides a bridge to link two major areas of biology that can hardly be understood on their own. The course will start with an introduction to major concepts in evolutionary ecology such as life history traits, sex allocation, phenotypic plasticity, species interactions and cooperation. Then, the course will focus on a series of topics that are particularly relevant to understand major patterns of biodiversity and/or impact human society. These topics will include the evolution of antibiotic resistance, the role of aging and senescence, the process of speciation, the evolutionary ecology of diseases, the evolution of sex and more.

The presentation of recent literature will be used to stimulate discussions and outlooks on what major questions remain unsolved in this area.

Forme de l'évaluation

Continuous assessment (graded).

The course will be evaluated based on four elements with the following weights:
15% Active participation in article discussions, topic discussions and break-out groups.
35% Presentation of a scientific article and guiding the discussion (see guidelines on Moodle for more details)
15% Presentation of the planned research proposal (see guidelines on Moodle for more details)
35% Research proposal on a relevant topic in evolutionary ecology (see guidelines on Moodle for more details)

Retake attempt must be registered at another session.
If a student fails to obtain a sufficient grade in the published evaluation results, the student will have to prepare a review on a topic presented in class and pass an oral test of 30' with a date set by the professor. The review will have to be 10 pages and contain at least 20 scientific references of research articles. The due date will be fixed by the professor. Without valid justification, a failure to attend the oral test and/or to submit the review on time will be considered as a failure.

Documentation

Slide handouts, articles to present (see course Moodle)

Pré-requis

Basic concepts in ecology and evolution

Forme de l'enseignement

Lectures, student presentations and discussions

Objectifs d'apprentissage

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

- Define key concepts in evolutionary ecology
- Criticise scientific publications in the field of evolutionary ecology
- Develop a research proposal in evolutionary ecology
- Synthesise how climate change impacts ecological interactions
- Analyse the evidence underlying life history evolution
- Evaluate competing hypotheses

Compétences transférables

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- Synthesise the state of research in a field
- Defend a research proposal
- Analyse the structure of scientific publications
- Communicate the merits of a scientific study