Amtliches Mitteilungsblatt

Lebenswissenschaftliche Fakultät

Erste Änderung der fachspezifischen Studien- und Prüfungsordnung für den Masterstudiengang Biophysics (AMB Nr. 4/2021)

Überfachlicher Wahlpflichtbereich für andere Masterstudiengänge

Herausgeber:	Die Präsidentin der Humboldt-Universität zu Berlin Unter den Linden 6, 10099 Berlin	**Nr. 25/2025**
Satz und Vertrieb:	Abteilung Kommunikation, Marketing und Veranstaltungsmanagement	**34. Jahrgang/18.07.2025**

Erste Änderung der fachspezifischen Studienordnung

für den Masterstudiengang „Biophysics" (AMB Nr. 4/2021)

Gemäß § 17 Abs. 1 Ziffer 3 der Verfassung der Humboldt-Universität zu Berlin in der Fassung vom 24. Oktober 2013 (Amtliches Mitteilungsblatt der Humboldt-Universität zu Berlin Nr. 47/2013) hat der Fakultätsrat der Lebenswissenschaftlichen Fakultät am 21. Mai 2025 die erste Änderung der Studienordnung erlassen[*]:

Artikel I

1. § 2 erhält folgende Fassung:

„Das Studium kann zum Wintersemester und Sommersemester aufgenommen werden. Ein Studium nach dem Studienverlaufsplan gemäß Anlage 3 ist nur möglich, wenn das Studium zum Wintersemester aufgenommen wird."

2. § 5 (b) erhält folgende Fassung:

(b) Fachlicher Wahlpflichtbereich (50 LP)

Aus den folgenden Modulen sind fünf Module zu wählen.

MABPh5	Single Molecule Spectroscopy and Biophysics (10 LP)
MABPh6	Neurobiophysics (10 LP)
MABPh7	Synaptic Biophysics (10 LP)
MABPh8	Molecular, Cellular and Medical Biophysics (10 LP)
MABPh9	Systems Biology: Dynamic Modeling and Data Integration (10 LP)
MABPh10	Optobiology (10 LP)
MABPh11	Systems Biology: Computational Analysis and Interpretation of High-throughput Data (10 LP)
MABPh12	Computational Neurobiology (10 LP)
MABPh13	Special Topics in Biophysics 1 (10 LP)
MABPh14	Special Topics in Biophysics 2 (10 LP)

3. In „Anlage 1: Modulbeschreibungen" werden die Modulbeschreibungen durch die Anlage 1 dieser Änderungsordnung ersetzt.

4. In „Anlage 3: Idealtypischer Studienverlaufsplan" wird der idealtypische Studienverlaufsplan durch die Anlage 2 dieser Änderungsordnung ersetzt.

Artikel II

Diese Änderungsordnung tritt am 1. Oktober 2025 in Kraft.

[*] Die Universitätsleitung hat die erste Änderung der Studienordnung am 3. Juli 2025 bestätigt.

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Anlage 1: Modulbeschreibungen

L = Lecture, SE = Seminar, MSE = Main Seminar, PR = Practical, E = Exercise, CO = Colloquium

The **examinations** mentioned in the following module descriptions can be conducted as face-to-face examinations, digital face-to-face examinations according to § 96b Abs. 2 ZSP-HU or digital distance examinations according to § 96b Abs. 3 ZSP-HU. The examiners decide on the form of execution.

If **alternative forms of examination** are specified in the module descriptions, the examiners determine the form of examination and inform the students of this at the beginning of the lecture period.

<table>
<tr><td colspan="3">MABPh1 Statistical Physics</td><td>Credits: 5
Total workload:
150 hours</td></tr>
<tr><td colspan="4">Learning Objectives:
Students acquire the basic and advanced concepts of statistical physics, especially about distributions and their characterization in steady states and during dynamic processes. They obtain knowledge in mathematical modeling and in the description of biological processes with stochastic models.</td></tr>
<tr><td colspan="4">Preconditions: none</td></tr>
<tr><td>Teaching formats</td><td>Hours per week, workload in hours</td><td>Credits and preconditions for granting</td><td>Topics, contents</td></tr>
<tr><td>L</td><td><u>2 SWS</u>

