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Academic and Examination Regulations for the Master's Degree Program Biology at the Technical University of Munich

dated 30 March 2023

as amended by the Amending Statute of 17 January 2024

In accordance with Art. 9 Sentence 2 in conjunction with Art. 80(1) Sentence 1, Art. 84(2) Sentence 1 and Art. 90(1) Sentence 2 of the Bavarian Higher Education Innovation Act [Hochschulinnovationsgesetzes (BayHIG)] the Technical University of Munich issues the following Regulations:

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§ 34

Applicability, Academic Titles

- (1) ¹The Academic and Examination Regulations for the Master's Degree Program Biology (FPSO) complement the General Academic and Examination Regulations for Bachelor's and Master's programs at the Technical University of Munich (APSO) dated 18 March 2011 as amended. ²The APSO has precedence.
- (2) ¹Upon successful completion of the Master's examination the degree "Master of Science" ("M.Sc.") is awarded. ²The academic title may also be used with the name of the university "(TUM)".

§ 35

Commencement of Study, Standard Duration of Study, ECTS

- (1) The Master's Degree Program Biology at the Technical University of Munich commences, as a rule, in the winter semester.
- (2) ¹The number of classes in elective subjects needed to obtain the master's degree is 90 credits (75 weekly hours per semester) spread over three semesters. ²Students will have a maximum of six months to complete their master's thesis in accordance with § 46. ³The number of coursework units and examinations in required and elective subjects to be completed in the Master's Degree Program Biology according to Appendix 1 is a minimum of 120 credits. ⁴The standard duration of study for the master's program is a total of four semesters.

§ 36

Eligibility Requirements

- (1) Eligibility for the Master's Degree Program Biology is demonstrated by:
 1. A qualified bachelor's degree obtained after a program of at least six semesters from a domestic or foreign institution of higher education, or at least an equivalent degree in Biology, Molecular Biotechnology or a comparable degree program,
 2. Proof of sufficient German language skills according to § 6(3) No. 8 of the TUM Enrollment, Student Fees Payment, Leave of Absence and Disenrollment Regulations (ImmatS) of 6 February 2023 as amended or alternatively adequate knowledge of English; students whose language of instruction is not English must provide proof in the form of a recognized language test such as the "Test of English as a Foreign Language" (TOFL) (at least 88 points), the "International English Language Testing System" (IELTS) (at least 6.5 points), or the "Cambridge Main Suite of English Examinations",
 3. Applicants who have acquired their undergraduate degree or equivalent degree within the meaning of Art. 90(1) Sentence 1 BayHIG within the area of applicability of the Convention on the Recognition of Qualifications concerning Higher Education in the European Region (Lisbon Convention) by passing the aptitude test according to Appendix 2 a,
 4. applicants who have acquired their undergraduate degree or equivalent degree within the meaning of Art. 90(1) Sentence 1 BayHIG outside of the area of applicability of the Convention on the Recognition of Qualifications concerning Higher Education in the European Region (Lisbon Convention) by passing the aptitude test according to Appendix 2 b.

- (2) A degree is considered to be qualified within the meaning of 1(1) if there are no significant differences with regard to the competencies (learning outcomes) acquired in the designated bachelor's degree programs at TUM.
- (3) ¹For determining a qualified degree in accordance with § 36(2), the required modules of the TUM Bachelor's Degree Program Life Sciences Biology will be considered. ²As an exception, for applicants who have acquired their undergraduate degree or equivalent degree within the meaning of Art. 90(1) Sentence 1 BayHIG outside the area of applicability of the Lisbon Convention, the result of the TUM Test Biology according to Appendix 3 will be used to determine aptitude according to (3); those who have achieved at least 70 points in the test will be assessed in the aptitude process according to Appendix 2b.
- (4) ¹As an exception to § 36(1)1, students enrolled in a bachelor's program specified in § 36(1)1 may be admitted to the master's program in justified cases. ²An application to the master's program by students enrolled in a bachelor's program may only be submitted if it can be verified that, in the case of a six-semester bachelor's program, module examinations amounting to at least 120 credits; in the case of a seven-semester bachelor's program, module examinations amounting to at least 150 credits; and, in the case of an eight-semester bachelor's program, module examinations amounting to at least 180 credits have been completed at the time of submission of the application. ³Verification of the awarding of the bachelor's degree must be provided within one year of commencement of the master's program.

§ 37

Modular Structure, Module Examination, Courses, Areas of Specialization, Language of Instruction

- (1) ¹General provisions concerning modules and courses are set forth in §§ 6 and 8 of the APSO. ²For any changes to the stipulated module provisions § 12(8) of the APSO applies.
- (2) The curriculum listing the required and elective modules is included in Appendix 1.
- (3) The following areas of concentration can be selected for the Master's Degree Program Biology:
- Biochemistry / Cell Biology
 - Genetics / Biostatistics
 - Medical Biology
 - Microbiology
 - Ecology / Environmental Management
 - Plant Sciences
 - Animal Sciences
- (4) ¹In addition to the modules in German, a sufficient number of modules in English are on offer. ²It is therefore possible to study the master's program entirely in English. ³The language of the respective elective modules is specified in Appendix 1. ⁴Where the language of instruction for a module is specified in Appendix 1 as either English or German, the examiner will announce, in a suitable manner no later than the first day of classes, which will be the official language of instruction.

§ 38

Examination Deadlines, Academic Progress Checks, Failure to Meet Deadlines

- (1) Examination deadlines, progress monitoring, and failure to meet deadlines are governed by § 10 of the APSO.

- (2) ¹At least one of the module examinations listed in Appendix 1, with the exception of module examinations in the elective module area “Transferable Skills Training”, must be successfully completed by the end of the second semester. ²In the event of failure to comply with this deadline § 10(5) of the APSO applies.

§ 39 Examination Board

In accordance with § 29 of the APSO, the board responsible for all decisions concerning examination matters is the Master’s Examination Board M.Sc. Biology (Examination Board) of the TUM School of Life Sciences.

§ 40 Recognition of Periods of Study, Coursework and Examination Results

The recognition of periods of study, coursework and examination results is governed by § 16 of the APSO.

