

Module Name Ecology of Streams and Rivers						
Type of Module ○ Advanced Module				Module Code River Ecology		
Identification Number MN-B-SM (E 1)	Workload 360 h	Credit Points 12 CP	Term 1 st term of studying	Offered Every Summer term, 1 st 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"> • are able to use different sampling strategies to analyze the occurrence of aquatic organisms in different types of running waters (small brooks and large rivers) • have acquired detailed knowledge on the biodiversity and ecology of running water animals • are able to analyse adaptation strategies of aquatic animals to cope with the current • have learned to present research findings 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 and environmental sciences. 					
3	Module Content <ul style="list-style-type: none"> • Introduction to the biology of running water systems from small streams to large lowland rivers from the perspective of interconnected stream networks and catchments (physico-chemical conditions, adaptations to habitat characteristics,...) • Typical life forms and communities in rivers habitats (e.g. biofilms) • Knowledge on traits, life cycles, and trophic interactions of running water organisms • Design, execution and analysis (incl. statistical data analysis) of mechanism-oriented experiments in aquatic ecology incl. presentation of results 					
4	Teaching Methods <ul style="list-style-type: none"> • Lectures; Practical/Lab (Project work); Seminar; Field excursions; Guidance to independent research; Training on presentation techniques 					

5	<p>Prerequisites (for the Module) Enrollment in the Master's of Science degree course "Ecology, Evolution and Environment"</p>
6	<p>Type of Examination Two hours written examination about topics of the lectures and practical part (accounts for 50 % of the total module mark) and oral presentation of own empirical data (accounts for 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 12.0 %</p>
10	<p>Module Coordinator Prof. Dr. Patrick Fink, phone 470 3100, e-mail: teach-ecology@uni-koeln.de</p>
11	<p>Further Information</p> <p>Participating faculty: Prof. Dr. Patrick Fink, Dr. Maja Ilić, Dr. Frank Nitsche</p> <p>Literature:</p> <ul style="list-style-type: none"> • Allan, JD Stream Ecology. Structure and function of running waters 2021. 3rd edition, Springer • Knisely, K. (2013) A Student Handbook for Writing in Biology. 4th edition, Sinauer Associates • Additional reviews and original papers will be handed out during the module <p>General time schedule: Weeks 1-6: lectures, usually 1 hr per day; weeks 1-2: Field work, excursions and laboratory course on small streams and rivers; week 3: Work at the Ecological Rhine Station in Cologne on large lowland rivers; week 4-6: research projects in small groups, either at the university or the Rhine station; this includes a seminar day in which the results of the research projects are presented to the group. week 7: Preparation for the written examination.</p> <p>Note: The module contains hands-on laboratory work conducted in small groups and is taught in the field, in course rooms and in research laboratories. The module does not contain computer-based practicals/research as a main component.</p> <p>Introduction to the module: April 3, 2025 at 10:00 a.m., Cologne Biocenter, room -1.004 (first basement floor)</p> <p>Written examination: May 23 (10.00), 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>