<u>60 hours</u>
25 hours attendance time,
35 hours preparation of the course</td><td>2 credits, participation</td><td>Distribution functions, especially Gauss, Poisson, and Boltzmann distributions
Stochastic processes, statistical physics of entropy and information</td></tr>
<tr><td>SE</td><td><u>2 SWS</u>

<u>60 hours</u>
25 hours attendance time,
35 hours preparation of the course and the special working task</td><td>2 credits, participation, special working task from group 1 (see annex 2)</td><td>Extensions of topics of the lectures, Calculations and computer practical related to themes of the lectures</td></tr>
<tr><td>Final exam</td><td><u>30 hours</u>
Written exam (90 min) or oral exam (30 min) and preparation</td><td>1 credit, pass</td><td></td></tr>
<tr><td>Duration of module</td><td colspan="3">☒ 1 semester ☐ 2 semesters</td></tr>
<tr><td>Start of module</td><td colspan="3">☒ winter semester ☐ summer semester</td></tr>
<tr><td>Applicability of module</td><td colspan="3">M.Sc. Biophysics</td></tr>
</table>

<table>
<tr><td colspan="4">MABPh2 Quantum Mechanics and Quantum Optics
Credits: 5
Total workload:
150 hours</td></tr>
<tr><td colspan="4">Learning objectives:
Students will acquire a deeper understanding of quantum mechanics and quantum optics, paying particular attention to practical aspects relevant to biophysics. Topics in the course include basic quantum phenomena, interpretations of quantum mechanics, light and its interactions with matter and ultrafast and non-linear optical behavior.</td></tr>
<tr><td colspan="4">Preconditions: none</td></tr>
<tr><td>Teaching formats</td><td>Hours per week, workload in hours</td><td>Credits and pre-conditions for granting</td><td>Topics, contents</td></tr>
<tr><td>L</td><td><u>2 SWS</u>

<u>60 hours</u>
25 hours attendance time,
35 hours preparation of the course</td><td>2 credits, participation</td><td>the Heisenberg Uncertainty Principle, the Schrodinger Equation, quantum harmonic oscillator, quantum states, wavefunctions, measurement, coherence, photonic applications</td></tr>
<tr><td>SE</td><td><u>2 SWS</u>

<u>60 hours</u>
25 hours attendance time,
35 hours preparation of the course and the special working task</td><td>2 credits, participation, special working task from group 1 (see annex 2)</td><td>Extensions of topics of the lectures, practical calculations related to themes of the lectures</td></tr>
<tr><td>Final exam</td><td><u>30 hours</u>
Written exam (90 min) or oral exam (30 min) and preparation</td><td>1 credit, pass</td><td></td></tr>
<tr><td>Duration of module</td><td colspan="3">☒ 1 semester ☐ 2 semesters</td></tr>
<tr><td>Start of module</td><td colspan="3">☐ winter semester ☒ summer semester</td></tr>
<tr><td>Applicability of module</td><td colspan="3">M.Sc. Biophysics</td></tr>
</table>

<table>
<tr><td colspan="4">MABPh3 Study Project

Credits: 20
Total workload:
600 hours</td></tr>
<tr><td colspan="4">Learning objectives:
Students
- are able to describe a scientific problem, either self-chosen or handed out by the instructor,
- are able to develop an approach to the solution of the problem,
- are able to conduct experiments to test different hypotheses,
- are able to draw basic conclusions on the basis of experimental data and
- are able to present and discuss the obtained results in a written and oral manner.</td></tr>
<tr><td colspan="4">Preconditions: successful completion of MABPh1</td></tr>
<tr><td>Teaching formats</td><td>Hours per week, workload in hours</td><td>Credits and pre-conditions for granting</td><td>Topics, contents</td></tr>
<tr><td>Study Project</td><td><u>600 hours</u>
240 hours experi-mental work,
360 hours prepara-tion of the course and the special working task</td><td>20 credits, special working task, protocol approx. 20 pages / 36.000 characters incl. spaces)</td><td>Individual work on a scientific project, that is related to the theoretical and experimental topics of this Master programme</td></tr>
<tr><td>Final exam</td><td colspan="3">none</td></tr>
<tr><td>Duration of module</td><td colspan="3">☐ 1 semester ☒ 2 semesters</td></tr>
<tr><td>Start of module</td><td colspan="3">☒ winter semester ☒ summer semester</td></tr>
<tr><td>Applicability of module</td><td colspan="3">M.Sc. Biophysics</td></tr>
</table>