§ 41 Continuous Assessment Procedure, Types of Assessment

- (1) ¹In addition to written and oral examinations, types of assessment in accordance with § 12 and § 13 of the APSO may include (but are not limited to) laboratory assignments, exercises (tests, where applicable), reports, project work, presentations, learning portfolios, research papers, or parcours examinations. ²Details of each module examination and the competencies to be assessed in each examination are set out in the module descriptions. ³Where the topic permits, the examination can be held either as an individual or group examination; § 18(2) Sentences 2 and 3 of the APSO apply accordingly.
- a) ¹A **written examination** is a supervised examination, in which students are expected to demonstrate, within a limited amount of time and using predefined methods and resources, their ability to identify problems, find solution strategies and, if required, implement them. ²The duration of written examinations is regulated in § 12(7) of the APSO.
- b) ¹Depending on the discipline, **laboratory assignments** may include experiments, measurements, field work, field exercises, etc., with the goal of students conducting such work, evaluating results, and gaining knowledge. ²These may consist of, for example, process descriptions and the underlying theoretical principles including studying the relevant literature; preparation and practical implementation; calculations, if required, and documentation, evaluation, and interpretation of the results in the context of the knowledge to be gained. ³Laboratory assignments may be complemented by presentations designed to demonstrate a student’s communication competency in presenting scholarly work to an audience.
- c) ¹**Practical credit requirements** involve students completing assigned tasks (for example, solving mathematical problems, writing computer programs, preparing models, preparing designs) using theoretical knowledge to solve application-oriented problems. ²Exercises are designed to assess a student’s factual and detailed knowledge and its application. ³Practical exercises may be administered in writing, orally, or electronically. ⁴They may be in the form of homework assignments, practice sheets, programming exercises, (e-)tests, design tasks, posters, tasks assigned within a university internship program, etc.

- d) ¹A **report** is a written record and summary of a learning process for the purpose of presenting the acquired knowledge in a structured way and analyzing the results in the context of a module. ²Students are expected to demonstrate that they have understood all essential aspects and are able to present them in writing. ³Reports may include excursion reports, internship reports, work reports, etc. ⁴The written report may be complemented by a presentation for the purpose of assessing the student's communication competency in presenting scholarly work to an audience.
- e) ¹**Project work** is designed to reach, in several phases (initiation, problem definition, role assignment, idea generation, criteria development, decision, implementation, presentation, written evaluation), the defined objective of a project assignment within a given period of time and using suitable instruments. ²In addition, project work may include a presentation or a subject-specific discussion in order to assess a student's communication competency in presenting scholarly work to an audience. ³It may also encompass design sketches, drawings, plans, models, objects, simulations or documentation.
- f) ¹A **research paper** is a written assignment in which students work independently on solving complex scholarly or scholarly/application-oriented problems, using the scientific methods of the related discipline. ²Students are expected to demonstrate that they are able to solve problems corresponding to the learning results of the module in question in compliance with the guidelines for scholarly work – from analysis and conception to implementation. ³Research papers, differing in their requirement standards, may take the form of a conceptual framework/theory paper, abstract, term paper, seminar paper, etc. ⁴The research paper may be complemented by a presentation and/or a colloquium for the purpose of assessing the student's communication competency in presenting scholarly work to an audience.
- g) ¹A **presentation** is a systematic and structured oral performance supported by suitable audio-visual equipment (such as projector, slides, posters, videos) for the purpose of demonstrating and summarizing specific issues or results and paring complex problems down to their essential core. ²For the presentation, the student is expected to demonstrate that he or she is capable of preparing a certain topic within a given time frame in such a way as to present or report it in a clear and comprehensible manner to an audience. ³In addition, the student is expected to demonstrate that he or she is able to respond competently to any questions, suggestions, or discussions brought by the audience and relating to his or her subject area. ⁴The presentation may be complemented by a brief written precis.
- h) ¹An **oral examination** is a timed, graded discussion on relevant topics and specific questions to be answered. ²In oral examinations students are expected to demonstrate that they have understood the central concepts of the subject matter covered by the exam and are able to apply them to specific problems. ³The duration of the examination is regulated in § 13(2) of the APSO.
- i) ¹A **learning portfolio** is a collection of completed work compiled by the student according to predefined criteria that exhibits the student's progress and achievements in defined content areas at a given time. ²Students are required to explain why they chose the work they have and its relevance for their learning progress and the achievement of the defined learning outcomes. ³With the learning portfolio, students are expected to demonstrate that they have taken active responsibility for their learning process. ⁴Depending on the module description, types of independent study assessment

in a learning portfolio may include, in particular, application-oriented assignments, web pages, weblogs, bibliographies, analyses, conceptual framework/theory papers, as well as the graphic representation of facts or problems. ⁵A subject-specific final oral discussion for the purpose of reflection and based on the content of the learning portfolio may also take place.

- j) ¹The **parcours examination** is made up of several components. ²Unlike a module examination component, parcours exam components are administered in sequence and completed in a specific time frame and location. ³Parcours components entail various types of examination, which together evaluate the competency profile of the module as a whole. ⁴Possible types of examination in parcours components may include those listed in g) and h) in combination with a practical requirement. ⁵The total duration of the parcours examination with all its components is indicated in the module catalog.
- (2) ¹As a rule, module examinations are taken concurrently with the program. ²The type and duration of module examinations is stipulated in Appendix 1. ³For any changes to the stipulated module provisions § 12(8) of the APSO applies. ⁴The assessment of the module examination is governed by § 17 of the APSO. ⁵The grade weights of module examination components correspond to the weighting factors assigned to them in Appendix 1.
- (3) Where Appendix 1 provides that a module examination is either in written or oral form, the examiner will inform the students officially and in appropriate form, no later than the first day of classes, of the type of examination to be held.

§ 42

Admission to and Registration for the Master's Examination

- (1) Students who are enrolled in the Master's Degree Program Biology are deemed admitted to the module examinations of the master's examination.
- (2) ¹Registration requirements for required and elective module examinations are stipulated in § 15(1) of the APSO. ²Registration requirements for repeat examinations are stipulated in § 15(2) of the APSO.

§ 43

Scope of the Master's Examination

- (1) The master's examination consists of:
1. The module examinations in the corresponding modules according to § 43(2),
 2. The Master's Thesis module in accordance with § 46,
 3. The coursework listed in § 45.
- (2) ¹The module examinations are listed in Appendix 1. ²Students must complete a minimum of 90 credits in elective modules. ³The selection of modules must comply with § 8(2) of the APSO.

§ 44

Repeat Examinations, Failed Examinations

- (1) The repetition of examinations is governed by § 24 of the APSO.
- (2) Failure of examinations is governed by § 23 of the APSO.

§ 45

Coursework (Pass/Fail Credit Requirements)

¹In addition to the examinations listed in § 43(1), verification of the successful completion of coursework in the modules in accordance with Appendix 1 must be provided. ²Instead of the examinations to be taken in elective modules in accordance with § 43(2) Sentence 2, some elective modules may also require the completion of coursework. ³In these cases, the number of credits to be earned in the electives according to § 43(2) Sentence 2 will be reduced accordingly.

§ 45 a

Multiple Choice Tests

The conduct of multiple choice tests is governed by § 12 a of the APSO.

