

Module Name The scent of death: how to detect predators and toxins						
Type of Module ○ Advanced Module				Module Code Chemical Ecology		
Identification Number MN-B-SM (E 2)	Workload 360 h	Credit Points 12 CP	Term 2 nd term of studying	Offered Every Summer term, 1st half	Start summer term only	Duration 7 weeks
1	Course Types a) Lectures b) Practical/Lab c) Seminar		Contact Time 23 h 152 h 4 h	Private Study 46 h 111 h 24 h	Planned Group Size max. 10 max. 10 max. 10	
2	Module Objectives and Skills to be Acquired Students who successfully completed this module <ul style="list-style-type: none"> • have acquired detailed knowledge about the steering role of taste and smell in freshwater food webs and how to detect signaling molecules in water. • have gained an understanding of phenotypic plasticity in ecology and evolution • 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"> • Introduction to chemical communication among freshwater organisms • Introduction to biological toxins in freshwater foodwebs • State-of-the-art techniques to extract and measure taste and smell from water that are as well relevant in environmental analysis of pollutants • Accomplishment and analysis of bioassays with invertebrate animals • What is a metabolome? Principles of metabolomics 					
4	Teaching Methods Lectures; Practical/Lab (Project work); Seminar; Field Excursion; Guidance to independent research; Training on presentation techniques in oral and written form					
6	Type of Examination The final examination consists of two parts: written examination on topics of lectures, seminars and the practical/lab part (1 hour; 50 % of the total module mark), oral presentation (20-30 min; 50 % of the total module mark)					
7	Credits Awarded Regular and active participation; each examination part at least "sufficient" (see appendix of the examination regulations for details)					

8	Compatibility with other Curricula* None
9	Proportion of Final Grade 12 % 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	Further Information Subject module of the Master's degree course "Biological Sciences", Specialization: (E) Ecology, Evolution, and Environment Participating faculty: Prof. Dr. E. von Elert, Dr. C. Sánchez-Arcos Literature: 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.), excursion to the field station in Grietherbusch; lectures, practical/lab and preparation for the seminar talk (topic and date will be arranged individually); 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: Further information will be sent by e-mail to the participants. Written examination: May 19th, 2023, second/supplementary examination August 04, 2023; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.