<table>
<tr><td colspan="4">MABPh4 Final Module / Master Thesis
Credits: 30
Total workload:
900 hours</td></tr>
<tr><td colspan="4">Learning objectives:
The students can write a report that reflects the current scientific knowledge of the topic and adheres to the general rules of scientific publishing.</td></tr>
<tr><td colspan="4">Preconditions: successful completion of MABPh1, MABPh2</td></tr>
<tr><td>Teaching formats</td><td>Hours per week, workload in hours</td><td>Credits and pre-conditions for granting</td><td>Topics, contents</td></tr>
<tr><td>CO</td><td><u>1 SWS</u>

<u>60 hours</u>
15 hours attend-ance time,
45 hours prepara-tion of the course and the special working task</td><td>2 credits, partici-pation, special working task from group 1 (see an-nex 2)</td><td>Scientific project, that is related to the theo-retical and experimental topics of this Master programme</td></tr>
<tr><td>Final exam / Master Thesis</td><td><u>840 hours</u></td><td>28 credits, pass</td><td>Processing time 24 weeks, approx. 40 pages / 72.000 characters incl. spaces plus defence (35 minutes, presentation and discussion).
The master thesis includes a summary
(1 page, 1.800 characters incl. spaces)</td></tr>
<tr><td>Duration of module</td><td colspan="3">☐ 1 semester ☒ 2 semesters</td></tr>
<tr><td>Start of module</td><td colspan="3">☒ winter semester ☒ summer semester</td></tr>
</table>

Elective modules:

<table>
<tr><td colspan="4">MABPh5 Single Molecule Spectroscopy and Biophysics
Credits: 10
Total workload: 300 hours</td></tr>
<tr><td colspan="4">Learning objectives:
The students
• can understand and discuss single molecule behavior,
• know the physical basis of spectroscopy of biomolecules,
• understand relevant light sources and detection for single molecule experiments,
• can calculate expected observables for single molecules,
• have knowledge of the diverse kinds of spectroscopy.</td></tr>
<tr><td colspan="4">Preconditions: None</td></tr>
<tr><td>Teaching formats</td><td>Hours per week, workload in hours</td><td>Credits and pre-conditions for granting</td><td>Topics, contents</td></tr>
<tr><td>L</td><td><u>2 SWS</u>
<u>60 hours</u>
25 hours attend-ance time,
35 hours prepara-tion of the course</td><td>2 credits, participation</td><td>• Theory of spectroscopy
• Markov theory of single molecules
• Optical systems
• Biophotonics
• Single molecule techniques</td></tr>
<tr><td>SE</td><td><u>2 SWS</u>
<u>90 hours</u>
25 hours attend-ance time,
65 hours prepara-tion of the course</td><td>3 credits, participation</td><td>• Presentation and discussion of classic and new literature on single molecule biophysics and spectroscopy</td></tr>
<tr><td>PR</td><td><u>2 SWS</u>
<u>120 hours</u>
25 hours attend-ance time,
95 hours prepara-tion of the course and the special working task</td><td>4 credits, partici-pation, special working task from group 2 (see an-nex 2)</td><td>• Organic dye spectroscopy - emission ex-citation spectra, Antibody labelling
• Computational calculation of single mol-ecule trajectories from mechanisms</td></tr>
<tr><td>Final exam</td><td><u>30 hours</u>
Written exam (90 min) and prepara-tion</td><td>1 credit, pass</td><td></td></tr>
<tr><td>Duration of module</td><td colspan="3">☒ 1 semester ☐ 2 semester</td></tr>
<tr><td>Start of module</td><td colspan="3">☒ winter semester ☐ summer semester</td></tr>
<tr><td>Applicability of module</td><td colspan="3">M.Sc. Biophysics</td></tr>
</table>

