

<b>Module Name</b> Restoration Ecology						
<b>Type of Module</b> ○ Advanced Module				<b>Module Code</b> Restoration Ecology		
<b>Identification Number</b> MN-B-SM (E 3)	<b>Workload</b> 360 h	<b>Credit Points</b> 12 CP	<b>Term</b> 2 <sup>nd</sup> term of studying	<b>Offered Every</b> Summer term, 2 <sup>nd</sup> half	<b>Start</b> Summer term only	<b>Duration</b> 7 weeks
<b>1</b>	<b>Course Types</b> a) Lectures b) Practical/Lab c) Seminar		<b>Contact Time</b> 21 h 155 h 4 h		<b>Private Study</b> 42 h 114 h 24 h	
<b>2</b>	<b>Module Objectives and Skills to be Acquired</b> Students who successfully completed this module <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• are able to transfer skills acquired in this module to other fields of biology.</li> </ul>					
<b>3</b>	<b>Module Content</b> <ul style="list-style-type: none"> <li>• Introduction to restoration ecology</li> <li>• Basic ecological principles related to restoration (succession, island biogeography and landscape ecology)</li> <li>• Techniques to modify abiotic and biotic component of ecosystems</li> <li>• Socioeconomic consequences of restoration</li> <li>• Roles of soil, plants and animals in restoration</li> <li>• Restoration in practice: setting targets, planing, legal issues, practical actions, management and monitoring</li> <li>• Examples: post mining sites, meadows, forest, oligotrophic habitats (heathlands, sand dunes etc.)</li> </ul>					
<b>4</b>	<b>Teaching Methods</b> <ul style="list-style-type: none"> <li>• Lectures; Practical/Lab (Project work); Seminar; Field excursions; Guidance to independent research; Training on presentation techniques in oral and written form</li> </ul>					

5	<p><b>Prerequisites (for the Module)</b></p> <p>Enrollment in the Master's of Science degree course "Ecology, Evolution and Environment"; Completion of the basic modules Lecture, Tutorial and Seminar of the Master's of Science degree course "Ecology, Evolution and Environment"</p>
6	<p><b>Type of Examination</b></p> <p>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><b>Credits Awarded</b></p> <p>Regular and active participation; Each examination part at least "sufficient" (see appendix of the examination regulations for details)</p>
8	<p><b>Compatibility with other Curricula</b></p> <p>None</p>
9	<p><b>Proportion of Final Grade</b></p> <p>12.0 %</p>
10	<p><b>Module Coordinator</b></p> <p>Prof. Dr. Michael Bonkowski, phone 470 3152, e-mail: m.bonkowski@uni-koeln.de</p>
11	<p><b>Further Information</b></p> <p><b>Participating faculty:</b> Prof. Dr. M. Bonkowski, Prof. Dr. J. Frouz (Charles University, Prague)</p> <p><b>Literature:</b></p> <ul style="list-style-type: none"> <li>• Information on recommended textbooks and other reading material will be given on the ILIAS website of the course (see <a href="https://www.ilias.uni-koeln.de">https://www.ilias.uni-koeln.de</a>)</li> </ul> <p><b>General time schedule:</b> Week 1-6 (Mon.-Fri.): Start 26.05.2025 9:00. Lectures, practical/lab and preparation for the seminar talk (topic and date will be arranged individually); Excursions to recultivation sites in Garzweiler/Hambach (27.05./03.06.-05.06.) and to recultivation sites in the Czech Republic (five days between 15.06. – 21.06.): Completing of the written report and oral presentation (OBRS studio: room -1.802, Biocenter, booked 27th-31st May).</p> <p><b>Note:</b> 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><b>Introduction to the module:</b> May 22, 2025; 10:00; Biocenter -1.005; for preparation to the module before this introduction see ILIAS link above.</p> <p><b>Oral examination:</b> July 11, 2025, second/supplementary examination August 15, 2025; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>