

Academic and Examination Regulations for the Master's Degree Program Land Management and Geospatial Science at the Technical University of Munich

Dated 16 December 2024

In accordance with Art. 9 Sentence 1 and 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 Land Management and Geospatial Science (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 Land Management and Geospatial Science at the Technical University of Munich commences, as a rule, in the winter semester.
- (2) ¹The number of classes in required and elective subjects needed to obtain the master's degree is 90 credits (60 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, as well as the Master's Colloquium according to § 46 a (30 credits in total). ³The number of coursework units and examinations in required and elective subjects to be completed in the Master's Degree Program Land Management and Geospatial Science 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 Land Management and Geospatial Science 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 the following programs Geodesy and Geoinformation, Geoinformatics, Geography, Landscape Planning, Spatial Planning, Architecture, Real Estate Management, City Planning, Law, Development Economics, Land Economics, Land Administration, Administrative Sciences, Political Science, or a comparable degree program,
 2. an adequate knowledge of the English language; students whose language of instruction is not English must demonstrate proficiency through an acknowledged language test such as "Test of English as a Foreign Language" (TOEFL) (with at least 88 points), "International English Language Testing System" (IELTS) (with at least 6.5 points) or "Cambridge Main Suite of English Examinations"; alternatively, adequate language skills may be proven by a language qualification at C1 level of the Common European Framework of at least 3 credits. If, in the undergraduate program, 12 credits were obtained for examinations administered in English language examination modules, adequate proficiency in English is deemed proven.
 3. passing of the Aptitude Assessment according to Appendix 2.
- (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 or in comparable degree programs.

- (3) The professional qualifications according to Appendix 2 No. 5.1.1 a) will be used for the aptitude assessment according to (2).
- (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 out in §§ 6 and 8 of the APSO. ²For any changes to the stipulated module provisions § 12(8) of the APSO applies.
- (2) (1) The curriculum listing the required and elective modules is included in Appendix 1. ²An area of concentration should be selected at the latest by the end of the second semester of enrollment in current degree program (Fachsemester). ³Modules can either be selected from the elective module catalog or from the three areas of specialization in accordance with Appendix 1 (individual degree program profile). ⁴An authorized person from the Chair (or the teaching area), who represents the subject (mentor), advises the students how to put together their individual degree program profile or on the selection of an area of specialization. ⁵The reliability of subject combinations is checked under the aspect that the selection of modules can be justified according to the occupational profile. ⁶In the case of unusual combinations that are not named in the curriculum for the Master's Degree Program Land Management and Geospatial Science, the students need to state their reasons in writing.
- (3) ¹The language of instruction on the Master's Degree Program Land Management and Geospatial Science is English as a rule. ²Where 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. ³In deviation from Sentence 2, the language of instruction should be announced by the beginning of the respective registration period in the case of modules that require registration for individual courses, for example, for organizational reasons, in particular seminars.

§ 38

Examination Deadlines, Academic Progress Checks, Failure to Meet Deadlines

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

§ 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 for Geodesy and Geoinformation of the TUM School of Engineering and Design.

§ 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 credit requirements 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.
- (4) At the request of the students and with the consent of the examiners, examinations in German may be taken for modules in English and in English for modules in German.

§ 42

Admission to and Registration for the Master's Examination

- (1) Students who are enrolled in the Master's Degree Program Land Management and Geospatial Science 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 examinations in the corresponding modules according to § 43(2),
 2. the Master's Thesis module according to § 46 and § 46 a,
 3. and the coursework listed in § 45.
- (2) ¹The module examinations are listed in Appendix 1. ²Students must complete 45 credits in the required modules and at least 45 credits in elective modules. ³Regarding the elective modules, modules amounting to at least 15 credits from the area of general elective modules and other modules amounting to at least 20 credits in one of the three areas of concentration; the other modules amounting to 10 credits can be freely selected from the module catalog for general elective modules or the module catalogs for the other areas of specialization. ⁴The selection of modules must comply with § 8(2) of the APSO.