MABPh6 Neurobiophysics			Credits: 10 Total workload: 300 hours
Learning objectives: The students have learned about how the brain can be understood in quantitative basis, using examples from membrane biophysics. They have got knowledge about neuronal anatomy and activity at the protein, cellular and network level. They have developed notions of the power and limitations of the brain as a computational system, by means of practical examples. They earned about recent developments in neurobiology from a quantitative perspective, and thereby understand current challenges and research directions.			
Preconditions: none			
Teaching formats	Hours per week, workload in hours	Credits and preconditions for granting	Topics, contents
L	2 SWS 60 hours 25 hours attendance time, 35 hours preparation of the course	2 credits, participation	Neurophysiology, ion channels, synaptic transmission, sensory systems Dendrites, synaptic integration Networks, coding, spiking, biophysics of sensory biology, high-level influence on cognition
E	2 SWS 90 hours 25 hours attendance time, 65 hours preparation of the course and the special working task	3 credits, participation, special working task from group 1 (see annex 2)	Presentation and discussion of current literature on neurobiology and biophysical studies of neuronal activity and function
PR	2 SWS 120 hours 25 hours attendance time, 95 hours preparation of the course and the special working task	4 credits, participation, special working task from group 2 (see annex 2)	1) Single molecule techniques for neuroscience 2) Experiments measuring neuronal activity and behavior using modern methods in neurobiology
Final exam	30 hours Written exam (90 min) or oral exam (30 min) and preparation	1 credit, pass	
Duration of module	☒ 1 semester	☐ 2 semesters	
Start of module	☒ winter semester	☐ summer semester	
Applicability of module	M.Sc. Biophysics		

<table>
<tr><td colspan="4">MABPh7 Synaptic Biophysics
Credits: 10
Total workload: 300 hours</td></tr>
<tr><td colspan="4">Learning objectives:
The students
• can synthesise and discuss quantitative models of synaptic transmission,
• have a detailed molecular understanding of synaptic transmission, including comprehensive structural biology of synapses,
• have learned the evolutionary basis of synapses,
• know how to calculate ion channel activation at different mechanistic levels,
• understand synaptic plasticity at multiple levels, and in the context of nervous systems.</td></tr>
<tr><td colspan="4">Preconditions: none</td></tr>
<tr><td>Teaching formats</td><td>Hours per week, workload in hours</td><td>Credits and pre-conditions for granting</td><td>Topics, contents</td></tr>
<tr><td>L</td><td><u>2 SWS</u>
<u>60 hours</u>
25 hours attend-ance time ,
35 hours prepara-tion of the course</td><td>2 credits, participation</td><td>Quantitative models of synaptic transmission, structure of synaptic proteins, synaptic diver-sity, classical models of synapses</td></tr>
<tr><td>SE</td><td><u>2 SWS</u>
<u>90 hours</u>
25 hours attend-ance time,
65 hours prepara-tion of the course</td><td>3 credits, participation</td><td>Presentation and discussion of classic literature on synaptic physiology</td></tr>
<tr><td>PR</td><td><u>2 SWS</u>
<u>120 hours</u>
25 hours attendance time,
95 hours prepara-tion of the course and the special working task</td><td>4 credits, partici-pation, special working task from group 2 (see an-nex 2)</td><td>Electrophysiology and imaging of synapses</td></tr>
<tr><td>Final exam</td><td><u>30 hours</u>
Written exam (90 min) and prepara-tion</td><td>1 credit, pass</td><td></td></tr>
<tr><td>Duration of module</td><td colspan="3">☒ 1 semester ☐ 2 semester</td></tr>
<tr><td>Start of module</td><td colspan="3">☐ winter semester ☒ summer semester</td></tr>
<tr><td>Applicability of module</td><td colspan="3">M.Sc. Biophysics</td></tr>
</table>

