



POLAR ECOLOGY COURSE



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Deadline 15.1.24

**POLAR
ECOLOGY
COURSE**



How to Apply

All students from the Faculty of Science

Proficiency in English is mandatory

A motivation letter is a prerequisite for application

- reasons for wanting to attend the course (specify research interest)
- significance for your future studies
- experiences from research, work, or travel in similar extreme conditions
- max 5000 characters (ca 2 pages)



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Before applying...

- Consider your health situation
 - It is a remote location with limited accessibility of health care
 - Please, consult with us any chronic diseases/limitations such as diabetes, allergies...
 - Working in the field also requires good physical preparedness



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Before applying...

- Are you able to spend ca 10 days in the field without a proper bathroom, share room with other 5 persons and help with cooking?
- There is no GSM signal or internet in the field station
- We need you to speak English and not to be shy if your English is not perfect – just communicate...



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Schedule

**Theoretical
lectures**

20. – 24. May

**Fieldwork
Svalbard**

2 weeks in July

Lab in CB

1 week in July

Conference

1 – 2 days in Oct



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Course Programme

Impacts of recent rapid warming on various aspects of polar ecosystems

Glacier dynamics and retreat

Colonization by microorganisms, plants, and animals



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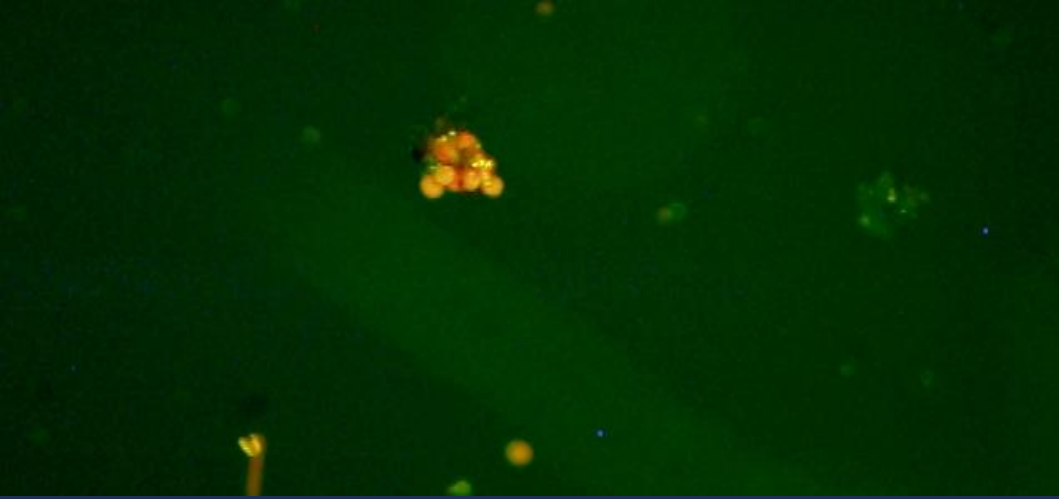
Course Programme

Landscape Processes

Exploring specific features of polar environment
Glacier surfaces, glacier forefields, rugged mountain slopes, flat tundra plains

Long-term monitoring

Atmospheric and soil observations
Network of automatic weather stations
Freshwater system monitoring
Drone mapping



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Course Programme

Soil microbiology

Soil samples along a carefully selected glacier forefield chronosequence

Microbial respiration (CO₂ production)

Microbial enzyme activities

Microbial biomass determination



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Course Programme

Botany and vegetation ecology

Monitoring the process of colonization by pioneering and later successional species in glacier forefields

Mapping vegetation cover by pin-point or Brown-Blanket strategy of vegetation survey

To show students how many diverse biotopes can be found in the high Arctic



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Course Programme

Soil and freshwater zoology

Coupling of terrestrial and marine habitats

Lakes after glacial retreat

Soils in glacial forefields

Cryoconites, tiny microhabitats on the glacier surface



Accommodation

Payer house in Lyr Field station Nostoc



CZECH ARCTIC
RESEARCH STATION





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Practical informations

- Travel expences (flight ticket, boat ticket), accomodation, including insurance, meal is covered by university
- Students will partly participate on travel expences (5000CZK, 200EUR)
- Clothes to harsh conditions!
- Safety course in field station
- Always have somebody with gun in the field

Practical informations



Contacts

Vegetation group:

Viki Brožová - brozov00@prf.jcu.cz

Soil and freshwater zoology group:

Míla Devetter - devetter@upb.cas.cz

Soil microbiology group:

Jirka Bárta - jiri.barta@prf.jcu.cz

Landscape processes:

Jeník Kavan - jkavan@prf.jcu.cz