English translation from the German. The translation is for information purposes only; legally binding is only the German original in its currently applicable version published in the journal of legal notices of the Friedrich Schiller University Jena, the *Verkündungsblatt*.

Study regulations of the Faculty of Chemistry and Earth Sciences for the study programme 'Biogeoscience of the Anthropocene' with the degree 'Master of Science' of xxx [wird nach Genehmigung angepasst]

Pursuant to the section 3 subsection 1 in conjunction with the section 38 subsection 3 sentence 1 of the Thuringian Higher Education Act (Thüringer Hochschulgesetz, ThürHG) of 10 May 2018 (published in the journal of legal notices of the Free State of Thuringia, GVBl p. 149, in German), last amended by Article 31 of the Act of July 2, 2024 (GVBl, p. 277), the Friedrich Schiller University Jena issues the following Study Regulations for the study programme Master of Science Biogeoscience of the Anthropocene. The Council of the Faculty of Chemistry and Earth Sciences adopted the Regulations on 2 July 2025. The Senate of the Friedrich Schiller University Jena approved the respective examination regulations on xxx. The President of the Friedrich Schiller University authorized the Regulations on xxx.

Content

§ 1
Scope

[1]This Study Regulation governs the objectives, content, and structure of the study programme Biogeoscience of the Anthropocene, which is taught in English and leads to the academic degree Master of Science (abbreviated: "MSc") at the Faculty of Chemistry and Earth Sciences of Friedrich Schiller University Jena. [2]It applies in conjunction with the respective version of the relevant Examination Regulations, as well as the study plan and module catalogue adopted by the Faculty Council.

§ 2
Admission Requirements

(1) Admission to the programme requires a first degree qualifying the applicant for professional employment in accordance with § 67 (1) no. 4 of the Thuringian Higher Education Act (ThürHG).

(2) [1]In addition, admission is contingent upon proof of subject-related aptitude. [2]This aptitude shall be demonstrated by:

1. a first degree qualifying for professional employment (Bachelor's degree or equivalent) comprising at least 60 ECTS credits in biosciences or geosciences;

2. completion of the final thesis in a bio-, geo- or environmental science discipline with an overall grade of 2.0 or better;
3. at least 15 ECTS credits earned in courses in one or more of the following subject areas: microbiology, applied geology, hydrogeology, or geoecology;
4. at least one relevant internship of a minimum duration of four weeks;
5. at least 5 ECTS credits in courses covering relevant qualitative and quantitative methods (foundations of scientific methodology);
6. proof of participation in the web-based online knowledge test for the study programme Biogeoscience of the Anthropocene.

(3) [1]Applicants who do not fully meet one or more of the criteria set out in paragraph 2, no. 1 to 5, may be granted admission if they are able to demonstrate exceptional suitability by other means. [2]In such cases, the first degree qualifying for professional employment must have been completed with a minimum overall grade of 2.5. [3]Additional factors that may be taken into consideration include:
1. scope and grades of particularly relevant coursework and the grade and topic of the final thesis from the qualifying degree;
2. relevant practical experience and additional qualifications.
3. To support the evidence outlined in sentences 1 and 2, subject-related aptitude may also be demonstrated by presenting relevant knowledge, skills, and areas of interest, personal objectives, and well-founded reflections on the content and academic demands of the study programme.

(4) [1]The Master's Admissions Committee assesses subject-related aptitude based on the application documents. [2]If the academic background cannot be adequately assessed on the basis of the documents submitted, an individual selection interview of up to 30 minutes may be conducted—via videoconference where appropriate and in compliance with applicable data protection regulations.

(5) [1]If the requirements set out in paragraph 2 are not fully met, conditional admission may be granted on a case-by-case basis. [2]In such cases, an official notification including information on legal remedies shall be issued.

(6) [1]As the programme is taught entirely in English, applicants must demonstrate English language proficiency at level C1 of the Common European Framework of Reference for Languages (GER), in addition to subject-specific aptitude. [2]Contrary to § 2 (3) of the Enrolment Regulations, proof of German language proficiency is not required.

(7) A positive notice of admission remains valid for two additional semesters under unchanged legal conditions and shall waive the requirement for reapplication if submitted during the semester following the semester of the original admission.

§ 3
Beginning of the Study Programme, Duration of Studies

(1) The programme beginns in the winter semester.

(2) The standard period of study is two years, including the time required to complete the Master's thesis.

(3) [1]Part-time study is possible. [2]Further details are governed by the Enrolment Regulations of Friedrich Schiller University Jena.

§ 4
Objectives of the Study Programme

(1) [1]The Master's programme imparts interdisciplinary knowledge at the intersection of applied geosciences and molecular biosciences. [2]It focuses on terrestrial and aquatic ecosystems—both

above and below ground—analysing and assessing their properties, functions, and services, such as carbon storage, soil fertility, biomass production, provision of clean drinking water and air, and biodiversity, under the conditions of climate and land-use change. [3]Particular emphasis is placed on understanding hydrological, geochemical, and microbiological processes from the molecular scale to the landscape level. [4]Key subject areas include geoecology, (molecular) microbiology, analytical and physical chemistry, geology (including hydrogeology, geochemistry, and mineralogy), and data science. [5]Theoretical foundations are deepened through practice-oriented laboratory and fieldwork as well as project-based learning.

