

- Faculté des sciences
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## From cells to ecosystems (3BL2219)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en biologie</b>	<b>Cours: 3 ph</b>	<b>controle continu: 1</b>	3

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

### Période d'enseignement:

- Semestre Printemps

### Equipe enseignante:

Sergio Rasmann, Enrique Lara, Edward Mitchell, Vanessa Rion

### Objectifs:

The objective of this course is to give an overview of methods and concepts used in ecology, with on how to perform integrative science (precisely, from cells to ecosystems). Students will acquire basic knowledge on how organisms are interacting in nature to maintain stable ecosystems, and how to answer fundamental questions in ecology. Additionally, we will explore methods used to study species interactions and their function. These notions will be acquired through a combination of theoretical courses and excursions.

### Contenu:

This course includes a theoretical part and excursions.

Theoretical part: After an initial introduction to theoretical concepts and examples for performing integrative research and species interaction, students will be introduced to the different ecosystems around the Canton of Neuchâtel.

Excursions: 3 excursions will allow students to discover contrasted ecosystems if the region of Neuchâtel (e.g. nutrient-poor dry meadows, peatlands, forests) and apply some of the methods discussed in the theoretical part. The excursions will be led jointly by Edward Mitchell and Sergio Rasmann

### Forme de l'évaluation:

The evaluation is based on individual reports handed in by students. I first assignment will be handed in after the first excursion day. This first report will consist of a list of questions that the students need to formulate. The second assignment will be handed in at the end of the first week of the June exams (for 2015: June 5th). The report will cover a topic chosen by the student among a list provided by the professors. They will develop topics based on the courses, extra reading and observations during the excursions.

### Documentation:

Powerpoint presentations, selected literature and excursion guides.

### Pré-requis:

Participation to excursions is limited to students with good physical capacity (walking in uneven terrain, and uphill at standard speed - e.g. 400m elevation gain / hour). Students unsure of their capacity are required to contact Edward Mitchell before the excursions.

### Forme de l'enseignement:

This course includes a theoretical part and excursions. Students will apply concepts discussed in the courses during the excursions and will prepare a short essay based on their observations and interpretations.