§ 46

Master's Thesis

- (1) As part of the master's examination, each student must write a master's thesis according to § 18 of the APSO.
- (2) ¹Completion of the Master's Thesis module, as a rule, is the final examination requirement. ²Upon request students may be granted early approval to commence work on the master's thesis if the objective of the thesis in the sense of § 18(2) APSO can be fulfilled under consideration of the progression of studies to date.
- (3) ¹The period between topic assignment and submission of the completed thesis must not exceed six months. ²The thesis is considered presented and not passed if the student fails to submit it on time without valid reasons as specified in § 10(7) of the APSO. ³The thesis may be written in either the German or the English language.
- (4) ¹The completion of the master's thesis module consists of a presentation as part of the planning of the scientific project for the thesis (coursework), a scientific paper and a presentation on its content. ²The presentations do not affect the grading. ³30 credits are awarded for the Master's Thesis module.
- (5) ¹If the Master's Thesis module was not graded as at least "sufficient" (4.0), it may be repeated once with a new topic. ²Students must renew their application to set the topic of the Master's Thesis module within six weeks of receipt of the grade.

§ 47

Passing and Assessment of the Master's Examination

- (1) The master's examination is deemed passed when all examinations required for the master's examination in accordance with § 43(1) have been passed and a plus credits account of at least 120 credits has been achieved.
- (2) ¹The module grade will be determined according to § 17 of the APSO. ²The overall grade for the master's examination will be calculated as the weighted grade average of the modules according to § 43(2) and the Master's Thesis module. ³The grade weights of the individual modules correspond to the credits assigned to each module. ⁴The overall assessment is expressed by the designation according to § 17 of the APSO.

§ 48
Degree Certificate, Diploma, Diploma Supplement

If the master's examination was passed, a degree certificate, a diploma, and a diploma supplement including a transcript of records are to be issued in compliance with § 25(1) and § 26 of the APSO.

§ 49
Entry into Force*)

- (1) ¹These regulations will enter into force on 1 April 2023. ²They apply to all students who commence their studies at the Technical University of Munich as of the winter semester 2023/2024.
- (2) ¹At the same time, the regulations for the Master's Degree Program Biology at the Technical University of Munich from 22 April 2021, recently amended by the Amending Statute from 16 December 2021, cease to apply. ²Students who commenced their studies at the Technical University of Munich prior to the winter semester 2023/2024 are to complete their studies in accordance with the regulations named in § 49(2) Sentence 1.

*) This provision concerns the entry into force of these regulations in the original version from 30 March 2023. The date of entry into force of the amendments is specified in the Amending Statute.

APPENDIX 1: Examination Modules**

A: Required Modules

No.	Module Name	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Weighting factor	Language Instruction
WZ2590	Master's Thesis		4		30	Presentation (SL) + research paper (incl. presentation)			D/E

B: Elective Modules

In the elective studies, elective modules amounting to at least 90 credits must be taken from the following list (not final). The Examination Board regularly updates the lists and publishes the official catalog no later than the start of semester in the degree chart in TUMonline.

List 1: Transferable Skills Training

For all degree programs at the TUM School of Life Sciences (LS), this elective module section includes the courses offered by the Carl-von-Linde-Akademie, the TUM Language Center, other transferable skills modules at TUM and the TUM School of Life Sciences as well as a transferable skills module section specific to each degree program, which is continuously updated by the responsible examination board. The Examination Board will publish the updated catalog in the degree chart in TUMonline at the beginning of the semester at the latest.

In the elective module section Transferable Skills Training, modules amounting to 5 credits can be taken in the Master's Degree Program Biology.

List 2: Areas of Concentration

At least 85 credits must be earned from the elective module list "Areas of Concentration". At least 25 credits each must be earned in three of the seven areas of concentration listed in § 37(3). Of these 25 credits, at least 15 credits must be earned in theory-based modules (T). The Examination Board regularly updates the elective modules course catalog and publishes the official catalog no later than the start of semester in the degree chart in TUMonline.

Area of Concentration Biochemistry / Cell Biology

No.	Module Name	Theory or Practical appl.	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Weighting factor	Language Instruction
CH3039	Bioorganic Chemistry	T	VI + VI	WiSe	2 + 1	5	Written exam	90	-	D/E
CS0076	Enzym Engineering	T	VO + SE	SoSe	2 + 1	5	Written exam + report	60	2:1	D/E
WZ2621	Modelling of Biological Macromolecules	T	VO + PR	WiSe	2 + 3	6	Written exam	90	-	D

WZ2580	Protein-Engineering	T	VO + VO	SoSe	1 + 2	5	Written exam	90	-	D
WZ2439	Proteomics: Analytical Basics and Biomedical Applications	T	VO + UE	WiSe/ SoSe	2 + 3	5	Written exam + presentation	90 + 15	3:2	D/E
WZ2388	Techniques in Cell Biology	T	VO + SE	SoSe	2 + 1	5	Written exam	60	-	D/E
CH0437	Cellular Biochemistry 2	T	VO + UE	SoSe	2 + 2	6	Written exam	90	-	D/E
LS20009	Introduction to Programming for Biologists	P	PR	WiSe	4	5	Project work	-	-	E
WZ2546	Research Project Biotechnology of Natural Products	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	D
LS20001	Research Project Metabolic Programming	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E

Area of Concentration Genetics / Biostatistics

No.	Module Name	Theory or Practical appl.	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Weighting Factor	Language Instruction
WZ2659	Speciation From Population Genetics to Phylogenetics	T	VI	WiSe	4	5	Written exam	60	-	E
WZ1588	Evolutionary Genetics of Plant and Microorganisms	T	VO + UE	WiSe	2 + 2	5	Oral exam	30	-	E
ME20002	Human Genetics	T	VO + SE	WiSe/ SoSe	2 + 0.5	5	Written exam	60	-	D
WZ2662	Modern Topics in Evolutionary Biology	T	VO + SE	SoSe	2 + 2	5	Research paper	-	-	E
WZ1185	Plant Epigenetics and Epigenomics	T	VO + PR	WiSe/ SoSe	3 + 2	5	presentation	30	-	E
WZ1031	Quantitative Genetics and Selection	T	VI	WiSe	4	5	Written exam	120	-	D/E
WZ2620	Applications of Evolutionary Theory in Agriculture: Pathogen Population Genomics and Disease Management	T	VO + SE	SoSe	3 + 1	5	Research paper	-	-	E
CIT 5130001	Applied Statistics and Data Analysis	T	VO + UE	WiSe (LS)/ SoSe (CIT)	2 + 1	5	Written exam	60	-	E
WZ0637	Lab Course Methods for Analysis of Next Generation Sequencing	P	UE	WiSe/ SoSe	4	5	Report	-	-	E

WZ2629	Research Project Chemical Genetics	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	E
WZ2665	Research Project Neurogenetics for Advanced	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E

