

Study Regulations for the consecutive Master's Course Regenerative Biology and Medicine

as of May 24, 2022

On the basis of § 36 para. 1 of the Act on the Autonomy of Institutions of Higher Education in the Free State of Saxony in the version published on January 15, 2013 (SächsGVBl. p. 3), Technische Universität Dresden issues the following Study Regulations as statutes.

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§ 1

Scope of application

On the basis of the Act on the Autonomy of Institutions of Higher Education in the Free State of Saxony (SächsHSFG) and the examination regulations, these study regulations stipulate the objectives, content, structure and organization of the consecutive Master's program Regenerative Biology and Medicine at Technische Universität Dresden.

§ 2

Objectives of the degree program

(1) The study of the Master's Course Regenerative Biology and Medicine qualifies students in the field of stem cell research, regenerative biology, tissue engineering and clinically oriented human biology and pathology for research as well as the processing of regulatory aspects in the development of regenerative therapy approaches. Students are familiar with the scientific basis of stem cell biology and model organisms for regeneration, as well as current applications and methods of analysis and modification of stem cells and model organisms, human cell technologies, tissue engineering, current and potential applications in clinical diseases, and regulatory aspects of developing regenerative therapies. Based on their aptitude for bioscientific work, students are able to link elementary knowledge of molecular cell and developmental biology with work on stem cell cultures, regeneration models, and human physiology and pathology. They are able to apply concepts and techniques of stem cell biology and animal physiology to new research projects in regenerative biology and medicine. Students also master essential methods of scientific work, especially oral and written forms of presentation, project planning, writing a research proposal, and organizing and conducting a clinical trial. Students have the competence to work independently, problem-oriented, interdisciplinary and responsibly in a scientific way and to present the obtained results conclusively. Students are also able to engage in critical self-reflection, teamwork, and community engagement, and have developed their personalities. They know the ethical guidelines and rules to ensure good scientific practice.

(2) Due to their aptitude for bioscientific work, graduates are able to handle diverse and complex tasks in the field of research and development, especially in the areas of cell biology, developmental biology, stem cell biology and medicine, after an appropriate period of familiarization in professional practice. This includes interdisciplinary highly qualified activities as a natural researcher in national and international universities, other research institutions and research and development departments in industry, as well as the ability to obtain further scientific qualifications, in particular a doctorate.

§ 3

Admission requirements

(1) To be admitted to the degree program, candidates must have completed a first recognized vocational university degree acquired in Germany or a qualification from an officially recognized vocational academy in biology or medicine or a of a degree program with a similar subject of focus field.

(2) Knowledge of English at B2 level of the Common European Framework of Reference for Language is a prerequisite. Proof should be provided using a relevant certificate or language certificate. This includes a certificate of a general or subject-specific university entrance qualification, a certificate for a university degree completed in English, or a language certificate,

preferably IELTS 6.5, online TOEFL 92, or UNICert II).

(3) A particular aptitude is required. Proof thereof is provided by the aptitude assessment according to the aptitude test regulations.

§ 4

Start and duration of the degree program

(1) The program can be started each winter semester.

(2) The standard period of study is four semesters and includes on-site attendance, independent study and the graduation examination.

§ 5

Teaching and learning methods

(1) The curriculum is structured in modules. In the individual modules, the course content is taught, consolidated and deepened through lectures, Seminars, Exercises, internships, tutorials and independent study.

(2) The individual teaching and learning forms according to para. 1 sentence 2 are defined as follows:

1. Lectures introduce the subject matter of the modules.
2. Seminars enable students to familiarize themselves under supervision in a selected subject area on the basis of specialist literature or other material, to report on the results of their work, to discuss them within the group and to present them in writing.
3. Practicals allow to apply the subject matter in exemplary sub-areas.
4. Laboratory training serves to apply the subject matter taught and to acquire practical skills in potential areas of employment.
5. Tutorials support students, especially first-year students, in repeating and deepening the course contents.
6. Through independent study, students independently consolidate and deepen their knowledge of the course content.

§ 6

Structure and organization of the degree program

(1) The program is organized in modules. The curriculum is divided into three semesters. The fourth semester is dedicated to the preparation of the Master's thesis including the colloquium.

(2) The degree program comprises nine compulsory modules of an elective compulsory and fields of activity compulsory modules, which allows students to choose their concentration. The modules Electron Microscopy, Cell Separation, Isolation and Analysis as well as Techniques to Modify Gene Expression are available for this purpose. In the elective compulsory field, students can choose between the topics Developmental and Regenerative Cell Biology, Regenerative Neuroscience and Regenerative Medicine. The choice of elective compulsory course and fields of activity is binding. A change of choice is only possible once; it is made by a written application of the student to the examination office, in which the elective module to be replaced and the newly chosen elective module or the subject area to be replaced and the newly chosen subject area are

to be named.

(3) Learning goals, content, teaching and learning methods included, requirements, applicability, frequency, workload, and duration of the individual modules are all listed in the module descriptions (Annex 1).

(4) The courses are held in English.

(5) The appropriate allocation of the modules to the individual semesters, the observance of which makes it possible to complete the program within the standard period of study, as well as the type and scope of the respective courses included, and the number and standard time of the required study achievements and examined assessments are defined in the study schedule attached (Annex 2).