§ 44

Repeat Examinations, Failed Examinations

- (1) ¹The repetition of examinations is governed by § 24 of the APSO. ²The repeat examination will be offered in the following semester.
- (2) Failure of examinations is governed by § 23 of the APSO.

§ 45

Coursework (Pass/Fail Credit Requirements)

In 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) Sentences 2 and 3, 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) Sentences 2 and 3 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. ³30 credits are awarded for the Master's Thesis module. ⁴The master's thesis must be written in English.
- (4) ¹The completion of the Master's Thesis module consists of a research paper and the Master's Colloquium according to § 46 a. ²The presentation that forms part of the Master's Colloquium does not affect the grading.
- (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.

§ 46 a Master's Colloquium

- (1) ¹In the Master's Thesis module, students are deemed registered for the Master's Colloquium if they have achieved a credit account of at least 90 credits and have successfully completed the research paper (thesis). ²The examination is to take place no later than two months after the registration date in accordance with Sentence 1.
- (2) The Master's Colloquium is to be carried out by the thesis supervisor for the master's thesis and a competent observer.
- (3) ¹The Master's Colloquium is to be held in English. ²It can be held in German if the student submits a request.
- (4) ¹As a rule, the duration of examination in the Master's Colloquium is 60 minutes. ²The students have about 30 minutes to present their thesis. ³This is followed by an oral defense, which starts from the thesis topic and can extend to the wider subject area of the Master's Thesis.

§ 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 January 2025. ²They apply to all students who commence their studies at the Technical University of Munich as of the winter semester 2025/2026.
- (2) ¹At the same time, the Academic and Examination Regulations for the Master's Degree Program Land Management and Geospatial Science at the Technical University of Munich dated 16 January 2020, most recently amended by § 1(47) of the Collective Amending Statute on the Number of Examining Commission Members for Aptitude Assessments dated 29 June 2020, cease to apply, unless the provision in § 49(1) Sentence 2 of these regulations applies. ²Students who commenced their studies at the Technical University of Munich prior to the winter semester 2025/2026 are to complete their studies in accordance with the regulations named in § 49(2) Sentence 1.
- (3) Students, who already commenced their upper-division courses at the Technical University of Munich before the point in time named in 1(2), can switch to the Academic and Examination Regulations in accordance with 1(1) upon request to the Examination Board.

APPENDIX 1: Examination Modules

No.	Module name	Type of Instruction SWS	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Language of Instruction
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Required Modules

BGU40058	Land Management	2V + 2V	WiSe	4	5	Written exam	60	EN
BGU40059	Real Estate Economics	4V	WiSe	4	5	Written exam	60	EN
BGU48037	PRL+IPL - Introduction to Photogrammetry, Remote Sensing and Digital Image Processing	2V + 2V + 1Ü	WiSe	5	5	Written exam	120	EN
BGU53053	Geodesy (for land management)	2V + 2Ü	WiSe	4	5	Written exam	60	EN
BGU40056	Property Rights and Land Tenure Systems	2V + 2S	SoSe	4	5	Written exam	60	EN
BGU40061	Land Administration and Land Information Systems	1,5V+1, 5Ü+ 1,5Ü+1, 5Ü	SoSe	6	5	practical credit requirement		EN
BGU47031	Geoinformatics for Land Management	3VI + 3VI	SoSe	6	5	learning portfolio		EN
BGU40057	Decision Support Systems	4V	SoSe	4	5	Written exam	60	EN
BGU40065	International Professional Practice in Land Management and Geospatial Science	4V	WiSe	4	5	Written exam	120	EN
	Total				45 credits			

BGUMTLM20	Master's Thesis		SoSe or WiSe		30	Research paper (incl. presentation during colloquium)		EN
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Elective Modules

¹The Examination Board regularly updates the elective modules course catalog. ²This will be communicated via the Study Tree in TUMonline no later than at the beginning of the semester. ³Elective modules amounting to a total of 45 credits are required from the following elective module catalog in accordance with § 43(2) of the FPSO. ⁴We recommend consulting the mentor from the Chair for Land Management.

