

## **Appendix 4** **Degree-specific appendix - Master's degree in**

### **Biology of 8 September 2023\*)** **-Unofficial version-**

#### **Supplement to Section 2 - Learning outcomes**

The objective of the research-oriented Master's degree programme in Biology is to provide in-depth training in the fields of modern biology and their areas of application and to teach the necessary methods and techniques. It prepares students to work independently in industry, business, research or at other private or public institutions.

The complexity of biological processes often requires an interdisciplinary approach. Students acquire in-depth interdisciplinary knowledge of mathematics and science and a general understanding of biological systems from molecules to organisms. The programme, which uses a methodological and practical approach, enables students to conduct independent research according to scientific and ethical standards and to present and interpret research results appropriately. The international nature of the scientific community means that it is essential that good communication skills are acquired as well as a sound knowledge of the subject matter, especially in English. Structured, hypothesis-driven thinking, good communication skills and social competences form the basis of successful professional practice.

The English-language Master's degree programme in Biology provides the following learning outcomes:

- in-depth biological expertise
- in-depth knowledge of biological working methods
- data analysis skills
- interdisciplinary thinking
- critical and analytical thinking
- independent searching and knowledge of scientific literature
- ability to perform independent biological research
- data presentation and discussion in German and English (written and spoken)
- teamwork
- ethics and professional behaviour
- project and time management

#### **Supplement to Section 5 Duration, scope and structure of the academic programme, part- time study**

On 4: The Master's programme comprises:

- Elective modules from the curriculum of the Master's degree programme in Biology, with a student workload of 60 ECTS credit points. These are structured in accordance with the supplement to Section 10 as follows:
  - a) 24 credit points for Background modules
  - b) 15 credit points for Research modules
  - c) 21 credit points for modules of any type from the Master's programme in Biology
- Elective modules encompassing 30 credit points

These can be selected freely from all three module types in the Master's degree programme in Biology. Alternatively, students may also take elective modules from the Landscape Ecology,

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\*) There may be interim provisions for this version of the regulations, which may also affect you throughout the course of your degree programme. For more information, please read the official version of the regulations/amendments (Section II) in the official notices at: <https://uol.de/en/official-announcements>

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Marine Environmental Sciences, Computer Science, Hearing Technology & Audiology programmes or other related degree programmes. Modules may also be completed at other universities or institutions for higher education in or outside Germany. All in all, they should form a main theme that ties in well with the other modules of the degree programme. The Examining Board must approve the accreditation of these modules before they are taken. Applications to this effect can be made informally.

- The final Master's module (30 credit points)

### **Supplement to Section 7 - Examiners and co-examiners**

(5) An examiner or student may request that a co-examiner is present during oral examinations. He or she will have an advisory function regarding grading. Co-examiners must have a qualification that is at least equal or equivalent to the qualification established by the examination.

### **Supplement to Section 8 - Recognition of examinations**

(2) Performances in modules from other degree programmes specified as obligatory for admission to the study programme will not be credited.

### **Supplement to Section 9 - Admission to modules and module examinations**

For modules with an "active participation" requirement, regular attendance and/or active participation in at least one module course may be required for admission to a module examination or for receiving credit points.

According to Section 9.6, active participation is regular, active and documented participation in practical course components (internships, exercises, seminars, excursions) and in practical components within classes and lectures, etc. This includes, for example, finding solutions to exercises, recording experiments or practical work, discussing seminar papers or presenting tasks or content in class in the form of short reports. These requirements are specified in the module descriptions. Active participation is not graded.

### **Supplement to Section 10 - Structure and content of the module**

Modules of the Master's programme in  
Biology  
On (1)

A distinction is made between:

- Background Modules (BM), which generally provide well-founded, specialist knowledge from various areas of biology.
- Skills Modules (SM), which teach skills relevant to the subject and equip students for professional practice.
- Research Modules (RM), which generally impart experimental, specialised knowledge and skills through active involvement in current research projects.

Background Modules (BM) and Skills Modules (SM) can comprise lectures, seminars, exercises and internships. The Research Modules (RM) are project-oriented modules that can be supplemented by seminar(s) and lecture(s).

Modules in which similar subject-specific skills are taught may not be taken as additional modules. The tables below show which modules from other degree programmes may not be taken alongside modules from the Biology programme (column "Cannot be combined with").

