



## **New module for the MSc Ecology, Evolution and Conservation: Ecology & Diversity of Terrestrial Plants**

The working group “Biodiversity Research/ Systematic Botany (Prof. Dr. Anja Linstädter) offers a **new elective module (6 CPs) in the summer semester 2021**. The module combines a practical field course with lectures and seminars to deepen both theoretical and practical knowledge in terrestrial plant ecology.

**Field course (25-28 May 2021):** You will join ongoing scientific research projects in global change ecology, and collect ecological data in field experiments or sites in Germany and nearby Potsdam. This provides deep, hands-on insights into practical work in modern plant ecology. We plan to offer spots for the Global Change Experimental Facility near Halle/Saale, the Biodiversity Exploratory in the Hainich National Park, and in the Botanical Garden of the University of Potsdam. The practical part will also include lab work with sampled plants after the return from the field.

**Lecture and seminar (Thursdays 12:15-13:45 h):** Prior to the field course, a mix of lectures and seminars will help you to familiarize with relevant concepts and methods in modern ecology. Afterwards, the focus will be on data analysis and interpretation.

**How are credit points earned?** You will prepare a presentation (followed by a brief questioning) and a report based on the analysis of the field data collected by you.

**What is required?** Basic botanical knowledge (especially in plant species characteristics and determination), and knowledge in statistics e.g. from the Compulsory Module BIO-O-KM2 is recommended.

**Further questions?** Contact Magnus Dobler ([magnus.dobler@uni-potsdam.de](mailto:magnus.dobler@uni-potsdam.de))

Ecology and Diversity of Terrestrial Plants		Number of credit points (CP): 6
Module type (mandatory or elective):	Elective	
Content and objective of module:	<p><b>Content:</b> This module combines a practical course with lectures and seminars to deepen both theoretical and practical knowledge in terrestrial plant ecology. In the practical course, small groups of participants (ca. 4) will address actual research questions. Typical topics are from trait-based ecology, biodiversity research, and global change ecology. All students will be integrated in ongoing scientific research projects of the Biodiversity Research/ Systematic Botany group, and collect ecological data in field experiments or sites in/ nearby Potsdam. Examples are the Global Change Experimental Facility close to Halle (Saale), and the Biodiversity Exploratory in Hainich National Park. The block course provides a deep insight into practical work in modern plant ecology. Prior to it, a mix of lectures and seminars will help students to familiarize with relevant concepts and methods in modern ecology. After the practical course, lectures and seminars will focus on data analysis and interpretation.</p> <p><b>Qualification goals:</b></p> <p><b>1) Scientific competences: Students...</b></p> <ul style="list-style-type: none"> <li>- Know theories and methods in biodiversity research and global change ecology</li> <li>- Have knowledge of plant phenology and its shift under climate change</li> <li>- Have detailed knowledge about plant functional traits and plant strategies</li> <li>- Have an in-depth knowledge of how plant populations and communities can be affected by climate change and/or land management, and what this means for essential ecosystem functions and services delivered by vegetation</li> <li>- Know how plants can be used as indicators for environmental conditions</li> </ul> <p><b>2) Methodological competences: Students...</b></p> <ul style="list-style-type: none"> <li>- Understand how scientific questions shape an ecological study design</li> <li>- Know data analysis techniques and can apply them to own data</li> <li>- Are familiar with selected measurement techniques in terrestrial plant ecology</li> <li>- Know important plant species at visited experimental or observational sites</li> <li>- Can integrate their findings with theoretical knowledge obtained in lectures and seminars</li> <li>- Can put data obtained during a practical course into a broader scientific context and critically discuss generated scientific insights</li> <li>- Can write a scientific report (introduction, material &amp; methods, results, discussion, references, supplemental material) similar to a scientific publication</li> </ul> <p><b>3) Professional competences: Students...</b></p> <ul style="list-style-type: none"> <li>- Know how to effectively organize data collection in a group</li> <li>- Can self-organize consecutive tasks such as data entry and sharing in a group</li> <li>- Know how to effectively organize, visualize and interpret collected data</li> <li>- Are able to condense their results to fit the limited space given</li> <li>- Can utilize feedback provided in scientific discussions or after presentations to improve their work and its interpretation</li> </ul>	
Module examination (number, form, scope):	<i>Oral presentation with questioning (15 + 15 min); report (10 pages)</i>	
Independent study time	90 hours	

Courses (type of teaching)	Contact time (in semester hours)	Supplementary exam work (number, form, scope)		Course-related (partial) module examinations (number, form, scope)	Total work required (CP)
		For completing the module	For admission to the module exam		
Ecology and diversity of terrestrial plants (lecture and seminar)	2	-	-	Oral presentation with questioning (15 + 15 min)	3
Practical course in terrestrial plant ecology (with data collection in a field study or field experiment)	4	Files with processed field data submitted	-	Report (10 pages)	3
<i>Optional: comments (pls keep short!)</i>					
Offered:		Every summer semester			
Prerequisite for taking the module		<i>Basic botanical knowledge (especially in plant species characteristics and determination), and knowledge in statistics e.g. from Compulsory Module BIO-O-KM2 is recommended.</i>			
Teaching units:		IBB, Prof. Dr. Anja Linstädter			
Assignable to PULS-module		BIO-O-WM1 Organismic ecology BIO-O-WM2 Basics of ecology BIO-O-WM 3 Concepts of ecology Bio-O-WM 4 Applied ecology BIO-O-WM 7 Biodiversity research BIO-O-WM13 Biology of plants and fungi			