Area of Concentration Medical Biology

No.	Module Name	Theory or Practical appl.	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Exami- nation	Weight- ing Factor	Language Instruction
WZ0219	Chemosensory Perception	T	VO + SE	WiSe	2 + 2	6	Written exam	90	-	E
ME2656	Development of Vaccines Against Infectious Diseases	T	SE	WiSe/ SoSe	2	5	Presentation	30	-	E
ME2648*	Molecular Oncology	T	VO + SE	WiSe and SoSe	2 + 2	5	Written exam + research paper (SL)	90	-	D
WZ2427*	Molecular Cell Biology of Tumorigenesis	T	VO + VO + UE	WiSe and SoSe	2 + 2 + 1	6	Written exam	60	-	D/E
ME2413	Pharmacology and Toxicology for Students of Life Sciences	T	VO + SE	SoSe	2 + 2	5	Written exam	75	-	D
ME2649	Molecular Oncology II	T	SE	WiSe/ SoSe	2	5	Practical credit requirement	-	-	D
ME2090	Viral and Nonviral Gene Transfer: Methods and Applications in Research and Therapy	T	VO	WiSe/ SoSe	3	5	Written exam	120	-	D
WZ2490*	Neurogenetics: The Pathoetiology of the Neurological and Psychiatric Diseases	T	VO + VO	WiSe and SoSe	2 + 2	6	Written exam + written exam	60 + 60	1:1	D/E
ME2414	Research Project Pharmacology and Toxicology	P	PR	WiSe/ SoSe	15	10	Lab assignment	-	-	D
WZ2681	Research Project: Research Project: Challenges of Biomedicine. Social, Political and Ethical Aspects of Medical Biology.	P	PT	WiSe/ SoSe	2	5	Project work	-	-	D/E
ME2624-2	Classical and Molecular Virology Course	P	PR	WiSe/ SoSe	8	8	Lab assignment	-	-	D/E

Area of Concentration Microbiology

No.	Module Name	Theory or Practical appl.	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Exami- nation	Weight- ing Factor	Language Instruction
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WZ2626	Applied Microbiology	T	VO + VO	SoSe	2 + 1	5	Written exam	60	-	D/E
WZ2559	Soil Microbiology 1	T	VO + VO + SE	WiSe	2 + 1 + 1	5	Parcour examination	-	-	D/E
WZ2450	Introduction to Mycology	T	VO + UE	SoSe	1 + 4	5	Written exam	60	-	D
WZ2375	Evolution of Pathogens	T	VO + UE	SoSe	2 + 1	5	Written exam	60	-	D
WZ2556	Modern Methods in Microbial Ecology	T	VO + SE + PR	WiSe/ SoSe	2 + 2 + 5	10	Written exam	60	-	D/E
WZ1174	Molecular Biology of Biotechnologically Relevant Fungi	T	VI	WiSe/ SoSe	4	5	Written exam + presentation (SL)	60 + 60	-	E
WZ2372	Pathogenic Microorganisms	T	VO + VO	WiSe	2 + 1	5	Written exam	90	-	D/E
WZ1817	Research Project Molecular Fungal Genetics	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E
WZ0407	Research Project on Beneficial Properties of the Early Life Microbiota	P	FO	WiSe/ SoSe	16	10	Lab assignment	-	-	E
WZ0408	Research Project on Microbiota-Associated Pathobionts	P	FO	WiSe/ SoSe	16	10	Lab assignment	-	-	E

Area of Concentration Ecology / Environmental Management

No.	Module Name	Theory or Practical appl.	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Weighting Factor	Language of Instruction
WZ1216	Introduction in Ecological Modelling	T	VO + UE	WiSe	1 + 3	5	Report	-	-	D
WZ2732	Environmental Monitoring and Data Analysis	T	VI + VI	WiSe	3 + 2	5	Written exam	180	-	E
WZ4189	Fisheries and Aquatic Conservation	T	VO + UE	WiSe	2 + 2	5	Written exam + presentation	60 + 15	2:1	E
WZ6318*	Geological Fundamentals of Bavarian Landscapes	T	VO + VO + UE	WiSe and SoSe	1 + 1 + 3	5	Written exam	60	-	D
WZ6300	Ecosystem Management and Applied Restoration Ecology	T	PT	WiSe	4	5	Research paper	-	-	D/E
WZ6417	Nature Conservation	T	VO + SE	WiSe	2 + 2	5	Written exam	60	-	D
WI001228	Economics of Environmental and Climate Policy	T	VO	SoSe	4	6	Written exam	90	-	E
LS50012	Movement Ecology	P	VO + UE	SoSe	1 + 3	5	Project work	-	-	D

WZ2390	Methods in Fish Biology and Aquatic Ecology	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E
WZ1416	Research Project: Chemistry of Plant-Insect Interactions	P	PR	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E

Area of Concentration Plant Sciences

No.	Module name	Theory or Practical appl.	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Weighting Factor	Language Instruction
WZ2424	Biotic Plant Stress Physiology	T	VO + SE + UE	SoSe	2 + 1 + 2	5	Written exam	90	-	D
WZ1035	Host-Parasite-Interaction	T	VO + SE + UE	WiSe	1 + 2 + 2	5	Written exam	90	-	E
WZ2381	Plant Systems Biology (Lecture and Seminar)	T	VO + SE	WiSe/ SoSe	2 + 2	5	Research paper	-	-	D/E
WZ2581	Plant Biotechnology	T	VO + SE	SoSe	2 + 2	5	Written exam	90	-	E
WZ4020	Effects of Climate Change on Plant Physiology	T	VO + VO + VO + SE	WiSe	1 + 1 + 1 + 1	5	Oral exam	20	-	D/E
WZ1718	Research Project Horticultural Economics and Management	T	PT	WiSe/ SoSe	10	10	Research paper	-	-	E
WZ1333	Research Project: Plants as Holobionts	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E
WZ1576	Research Project "Plant Growth Regulation"	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	E
WZ2347*	Methods, Logic and Scientific Writing in Molecular Cell Biology	P	SE + SE	WiSe und SoSe	2 + 2	6	Practical credit requirement	-	-	E

Area of Concentration Animal Sciences

No.	Module Name	Theory or Practical appl	Type of Instruction	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Weighting Factor	Language of Instruction
WZ2404	Introduction to Mammalian Cell Culture	T	SE + PR	WiSe/ SoSe	2 + 3	5	Lab assignment + presentation	10	6:4	D/E
LS20007	Introduction to Computational Neuroscience	T	VO + UE + PT	WiSe/ SoSe	2 + 2 + 2	7	Presentation	20	-	E
WZ2405	Phylogeny and Zoology of Vertebrates	T	VO + SE	SoSe	2 + 2	5	Written exam	90	-	D/E
WZ0033	Physiology of Growth, Reproduction and Lactation	T	VO + VI	WiSe	2 + 2	5	Oral exam	30	-	D/E

WZ2127	Reproductive Physiology of Vertebrates	T	VO	WiSe	4	5	Oral exam	30	-	D
WZ2545	Research Project Animal Biotechnology	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E
WZ1415	Research Project: Chemistry of Plant-Insect Interactions	P	PR	WiSe/ SoSe	10	10	Lab assignment	-	-	D/E
LS20005	Models in Computational Neuroscience (M.Sc.)	P	FO	WiSe/ SoSe	10	10	Lab assignment	-	-	E

Explanation:

Sem. = semester; SWS = Semesterwochenstunden/weekly hours per semester; T = theory; P = practical application; VO = Vorlesung/lecture; UE = Übung/exercise module; VI = Vorlesung mit integrierter Übung/lecture with exercise; PR = Praktikum/practical course; SE = seminar; PT = project; FO = Forschungspraktikum/research internship; WiSe/SoSe = courses are offered both in the winter and summer semester; WiSe and SoSe = two-semester module; SL = Studienleistung/coursework; E = English; D = Deutsch/German

For written exams, the column Examination Duration indicates the examination duration in minutes.

