

[C2.3]	Advanced Molecular Biology & Microbiology	Compulsory elective module in the core area C2	3-5 CP (total) = 90-150 h				2-3 SWS
			Contact hours 2-3 SWS / 30-45 h	Independent study 60-105 h			
Content							
	<p><u>Lecture</u>: Current topics in molecular microbiology will be taught. A particular focus will be on e.g., bacterial architecture, intrinsic and acquired resistance mechanisms, antibiotic resistance, cell-cell communication.</p> <p><u>Practical course (optional)</u>: Related to the topics taught in the lecture, we will perform experiments focusing on antibiotic resistance, signaling and cell-cell communication. The experiments will cover cell and molecular biological approaches.</p> <p><i>The lecture can optionally be combined with the practical course.</i></p>						
Learning outcomes and skills							
	<p><u>Lecture</u>: The students learn about state-of-the-art microbiology. Emphasis is placed on novel approaches and technologies (from systems-based to individual molecules) that drive each field or have the potential to revolutionize future research in microbiology. In preparation of the lectures, students individually study book chapters and topical scientific papers summarizing the current knowledge of the respective topics.</p> <p><u>Practical course</u>: The students gain hands-on experience in different techniques from microfluidics approaches to functional studies of individual protein complexes. They learn to critically evaluate their results and put them into a physiological context.</p>						
Admissions requirements/Conditions for participation in the module/courses							
	None						
Recommended prior knowledge							
	None						
Organizational details							
Module allocation (degree programme/faculty)			Master Biochemistry / FB14				
Module transferrable to other degree programmes							
Module offered			summer semester				
Duration			1 semester				
Module coordinator			Prof. Hänelt				
Course requirements for credits							
Participation record			Practical course: Regular and active participation				
Coursework			Practical course: Fulfillment and protocols (in English) of the practical course experiments				
Forms of teaching / learning			Lecture, practical course				
Language teaching and instruction			English				
Module assessment			Form / duration / content, if applicable				
Final module assessment			Written exam for the lecture (120 min.)				
Cumulative module assessment consisting of							
Composition of the module grade for cumulative module assessment							
		Mode of teaching / study	Semester hours per week	Semester CP			
				1	2	3	4
	Advanced molecular biology & microbiology	L	2		3		
	<i>Optional</i> : Molecular microbiology	P	1		2		
	TOTAL		3		5		