MABPh8 Molecular, Cellular and Medical Biophysics			Credits: 10 Total workload: 300 hours
Learning objectives: The students become familiar with biophysical principles of cellular and physiological processes and their molecular bases and will be able to explain these principles; planning, application and development of physicochemical and biophysical approaches for the description of structure and dynamics as well as methods for the investigation of cellular structures. Furthermore, the students learn and explain the biophysical principles of the most important medical imaging techniques and set out their different fields of application.			
Preconditions: none			
Teaching formats	Hours per week, workload in hours	Credits and preconditions for granting	Topics, contents
L	2 SWS 60 hours 25 hours attendance time, 35 hours preparation of the course	2 credits, participation	Knowledge and understanding supramolecular structures, their functions and interactions in selected cellular processes Biophysical principles of selected cellular physiological and pathophysiological processes and the physical principles of the most important medical imaging techniques
SE	2 SWS 60 hours 25 hours Attendance time, 35 hours preparation of the course and the special working task	2 credits, participation, special working task from group 1 (see annex 2)	In depth study of selected topics of the lecture
PR	4 SWS 150 hours 45 hours attendance time, 105 hours preparation of the course and the special working task	5 credits, participation, special working task from group 3 (see annex 2)	Practical exercises of selected seminar and lecture topics
Final exam	30 hours Written exam (90 min) or oral exam (30 min) and preparation	1 credit, pass	
Duration of module	☒ 1 semester	☐ 2 semester	
Start of module	☐ winter semester	☒ summer semester	
Applicability of module	M.Sc. Biophysics		

MABPh9 Systems Biology: Dynamic Modeling and Data Integration			Credits: 10 Total workload: 300 hours
Learning Objectives: The students become acquainted with the principles of systems biology. They will learn basic approaches of mathematical modeling, especially appropriate for metabolism, gene regulation, signal transduction and cellular physiology. They will obtain knowledge and skills in the analysis of experimental data and their application in parameter estimation. They will be able to implement mathematical models and perform model analysis. The aim is to enable them for critical discussion of biological understanding and observations through the application of mathematical modeling.			
Preconditions: none			
Teaching formats	Hours per week, workload in hours	Credits and preconditions for granting	Topics, contents
L	2 SWS 60 hours 25 hours attendance time, 35 hours preparation of the course	2 credits, participation	Principles of systems biology, biological networks, Modeling approaches Analysis of experimental data and parameter estimation
SE	2 SWS 60 hours 25 hours attendance time, 35 hours preparation of the course and the special working task	2 credits, participation, special working task from group 1 (see annex 2)	Extensions of topics of the lectures, practical tasks related to themes of the lectures
E	4 SWS 150 hours 45 hours attendance time, 105 hours preparation of the course and the special working task	5 credits, participation, specific work performance from group 3 (see annex 2)	Basic knowledge in programming; Calculations und computer practical related to themes of the lectures; Analysis of recent scientific literature
Final exam	30 hours Written exam (90 min) or oral exam (30 min) and preparation	1 credit, pass	
Duration of module	☒ 1 semester	☐ 2 semesters	
Start of module	☐ winter semester	☒ summer semester	
Applicability of module	M.Sc. Biophysics		

<table>
<tr><td colspan="4">MABPh10 Optobiology

Credits: 10
Total workload:
300 hours</td></tr>
<tr><td colspan="4">Learning objectives:
The students
• have learned about light, it’s interaction with matter and how this is harnessed by natural and engineered photoreceptors.
• have got knowledge about fluorescent proteins, their use in microscopy and their engineering as sensors of vital signals.
• learned about recent developments in optobiology, and thereby understand current challenges and research directions.
• have developed a notion of the respective advantages and problems in optical biology by means of practical examples.</td></tr>
<tr><td colspan="4">Preconditions: none</td></tr>
<tr><td>Teaching formats</td><td>Hours per week, workload in hours</td><td>Credits and preconditions for granting</td><td>Topics, contents</td></tr>
<tr><td>L</td><td><u>2 SWS</u>

<u>60 hours</u>
25 hours attendance time,
35 hours preparation of the course</td><td>2 credits, participation</td><td>Introduction to Structure and function of biological photoreceptors and natural optical monitoring systems.
Advanced microscopy for optical biology
Protein Design and Engineering</td></tr>
<tr><td>SE</td><td><u>2 SWS</u>

<u>90 hours</u>
25 hours attendance time, 65 hours preparation of the course and the special working task</td><td>3 credits, participation, special working task from group 1 (see annex 2)</td><td>Presentation and discussion of current literature on Photobiology, optogenetics, advanced spectroscopy and microscopy</td></tr>
<tr><td>PR</td><td><u>2 SWS</u>

<u>120 hours</u>
25 hours attendance time,
95 hours preparation of the course and the special working task</td><td>4 credits, participation, special working task from group 2 (see annex 2)</td><td>Electrophysiological characterisation of light activated proteins

