

Module Name Floodplains in the Anthropocene						
Type of Module ○ Advanced Module				Module Code Floodplains		
Identification Number MN-B-SM (E 2)	Workload 360 h	Credit Points 12 CP	Term 2 nd term of studying	Offered Every Summer term, 2 nd half	Start Summer term only	Duration 7 weeks
1	Course Types a) Lectures b) Practical/Lab c) Seminar		Contact Time 21 h 155 h 5 h		Private Study 42 h 113 h 24 h	
2	Module Objectives and Skills to be Acquired Students who successfully completed this module <ul style="list-style-type: none"> • have acquired detailed knowledge regarding the ecology of floodplain areas, especially of the Lower Rhine floodplains, including gravel pit lakes as alternative floodplain habitats. Students have further achieved a deeper understanding on bottom up and top down effect of freshwater foodwebs and the connection between aquatic and terrestrial ecosystems. They will learn about freshwater communities of fish, macrozoobenthos and zooplankton, including native and invasive species. • are able to use a variety of techniques of sampling in the field of freshwater ecology • can conduct genome-enabled analysis of organismal diversity (e-DNA and genome skimming) in the laboratory and through computational analysis • can independently carry out small scientific projects related to the topic of the module. • 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"> • Physico-chemical water chemistry • Ecology of freshwater fish, macrofauna and zooplankton (esp. spatial and temporal aspects of ecology; incl. excursions) • Invasion biology of the River Rhine • Variety of fishing methods and biodiversity assessment methods • Food web analysis, morphometrics and anatomy of fish • Accomplishment and analysis of field data, species diversity and abundance data, including statistical analysis • Analysis of e-DNA and organismic DNA in the laboratory and subsequent analysis 					
4	Teaching Methods <ul style="list-style-type: none"> • Lectures; Practical/Lab; Seminar; Field excursions; Guidance to independent research; Training on presentation techniques in oral and written form 					

5	<p>Prerequisites (for the Module)</p> <p>Enrollment in the Master's of Science degree course "Ecology, Evolution and Environment", successful completion of the basic modules Lecture, Tutorial and Seminar of the Master's of Science degree course "Ecology, Evolution and Environment"</p>
6	<p>Type of Examination</p> <p>The final examination consists of two parts: Two hours written examination about topics of the lectures and the practical/lab part (50 % of the total module mark), oral presentation (20-30 min; 50 % of the total module mark)</p>
7	<p>Credits Awarded</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>Proportion of Final Grade</p> <p>12.0 %</p>
10	<p>Module Coordinator</p> <p>PD. Dr. Kristin Scharnweber, phone 02851-8575, e-mail: kristin.scharnweber@uni-koeln.de</p>
11	<p>Further Information</p> <p>Participating faculty: PD Dr. Kristin Scharnweber, Dr. Anja Scherwaß, Dr. Philipp Schiffer</p> <p>Literature: Information on recommended textbooks and other reading material will be given in the ILIAS repository of the course (will be provided at the start of the semester)</p> <p>General time schedule: Most of the module will take place at the Ecological Research Station in Rees-Bienen (https://ecological-field-station.uni-koeln.de/) and during this time, commuting to Cologne is not possible. The module will conduct hands-on laboratory and field work. Students will spend most of the time in the field and gain experience in collecting and analyzing field data. June 8-12: Ecological Research Station Rees June 15-19: Field excursions in the vicinity of Cologne and Biocenter June 22- July 03 (weekend excluded): Ecological Research Station Rees July 06 – July 17 Biocenter Cologne July 16: Oral presentation at the Biocenter</p> <p>Introduction to the module: June 01, 2026, 10 am (via zoom) (Link will be provided prior to the introduction via mail).</p> <p>Written examination: July, 24, 2026, second/supplementary examination August 28, 2026; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>