* These modules with their corresponding module examination components extend over at least two semesters.

** During the transition period to the school structure, module numbers may change; the old and new module numbers will be listed side by side in TUMonline (on the degree program's website).

Appendix 2 a: Aptitude Assessment for Applicants with Higher Education Entrance Qualifications within the area of applicability of the Lisbon Convention

Aptitude Assessment for the Master's Degree Program Biology at the Technical University of Munich

1. Purpose of the Process

¹Eligibility for the Master's Degree Program Biology, in addition to the requirements pursuant to § 36(1) Nos. 1 (and 2), requires proof of aptitude pursuant to § 6(1) No. 3 in accordance with the following provisions. ²The special qualifications and skills of the candidates should correspond to the field of Biology. ³Individual aptitude parameters are:

- 1.1 The ability to conduct scholarly and/or basic and methodologically sound research,
- 1.2 Specialist knowledge in the field of Life Sciences from a bachelor's degree program,
- 1.3 Ability to solve complex and difficult problems,
- 1.4. Ability to link scientific knowledge with practical application,
- 1.5. Analytical observation skills.

2. Aptitude Assessment Process

- 2.1 ¹Aptitude Assessment is conducted annually. ²The TUM Enrollment, Student Fees Payment, Leave of Absence and Disenrollment Regulations (ImmatS) of 6 February 2023 as amended, in particular § 6, apply to the Aptitude Assessment process.
- 2.2 Applications for admission to the aptitude assessment process in accordance with § 6 of the ImmatS must be submitted to the Technical University of Munich together with the documents listed in 2.3 and in § 36(1)2 no later than 31 May (absolute deadline) using the online application procedure.
- 2.3 The application must include:
 - 2.3.1 Transcript of Records with modules of at least 120 credits for a six-semester bachelor's program, at least 150 credits for a seven-semester bachelor's program, and at least 180 credits for an eight-semester bachelor's program; the Transcript of Records must be issued by the relevant examination authority or the relevant academic programs office,
 - 2.3.2 A curricular analysis derived from the Transcript of Records is to be completed as part of the online application process; especially for modules that cannot be clearly assigned to the subject groups (see 5.1.1 a)) based on their title, it is recommended that the corresponding contents (e.g. module handbook, module descriptions) be uploaded in addition,
 - 2.3.3 curriculum vitae formatted as a table,

- 2.3.4 Optional, to serve as the basis for a potential aptitude assessment interview: a written statement in English (max. 1 A4 page) of the reasons for choosing the degree program Biology at the Technical University of Munich, in which the candidate explains those specific abilities and interests that make him/her particularly suitable for the Master's Degree Program Biology at the Technical University of Munich; a candidate's exceptional motivation and commitment is to be demonstrated by providing details on program-related vocational training, internships, stays abroad, or program-related further education beyond the attendance and course requirements of the bachelor's program, as well as outstanding academic achievements (awards, prizes or scientific publications); if necessary this is to be substantiated by appropriate documentation,
- 2.3.5 If a written statement is submitted according to 2.3.4, the applicant must submit a declaration that the written statement is the applicant's own work and that the applicant has clearly identified any ideas taken from outside sources.

3. Aptitude Assessment Commission, Selection Committees

- 3.1 ¹Aptitude assessment is administered by the Aptitude Assessment Commission and the Selection Committees. ²Aptitude Assessment Commission is responsible for preparing the aptitude assessment process, organizing it and ensuring a structured and standardized process for determining aptitude within the framework of these Regulations; it bears responsibility, insofar as no other body is specified by these Regulations or through delegation of its authority to another body. ³Selection Committees are to conduct the assessment process in accordance with No. 5 below, subject to No. 3.2 Sentence 11
- 3.2 ¹The Aptitude Assessment Commission (henceforth Commission) consists of five members, one of whom is the Academic Program Director. ²The other four Members of the Commission are appointed by the Dean, in consultation with the Vice Dean of Academic and Student Affairs, from among the authorized examiners of the TUM School of Life Sciences, who are members of the degree program faculty. ³At least three Commission members must be university educators within the meaning of the Bavarian Higher Education Innovation Act [Hochschulinnovationsgesetz (BayHIG)]. ⁴The departmental student council has the right to name a student representative to serve on the Commission in an advisory capacity. ⁵A deputy is to be appointed for each member of the Commission. ⁶The Commission is chaired by the Academic Program Director; the Commission elects a deputy chairperson from among its members. ⁷Procedures are governed by the paragraph on the procedural provisions of the TUM Charter as amended. ⁸The term in office of Commission members is 2 years. ⁹Extensions of the term of office and reappointments are possible. ¹⁰Urgent decisions that cannot be postponed can be made by the Academic Program Director on behalf of the Commission. He/she must inform the Commission of such decisions without delay. ¹¹The Campus Office supports the Commission and the Selection Committee; the Commission may delegate to the Office the task of assessing formal admissions requirements in accordance with Nr. 4, as well as the determination of points to be awarded based on defined criteria for which there is no freedom of discretion involved. This includes, in particular, the conversion of grades and the calculation of the overall points earned by the applicant. The Office may also be involved in choosing the members of the Selection Committee from among the commissioners and assigning them to applicants.

- 3.3 ¹Each Selection Committee consists of two members of the TUM School of Life Sciences, who are authorized to conduct examinations in the degree program according to Art. 85(1) Sentence 1 BayHIG in conjunction with the act governing examiners at institutions of higher education [Hochschulprüferverordnung]. ²At least one member must be a university educator within the meaning of the Bavarian Higher Education Innovation Act [Hochschulinnovationsgesetz (BayHIG)]. ³It is permissible to serve concurrently on both the Aptitude Assessment Commission and the Selection Committee. ⁴Members of the Committee are appointed by the Commission for a term of 1 year; No. 3.2 Sentence 9 applies accordingly. ⁵Different Selection Committees may be assigned to individual criteria and stages of the assessment process.