No.	Module name	Type of Instruction SWS	Sem.	SWS	Credits	Type of Examination	Duration of Examination	Language of Instruction
Catalog of General Elective Modules								
BGU40064	Scientific Paper Writing – Theory and Practice	1V + 2Ü	WiSe or SoSe	3	5	Research paper		EN
BGU40060	Spatial Planning and Policies	4V	WiSe	4	5	Written exam	90	EN
BGU40063	Land Management International – Theory and Practice	2V+2Ü	SoSe	4	5	Written exam	90	EN
POL00011	Politics for Rocket Scientists: An Introduction to Political Science for Non-Political Scientists	3V+1Ü	SoSe	4	6	Written exam	90	EN
BGU47025	Advanced GIS I	2V+1Ü+2V+1Ü	SoSe	6	6	Written exam	120	EN
BGU40062	Instruments of Land Mobilization – Theory and Practice	3V+2Ü	SoSe	5	5	Written exam	90	EN
BV550017	Sustainable Real Estate Development	2VI+2VI	SoSe	4	6	Written exam	90	EN
BGU45030	Geodetic Seminar	4V	WiSe	4	5	presentation	20	EN/G
	...							
Area of concentration “Systems of land use and land rights”								
Area of concentration “Systems of land use and land rights”								
BGU62043	Aspects of Sustainable Urbanism	4S	WiSe	4	6	presentation	30	EN
WZ6407	Urban Ecology	2V + 2S	WiSe	4	5	presentation	15	EN
BV550017	Sustainable Real Estate Development	2VI+2VI	SoSe	4	6	Written exam	90	EN
BGU40068	International Rural Development	3V	WiSe	3	5	Written exam	120	EN
BGU40067	International Land Rights	2V + 1Ü	WiSe	3	5	Written exam	90	EN
BGU40060	Spatial Planning and Policies	4V	WiSe	4	5	Written exam	90	EN
BV550018	Seminar Advanced Real Estate Management	2S	WiSe	2	6	Written exam	60	EN
BGU45030	Geodetic Seminar	4V	WiSe	4	5	presentation	20	EN/G
	...							

Area of concentration “Systems of Geospatial Engineering for Land, Water and Forestry Management”								
Area of concentration “Systems of Geospatial engineering for land, water and forestry management”								
BGU47025	Advanced GIS I	2V+1Ü+ 2V+1Ü	SoSe	6	6	Written exam	120	EN
BGU45037	Introduction to Earth System Science	4V	WiSe	4	5	Written exam	120	EN
BGU31006	Signal Processing and Microwave Remote Sensing	1V+3VI	WiSe	4	5	Written exam	75	EN
BGU61030	Applied Computer Science	3V+1Ü	WiSe	4	5	Written exam	90	EN
BGU48038	RSC - Remote Sensing - Selected Chapters	4VI	WiSe	4	5	presentation	30	EN
ED110004	Spatial Data Management and Visualisation	3VI+2VI + 1VI	WiSe	6	5	Written exam	120	EN
BGU47026	Advanced GIS II	3Ü+3S	WiSe	6	6	project work		EN
BGU54011	Integrated Water Resources Management	4VI	WiSe	4	6	Written exam	120	EN
LS10003	Remote Sensing of Agriculture and Vegetation	4VI	WiSe	4	5	report		EN
ED110141	Acquisition and Analysis of Photogrammetric Data	3S	SoSe	3	5	report		EN
BGU45030	Geodetic Seminar	4V	WiSe	4	5	presentation	20	EN/G
	...							
Area of concentration “Systems of Planning, Policy and Governance”								
Area of concentration “Systems of Planning, policy and governance”								
POL62300	Multi-level Governance	2S + 2S	SoSe	4	6	report		EN
POL62400	Environment and Climate Transformation	2S + 2S	SoSe	4	6	report		EN
POL00011	Politics for Rocket Scientists: An Introduction to Political Science for Non-Political Scientists	3V + 1Ü	SoSe	4	6	Written exam	90	EN
BV400009	Land Management and Land Policy	2V + 2S	WiSe	4	6	project work		EN
BV550018	Seminar Advanced Real Estate Management	2S	WiSe	2	6	Written exam	60	EN
POL62200	Energy Transformation	2S + 2S	WiSe	4	6	report		EN
BGU40060	Spatial Planning and Policies	4V	WiSe	4	5	Written exam	90	EN
BV460018	Sustainable Water Resources Management	2V	WiSe	2	3	Written exam	60	EN
BGU45030	Geodetic Seminar	4V	WiSe	4	5	presentation	20	EN/G
	...							

