March 14, 2024

Block course in Ecology and Conservation Biology (VV-Nr. 12288)

Spring term, 3rd year
For Bachelor students in Biology at the University of Basel, Major in Organismal Biology and Integrative Biology

Organization
The block course in Ecology and Conservation Biology is offered by the research groups "Ecology", "Plant Ecology and Evolution" and "Geoecology" of the Department of Environmental Sciences, and the research groups "Entomology" of the Natural History Museum and the "Alpine environment and natural hazards" of the SLF Davos. The course takes place during the second part of the spring term and lasts for 6 weeks.

The course includes theoretical and practical parts with lectures, tutorials, excursions and independent research projects. Students will develop and expand their knowledge on ecology, palaeoecology and conservation biology. The timing of the course, during spring semester, is well suited for excursions and field projects. Lectures and lab work take mainly place at Schönbeinstrasse 6 and Bernoullistrasse 32.

Key subjects
The block course covers the following themes: What determines the coexistence of organisms? How do they react to abiotic and biotic changes, and particularly also anthropogenic influences? What determines the abundance of organisms and determines whether populations are endangered?

- Subjects of part A (week 1-2): palaeoecology, long-term ecosystem change, bioindication and environmental reconstruction based on biotic indicators, ecology of running waters and springs.
- Subjects of part B (week 3-4): plants and their habitat, insects and their habitat, abiotic factors, biotic interactions, pollination biology, climate change.
- Subjects of part C (week 5-6): vegetation ecology, abiotic environmental conditions, species distributions and their limits, ecological niche, species abundance, richness and diversity, environmental change.

Students will acquire general biological knowledge with an emphasis on organismal biology, learn how to design and execute a scientific research project, collect and analyze data that they have collected (using R software), search and evaluate published scientific literature, and present their own results orally and in writing.

Responsible lecturers
Plant Ecology and Evolution: Prof. Yvonne Willi (course coordinator), and assistants
Geoecology: Prof. Oliver Heiri, PD Dr. Stefanie von Fumetti, and assistants
Ecology: Prof. Sabine Rumpf, and assistants
Insect diversity: PD Dr. Seraina Klopfstein, Natural History Museum
Vegetation ecology: Dr. Christian Rixen, SLF Davos