

<b>Module Name</b> Chemical Ecology: Methods and Concepts						
<b>Type of Module</b> ○ Advanced Module				<b>Module Code</b> Chemical Ecology		
<b>Identification Number</b> MN-B-SM (E 2)	<b>Workload</b> 360 h	<b>Credit Points</b> 12 CP	<b>Term</b> 2 <sup>nd</sup> term of studying	<b>Offered Every</b> Summer term	<b>Start</b> summer term only	<b>Duration</b> 7 weeks
<b>1</b>	<b>Course Types</b> a) Lectures b) Practical/Lab c) Seminar		<b>Contact Time</b> 23 h 152 h 4 h	<b>Private Study</b> 46 h 111 h 24 h	<b>Planned Group Size</b> max. 6 max. 6 max. 6	
<b>2</b>	<b>Module Objectives and Skills to be Acquired</b> Students who successfully completed this module <ul style="list-style-type: none"> <li>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.</li> <li>have acquired detailed knowledge on chemical ecology in aquatic systems, especially on the role of infochemicals, toxins and essential nutrients.</li> <li>can independently carry out small scientific projects related to the topic of the module.</li> <li>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.</li> <li>are able to transfer skills acquired in this module to other fields of biology.</li> </ul>					
<b>3</b>	<b>Module Content</b> <ul style="list-style-type: none"> <li>Chromatography (HPLC, GC)</li> <li>Chromatography coupled to mass spectrometry (LC-MS, GC-MS)</li> <li>Principles of metabolomics</li> <li>Extraction of compounds from water</li> <li>Current topics in aquatic chemical ecology, in particular chemical communication, toxins and essential nutrients</li> <li>Accomplishment and analysis of bioassays</li> </ul>					
<b>4</b>	<b>Teaching Methods</b> Lectures; Practical/Lab (Project work); Seminar; Excursion; Guidance to independent research; Training on presentation techniques in oral and written form					
<b>5</b>	<b>Prerequisites (for the Module)</b> Enrollment in the Master's degree course "Biological Sciences" <b>Additional academic requirements</b> Previous attendance of the lecture module "Ecology, Evolution, and Environment (E)". Knowledge on fundamental ecological principles is indispensable to participate in this module. In cases of doubt, please contact the module coordinator (see 10) before choosing this subject module.					

6	<p><b>Type of Examination</b></p> <p>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)</p>
7	<p><b>Credits Awarded</b></p> <p>Regular and active participation Each examination part at least "sufficient" (see appendix of the examination regulations for details)</p>
8	<p><b>Compatibility with other Curricula</b></p> <p>None</p>
9	<p><b>Proportion of Final Grade</b></p> <p>15 % of the overall grade (see also appendix of the examination regulations)</p>
10	<p><b>Module Coordinator</b></p> <p>Prof. Dr. Eric von Elert, phone 470-6084, e-mail: evelert@uni-koeln.de</p>
11	<p><b>Further Information</b></p> <p><b>Subject module</b> of the Master's degree course "Biological Sciences", <b>Specialization:</b> (E) Ecology, Evolution, and Environment</p> <p><b>Participating faculty:</b> Prof. Dr. E. von Elert, Dr. C. Sánchez-Arcos</p> <p><b>Literature:</b> Information about textbooks and other reading material will be given on the ILIAS representation of the course (<a href="https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html">https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html</a>)</p> <p><b>General time schedule:</b> Week 1-6 (Mon.-Fri.): May 23<sup>rd</sup> – July 8<sup>th</sup>: 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); Week 7 (Mon.-Fri): Preparation for the written examination</p> <p><b>Note:</b> 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><b>Introduction to the module:</b> May 23, 2022 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.</p> <p><b>Written examination:</b> July 15, 2022, second/supplementary examination August 26, 2022; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>