4. Admission to the Aptitude Assessment Process

- 4.1 Admission to the aptitude assessment process requires that all documentation specified in No. 2.2 has been submitted in a timely and complete fashion.
- 4.2 ¹Applicants who have fulfilled the requirements according to No. 4.1 will be assessed according to No. 5. ²Applicants not suited for the program will receive a letter of rejection stating the grounds for rejection and informing them of legal remedies.

5. The Aptitude Assessment Process

5.1 First Stage

- 5.1.1 ¹It will be assessed, on the basis of the written application documents required under No. 2.3, whether or not an applicant is suitable for a program pursuant to No. 1 (first stage of the aptitude assessment process). ²The candidate's application documents will be evaluated on a scale ranging from 0 to 100 points, 0 being the worst and 100 the best possible result:

The following criteria will be applied to the evaluation:

a) **Discipline-Specific Skills and Qualifications**

¹The curricular analysis is conducted on the basis of competencies, rather than a schematic comparison of modules. ²The analysis is based on the fundamental subject groups listed in the following table of the Bachelor's Degree Program Biology at the Technical University of Munich.

Subject Group	Credits TUM
Scientific Foundations (e.g. Mathematics, Inorganic and Organic Chemistry, Physics, Computer Science, Statistics)	20
Life Sciences (e.g. Genetics, Biochemistry, Microbiology, Ecology, Plant Sciences, Animal Sciences)	75
Credits from modules in the Natural Sciences and/or Life Sciences or a related field	25

³If it is established that there are no significant differences in the competencies acquired (learning outcomes), a maximum of 40 points will be awarded. ⁴For any competencies missing from the student's undergraduate curriculum, points equivalent to the amount of module credits for the respective competencies in the Bachelor's Degree Program Life Sciences Biology will be deducted from the overall score.

b) Grade

¹The modules of the subject groups taken into account by the Selection Committee for the subject-specific qualification according to No. 5.1.1 a) are used to calculate a credit-weighted average grade as follows:

$$\frac{\sum (\text{Note} * \text{Credits})}{\sum \text{Credits}}$$

²The applicant will be awarded two points for each tenth grade that is better than 4.0 based on the average of the examination results from the subject groups listed in 5.1.1 a). ³The maximum number of points is 60. ⁴Negative points will not be awarded. ⁵Grades of international degrees will be converted by applying the Bavarian formula. ⁶If the candidate has submitted a degree certificate containing more than 120 credits from the subject groups listed in No. 5.1.1 a) with the application, the assessment will be made on the basis of the best graded modules in the amount of 120 credits. ⁷The applicant needs to submit a list of the results together with the application and confirm its accuracy in writing.

- 5.1.2 The points total in the first stage will be calculated as the sum of the individual evaluations, with decimal places rounded up.
- 5.1.3 ¹Applicants with at least 80 points will be deemed suitable.
- 5.1.4 Applicants who have achieved less than 70 points fail the aptitude assessment.

5.2 Second Stage

- 5.2.1 ¹The remaining applicants will be invited to an assessment interview. ²In the second stage of the aptitude assessment, the qualifications acquired in the bachelor's degree program and the result of the assessment interview are evaluated, whereby the qualification acquired in the bachelor's is to be weighted equally. ³Interview appointments will be announced at least one week in advance. ⁴Time slots for interviews must be scheduled before expiration of the application deadline. ⁵The interview appointment must be kept by the applicant. ⁶If the applicant is unable to attend an aptitude assessment interview due to reasons beyond his/her control, a later appointment may be scheduled upon a student's well-grounded request, but no later than two weeks before the beginning of classes. ⁷As a rule, the interview is conducted by video conference. ⁸If the video or audio transmission is disrupted, the interview can be continued after the disruption has been resolved or a follow-up appointment can be scheduled. ⁹In the event of repeated disruption, the aptitude assessment interview may be scheduled as a face-to-face meeting in exception to Sentence 7. ¹⁰Sentences 8 and 9 do not apply if it can be proven that the applicant is responsible for the disruption. ¹¹In this case, the aptitude assessment interview will be assessed.
- 5.2.2 ¹The aptitude assessment interview is to be held individually for each applicant. ²The interview will be held in German or English and lasts at least 20 but not more than 30 minutes for each applicant. ³The interview will focus on the following topics:
1. Compatibility of the career and study objectives with the content of the Master's Degree Program Biology (30 points):
The applicant is able to critically evaluate his/her own skills and competencies and how they relate to the objectives and content of the Master's degree program. The applicant's professional goals align with the content of the Master's degree program.
 2. Ability to critically discuss a problem in Biology (30 points):
The applicant will be asked general questions on a current and relevant topic in the Life Sciences ("case study"), e.g. from the fields of Environment, Health or Biotechnology. The applicant is able to recognize and discuss problems that can be extrapolated from theoretical knowledge and practical experience and is able to present possible solutions,

question them critically and formulate respective hypotheses. The applicant has the necessary ability to express him/herself with scientific precision, to make factual statements and to use a logical chain of arguments and meaningful examples in order to adequately respond to specific questions.

3. Ability to solve subject-related problems (40 points):

The applicant is able to solve simple problems related to Molecular and Cell Biology, Evolutionary Biology or the Biology of Organisms using previous knowledge from the fields of Mathematics, Chemistry, Physics and Biochemistry. This involves proposing comprehensible, quantitative or qualitative solutions to the problem.

⁴The above topics may cover the documentation submitted according to No. 2.3. ⁵Any subject-specific academic knowledge that is to be taught in the Master's Degree Program Biology will not affect the decision. ⁶With the applicant's approval, a representative of the student body may sit in on the interview.

5.2. 3 ¹Committee members independently assess each of the three areas with the specified weighting above. ²Each member of the Committee will grade the result of the interview on a scale from 0 to 100, 0 being the worst and 100 being the best possible result. ³The points total will be calculated as the arithmetic mean of the individual evaluations. ⁴Non-vanishing decimal places must be rounded up.

5.2. 4 ¹The total number of points awarded in stage 2 is the arithmetic mean of the points from 5.2.3 (points from interview) and the sum from 5.1.1 a) (subject-specific qualification) and 5.1.1. b) (Grade). ²Non-vanishing decimal places must be rounded up. ³Applicants with 75 or more points will be deemed suitable. ⁴Applicants with an overall score of less than 75 points have failed the aptitude assessment.

5.3 Determination and Notification of Results

¹Applicants will be informed of the results of the aptitude assessment through official notification. ²Applicants not suited for the program will receive a letter of rejection stating the grounds for rejection and informing them of legal remedies.

5.4 Candidate's suitability for the program, once determined in aptitude assessment, applies to all subsequent applications for this program.

6. Documentation

¹The aptitude assessment process must be documented, in particular the names of the participating members of the Selection Committee, the evaluation of the first and second stages, as well as the overall results. ²The aptitude assessment interview must be documented, including the date, duration and location of the assessment, the names of the participating Selection Committee members, the applicant's name, and a list of main topics of discussion in bullet points.