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A prerequisite for passing all the modules listed below is active regular participation in accordance with the supplement to Section 9. In exceptional cases, a written examination may be replaced by an oral examination or a seminar paper.

**Background modules – Compulsory elective, encompassing at least 24 credit points:**

Module name	Cannot be combined with	Teaching format	Credit points	Partial examinations**	Active participation
bio605 Molecular Genetics and Cell Biology	bio600* neu170	L, S, E	E1 2	2 partial examinations: 1 Written examination (70%) 1 Presentation (30%)	signed test reports
bio655 Ornithology in theoretical concepts	bio650*	L, S,	12	3 partial examinations: 2 presentations (20% each) and 1 written examination or 1 oral examination (60%)	
bio663 Ornithology in Practice	bio660* bio900*****	E, S	12	1 examination: 1 portfolio (2 presentations, 2 records)	
bio675 Molecular Ecology	bio670*	L, E	12	1 examination: Portfolio (presentation, research proposal)	
bio695 Biochemic Concepts in Signal Transduction	bio690* neu190	L, S,	12	2 partial examinations: Written examination (50%) Report(s) (50%)	Presentation(s) in seminar
bio703 Basic Concepts in Plant Sciences	bio700*	L, S,	12	1 examination: 1 portfolio (4 short presentations)	
bio720 Marine Biodiversity		L, S, E	15	3 partial examinations: 1 Written examination (60%) 1 Short presentation (20%) 1 practical exercise (20%)	
bio733 Evolutionary Biology: Population Genetics	bio730*	L, E	6	1 examination: 1 portfolio (presentation, lab report)	
bio736 Evolutionary Transcriptomics	bio730*	L, E	6	1 examination: 1 portfolio (presentation, lab report)	
bio765 Current Methods in Plant Sciences – Ecology, Phylogeny and Molecular Biology	bio760*	E	12	1 examination: 1 portfolio (1 poster, 1 short report, 1 report)	
bio770 Field Methods in Organismal Biology		S, E	15	3 partial examinations: 2 Presentations (30%) 1 Internship report (70%)	
bio773 Sequence based biomonitoring		L, E, S	12	1 examination: 1 portfolio (presentation, results report)	

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bio780 Biodiversity of Littoral Communities		E, S	15	3 partial examinations: 2 Short presentations (30%) 1 Internship report (70%)	
bio845 Introduction to Development and Evolution	bio840* neu110	L, S,	6	1 examination: 1 oral examination or 1 Written examination	
<b>Module name</b>	<b>Cannot be combined with</b>	<b>Teaching format</b>	<b>Credit points</b>	<b>Partial examinations**</b>	<b>Active participation</b>
bio846 Lab Exercises in Development and Evolution	bio840* neu120	E, L, S	6	1 examination: Report	
bio860 Comparative Developmental Biology		L, E, S	6	1 examination: Report	
neu141 Visual Neuroscience: Physiology and Anatomy	bio620* neu140 neu150	***	12	***	
neu210 Neurosensory Science and Behaviour		***	9	***	
neu220 Neurocognition and Psychopharmacology	psy181	***	6	***	
neu310 Psychophysics of Hearing		***	12	***	
neu340 Invertebrate Neuroscience - Neurophysiology		***	6	***	
neu360 Auditory Neuroscience		***	6	***	
neu380 Neuroethology and Neurogenetics: Insect Models		***	6	***	
psy270 Functional MRI Data Analysis	neu305 neu300 psy275	****	9	****	****

L = Lecture S = Seminar E = Exercise I = Internship

\* Module from the degree-specific appendix dated 2017 and earlier

\*\* If one module has several partial examinations, the weightings are given in percentages in accordance with Section 13.3.2 of the Master's examination regulations.

\*\*\*Courses, examinations and ungraded examinations in accordance with the examination regulations for the Master's degree programme "Neuroscience" (M.Sc.)

\*\*\*\*Courses, examinations, active participation and additional compulsory ungraded coursework as specified in the examination regulations for the Master's degree programmes of School VI: Degree-specific Annex 3 - Neurocognitive Psychology

\*\*\*\*\*Excluded if courses have the same content

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### Research Modules – Compulsory elective, encompassing at least 15 credit points:

Module name	Cannot be combined with	Course units	Credit points	Partial examinations**
bio900 Biology Research Module*		PR (S, L)	15	1 examination: 1 Internship report
bio810 External Research Project*		S, PR	15	1 examination: 1 Internship report
bio820 Research Module Fast Track		PR (S, L)	15	1 examination: 1 Internship report

L = Lecture S = Seminar I = Internship PR = Project-based component

\* The modules "Biology Research Module" and "External Research Project" can be taken more than once for courses with different contents.