Design and use of protein-based optical reporters</td></tr>
<tr><td>Final exam</td><td><u>30 hours</u>
Written exam (90 min) or oral exam (30 min) and preparation</td><td>1 credit, pass</td><td></td></tr>
<tr><td>Duration of module</td><td colspan="3">☒ 1 semester ☐ 2 semesters</td></tr>
<tr><td>Start of module</td><td colspan="3">☐ winter semester ☒ summer semester</td></tr>
<tr><td>Applicability of module</td><td colspan="3">M.Sc. Biophysics</td></tr>
</table>

MABPh11 Systems Biology: Computational Analysis and Interpretation of High-throughput Data			Credits: 10 Total workload: 300 hours
Learning objectives: Students will obtain theoretical algorithmic knowledge and practical computational skills to process and analyze high-throughput molecular datasets. They will acquire competence in selecting appropriate approaches for different types of data and in how to define and answer questions by computational methods.			
Preconditions: none			
Teaching formats	Hours per week, workload in hours	Credits and pre-conditions for granting	Topics, contents
L	2 SWS 60 hours 25 hours attendance time, 35 hours preparation of the course	2 credits, participation	Bioinformatics algorithms to process high-throughput molecular data from various -omics protocols; different machine learning approaches, such as hidden Markov models or artificial neural networks; applications to solve specific biological questions, including on gene expression and regulation
SE	1 SWS 60 hours 15 hours attendance time, 45 hours preparation of the course and the special working task	2 credits, participation, special working task from group 1 (see annex 2)	Extensions of topics from the lecture; discussion of influential and current primary literature in a defined area (e.g. image analysis, evolutionary genomics…), including reproducibility of analyses and results
PR	4 SWS 150 hours 45 hours attendance time, 105 hours preparation of the course and the special working task	5 credits; participation, special working task from group 3 (see annex 2)	Hands-on data analysis lab: Identification, application, adaptation of computational methods for the investigation of high-throughput data obtained from different protocols; skills for structured reporting and discussion of analysis workflows and results
Final exam	30 hours Oral exam (30 min) or portfolio (details on the right) and preparation	1 credit, pass	Portfolio: independent work on a specific biological data analysis problem, including choice and definition of problem; collection and processing of data; methods application and evaluation; leading to a final written report and discussion of results (approx. 10 pages / 18.000 characters incl. spaces plus software code)
Duration of module	☒ 1 semester	☐ 2 semesters	
Start of module	☒ winter semester	☐ summer semester	
Applicability of module	M.Sc. Biophysics		

MABPh12 Computational Neurobiology			Credits 10 Total workload: 300 hours
Learning objectives: Students will acquire knowledge about the basic concepts and foundations of computational and theoretical neuroscience and about the most common models. Topics covered in the course include: electrical properties of neurons, Hodgkin-Huxley model, channel models, synapse models, plasticity models, cable theory, network models, and phase-space analysis. Students will obtain skills in the mathematical analysis of models and the implementation of models in computer simulations.			
Preconditions: Successful completion of module MABPh6			
Teaching formats	Hours per week, workload in hours	Credits and preconditions for granting	Topics, contents
L	2 SWS 60 hours 25 hours attendance time, 35 hours preparation of the course	2 credits, participation	Theory and modeling of neural systems
E	2 SWS 120 hours 25 hours attendance time, 95 hours preparation of the course and the special working task	4 credits, participation, special working task from group 2 (see annex 2)	Practical analytical calculations related to the topics of the lectures
MSE	2 SWS 90 hours 25 hours attendance time, 65 hours preparation of the course and the special working task	3 credits, participation, special working task from group 1 (see annex 2)	Programming and development of numerical simulations of models of neural systems
Final exam	30 hours Written exam (90 min) or oral exam (30 min) and preparation	1 credit, pass	
Duration of module	☒ 1 semester	☐ 2 semesters	
Start of module	☒ winter semester	☐ summer semester	
Applicability of module	M.Sc. Biophysics		

