

<b>Module title</b>		<b>Abbreviation</b>
Biophysics of Proteins		03-MBC-PBP-172-m01
<b>Module coordinator</b>		<b>Module offered by</b>
Chair of Rudolf Virchow Center for Experimental Biomedicine		Faculty of Medicine
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
5	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	graduate	--
<b>Contents</b>		
<p>The module "Protein Biophysics" will provide participants with detailed insights into the biophysical characterization of proteins. We will deal both with soluble model proteins (Dr. Sonja Lorenz) and with the particular challenges of membrane protein research (Dr. Sebastian Geibel). The module contains a lecture part that deals with the basics of different biophysical methods to characterize protein stability, oligomerization behavior and shape. Among others, small angle X-ray scattering (SAXS), circular dichroism (CD) spectroscopy, fluorimetry (DSC) and light scattering (DLS + MALS) are discussed. The lectures will be complemented by short presentations on selected topics. In the practical part of the course, the techniques discussed will be applied using self-isolated proteins, data will be analysed with computer support and interpreted scientifically.</p>		
<b>Intended learning outcomes</b>		
<p>The participants get an overview of the manifold biophysical methods for characterizing proteins and the particularities of working with membrane proteins. The acquired knowledge ranges from the theoretical basics of the methods to their practical application to the scientific analysis and interpretation of the data and should give a realistic impression of the researcher's life.</p>		
<b>Courses</b> (type, number of weekly contact hours, language – if other than German)		
V (2) + S (1) + P (2) Module taught in: English		
<b>Method of assessment</b> (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
<p>a) written examination (approx. 45 to 90 minutes) or b) log (20 to 30 pages) or c) oral examination of one candidate each (20 to 30 minutes) or d) oral examination in groups of up to 3 candidates (15 to 30 minutes per candidate) or e) presentation (20 to 40 minutes) Language of assessment: German and/or English</p>		
<b>Allocation of places</b>		
Biochemie (Biochemistry) Master's: 63 places.		
<b>Additional information</b>		
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<b>Workload</b>		
150 h		
<b>Teaching cycle</b>		
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<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
<p>Master's degree (1 major) Biochemistry (2017) Master's degree (1 major) Biochemistry (2019)</p>		