Note: Students who wish to complete their Master's thesis outside this university must have successfully completed module bio900 (cf. Section 20.1).

### Skills Modules – Electives:

Module name	Cannot be combined with	Teaching format	Credit points	Partial examinations**
bio870 Communicating Biology		L	6	1 examination: 1 Term paper
bio880 Plant Diversity		S, E	6	2 partial examinations: 1 Presentation (50%) Report (50%)
bio890 Current Topics in Biology*		L	3	1 examination: 1 Portfolio
bio777 Conserving, curating and managing research aspects of objects in scientific collections	pb335	L, S, E	6	2 partial examinations: 1 written or 1 oral examination (100%)  1 practical exercise
bio783 Object-based Research Projects in Biological Collections		E	6	1 examination: 1 Portfolio
neu730 Biosciences in the Public Eye and in our Laws	PB227PB403	***	6	***
neu751 Laboratory Animal Science		***	3	***
neu760 Scientific English		***	6	***
neu780 Biological Data Analysis with Python	PB328	***	6	***
neu790 Communicating Neuroscience		***	3	***
neu800 Introduction to Matlab		***	3	***
neu810 International Meeting Contribution		***	3	***
neu820 Neuroscience Journal Club		***	3	***

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L = Lecture S = Seminar E = Exercise

\*The module "Current Topics in Biology" may be taken more than once if the content covered in the classes/lectures etc. is different.

\*\*If one module has several partial examinations, the weightings are given in percentages in accordance with Section 13.3.2 of the Master's examination regulations.

\*\*\*Courses, examinations and ungraded examinations in accordance with the examination regulations for the Master's degree programme "Neuroscience" (M.Sc.) of schools V and VI

#### **Final Master's module:**

<b>Module name</b>	<b>Credit points</b>	<b>Partial examinations **</b>
Master's Thesis Module	30	2 partial examinations: Master's thesis (90%) Final colloquium (10%)

\*\* Weighting of partial examinations specified in accordance with Section 13.3.2 of the MPO.

#### **Supplement to Section 11 - Types of module examinations**

On 1: The partial examinations specified in Section 11 are translated as follows in German:

- written exam / Klausur (Section 5)
- oral examination / Mündliche Prüfung (Section 6)
- short presentation / Referat (Section 7)
- term paper / Hausarbeit (Section 8)
- practical exercise / Fachpraktische Übung (Section 9)
- internship report / Praktikumsbericht (Section 11)
- portfolio / Portfolio (Section 12)
- presentation / Präsentation (Section 13)
- test record (Section 14)

On 5: As a prerequisite for awarding credit points, "active participation" may be required during classes/lectures which convey the material in a practical and descriptive way or through dialogue between students and lecturers (internships, exercises, seminars, excursions). In accordance with Section 9.6, active participation is regular, documented and successful participation in the practical course components or in practical components within classes and lectures. This includes, for example, finding solutions to practical, descriptive or thought-provoking exercises, recording experiments or practical work, participating in discussions on seminar papers in a constructive manner or presenting tasks or content in class in the form of short reports.

On 6: **Access of the public to oral examinations:** Students wishing to take the same examination in an upcoming examination period, as well as other members of the university with a legitimate interest, are allowed to attend oral examinations as listeners. (This does not extend to the consultation phase or the announcement of examination results.) The student to be examined may request that there be no listeners or limit the number thereof.

#### **Supplement to Section 13 - Assessment of the module examinations and the Master's thesis**

(6) No more than a total of 45 credit points from individual research modules and the final Master's module may be assessed by a single lecturer.

#### **Supplement to Section 15 - Resits of module examinations, free attempt**

On 3: Resits, including single assessed components in a module examination, must be taken within a reasonable period of time within the academic year.

On 5: It is not permitted to resit an examination that has been passed.

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**Supplement to Section 20 - Admission to the Master's thesis phase**

Regarding (1): In the case of an external Master's thesis, proof must be provided that the bio900 module has been successfully completed.

**Supplement to Section 21 - Final Master's module**

On 4: The Master's thesis must be written in English.