7. Repeat Aptitude Assessments

Applicants who have failed an aptitude assessment may apply once to repeat the aptitude assessment process.

APPENDIX 2 b: Aptitude Assessment for Applicants with Higher Education Entrance Qualifications outside the area of applicability of the Lisbon Convention

Aptitude Assessment for the Master's Degree Program Biology at the Technical University of Munich

1. Purpose of the Process

¹Eligibility for the Master's Degree Program Biology, in addition to the requirements pursuant to § 36(1) Nos. 1 (and 2), requires proof of aptitude pursuant to § 6(1) No. 4 in accordance with the following provisions. ²The special qualifications and skills of the candidates should correspond to the field of Biology. ³Individual aptitude parameters are:

- 1.1 the ability to do scholarly work and/or basic and methodologically sound research;
- 1.2 Specialist knowledge in the field of Life Sciences from a bachelor's degree program,
- 1.3 Ability to solve complex and difficult problems,
- 1.4. Ability to link scientific knowledge with practical application,
- 1.5. Analytical observation skills.

2. Aptitude Assessment Process

2.1 ¹Aptitude Assessment is conducted annually. ²The TUM Enrollment, Student Fees Payment, Leave of Absence and Disenrollment Regulations (ImmatS) of 6 February 2023 as amended, in particular § 6, apply to the Aptitude Assessment process.

2.2 ¹Applications for admission to the aptitude assessment process in accordance with § 6 of the ImmatS must be submitted to the Technical University of Munich together with the documents listed in 2.3 and in § 36(1)2 no later than 31 May (absolute deadline) using the online application procedure.

2.3 The application must include:

- 2.3.1 Transcript of Records with modules of at least 120 credits for a six-semester bachelor's program, at least 150 credits for a seven-semester bachelor's program, and at least 180 credits for an eight-semester bachelor's program; the Transcript of Records must be issued by the relevant examination authority or the relevant academic programs office,
- 2.3.2 Curriculum vitae formatted as a table,
- 2.3.3 Proof of passing the electronic TUM Test Biology according to Appendix 3 with a score of at least 70 points,
- 2.3.4 Optional, to serve as the basis for a potential aptitude assessment interview: a written statement in English (max. 1 A4 page) of the reasons for choosing the degree program Biology at the Technical University of Munich, in which the candidate explains those specific abilities and interests that make him/her particularly suitable for the Master's Degree Program Biology at the Technical University of Munich; a candidate's exceptional motivation and commitment is to be demonstrated by providing details on program-related vocational training, internships, stays abroad, or program-related further education beyond the attendance and course requirements of the bachelor's program, as well as outstanding

academic achievements (awards, prizes or scientific publications); if necessary this is to be substantiated by appropriate documentation,

- 2.3.5 If a written statement is submitted according to 2.3.4, the applicant must submit a declaration that the written statement is the applicant's own work and that the applicant has clearly identified any ideas taken from outside sources.

3. Aptitude Assessment Commission, Selection Committees

- 3.1 ¹Aptitude assessment is administered by the Aptitude Assessment Commission and the Selection Committees. ²Aptitude Assessment Commission is responsible for preparing the aptitude assessment process, organizing it and ensuring a structured and standardized process for determining aptitude within the framework of these Regulations; it bears responsibility, insofar as no other body is specified by these Regulations or through delegation of its authority to another body. ³Selection Committees are to conduct the assessment process in accordance with No. 5 below, subject to No. 3.2 Sentence 11

- 3.2 ¹The Aptitude Assessment Commission (henceforth Commission) consists of five members, one of whom is the Academic Program Director. ²The other four Members of the Commission are appointed by the Dean, in consultation with the Vice Dean of Academic and Student Affairs, from among the authorized examiners of the TUM School of Life Sciences, who are members of the degree program faculty. ³At least three Commission members must be university educators within the meaning of the Bavarian Higher Education Innovation Act [Hochschulinnovationsgesetz (BayHIG)]. ⁴The departmental student council has the right to name a student representative to serve on the Commission in an advisory capacity. ⁵A deputy is to be appointed for each member of the Commission. ⁶The Commission is chaired by the Academic Program Director; the Commission elects a deputy chairperson from among its members. ⁷Procedures are governed by the paragraph on the procedural provisions of the TUM Charter as amended. ⁸The term in office of Commission members is 2 years. ⁹Extensions of the term of office and reappointments are possible. ¹⁰Urgent decisions that cannot be postponed can be made by the Academic Program Director on behalf of the Commission. He/she must inform the Commission of such decisions without delay. ¹¹The Campus Office supports the Commission and the Selection Committee; the Commission may delegate to the Office the task of assessing formal admissions requirements in accordance with Nr. 4, as well as the determination of points to be awarded based on defined criteria for which there is no freedom of discretion involved. This includes, in particular, the conversion of grades and the calculation of the overall points earned by the applicant. The Office may also be involved in choosing the members of the Selection Committee from among the commissioners and assigning them to applicants.

- 3.3 ¹Each Selection Committee consists of two members of the TUM School of Life Sciences, who are authorized to conduct examinations in the degree program according to Art. 85(1) Sentence 1 BayHIG in conjunction with the act governing examiners at institutions of higher education [Hochschulprüferverordnung]. ²At least one member must be a university educator within the meaning of the Bavarian Higher Education Innovation Act [Hochschulinnovationsgesetz (BayHIG)]. ³It is permissible to serve concurrently on both the Aptitude Assessment Commission and the Selection Committee. ⁴Members of the Committee are appointed by the Commission for a term of 1 year; No. 3.2 Sentence 9 applies accordingly. ⁵Different Selection Committees may be assigned to individual criteria and stages of the assessment process.

4. Admission to the Aptitude Assessment Process

- 4.1 Admission to the aptitude assessment process requires that all documentation specified in No. 2.2 has been submitted in a timely and complete fashion.

4.2 ¹Applicants who have fulfilled the requirements according to No. 4.1 will be assessed according to No. 5. ²Applicants not suited for the program will receive a letter of rejection stating the grounds for rejection and informing them of legal remedies.

5. The Aptitude Assessment Process

5.1 First Stage

5.1.1 ¹Based on the result of the TUM Test Biology, it is assessed whether the applicant is suitable for the program according to No. 1 (first stage of the aptitude assessment process). ²Relevant, here, is the points total in accordance with Appendix 3 No. 2 Sentence 14.

5.1.2 The points total in the first stage will be calculated based on the results of the test, rounded to a whole number.

