

	Title of module	responsible	SWS	lecture/ex/lab	title of lecture (teacher)	ECTS points
1st semester	Introductory modules - obligatory					
	Fundamentals of Biophysics	Schwille	2	lecture	Biophysical Chemistry (Petrasek, Seidel)	10
			2	lecture	Biophysical Methods (Weidemann)	
			2	seminar		
			1	lab classes		
	Introduction to Polymer Physics and Soft Condensed Matter	Sommer	2	lecture	Applied Polymer Science (Pompe)	10 (over 2 semester)
			1	lab classes		
	Introduction to Biochemistry and Molecular Cell Biology	Hoflack	2	lecture	Introduction to Biochemistry (Stewart, Groß)	10 (over 2 semester)
			2	lab classes		
	Elements of Nanobiotechnology	Cuniberti	2	lecture	Introduction to Nanobiotechnology (Cuniberti, Opitz)	6
			1	lab classes		
			2	seminar	New Developments in Nanotechnology (Diez)	
	Concepts of Molecular Modelling	Cuniberti	2	lecture	Concepts of Molecular Modelling (Cuniberti, Kunstmann)	6
			2	exercises		
2			lab classes			
			<b>25</b>		<b>total ECTS:</b>	<b>30</b>
2nd semester	Core modules - obligatory					
	Introduction to Biochemistry and Molecular Cell Biology	Hoflack	2	lecture	Introduction to Molecular Cell Biology (Hoflack)	10 (over 2 semester)
			2	exercise		
	Introduction to Polymer Science and Soft Condensed Matter	Sommer	3	lecture	Soft Condensed Matter Theory (Sommer)	10 (over 2 semester)
			1	exercise		
	Advanced Biophysics	Grill	2	lecture	Theoretical Biophysic (Grill, Jülicher)	12 (over 2 semester)
			1	exercises		
			2	lecture	Single Molecule Approaches (Schwille, Petrov)	
			2	seminar		
	Applied Nanotechnology	Büchner	2	lecture	Biological Nanomachines (Diez)	6
			2	seminar		
			2	lecture	Molecular Nanostructures (Büchner)	
	Nanostructured Materials	Cuniberti	2	lecture	Nanostructured Materials (Cuniberti, Kunstmann)	6
			2	exercises		
2			lab classes			
			<b>27</b>		<b>total ECTS:</b>	<b>30</b>

	<b>Title of module</b>	<b>responsible</b>	<b>SWS</b>	<b>lecture/ex/lab</b>	<b>title of lecture (teacher)</b>	
3rd semester	Core modules - obligatory					
	Advanced Biophysics	Grill	2	lab classes	Scanning Probe Techniques (Büchner/Eng/Müller)	12 (over 2 semester)
			2	lab classes	Single Molecule Optics (Schwille/Diez)	
	Lab Rotation Biophysics	Schwille	6	lab classes	Lab Rotation Biophysics	6
	Lab Rotation Nanophysics	Cuniberti	6	lab classes	Lab Rotation Nanotechnology	6
	Lab Rotation Choice	Schwille/Cuniberti	6	lab classes	Lab Rotation of Choice	6
	Specialization modul - choose 2 topics among:		4	lecture		6
	Cellular Machines: Molecular Motors	Diez	2	lecture		
	Introduction to Proteomics	Hoflack	2	lecture		
	Introduction to Genomics	Stewart	2	lecture		
	Applied Bioinformatics	Schroeder	2	lecture		
	Protein Engineering	Hoflack	2	lecture		
	Nanooptics	Eng	2	lecture		
	Molecular Magnetism	Büchner	2	lecture		
	Systems Biology	Howard/Schroeder/Jü	2	lecture		
	Surface Chemistry	Werner	2	lecture		
	Developmental Biology	Brand	2	lecture		
	Microsystems, Physics, physical Chemistry and Technology	HG Braun	2	lecture		
	Biomedical Tissue Engineering	Corbeil	2	lecture		
	Stem Cell Engineering	Stewart	2	lecture		
	Advanced Polymeric Biomaterials	Werner	2	lecture		
	Molecular electronics	Cuniberti	2	lecture		
	Current topics in Materials Science	Cuniberti	2	seminar		
	Public and Economic Aspects	U Braun	2	lecture		
			26		<b>total ECTS:</b>	<b>30</b>
4th semester	Masters Thesis					
			2		<b>total ECTS:</b>	<b>30</b>