- Faculté des sciences
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Evidence-based conservation of ecosystems (3CB2005)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en conservation de la biodiversité	**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

Prof. Clara Zemp, Dr. Samantha Suter, Dr. Giorgia Camperio

Contenu

The course is organized in three parts.

The first part provides the theoretical knoledge related to biodiversity and ecosystem functioning:
- Concepts of biodiversity, ecosystem functioning, ecosystem services and nature's contributions to people and how they are related within the IPBES framework
- Theory and development in biodiversity-ecosystem functioning relationship (BEF) research
- The empirical approaches to assess the impact of biodiversity on ecosystem functioning
- The biological mechanisms of the BEF relationship
- Multiple facets of biodiversity and interactions
- Biotic interactions
- Multidiversity, multifunctionality
- Challenges and opportunities for scaling-up BEF research
- Impactions of BEF research for practice
- Land-use change and other global drivers of biodiversity loss (climate change, pollution, invasive species, overexploitation)

The second part consist of in-depth study of a specific ecosystem.
For this part, students will develop a review of information and evidences related to a specific topic. The specific topic will be proposed by the students based on 8 braod ecosystem types (Sahel Savannah, Tropical lowland rainforests, Montane cloud forests, European semi-natural grasslands, Alpine ecosystems, Oceanic islands, Mangroves, Coral reefs).

In the third part, students will organize a debate on the topic of land-sharing and land-sparing stategies.

Forme de l'évaluation

Graded continuous assessment.

The final grade will be based on three main deliverables:

1) Individual assignments: Response to online questionnaires related to the lecture of the week, see on Moodle for more information (1/3 of the grade).

2) In group of students (approx. 4-5 students) : A review of literature on a specific topic (1/3 of the grade)

The final report will contain 8000 to 10000 characters (space included) excluding title, references and authors sections.

Deadline for the final version: 22d of May.

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The evaluation will be based on the following criteria :
- Structure & Clarity
- Correct use of concepts
- Rigor (follows the protocol)
- References and how they are included

3) In group of students (approx. 4-5 students) : Preparation and contribution to a debate related to the land-sharing and land-sparing controversy (1/3 of the grade)

The study cases will be defined in collaboration with the professor.

The activities consist of 3 phases: Preparation, Debate and Debriefing

Phase 1: Preparation of the debate:
• Each group provides a 1-page document to plan the debate: describe each question that will be raised during the debate.
Each group of students will be evaluated on the final 1-page document.

Phase 2: Debate
• each student will be assigned a specific role
• They will debate during 20-30 minutes in a structured manner.

Phase 3: Debriefing
• each group visualizes the video of a debate conducted by another group and takes notes on the pro/contra arguments.
• They summarize the observations in a PowerPoint document and present it to the class (max 20 minutes per group).

As part of this course, the students will be evaluated on Phase 1 only.

The presence and participation in class is mandatory for all group work activities (related to coaching sessions, feedbacks sessions, debate and debrefing sessions). See on Moodle for more information.

Modalités de rattrapage

If the final mark is insufficient and results in a failure, the student will have to prepare one scientific review report (1000-2000 words without references, and including 5 references) related to a topic suggested by the professor. The report should be handed in two weeks before the official start of the exam session for which a second attempt is made. In addition, the student will pass an oral exam of 30 minutes scheduled during the exam session. A failure to hand in the critical essay or an unjustified absence from the oral exam constitutes a second and definite failure from the course.

Documentation

Documents will be provided on Moodle

Pré-requis

You should register to the courses during the same semester:

For all students (Master in Biology and Master in conservation):
"Evidence-based conservation of species and habitats" (C. Praz)

For the students of the Master in conservation :
"Effective communication for biodiversity conservation" (V. Wyssbrod)

Forme de l'enseignement

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- Online lectures in form of recorded videos
- In-class activities in small groups including coaching and feedback sessions, group debates and debriefing sessions.

Objectifs d'apprentissage

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

- Explain the the link between biodiversity and the functioning of ecosystems from the perspective of scientific research
- Discuss the pros and cons of land sharing and land sparing strategies based on scientific evidences
- Describe a specific ecosystem and the current state of knowledge on the associated conservation issues

Compétences transférables

- Criticise arguments in a constructive manner
- Communicate clearly and concisely
- Work in group
- Identify a scientific evidence
- Synthesise informations and evidences on a specific topic