

[C2.1]	Advanced methods in biochemistry	Compulsory elective module in the core area C2	3-7 CP (total) = 90 - 210 h				2-4 SWS
			Contact hours 2-4 SWS / 30-60 h		Independent study 60-150 h		
<b>Content</b>							
	<p><u>Lecture</u>: General methods and overview; centrifugation techniques for quantitative protein determination; immunological techniques; chromatographic techniques; modification and cleavage of proteins; electrophoretic methods; capillary electrophoresis; amino acid analysis; protein sequencing; mass spectrometry; peptide solid phase synthesis; scanning probe microscopy; single molecule techniques; evolutionary biochemistry; expression systems</p> <p><u>Seminar (optional)</u>: Current publications, some of which use new methods, will be presented by the students in the seminar. The methods used are discussed and alternative approaches are discussed. The advantages and disadvantages of individual methods are also worked out.</p> <p><i>The lecture can optionally be combined with the seminar (CEM).</i></p>						
<b>Learning outcomes and skills</b>							
	<p><u>Lecture</u>: The students gain an in-depth understanding of various biochemical techniques, so that they can assess the advantages and disadvantages of the individual methods and, based on this knowledge, independently identify the best method for a scientific problem.</p> <p><u>Seminar</u>: The students can evaluate the significance of individual experiments and the quality of publications based on the methods used.</p>						
<b>Admissions requirements/Conditions for participation in the module/courses</b>							
	None						
<b>Recommended prior knowledge</b>							
	None						
<b>Organizational details</b>							
	A very good seminar presentation can improve the grade of the final exam by 0.3.						
<b>Module allocation (degree programme/faculty)</b>			Master Biochemistry / FB14				
<b>Module transferrable to other degree programmes</b>							
<b>Module offered</b>			winter semester				
<b>Duration</b>			1 semester				
<b>Module coordinator</b>			Prof. Tampé				
<b>Course requirements for credits</b>							
<b>Participation record</b>			Seminar: regular and active participation				
<b>Coursework</b>			Seminar: presentation (in English).				
<b>Forms of teaching / learning</b>			Lecture, seminar				
<b>Language teaching and instruction</b>			English				
<b>Module assessment</b>			<b>Form / duration / content, if applicable</b>				
<b>Final module assessment</b>			Oral exam for the lecture (30 min.)				
<b>Cumulative module assessment consisting of</b>							
<b>Composition of the module grade for cumulative module assessment</b>							
		Mode of teaching / study	Semester hours per week	Semester CP			
				1	2	3	4
	Advanced methods in biochemistry	L	2	3			
	CEM: Methods seminar	S	2	4			
	TOTAL		2-4	3-7			