(6) Upon proposal of the Academic Affairs Committee, the Scientific Council may amend the study schedule. The current selection of elective compulsory modules shall be announced at the beginning of the semester in the form customarily used at the Center for Molecular and Cellular Bioengineering. The amended study schedule applies to all students who have been informed about this at the beginning of their studies as is customary at the Center for Molecular and Cellular Bioengineering. The Examination Committee shall decide, upon application by the student, on any exceptions to sentence 3.

(7) If participation in an elective compulsory module is limited by the number of available places in accordance with the module description, the selection of participants shall be made by drawing lots. Students must enroll in the corresponding elective module for this purpose. Form and deadline of the declaration will be determined by the Examination Committee and announced in the usual form at the Center for Molecular and Cellular Bioengineering. By enrollment, the election is made according to paragraph 2, sentence 4. At the end of the enrollment period, the student will be notified in the manner customary at the Center for Molecular and Cellular Bioengineering whether they are a selected participant in the corresponding elective compulsory module. Elective compulsory modules with restricted participation according to sentence 1 will only be deemed a binding selection pursuant to para. 2 sentence 4 if the student is a selected participant.

§ 7

Content of the degree program

(1) Regenerative Biology and Medicine is a research-oriented Master's degree program.

(2) The Master's program in Regenerative Biology and Medicine includes interdisciplinary topics in stem cell research, regenerative biology, tissue engineering, and clinically oriented human biology and pathology. The scientific basis of stem cell biology and model organisms for regeneration as well as current applications and methods of stem cell and model organism analysis, human cell technologies, tissue engineering, current and potential applications in clinical diseases, and regulatory aspects in the development of regenerative therapies are central to the course. Essential methods of scientific work are also part of the course. In addition to current laboratory methods such as high-end microscopy, cell separation, isolation and analysis, and gene expression modification techniques, the course includes hands-on research activities in the form of lab rotations that provide direct exposure to current research in modern biomedicine. The elective compulsory field includes possible in-depth study of the topics of regenerative cell biology, including fundamentals of the central molecular and cellular mechanisms of development and regeneration of tissues and organs of the major model organisms and the associated current

experimental methods of analysis, or neuroscience, including fundamentals of cellular, molecular, systemic, and regenerative neuroscience and the associated current experimental methods of analysis, as well as the clinical concepts of diseases for which neuroregenerative therapies exist or are being developed, or regenerative medicine, including, but not limited to, fundamentals of the pathology of diseases and the organ systems involved, and the associated clinical concepts of regenerative medicine, including the bench-to-bedside translation process.

§ 8

Credit points

(1) ECTS credits document the average workload of the students and their individual study progress. One credit point corresponds to a 30-hour workload. Normally, 60 credit points are awarded per academic year, i.e. 30 credit points per semester. The total workload for the program corresponds to 120 credit points and comprises the teaching and learning methods according to type and scope stipulated in the module descriptions, the graded academic work and examined assessments, the final thesis and the colloquium.

(2) The module descriptions (Annex 1) indicate the number of credits that can be earned by each module. Credits are awarded upon passing the module examination. § 34 of the examination regulations shall remain unaffected.

§ 9

Academic advisory and counseling service

(1) General advice will be provided by the Central Student Information and Counseling Service at TU Dresden. It covers questions regarding study options, enrollment modalities and general student affairs. Subject-specific advice during studies will be provided by the Student and Examination Office of the Center for Molecular other Cellular Bioengineering. This subject-specific advisory service assists students with regard to the design of their studies.

(2) At the beginning of the third semester, each student who has not yet provided proof of academic performance shall make use of the subject-specific advisory services.

§ 10

Amendments to module descriptions

(1) In order to amend to changed conditions, module descriptions may be changed in a simplified procedure in order to optimize study organization, with the exemption of the fields "Module name", "Learning goals", "Content" "Teaching and learning methods", "Requirements for earning credit points", "Credit points and grades" and "Module duration".

(2) In a simplified procedure, the Scientific Council will adopt the amendments to the module descriptions upon proposal of the Academic Affairs Committee. The amendments must be published in the form that is customary at the Center for Molecular and Cellular Bioengineering.

§ 11

Entry into force, publication and interim arrangements

(1) These Study Regulations shall enter into force on the day following their publication in the Official Announcements of TU Dresden.

(2) It applies to all students newly enrolled in the master's program in Regenerative Biology and Medicine in the 2022/2023 winter semester or later.

(3) For students who enrolled earlier than in the 2022/2023 winter semester, the version of the Examination Study Regulations for the consecutive Master's Course Regenerative Biology and Medicine that has been valid for them up until the amendment continues to apply unless they declare their acceptance of the amendment in writing. Form and deadline of the declaration will be determined by the Examination Committee and announced in the usual form at the Center for Molecular and Cellular Bioengineering. Switching to the new regulations is possible at the earliest on October 1, 2022.

Issued based on the resolution of the Scientific Council of the Center for Molecular and Cellular Bioengineering of December 15, 2021 and the approval of the University Executive Board as of April 26, 2022.

Dresden, May 24, 2022

The Rector
of Technische Universität Dresden

Prof. Dr. Ursula M. Staudinger