

Module: Ecology

Level	Bachelor	Short Name	OEC
Responsible Lecturers	Reintjes		
Department, Facility	Applied Natural Sciences		
Course of Studies	Environmental Engineering and Management, Bachelor		
Compulsory/elective	Compulsory	ECTS Credit Points	5
Semester of Studies	2	Semester Hours per Week	4
Length (semesters)	1	Workload (hours)	150
Frequency	SuSe	Presence Hours	60
Teaching Language	German/English	Self-Study Hours	90

The following section is filled only if there is **exactly one** module-concluding exam.

Exam Type	Written Exam	Exam Language	German/English
Exam Length (minutes)	120	Exam Grading System	
Learning Outcomes	<p>The students understand the principles of interactions between organisms and their abiotic and biotic environment.</p> <p>They can summarize methods of ecological research and interpret the results of studies.</p> <p>They recognize the diverse relevance of ecology for humans and specific environmental protection</p>		
Participation Prerequisites			

The previous section is filled only if there is **exactly one** module-concluding exam.

Consideration of Gender and Diversity Issues	<ul style="list-style-type: none"> ✓ Use of gender-neutral language (THL standard) ✓ Target group specific adjustment of didactic methods ✗ Making subject diversity visible (female researchers, cultures etc.)
Applicability	
Remarks	

Module Course: Ecology (Lecture)

(of Module: Ecology)

Course Type	Lecture	Form of Learning	Presence
Mandatory Attendance	no	ECTS Credit Points	3
Participation Limit		Semester Hours per Week	2
Group Size		Workload (hours)	90
Teaching Language	German/English	Presence Hours	30
Study Achievements ("Studienleistung", SL)		Self-Study Hours	60
SL Length (minutes)		SL Grading System	One-third Grades

The following section is filled only if there is a course-specific exam.

Exam Type		Exam Language	German/English
Exam Length (minutes)		Exam Grading System	One-third Grades
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	<ul style="list-style-type: none"> • Classification of ecology in the context of science and environmental protection • Systems thinking in ecology: hierarchy levels from the individual organism to the entire planet • Ecology of individual organisms (autecology) • Ecology of populations (population ecology) • Ecology of communities • Ecosystem ecology
Literature	Campbell et al. (latest edition): Biology: A global Approach. Pearson
Remarks	

Module Course: Ecology (Practical)

(of Module: Ecology)

Course Type	Practical Training	Form of Learning	Presence
Mandatory Attendance	yes	ECTS Credit Points	2
Participation Limit		Semester Hours per Week	2
Group Size		Workload (hours)	60
Teaching Language	German/English	Presence Hours	30
Study Achievements ("Studienleistung", SL)	Practical Training	Self-Study Hours	30
SL Length (minutes)		SL Grading System	Pass

The following section is filled only if there is a course-specific exam.

Exam Type		Exam Language	
Exam Length (minutes)		Exam Grading System	
Learning Outcomes	<p>Students become aware of the challenges of experiments with living organisms/systems.</p> <p>Students recognize the importance of the interplay between ecological experimental approaches and the complexity of ecology conveyed in the lecture.</p> <p>Students know the basic principles of scientific work and can apply them in simple contexts.</p> <p>Students can apply descriptive statistics and understand selected approaches to inferential statistics.</p>		
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	<p>Basics of scientific work</p> <p>Ecological experiments in the field and laboratory. These include, for example:</p> <ul style="list-style-type: none"> • Determination of abiotic parameters in the laboratory and/or in the field (e.g., measurement of climatic parameters, chemical concentrations or total parameters) • Investigation of the fundamental and/or realized niche of selected organisms (e.g., temperature and humidity preferences of woodlice) • Determination of key figures of populations of selected organisms • Determination of key figures of communities of life in selected habitats
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	<p>Field excursions</p> <ul style="list-style-type: none"> • Visits to biologically interesting habitats in the immediate vicinity of the TH • Botanical and zoological identification exercises • Identification of animals and plants in the laboratory and on excursions (at a comparatively rough level)
Literature	<ol style="list-style-type: none"> 1. Hedderich, J., & Sachs, L. (2016). <i>Angewandte Statistik</i>. Springer Berlin Heidelberg. 2. Apps and literature for determination of animals and plants
Remarks	