Explanation:

Sem. = semester; SWS = Semesterwochenstunden/weekly hours per semester; WiSe = winter semester; SoSe = summer semester;
 V = Vorlesung/lecture; VI = Vorlesung mit integrierter Übung/lecture with exercise; Ü = Übung/exercise module;
 S = seminar; SL = Studienleistung/coursework; EN = English; DE = German
 For written exams, the column Examination Duration indicates the examination duration in minutes.

* The module numbers stated may change; the current module numbers can be found in the degree chart in TUMonline.

Credit Total per Semester:

Semester	Credits Required Modules	Credits Elective Modules	Total Credits	Number of Exams
1	25	5	30	6
2	20	10	30	6
3		30	30	6
4	30		30	1

APPENDIX 2: Aptitude Assessment

Aptitude Assessment for the Master's Degree Program Land Management and Geospatial Science at the Technical University of Munich

1. Purpose of the Process

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

- 1.1 ability to do scholarly work and basic, methodologically sound research,
- 1.2 fundamental knowledge in Mathematics, Computer Science and Law,
- 1.3 Engineering competencies related to land issues and ability to think in spatial terms,
- 1.4 fundamentals of GIS software, analysis, and interpretation of spatial data,
- 1.5 ability to work interdisciplinarily, and command of the English language.

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 a written statement in English (max. 2 A4 pages) of the reasons for choosing the Master's Degree Program Land Management and Geospatial Science at the Technical University of Munich, in which the candidate explains those specific abilities and interests that make him/her particularly qualified for the Master's Degree Program Land Management and Geospatial Science 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, if necessary by appropriate documentation,

2.3.4 a declaration that the essay is the applicant's own work, and that the applicant has clearly identified any ideas taken from outside sources.

3. Aptitude Assessment Commission

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 consists of five members. ²Members 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 Engineering and Design, 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 [Hochschulinnovationsgesetzes (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 elects a chairperson and 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 1 year. ⁹Extensions of the term of office and reappointments are possible. ¹⁰Urgent decisions that cannot be postponed can be made by the chairperson on behalf of the Commission; He/She must inform the Commission of such decisions without delay. ¹¹The Academic Programs 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 No. 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 Engineering and Design, who are authorized to conduct examinations in the degree program according to Art. 85(1) Sentence 1 of the Bavarian Higher Education Innovation Act [Hochschulinnovationsgesetzes (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 [Hochschulinnovationsgesetzes (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 an applicant is suitable for the program according 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. ²It is based on the fundamental subject groups listed in the following table, relevant to graduates of a bachelor's degree program in engineering, natural sciences, or social sciences.

