

Chemical Ecology: Methods and Concepts						
Identification number	Workload	Credit points	Term of studying	Frequency of occurrence	Duration	
MN-B-SM (E 6)	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. 10	
	b) Practical/Lab		152 h	111 h	max. 10	
	c) Seminar		4 h	24 h	max. 10	
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" or in the Master´s degree course "Biochemistry"					
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)					

Chemical Ecology: Methods and Concepts (MN-B-SM [E 6]) continued

7	<p>Requisites for the allocation of credits</p> <p>Regular and active participation; Passed seminar paper; Each examination part at least "sufficient" (see appendix of the examination regulations for details)</p>
8	<p>Compatibility with other Curricula</p> <p>Biological subject module in the Master´s degree course "Biochemistry"</p>
9	<p>Significance of the module mark for the overall grade</p> <p>In the Master´s degree course "Biological Sciences": 15 % of the overall grade (see also appendix of the examination regulations)</p>
10	<p>Module coordinator</p> <p>Prof. Dr. Eric von Elert, phone 470-6084, e-mail: evelert@uni-koeln.de</p>
11	<p>Additional information</p> <p>Subject module of the Master´s degree course "Biological Sciences", Focus of research: (E) Ecology and Evolution</p> <p>Participating faculty: Prof. Dr. E. von Elert</p> <p>Literature:</p> <ul style="list-style-type: none"> • Brönmark, C., Hansson, L.A. (2012) Chemical Ecology in Aquatic Systems. Oxford University Press • Additional reviews and original papers will be handed out during the module <p>General time schedule: Week 1-6 (Mon.-Fri.): May 25th – July 4th: excursion to the field station in Grietherbusch; 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</p> <p>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.</p> <p>Introduction to the module: May 25, 2020 at 9:00 a.m., Cologne Biocenter, room -1.005 (first basement floor). Additional Information will be sent to the participants via e-mail before the start of the module.</p> <p>Written examination: July17, 2020, second/supplementary examination August 28, 2020; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>

* 8 students from the Master´s degree course "Biological Sciences" and 2 student from the Master´s degree course "Biochemistry".