MABPh 13 Special Topics in Biophysics 1			Credits: 10 Total workload: 300 hours
Learning objectives: The module is offered by professors and lecturers in Biology on a current topic in a biological discipline. The students acquire in-depth theoretical and experimental knowledge in a current and specific biological discipline. They gain insight into results and current scientific questions in biological research and are able to critically evaluate the literature. By that, students acquire the ability of an independent judgement of research in an interdisciplinary context.			
Preconditions: none			
Teaching formats	Hours per week, workload in hours	Credits and preconditions for granting	Topics, contents
L	2 SWS 60 hours 25 hours attendance time; 35 hours of preparation of the course	2 credits, participation	Specific knowledge in a biological discipline
SE	2 SWS 90 hours 25 hours attendance time, 65 hours of preparation of the course and the special working task	3 credits, participation, special task of group 1 (see annex 2)	Consolidation of the knowledge aquired in the lecture
E	4 SWS 120 hours 45 hours attendance time, 75 hours of preparation of the course and the special working task	4 credits, participation, special tasks of group 2 (see annex 2)	Experimental or theoretical courses in a biological discipline
Final exam	30 hours Written exam (90 min) or oral exam (30 min) and preparation	1 credit, pass	
Duration of module	☒ 1 semester	☐ 2 semesters	
Start of module	☒ winter semester ☒ summer semester The module is not offered on a regular basis. Further information about the current teaching programmes is available on AGNES.		
Applicability of module	M.Sc. Biophysics		

MABPh 14 Special Topics in Biophysics 2			Credits: 10 Total workload: 300 hours
Learning objectives: The module is offered by professors and lecturers in Biology on a current topic in a biological discipline. The students acquire in-depth theoretical and experimental knowledge in a current and specific biological discipline. They gain insight into results and current scientific questions in biological research and are able to critically evaluate the literature. By that, students acquire the ability of an independent judgement of research in an interdisciplinary context.			
Preconditions: none			
Teaching formats	Hours per week, workload in hours	Credits and preconditions for granting	Topics, contents
L	2 SWS 60 hours 25 hours attendance time; 35 hours of preparation of the course and the special working task	2 credits, participation	Specific knowledge in a biological discipline
SE	2 SWS 90 hours 25 hours attendance time, 65 hours of preparation of the course and the special working task	3 credits, participation, special task of group 1 (see annex 2)	Consolidation of the knowledge aquired in the lecture
E	4 SWS 120 hours 45 hours attendance time, 75 hours of preparation of the course and the special working task	4 credits, participation, special tasks of group 2 (see annex 2)	Experimental or theoretical courses in a biological discipline
Final exam	30 hours Written exam (90 min) or oral exam (30 min) plus preparation	1 credit, pass	
Duration of module	☒ 1 semester	☐ 2 semesters	
Start of module	☒ winter semester ☒ summer semester The module is not offered on a regular basis. Further information about the current teaching programmes is available on AGNES.		
Applicability of module	M.Sc. Biophysics		

Anlage 2: Idealtypischer Studienverlaufsplan[1]

Here you will find a distribution of the modules over the semesters, which corresponds to an ideal, but not compulsory, course of study. Studying according to this study plan is only possible if you start your studies in the winter semester.

CM = Compulsory modules, EM = Elective modules, SWS = semester periods per week, ÜWP = interdisciplinary elective modules

No. of module	**Name of module**	**1. semester winter**	**2. semester summer**	**3. semester winter**	**4. semester summer**
MABPh1 CM	Statistical Physics	4 SWS 5 credits			
MABPH2 CM	Quantum Mechanics and Quantum Optics		4 SWS 5 credits		
MABPh3 CM	Study Project			20 credits	
MABPh5, 6, 11, 12, **13, 14**[2], EM	Elective modules (winter term offer)	2x 6-8 SWS 10 credits		1 x 6-8 SWS 10 credits	
MABPh7, 8, 9, 10, **13, 14**[2] EM	Elective modules (summer term offer)		2x 6-8 SWS 10 credits		
ÜWP		5 credits	5 credits		
MABPh4 CM	Final Module / Master Thesis			1 SWS 30 credits	
SWS (without ÜWP) and credits per semester		16 - 24 SWS 30 credits	16 / 20 SWS 30 credits	6/8 SWS 30 credits	1 SWS 30 credits

[1] The 2nd semester is particularly suitable for studying at a university abroad. In order to simplify the recognition of coursework and examinations completed at the foreign university, it is recommended that a Learning Agreement is concluded in advance.

