

Module Name Restoration Ecology						
Type of Module ○ Advanced Module				Module Code Restoration Ecology		
Identification Number MN-B-SM (E 3)	Workload 360 h	Credit Points 12 CP	Term 2 nd term of studying	Offered Every Summer term	Start summer term only	Duration 7 weeks
1	Course Types a) Lectures b) Practical/Lab c) Seminar		Contact Time 21 h 155 h 4 h	Private Study 42 h 114 h 24 h	Planned Group Size max. 6 max. 6 max. 6	
2	Module Objectives and Skills to be Acquired Students who successfully completed this module <ul style="list-style-type: none"> • have acquired detailed knowledge and solid skills in restoration ecology with focus on the study of the interactions between natural habitats and human land use. • have gained an understanding of topics spanning from soil biology through above-ground population, community, ecosystem and landscape ecology, with an emphasis on managing systems to enhance, restore or rebuild degraded habitats. • can describe and quantitatively study the impacts of various management strategies on soil function, target species populations, community structure, ecosystem productivity and sustainability and can independently apply ecological principles and site-specific relationships to develop management options for restoration conservation and improvement of natural areas. • have learned how to present research results in oral and written form and to critically discuss scientific publications related to the topic of the module on a professional level. • are able to transfer skills acquired in this module to other fields of biology. 					
3	Module Content <ul style="list-style-type: none"> • Introduction to restoration ecology • Basic ecological principles related to restoration (succession, island biogeography and landscape ecology) • Techniques to modify abiotic and biotic component of ecosystems • Socioeconomic consequences of restoration • Roles of soil, plants and animals in restoration • Restoration in practice: setting targets, planing, legal issues, practical actions, management and monitoring • Examples: post mining sites, meadows, forest, oligotrophic habitats (heathlands, sand dunes etc) 					
4	Teaching Methods Lectures; Practical/Lab (Project work); Seminar; Field Excursions; Guidance to independent research; Training on presentation techniques in oral and written form					

5	<p>Prerequisites (for the Module) Enrollment in the Master's degree course "Biological Sciences"</p> <p>Additional academic requirements Previous attendance of the lecture module "Ecology, Evolution, and Environment (E)". Knowledge on fundamental ecological principles is indispensable to participate in this module. In cases of doubt, please contact the module coordinator (see 10) before choosing this subject module.</p>
6	<p>Type of Examination The final examination consists of two parts Oral presentation (20-30 min; 50 % of the total module mark), written report (50 % of the total module mark)</p>
7	<p>Credits Awarded Regular and active participation; Each examination part at least "sufficient" (see appendix of the examination regulations for details)</p>
8	<p>Compatibility with other Curricula* None</p>
9	<p>Proportion of Final Grade 12 % of the overall grade (see also appendix of the examination regulations)</p>
10	<p>Module Coordinator Prof. Dr. Michael Bonkowski, phone 470-3152, e-mail: m.bonkowski@uni-koeln.de</p>
11	<p>Further Information</p> <p>Subject module of the Master's degree course "Biological Sciences", Specialization: (E) Ecology, Evolution, and Environment</p> <p>Participating faculty: Prof. Dr. M. Bonkowski, Prof. Dr. J. Frouz (Charles University, Prague)</p> <p>Literature: Information about textbooks and other reading material will be given on the ILIAS representation of the course (https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html)</p> <p>General time schedule: Week 1-6, excursion to recultivation sites in the Czech Republic (week 22, May 30th – June 2nd, 2023) and to Forschungsstelle Rekultivierung, Paffendorf; lectures, practical/lab and preparation for the seminar talk (topic and date will be arranged individually) as well as writing seminar paper; Week 7 (Mon.-Fri): Preparation for the written examination</p> <p>Note: The module contains hand-on laboratory work conducted by small groups of students and is taught in research laboratories. The module does not contain computer-based practicals/research as a main component.</p> <p>Introduction to the module: Mai 12th, 2023; 10:00; Biocenter -1.005; for preparation to the module before this introduction see ILIAS link under literature.</p> <p>Oral examination: July 14, 2023, second/supplementary examination August 25, 2023; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>