Subject Group	Credits TUM
Fundamentals of engineering (mathematics, physics, surveying, informatics, application-oriented research, technical development and project management)	40
Scientific fundamentals (natural resource management, environment and conservation, land-use planning, soil science)	40
Fundamentals of social sciences (public law, state administration, property law, legal basics of civic involvement and democracy, spatial planning)	40

³If it is established that there are no significant differences in the competencies acquired (learning outcomes), a maximum of 60 points will be awarded. ⁴The points are calculated by adding up the credits in accordance with the proven competences given in the above table. ⁵One credit is equal to one point in the aptitude assessment. ⁶For any competencies missing from the student's undergraduate curriculum, credits will be deducted according to the credits of the assigned modules of a corresponding bachelor's degree program.

b) Grade

¹The applicant will be awarded 1.5 points for each tenth that the final grade of the bachelor's degree program is better than 3.0. ²The maximum number of points is 30. ³Negative points will not be awarded. ⁴In the case of international degrees or if the grading system does not correspond with the TUM system, the grade converted based on the Bavarian formula will be applied. ⁵If the candidate has submitted a degree certificate containing more than 120 credits with the application, the assessment will be made on the basis of the best graded modules in the amount of 120 credits. ⁶The applicant needs to submit a list of the results together with the application and confirm its accuracy in writing. ⁷Insofar as this is done, the average is calculated from the best graded module examinations totaling 120 credits. ⁸The average is calculated as a weighted grade average for the modules. ⁹The grade weights of the individual modules correspond to the credits assigned to each module. ¹⁰If no list is submitted, the overall average of grades submitted by the candidate will be used to calculate the average.

c) Letter of Motivation

¹The applicant's written statement will be evaluated by the respective Selection Committee and graded on a scale of 0 – 10 points. ²The content of the written statement will be assessed using the following criteria:

1. ability to phrase the application in a factual manner (maximum 2 points),
2. ability to describe the relationship between their personal interests and the content of the degree program in a well-structured manner (maximum 3 points),
3. ability to prove their particular suitability and exceptional motivation for the Elite Master's Degree Program by providing convincing arguments and meaningful examples (see 2.3.3) (maximum 3 points),

4. ability to linguistically emphasize important points of their reasoning in an appropriate way (maximum 2 points),

³The two committee members independently assess each of the criteria with the specified weighting. ⁴The points total will be calculated as the arithmetic means of the individual assessments, rounded up to the nearest full point.

- 5.1.1 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 Applicants with at least 70 points will be deemed suitable.
- 5.1.4 Applicants who have achieved less than 50 points fail the aptitude assessment.

5.2 Second Stage

- 5.2.1 ¹The remaining applicants will be invited to an assessment interview. ²During the second stage of the aptitude assessment, both the skills acquired during the applicant's bachelor's studies and the result of the assessment interview will be assessed. 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.
- 5.2.2 ¹The aptitude assessment interview is to be held individually for each applicant. ²The interview will be held in English and last at least 20 but not more than 30 minutes for each applicant. ³The interview will focus on the following topics:
 1. exceptional motivation for the Master's Degree Program Land Management and Geospatial Science according to the criteria for assessing the written statement of purpose mentioned in No. 2.3.3,
 2. fundamental and application-related questions from the field of Land Management in order to assess the professional qualification,
 3. the applicant's competence in the analysis of land policy questions and contextual relationships based on his/her approach to solving an exemplary problem,
 4. personal impression (after the interview): Applicants will be evaluated, for example, on their ability to convincingly demonstrate information using arguments and meaningful examples and appropriately respond to interview questions.

⁴The above topics may also 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 Land Management and Geospatial Science 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 ¹ Each Committee member independently assesses each of the four areas with equal weighting. 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 sum of the points from No. 5.2.3 and the points from No. 5.1.1 a) (Subject-specific Qualification) and 5.1.1 b) (Grade).
²Applicants with 120 or more points will be deemed suitable. ³Applicants with an overall score of less than 120 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 result. 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.

Executed following a resolution of the Senate of the Technical University of Munich dated 27 November 2024 and approval of the President of the Technical University of Munich on 16 December 2024.

Munich, 16 December 2024
Technical University of Munich

signed by
Thomas F. Hofmann
President

These regulations were officially published online on the website "<https://www.tum.de/satzungen>" on 16 December 2024. In addition, access is available during office hours on the premises of the TUM Center for Study and Teaching - Legal Affairs, Arcisstraße 21, 80333 Munich, Room 0561. Day of proclamation is therefore 16 December 2024.