(2) [1]Graduates are able to analyse and assess complex environmental processes in both human-impacted and natural terrestrial and aquatic systems from an interdisciplinary and multi-scale perspective. [2]They possess in-depth knowledge of the interactions, feedback mechanisms, and effects of geoscientific, chemical, and microbiological processes and can apply related theories, concepts, and methods in a goal-oriented manner. [3]They are capable of analytically processing environmental and monitoring data and deriving sustainable, nature-based solutions. [4]In addition, they are able to independently design, conduct, document, and communicate scientific projects—both in written and oral form—in English and adapted to the respective target audience, and to represent their expertise in interdisciplinary and practice-oriented decision-making processes. [5]Key competencies also include teamwork, social skills, scientific working methods, and reflective data analysis.

(3) [1]The programme is professionally qualifying and research-oriented, and prepares graduates for careers in groundwater and soil protection, resource recovery (e.g. biorecycling), contaminated site remediation (bioremediation), land restoration (nature-based solutions), climate protection, climate adaptation and mitigation, environmental analytics, ecosystem analysis, environmental management and education, corporate environmental protection, as well as advisory roles for public authorities, policymakers, industry, and non-governmental organisations. [2]The degree also provides access to academic qualification pathways, particularly doctoral studies.

§ 5
Structure, Scope and Content of the Degree Programme

(1) [1]The study programme comprises a total workload of 120 credit points (CP) in accordance with the European Credit Transfer and Accumulation System (ECTS). [2]As a rule, 60 credit points are to be earned per academic year.

(2) [1]The Master's programme consists of compulsory and elective modules totalling 90 credit points, through which students acquire subject-specific, interdisciplinary, and methodological competencies. [2]The programme is structured as follows:

- Compulsory modules (45 CP)
- Elective modules (45 CP)
- Master's thesis (30 CP)

(3) [1]In the first academic year, students acquire foundational knowledge and methodological skills in biogeosciences. [2]Compulsory modules worth 20 CP introduce scientific working methods, relevant research techniques, and the ethical and theoretical foundations of environmental sciences, serving as preparation for independent project work. [3]In addition, practical skills are developed through interdisciplinary field courses and exercises involving sampling, analysis, and data evaluation techniques. [4]Statistical, geostatistical, and numerical foundations support the quantitative analysis and modelling of environmental processes. [5]Elective modules totalling 40 CP allow students to pursue individual specialisations and deepen their knowledge in specific areas. [6]Subjects include geomicrobiology, environmental geochemistry and mineralogy, biogeochemistry, hydrogeology, climate change, soil and coastal research, data- and process-based modelling (including machine learning), as well as modern instrumental-analytical, imaging, data-science, and experimental

methods. [7]Students may also choose to complete one individualised module worth 5 CP, either from the university-wide course offering or through a customised combination of courses from modules in related degree programmes.

(4) [1]In the third semester (second academic year), students expand their scientific and methodological competencies. [2]In the biogeoscience project module, they independently work on an environmentally relevant scientific question under the supervision of experienced researchers, develop solution strategies, and apply experimental, analytical, data-driven, and exploratory methods from bio- and geosciences. [3]A specialisation module allows students to focus on a particular area, such as experimental work, field studies, or scientific modelling. [4]Students engage with current research topics in a practical setting and deepen their subject-specific and methodological skills through compulsory modules totalling 25 CP. [5]One additional elective module worth 5 CP enables further individual focus.

(5) The programme concludes in the second academic year with the Master's thesis (30 CP), in which students independently and research-orientedly address a scientific question.

(6) [1]Credit transfer for academic achievements obtained abroad is possible. [2]Coursework and examinations completed during a study period abroad are recognised in accordance with § 8 of the Examination Regulations. [3]Before starting the stay abroad, students usually conclude a Learning Agreement with the subject advisor or a person responsible for the programme, specifying which achievements are eligible for credit transfer. [4]The student is responsible for providing the documentation required for recognition.

(7) [1]Where prerequisites for modules are required or recommended, these are specified in the respective module descriptions. [2]For specific elective modules, the number of participants may be limited for justified reasons, particularly due to spatial or technical capacities.

§ 6
Student Councelling

(1) [1]Subject-specific academic advising is provided by the subject advisor and the respective module coordinators and is intended to support students in planning their individual course of study. [2]Participation in academic advising is strongly recommended at the beginning of the second academic year.

(2) In matters related to examinations, students are advised by the staff of the Examinations Office of the Faculty of Chemistry and Earth Sciences.

(3) For non-subject-specific study-related issues, the Central Student Advisory Service of Friedrich Schiller University Jena is available.

§ 7
Equal Opportunity Clause

[1]All personal, status-related, and functional designations used in this Regulation apply equally to all genders—regardless of grammatical form. [2]They refer to women, men, and individuals who do not identify with either of these genders.

§ 8
Coming into Effect, Expiry

(1) [1]This Regulation shall enter into force on 1 October 2026 following its publication in the Official

Announcements (Verkündungsblatt) of Friedrich Schiller University Jena. [2]It applies to all students who commence their studies in the Master's programme Biogeoscience of the Anthropocene in the winter semester 2026/27.

(2) [1]At the same time, the Study Regulation of the Faculty of Chemistry and Earth Sciences of Friedrich Schiller University Jena for the Master's programme Biogeosciences dated 9 March 2009, as last amended by the First Amendment dated 18 April 2012 (Official Announcements of Friedrich Schiller University Jena, No. 7/2012, p. 204), shall cease to have effect. [2]The study regulations continue to apply, subject to the provisions of the regulation on the discontinuation of degree programmes dated 17 January 2024 (Official Announcements of Friedrich Schiller University Jena, No. 1/2024, p. 3) to all students who enrolled in the Master's programme Biogeosciences prior to the entry into force of this Regulation.

Jena, xx.xx.2025

Prof. Dr Andreas Marx

President of Friedrich Schiller University Jena