

<b>Module:</b> Physics for Chemists and Biochemists			
<b>University/Department/Institute:</b> Freie Universität Berlin/Department of Biology, Chemistry, Pharmacy/Institute of Chemistry and Biochemistry			
<b>Module supervisors:</b> Lecturers of the module			
<b>Entrance Requirements:</b> none			
<b>Goals of Qualification:</b> Students have acquired the basic knowledge of the different fields of physics and are able to use it to solve specific assignments by utilizing their acquired mathematic skills. They are able to solve simple experimental assignments in the field of physics by using scientific methods of operation and are proficient in analysis and documentation of the experimental results. They are able to evaluate the results and to use measuring instruments properly.			
<b>Contents:</b> Introduction to basic physics, especially mechanics (movement of dot-like bodies, law of conservation, equation of motion, gravitation, harmonic oscillators, rotary movement, accelerating reference frames, elastic properties of solid objects, resting and agitated liquids), electricity (electric fields, magnetic fields, induction, alternating currents, oscillating circuit, optics (waves, interference, diffraction, reflection, refraction, lenses, optical instruments, resolution), and experimental methods (measurement methods, measurement techniques, statistical evaluation methods, analysis of inaccuracies and errors) critical evaluation and discussion of results. Documentation of experimental procedures, written and oral presentation of topics, recording of data and discussion of experiment results (in the written reports), which are related to the fields of mechanics, electricity and optics.			
Teaching methods	Hours of attendance (Hours per week)	Forms of active participation	Workload (hours)
Lecture	3	-	Presence (L) 45 Pre-, post-preparation (L) 45
Tutorial	1	Successful completion of assignments	Presence (S) 15 Pre-, post-preparation (S) 15
Lab training	2	Preparation and conduction of experiment, written protocol	Presence (Lab) 30 Pre-, post-preparation (Lab) 45 Exam preparation and examination 45
<b>Language offer of lecture</b>		German	
<b>Compulsory regular attendance</b>		Lecture attendance is recommended, tutorial and lab training: yes	
<b>Workload (total)</b>		240 hours	8 CP
<b>Length of module</b>		Two semester	
<b>Examination</b>		Exam (60 minutes, grade: failed or passed) The exam can also be conducted electronically	
<b>Lecture is offered</b>		Every semester	
<b>Applicability</b>		Bachelor study program Chemistry, Bachelor study program Biochemistry	