5.1.3 Applicants with at least 80 points will be deemed suitable.

5.1.4 Applicants who have achieved less than 70 points fail the aptitude assessment.

5.2 Second Stage

5.2.1 ¹The remaining applicants will be invited to an assessment interview. ²In the second stage of the aptitude assessment, the technical expertise acquired in the bachelor's degree program and the result of the assessment interview are evaluated, whereby the technical expertise acquired in the bachelor's is to be weighted equally. ³Interview appointments will be announced at least one week in advance. ⁴Time slots for interviews must be scheduled before expiration of the application deadline. ⁵The interview appointment must be kept by the applicant. ⁶If the applicant is unable to attend an aptitude assessment interview due to reasons beyond his/her control, a later appointment may be scheduled upon a student's well-grounded request, but no later than two weeks before the beginning of classes. ⁷As a rule, the interview is conducted by video conference. ⁸If the video or audio transmission is disrupted, the interview can be continued after the disruption has been resolved or a follow-up appointment can be scheduled. ⁹In the event of repeated disruption, the aptitude assessment interview may be scheduled as a face-to-face meeting in exception to Sentence 7. ¹⁰Sentences 8 and 9 do not apply if it can be proven that the applicant is responsible for the disruption. ¹¹In this case, the aptitude assessment interview will be assessed.

5.2.2 ¹The aptitude assessment interview is to be held individually for each applicant. ²The interview will be held in German or English and last at least 20 but not more than 30 minutes for each applicant. ³The interview will focus on the following topics:

1. Compatibility of the career and study objectives with the content of the Master's Degree Program Biology (30 points):

The applicant is able to critically evaluate his/her own skills and competencies and how they relate to the objectives and content of the Master's degree program. The applicant's professional goals align with the content of the Master's degree program.

2. Ability to critically discuss a problem in Biology (30 points):

The applicant will be asked general questions on a current and relevant topic in the Life Sciences ("case study"), e.g. from the fields of Environment, Health or Biotechnology. The applicant is able to recognize and discuss problems that can be extrapolated from theoretical knowledge and practical experience and is able to present possible solutions, question them critically and formulate respective hypotheses. The applicant has the necessary ability to express him/herself with scientific precision, to make factual statements and to use a logical chain of arguments and meaningful examples in order to adequately respond to specific questions.

3. Ability to solve subject-related problems (40 points):

The applicant is able to solve simple problems related to Molecular and Cell Biology, Evolutionary Biology or the Biology of Organisms using previous knowledge from the fields of Mathematics, Chemistry, Physics and Biochemistry. This involves proposing comprehensible, quantitative or qualitative solutions to the problem.

⁴The above topics may cover the documentation submitted according to No. 2.3. ⁵Any subject-specific academic knowledge that is to be taught in the Master's Degree Program Biology will not affect the decision. ⁶With the applicant's approval, a representative of the student body may sit in on the interview.

5.2.3 ¹Committee members independently assess each of the three areas with the specified weighting above. ²Each member of the Committee will grade the result of the interview on a scale from 0 to 100, 0 being the worst and 100 being the best possible result. ³The points total will be calculated as the arithmetic mean of the individual evaluations. ⁴Non-vanishing decimal places must be rounded up.

5.2.4 ¹The total number of points awarded in the Second Stage is the arithmetic mean of the points from 5.2.3. and the points from the first stage. ²Non-vanishing decimal places must be rounded up. ³Applicants with 75 or more points will be deemed suitable. ⁴Applicants with an overall score of less than 75 points have failed the aptitude assessment.

5.3 Determination and Notification of Results

¹Applicants will be informed of the results of the aptitude assessment through official notification. ²Applicants not suited for the program will receive a letter of rejection stating the grounds for rejection and informing them of legal remedies.

5.4 Candidate's suitability for the program, once determined in aptitude assessment, applies to all subsequent applications for this program.

6. Documentation

¹The aptitude assessment process must be documented, in particular the names of the participating members of the Selection Committee, the evaluation of the first and second stages, as well as the overall results. ²The aptitude assessment interview must be documented, including the date, duration and location of the assessment, the names of the participating Selection Committee members, the applicant's name, and a list of main topics of discussion in bullet points.

7. Repeat Aptitude Assessments

Applicants who have failed an aptitude assessment may apply once to repeat the aptitude assessment process.

APPENDIX 3: TUM Test Biology

1. Purpose of the Test

The TUM Test is intended to provide evidence that the competencies acquired in the first degree according to § 36(1) No. 1 meet the subject-related requirements of the Master's Degree Program Biology and that the applicant can be expected to achieve the goal of the degree program independently and responsibly in a scholarly manner.

2. Conduct and Assessment

¹The TUM Test Biology is conducted by the TUM School of Life Sciences once per admissions period before the application deadline. ²The TUM Test is an online, written test comprising 20 questions requiring approximately 30 minutes to complete. ³The applicant bears the risk in the event of any technical problems, unless these are attributable to the Technical University of Munich.

⁴The TUM School of Life Sciences will announce further details, in particular the date and time of the TUM Test, for the application phase for the winter semester on the School's website no later than the start of the application period. ⁵Test results are valid for a maximum of two years. ⁶The applicant will receive confirmation of participation in the TUM Test Biology with place and date as well as the achieved score, which will serve as proof in the application process.

⁷The TUM Test covers the following categories in the indicated points distribution:

Cat.	Competencies acquired in the undergraduate degree program	Max. points P_{max}
A	Genetics and Biochemistry (3 questions)	15
B	Microbiology (3 questions)	15
C	Ecology (3 questions)	15
D	Plant Sciences (3 questions)	15
E	Animal Sciences (3 questions)	15
F	Scientific Foundations (5 questions)	25
	Total	100

⁸Any subject-specific academic knowledge that is to be taught in the Master's Degree Program Biology will not affect the decision. ⁹Applicants must demonstrate in the test that they are suitable for the degree program. ¹⁰Questions are selected by two members of the Commission in accordance with Appendix 2 b No. 3.2. At least one member must be a university educator within the meaning of the Bavarian Higher Education Innovation Act [Hochschulinnovationsgesetz (BayHIG)]. ¹¹The test is a multiple choice test. ¹²For each correct response, the number of points specified in the test for the respective question will be awarded. ¹³The maximum possible number of points in the TUM Test is 100. ¹⁴The total number of points earned, which is used to assess aptitude in the first stage of the aptitude assessment process in Appendix 2 b No. 5.1.1 Sentence 2, is the sum of the individual points awarded.

3. Documentation

A record is to be kept about the conduct of the test (date, place, beginning and end of the test, the names of those present, the names of the applicants, as well as any unusual occurrences).

Executed following a resolution of the Senate of the Technical University of Munich dated 22 March 2023 and approval of the President of the Technical University of Munich on 30 March 2023.

Munich, 30 March 2023

Technical University of Munich

Thomas F. Hofmann
President

These Regulations were made available for inspection at the Technical University of Munich on 30 March 2023, following their announcement on 30 March 2023. Day of proclamation is therefore 30 March 2023.