

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, 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"> • 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)</p> <p>Enrollment in the Master's of Science programme "Ecology, Evolution and Environment", successful completion of the basic modules Lecture, Tutorial and Seminar of the Master's of Science course "Ecology, Evolution, and Environment" in the winter term.</p>
6	<p>Type of Examination</p> <p>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</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>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. Note that some course sites are not accessible for people with physical disabilities, in case of doubt, send pre-inquiries to patrick.fink@uni-koeln.de</p> <p>Introduction to the module: June 1st, 2026 at 10:00 a.m., Cologne Biocenter, room -1.004 (first basement floor)</p> <p>Written examination: July 24th, 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>