

Chemical Ecology: Methods and Concepts					
Identification number	Workload	Credit points	Term of studying	Frequency of occurrence	Duration
MN-B-SM (E 2)	360 h	12 CP	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		23 h	46 h	max. 6
	b) Practical/Lab		152 h	111 h	max. 6
	c) Seminar		4 h	24 h	max. 6
2	Aims of the module and acquired skills Students who successfully completed this module ... <ul style="list-style-type: none"> • are able to use of state-of-the-art analytical equipment in this area (see contents of the module) and to measure compounds that are important in aquatic chemical ecology. • have acquired detailed knowledge on chemical ecology in aquatic systems, especially on the role of infochemicals, toxins and essential nutrients. • 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	Contents of the module <ul style="list-style-type: none"> • Chromatography (HPLC, GC) • Chromatography coupled to mass spectrometry (LC-MS, GC-MS) • Principles of metabolomics • Extraction of compounds from water • Current topics in aquatic chemical ecology, in particular chemical communication, toxins and essential nutrients • Accomplishment and analysis of bioassays 				
4	Teaching/Learning methods <ul style="list-style-type: none"> • Lectures; Practical/Lab (Project work); Seminar; Excursion; Guidance to independent research; Training on presentation techniques in oral and written form 				
5	Requirements for participation Enrollment in the Master´s degree course "Biological Sciences"				
6	Type of module examinations The final examination consists of two parts: Two hours written examination about topics of the lectures and the practical/lab part (70 % of the total module mark) and oral presentation (30 % of the total module mark)				

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7	Requisites for the allocation of credits Regular and active participation; Passed seminar paper; Each examination part at least "sufficient" (see appendix of the examination regulations for details)
8	Compatibility with other Curricula None
9	Significance of the module mark for the overall grade 15 % of the overall grade (see also appendix of the examination regulations)
10	Module coordinator Prof. Dr. Eric von Elert, phone 470-6084, e-mail: evelert@uni-koeln.de
11	Additional information Subject module of the Master's degree course "Biological Sciences", Specialization: (E) Ecology, Evolution, and Environment Participating faculty: Prof. Dr. E. von Elert Literature: <ul style="list-style-type: none">Information about textbooks and other reading material will be given on the ILIAS representation of the course (https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html) General time schedule: Week 1-6 (Mon.-Fri.): June 7 th – July 16 th excursion to the field station in Grietherbusch (depending on the Corona situation); lectures, practical/lab 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 Note: 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. Introduction to the module: June 07, 2021 at 9:00 a.m., Cologne Biocenter, room -1.005 (first basement floor). or online (in this case, further information/link will be sent to your Smail-Account); for preparation to the module before this introduction see ILIAS link under literature. Additional Information will be sent to the participants via e-mail before the start of the module. Written examination: July 23, 2021, second/supplementary examination August 27, 2021; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.

Corona note! Depending on the Corona situation during the summer term, excursion and practical work may be skipped either totally or in part. In this case, some or all practical parts will be replaced by adequate alternatives so that (i) the workload and (ii) the principle content of the modules remained unchanged.