


M4474 	M4474 - Integrative Topics in Life Science		
	Integrative Topics in Life Science		
Coordinator (responsible lecturer) Prof. Dr. Markus Pauly (m.pauly@hhu.de)		Status: 30.06.2023	
Lecturers All members of the department Biology		Semester: Since 1.	
Contact and organization Prof. Dr. Markus Pauly (m.pauly@hhu.de); Prof. Dr. Eva Nowack (e.nowack@hhu.de); Dr. Petra Fackendahl (petra.fackendahl@hhu.de)		Mode: optional course	
Workload 420 h	Credit points 14 CP	Contact time 225 h	Self-study 195 h
Course components Practical course: 18 SWS Lectures/Seminar: 2 SWS	Frequency every WiSe	Group size 16-54	Duration 1 year
Learning outcomes/skills Students have learned the concepts and methods of modern biology and are capable of using them. They have adopted microbial, genetic, cell, molecular biological and biochemical techniques and can apply these techniques independently. Students are familiar with the major scientific equipment and are capable of using the instruments precisely and independently. Students will learn to work in teams.			
Forms of teaching Lectures, Experimental practicals			
Content <u>Lectures:</u> Students have to attend one of the following lecture series: Integrative topics in microbiology, integrative topics in plant sciences, or integrative topics in cell biology. Each of these lecture series is given by numerous faculty members from the department. <u>Practical course:</u> <i>The practical course will cover modern methods in microbiology, plant sciences and molecular biology:</i> The practical course will consist of research projects in the laboratories of the participating lecturers. The laboratory can be chosen according to the student team's interest. The methods to be learned will depend on the research project.			
Eligibility Formal: Admission to the Master-program Content-related: Students must be familiar with elementary molecular, microbiological, and biochemical laboratory techniques.			
Examination types (1) Skill area knowledge (70% of final grade): written examination on the contents of lecture series (2) Skill area documentation (30% of final grade): written protocol of the research project with results and discussion that would allow a reproduction of the experiment; Oral presentation (analysis and discussion of the performed experiments)			

<p>Requirements for the award of credit points for this course</p> <p>(1) Regular attendance (lectures, practical course and seminar) (2) Pass written examination of skill area <u>knowledge</u> (3) Punctual submission of scientific protocol (4) Giving a scientific presentation</p>
<p>Relevant for following study programmes/major</p> <p>M.Sc. Biologie Major (depending on the laboratory of the research project): X Biomedicine and Cell Biology X Evolution and Biodiversity X Plant Sciences X Artificial Intelligence and Data Science X Pathogens and Infection Biology X Synthetic Biology and Biotechnology</p>
<p>Compatibility with other curricula</p> <p>M. Sc. Biochemistry</p>
<p>Significance of the mark for the overall grade</p> <p>The mark given will contribute to the final grade in proper relation to its credits. M.Sc. Biology 14/80 CP (2-years program) (14/78 CP 1-year program)</p>
<p>Course language</p> <p>English</p>
<p>Additional information</p> <p>Enrolling into the module is granted by the central study office of the Department of Biology. http://www.biologie.hhu.de/en/studies-in-biology/students-info/central-allocation-of-modules.html The practical course will be done as an independent research project (6 weeks) in the laboratory of one of the participating lecturers. Students may form teams of two to carry out the research project. The laboratory can be chosen according to the student team's interest and the timing is flexible.</p>