

Restoration Ecology						
Identification number	Workload	Credit points	Term of studying	Frequency of occurrence	Duration	
MN-B-SM (E 3)	360 h	12CP	1 st or 2 nd term of studying	Summer term, 2 nd half	7 weeks	
1	Type of lessons		Contact times	Self-study times	Intended group size	
	a) Lectures		21 h	42 h	max. 8	
	b) Practical/Lab		155 h	114 h	max. 4	
	c) Seminar		4 h	24 h	max. 4	
2	Aims of the module and acquired skills 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	Contents of the module <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/Learning methods <ul style="list-style-type: none"> • Lectures; Practical/Lab (Project work); Seminar; Excursion to the Czech Republic (probably from 02.06. - 07.06.2019); Field Excursions; Guidance to independent research; Training on presentation techniques in oral and written form 					

Restoration Ecology (MN-B-SM [E 3]) continued

5	<p>Requirements for participation</p> <p>Enrollment in the Master´s degree course "Biological Sciences"</p> <p>Additionally recommended: Successful participation in an advanced ecology course within a bachelor´s program (e.g. MN-B-WP I [Eco 1] or MN-B-WP II [Eco 2] at University of Cologne) or similar skills (after consultation). In cases of doubt, please contact the module coordinator (see 10) before choosing this subject module.</p>
6	<p>Type of module examinations</p> <p>The final examination consists of three parts: Two hours written examination about topics of the lectures (50 % of the total module mark), oral presentation (25 % of the total module mark) and seminar paper (25 % of the total module mark)</p>
7	<p>Requisites for the allocation of credits</p> <p>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</p> <p>None</p>
9	<p>Significance of the module mark for the overall grade</p> <p>15 % of the overall grade (see also appendix of the examination regulations)</p>
10	<p>Module coordinator</p> <p>Prof. Dr. Michael Bonkowski, phone 470-3152, e-mail: m.bonkowski@uni-koeln.de</p>
11	<p>Additional information</p> <p>Subject module of the Master´s degree course "Biological Sciences", Focus of research: (E) Ecology and Evolution</p> <p>Participating faculty: Prof. Dr. M. Bonkowski, Prof. Dr. J. Frouz (Charles University, Prague)</p> <p>Literature:</p> <ul style="list-style-type: none"> • Zerbe, S., Wiegleb, G. (2009) Renaturierung von Ökosystemen in Mitteleuropa. Spektrum Akademischer Verlag • Additional reviews and original papers will be handed out during the module <p>General time schedule: Week 1 (Mon.-Fri.): Theoretical preparation of literature handouts; Week 2-6 (Mon.-Fri.): Lectures, practical/lab including an excursion to Czech Republic probably between 02.06. - 07.06.2019 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 course rooms and in the field. The module does not contain computer-based practicals/research as a main component.</p> <p>Introduction to the module: May 20, 2019 at 10:00 a.m., Cologne Biocenter, room -1.005 (first basement floor). Additional Information on the currently most relevant topics of the module will be send to the participants via e-mail about one week before the practical work starts.</p> <p>Written examination: July 12, 2019, second/supplementary examination August 30, 2019; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>