

**Modules M.Sc. Biochemistry and Molecular Biology**

<b>Titel of the module</b>	<b>Introduction to Biophysics</b>		
<b>Semester</b>	Winter		
<b>VAK-Number</b>	Will be assigned centrally		
<b>Credit points</b>	<b>9 (270 h)</b>		
<b>Compulsory/ elective course</b>	<b>Elective course</b>		
<b>Teaching methods</b>	Method	SWS	CP
	Lecture	4 (56 h)	4
	Tutorial	2 (28 h)	2
	Laboratory	2 (28 h)	3
<b>Self study</b>	Lecture	56 hours	
	Tutorial	0 hours	
	Laboratory	28 hours	
	Preparation for the exam	74 hours	
<b>Examiner</b>	Prof. H-G Döbereiner / Prof. M Radmacher		
<b>Objectives</b>	basic physical principles of biological systems quantitative modeling using physical principles selected biophysical methods		
<b>Content of teaching</b>	Lecture	chemical equilibrium and kinetics, protein structure, colloidal interactions, enzymatics, membranes, photophysics, auditory and visual system, networks, static and dynamic light scattering	
	Tutorial	mathematical basics, physical modeling basics	
	Laboratory	four experiments, e.g., force microscopy, light microscopy, cell spreading, NMR-tomography	
<b>Educational objectives</b>	Working knowledge of biophysical principles		
	Ability to understand and value biophysical experiments and concepts in context		
	Ability to understand quantitative modeling approaches		
<b>Evaluation of learning progress</b>	Tutorial, Laboratory Protocols, Final Oral Exam		
<b>Assessment</b>	Tutorial (Pass/Fail); Protocols (25%); Exam (75%)		
<b>Frequency</b>	Every winter semester		
<b>Usage in other degree programs</b>	Part of the module (lecture & lab course) is part of the elective module biophysics in the Physics Master; the tutorial designed exclusively for BMB student bridges their knowledge gap in physics		
<b>Premise</b>	Admission to the master course "Biochemistry and Molecular Biology"		

October 2012