



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PFS0148 Resources, competition and predation, 1.5 credits

Syllabus approved

2018-01-26

Subjects

Biology

Education cycle

Third cycle

Grading scale

Pass / Failed

The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

Populations, communities and ecosystems (or equivalent)

Objective, including learning outcomes

The aim of the course is to give the student an introduction to the main biotic interactions such as the different type of species interactions and consumer-resource interactions.

Learning outcomes: Upon completion of the course the student should be able to:

- Describe the variety of ways through which organisms may interact
- Explain the nature of, and contrast between, conditions and resources
- Describe how organisms deal with the consumption of different resources
- Describe the different ways through which organisms may interact over resources, such as intra- and interspecific competition and facilitation, and the effects of these interactions
- Understand the importance of direct and indirect effects and distinguish between bottom-up and top-down control of food webs
- Distinguish the similarities and differences among ‘true predators’, grazers and parasites
- Apply theory on optimal foraging to analyse foraging decisions made by animals
- Apply theory on trophic cascades to analyse interactions between carnivores, herbivores and plants

Content

The course starts with introducing the variety of ways through which organisms interact, including: mutualism, competition, facilitation, predation, etc. We will then continue with the concept of consumer-resource interactions within a food web, working on the concepts of resources, competition and predation. The course continues with the concepts of resources and conditions focussing on how organisms deal with variation in both. We will then continue with both intra- and interspecific competition for resources, including some evolutionary effects on competition. We will then continue to look at predators and parasites to complete the food web. We will explore bottom-up and top-down control in food webs and discuss the concept of trophic cascades.

Requirements for examination

Marking scale: Passed / Failed

Pass grade requirements: Approved written exam

Additional information

Pedagogical form: The course consists of lectures and self-study as the course aims at providing theoretical understanding of the concept of ecology. This will be tested with a written exam.

Preliminary time schedule:

Day (working days) 1-4:

9.00 – 12.00 Lecture

13.00 – 16.00 Self-study of literature

Day 5:

9.00 – 12.00 Exam

The Department reserves the right to cancel the course if there are not more than 5 students who have applied for the course. There is no tuition fee. The student is responsible for any housing and travel costs. Students belonging to the ECOS research school have priority to the course.

Part of research school: ECOS, Ecology and society

Education cycle: Third

Scope: Basic course, aimed at students with non-ecology background

Responsible department

Department of Wildlife, Fish, and Environmental Studies