

Title of module	Responsible	SWS	type of cours	Title of lectures (teacher)	Examination	ECTS
<b>1st semester</b>						
Biomedical modules						
Chemistry with Biomolecules	Stewart	2	lecture	Combinatorial principles (Gross/Zhang)	written exam (120 min) 75%	6 (over 2 sem)
		2	lecture	Surface Chemistry (Werner)		
Genomes and Evolution	Anastassiadis	3	lecture	Genomes and Evolution (Stewart)	written exam (120 min) 75% lab protocol 25%	6
		5	lab course			
Introduction to Proteomics	Alberti	3	lecture	Introduction to Proteomics (Alberti)	oral (20 min) or written exam lab protocol 25%	6
		5	lab course			
Technological modules						
Structural and Computational Biology	Pisabarro	2	lecture	Structural and Computational Biology (Pisabarro)	written exam (90 min) 75% presentation 25%	4
		2	seminar			
Biophysics	Honigmann	2	lecture	Biophysical Methods (Schlierf)	presentation 40%  lab protocol 20%	10
		2	seminar			
		1	lab course			
		2	lecture	Principles of Biophysics (Schlierf)	written exam (90 min) 40%	
		2	exercise			
		<b>33</b>				
<b>2nd semester</b>						
Biomedical modules						
Genome and Stem Cell Engineering	Anastassiadis	2	lecture	Genome Engineering (Francis Stewart)	presentation 40% lab protocol 20%	7 (over 2 sem)
		3	lab course			
Protein Networks and Protein Engineering	Alberti	2	lecture	Dynamics of Protein Networks (Alberti)	presentation 40%  lab protocol 20%	7 (over 2 sem)
		3	lab course			
Chemistry with Biomolecules	Stewart	2	lab course	Chemistry with Biomolecules (Groß)	lab protocol 25%	6 (over 2 sem)
Technological modules						
Bionanotechnology	Cuniberti	2	lecture	Introduction to Bionanotechnology (Cuniberti/Thiele)	oral exam (20 min)	3
		1	lab course			
Cellular Machines	Diez	2	lecture	Cellular Machines: From Cellular Function to Technological Applications (Diez/Schlierf)	presentation (2nd/3rd term) 30% lab protocol 20%	10 (over 2 sem)
		2	seminar			
		2	lab course			
Bioinformatics	Schroeder	2	lecture	Applied Bioinformatics (Schroeder)	written exam (90 min)	8
		2	exercise			
		2	lecture	Bio-image analysis, bio-statistics, programming and machine learning for computational biology (Haase/Poetsch)		
		2	exercise			
Optional modules (choose 1)						
Application in Technology	Braun,HG	2	lecture	Microsystems Technology (Braun)	oral exam (20 min) 40%	7 (over 2 sem)
		1	lab course			
Application in Biomedicine	Corbeil	2	lecture	Materials in Biomedicine (Hintze)	written exam (90 min) 30% lab protocol 10%	7 (over 2 sem)
		2	lab course			
		<b>32-33</b>				

<b>3rd semester</b>						
Lab Project	Anastassiadis	18	lab course		protocol/mini manuscript (2/3) presentation (1/3)	16
<b>Biomedical modules</b>						
Genome and Stem Cell Engineering	Anastassiadis	2	lecture	Stem Cell Engineering (Anastassiadis)	presentation 40%	7 (over 2 sem)
Protein Networks and Protein Engin	Alberti	2	lecture	Protein Engineering (Alberti)	presentation 40%	7 (over 2 sem)
<b>Technological modules</b>						
Cellular Machines	Diez	2	lecture	Cellular Machines: Fundamentals and Applications of Biomolecular Mechanosystems (Diez)	oral exam (20 min) 50% presentation (2nd/3rd term)	10 (over 2 sem)
		2	seminar			
<b>Optional modules (choose 1)</b>						
Application in Technology	Braun,HG	2	lecture	Applied Bionanotechnology (Cuniberti/ Thiele)	oral exam (20 min) 40%	7 (over 2 sem)
		1	seminar			
Application in Biomedicine	Corbeil	1	seminar	Public and economic aspects (Schmieder-Galfe/Sterneckert)	essay 20%	7 (over 2 sem)
		2	lecture	Biomedical Tissue Engineering (Corbeil)	oral exam (20 min) 40%	
		1	seminar	Public and economic aspects (Schmieder-Galfe/Sterneckert)	essay 20%	
		<b>29-30</b>				
<b>4th semester</b>						
Masters Thesis						30
			<b>Total ECTS:</b>			<b>120</b>