[2] The modules MABPh13 and MABPh14 are not offered on a regular basis. Further information about the current teaching programmes is available on AGNES.

Erste Änderung der fachspezifischen Prüfungsordnung

für den Masterstudiengang „Biophysics“ (AMB Nr. 4/2021)

Gemäß § 17 Abs. 1 Ziffer 3 der Verfassung der Humboldt-Universität zu Berlin in der Fassung vom 24. Oktober 2013 (Amtliches Mitteilungsblatt der Humboldt-Universität zu Berlin Nr. 47/2013) hat der Fakultätsrat der Lebenswissenschaftlichen Fakultät am 21. Mai 2025 die erste Änderung der Prüfungsordnung erlassen[*]:

Artikel I

Die „Anlage: Übersicht über die Prüfungen“ wird gemäß Anlage geändert.

Artikel II

Diese Änderungsordnung tritt am 1. Oktober 2025 in Kraft.

[*] Die Universitätsleitung hat die erste Änderung der Prüfungsordnung am 3. Juli 2025 bestätigt.

Anlage: Übersicht über die Prüfungen[3]

Masterstudiengang Biophysics

Number of module	Title of module	Credits	Specific admission requirements for exam	method of exam, duration, processing time, scope	Grading
Compulsory modules (60 credits)					
MABPh1	Statistical Physics	5	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh2	Quantum Mechanics and Quantum Optics	5	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh3	Study Project	20	none		
MABPh4	Final Module / Master Thesis	30	Successful completion of MABPh 1 and MABPh 2	Processing time 24 weeks, approx. 40 pages / 72.000 characters incl. spaces plus defence (35 minutes, presentation and discussion). The master thesis includes a summary (1 page, 1.800 characters incl. spaces)	yes
Elective modules (50 credits)					
MABPh5	Single Molecule Spectroscopy and Biophysics	10	none	Written exam (90 min)	yes
MABPh6	Neurobiophysics	10	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh7	Synaptic Biophysics	10	none	Written exam (90 min)	yes
MABPh8	Molecular, Cellular and Medical Biophysics	10	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh9	Systems Biology: Dynamic Modeling and Data Integration	10	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh10	Optobiology	10	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh11	Systems Biology: Computational Analysis and Interpretation of High-throughput Data	10	none	Oral exam (30 min) or portfolio - independent work on a specific biological data analysis problem, including choice and definition of problem; collection and processing of data; methods application and evaluation; leading to a final	yes

[3] The examinations mentioned in the examination overview can be conducted as face-to-face examinations, digital face-to-face examinations according to § 96b Abs. 2 ZSP-HU or digital distance examinations according to § 96b Abs. 3 ZSP-HU. The examiners decide on the form of execution. If alternative forms of examination are specified, the examiners determine the form of examination and inform the students of this at the beginning of the lecture period.

				written report and discussion of results (approx. 10 pages / 18.000 characters incl. spaces plus software code)	
MABPh12	Computational Neurobiology	10	Successful completion of module MABPh6	Written exam (90 min) or oral exam (30 min)	yes
MABPh13	Special Topics in Biophysics 1	10	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh14	Special Topics in Biophysics 2	10	none	Written exam (90 min) or oral exam (30 min)	yes
Interdisciplinary elective modules (10 credits)					
	The interdisciplinary elective modules can be freely chosen out of the provided module catalogues other subjects or central services. The modules can be found in the study and exam regulations and in AGNES.	overall 10	The modules have to be completed according to the rules of the other subjects or central services. If students choose modules which are not provided especially for the interdisciplinary elective field, the examination board decides upon the crediting. If students choose modules which are provided especially for the interdisciplinary elective field, the authorisation by the examination board is not necessary.		no

Interdisciplinary elective area for other Master's degree programmes

Number of module	**Title of module**	**Credits**	**Specific admission requirements for exam**	**method of exam, duration, processing time, scope**	**Grading**
MABPh1	Statistical Physics	5	none	Written exam (90 min) or oral exam (30 min)	yes
MABPh2	Quantum Mechanics and Quantum Optics	5	none	Written exam (90 min) or oral exam (30 min)	yes