



Biophysics MSc - Modules Overview

Module#	Module Name	Language	Cycle	CP
Compulsory Biophysics Modules				
72378	Biophysics Laboratory Course	en/ge	ws/ss	8
72379	Biophysics Seminar	en/ge	ws/ss	4
72380	Biophysics: Fundamental Methods	en	ws	9
72381	Biophysics: Advanced Methods	en	ss	9
Specialisation Modules				
Biology Department				
Protein Biochemistry - Prof. Fändrich				
74013	Advanced Protein Biochemistry	en	ss	6
74014	Practical Skills in Protein Biochemistry	en	ss	6
Cell Biology and Genetics / Ecology				
74020	Methods in Genetics	en	ss	6
74021	Practical Skills in Genetics	en	ss	6
75056	Evolutionary Ecology für Biophysiscs	en	ss	3
74394	Soil and Water	en	ss	9
72228	Marine Ecology	en	ss	3
Microbiology - Prof. Eikmanns, Prof. Dürre				
73425	Advanced Microbiology in Biophysics (Lecture SS + Lab SS)	en	ss	12
73423	Microbiology in Biophysics (Lecture SS + Lecture WS OR Lecture SS + Lab SS)	en	ws/ss	6
Neurobiology - Prof. Wolf				
74018	Methods in Neurobiology	en	ws	6
74019	Practical Skills in Neurobiology	en	ws	6
Biomaterials (interdisciplinary)				
73028	Biosensors and Biochips - Dr. Pasquarelli	en	ws	8
70948	Polymers in Medicine - Dr. Beck	en	irr	2
74121	Principles of Transmission Electron Microscopy and Seminar-Prof. Kaiser	en	ws	4
73443	Lab Principles of Transmission Electron Microscopy - Prof. Kaiser	en	ws	2
Physics Department				
Physics				
71502	Biophotonics - Prof. Kienle, Institute for Laser Technology in Medicine	en	ss	6
72557	NMR Spectroscopy and Imaging Methods - Prof. Rasche	en	irr	6
74004	Gene Expression	en	ss	3
74003	Molecular Motors	en	ss/ws	3
74005	Cellular Biophysics	en	ss	3
72035	Basics of Scanning Electron Microscopy - Prof. Kaiser	en	ss	2
73443	Lab Principles of Transmission Electron Microscopy - Prof. Kaiser	en	ws	2
74121	Principles of Transmission Electron Microscopy and Seminar-Prof. Kaiser	en	ws	4
74268	Biophysics of Hearing and Seeing - Prof. Hoerber	en	irr	4

Chemistry Department

Organic Chemistry

71308 Biopolymers	ge/en	irr	3
71328 Biological Chemistry	ge/en	ss	3
71329 Project Work in Macromolecular Chemistry	ge/en	ws/ss	9

Anorganic Chemistry

71293 Analytical Spectroscopy	en	ws	3
71300 Inorganic Materials Synthesis/Inorganic Nanomaterials	en	ss	3
70999 Biomaterials	en	ws	3
71290 Special Topics in AC IV:Scanning Probe Microscopy	en	ss	3
71539 Special Topics in Analytical Chemistry VI:Ultra Trace Analysis	en	ss	3

Stochastics and Bioinformatics (interdisciplinary)

72479 Introduction to Biostatistical Computing	en	irr	4
72480 Survival and Event History Analysis - Prof. Beyersmann	en	ss/iir	9

Prof. Beyersmann, Head of the Institute of Statistics, is offering various courses on Epidemiology, Statistics and Survival Analysis. The courses can be counted in this section, however they are irregular. Interested students should check Prof. Beyersmann website regularly for any suitable course. CPs vary from course to course.

en/ge irr [link](#)

70330 Einführung in die Neuroinformatik - PD Dr. Schwenker. Neural Information Processing	ge	ss	6
74212 Learning Systems I - Prof. Braun, Institute of Neural Information Processing	en	irr	6
74258 Learning Systems II - Prof. Braun, Institute of Neural Information Processing	en	irr	6
74257 Neurotechnology: Brain-Machine-Interfacing - Prof. Braun	en	irr	6
74645 DeepVision - Deep Learning and Convolutional Neural Networks-Prof. Neumann	en	irr	6
71865 Vision in Man and Machine - Prof. Neumann	en	irr	6
72014 Evolutionäre Algorithmen - Prof. Kestler, Medical System Biology	ge	ws	6
72138 Bioinformatics and System Biology (Prof. Kestler, Medical System Biology MolMed module, subject to available spaces)	en	ws	6
71859 Practical Algorithms of Bioinformatics and Computer Linguistics with Lisp - Prof. Kestler, Medical System Biology	ge	ss	4

Adaptation Modules

Biochemistry, Biology, Organic Chemistry or Molecular Medicine

71944 Introductory Chemistry	en	ws	3
74267 Practical skills in Molecular Biology	en	ws/ss	2
71409 Biology and Cell Biology	en	ws	4

Physics, Mathematics and Statistics

72382 Mathematical Methods in Material Science	en	ws	5
72383 Practical Skills in Physics	en	ws	4

Research Phase

74016 Biophysics Research Project	en	ws/ss	15
74017 Selected Research Project	en	ws/ss	15
80000 Master's Thesis	ge/en	ws/ss	30

ws: winter semester, ss: summer semester, irr: irregularly, en: English, ge: German