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Subject examination and study regulations for the bachelor program Forest science and resource management at the Technical University of Munich

From 27 August 2015

as amended by the Second Amendment Statutes of June 19, 2019

Based on Article 13, Paragraph 1, Sentence 2 in conjunction with Article 58, Paragraph 1, Sentence 1 and Article 61, Paragraph 2, Sentence 1 of the Bavarian University Act (BayHSchG), the Technische Universität München enacts the following statutes:

Table of Contents:

I. General provisions

§ 34
Scope, academic degree, related courses of study

(1) [1]These Subject Examination and Study Regulations (FPSO) supplement the General Examination and Study Regulations for Bachelor's and Master's Programs at the Technical University of Munich (APSO) of March 18, 2011, as amended. [2]The APSO has priority.

(2) [1]On the basis of the successful completion of the Bachelor's examination, the academic degree "Bachelor of Science" ("B.Sc.") is awarded. [2]The academic degree may be awarded with the university suffix "(TUM)".

(3) [1]There is no related degree program to the Bachelor's degree program in Forestry and Resource Management at the Technische Universität München. [2]When transferring from another university to the Technische Universität München, the responsible examination board decides on the relatedness of the degree program based on the examination/study regulations of the university in question.

§ 35
Start of study, standard period of study, ECTS

(1) The start of studies for the bachelor's degree program in Forest Science and Resource Management is governed by § 5 APSO.

(2) [1]The number of credits required to obtain the Bachelor's degree in the compulsory and elective areas is 159 (min. 130 SWS). [2]In addition, 10 credits are required for the Bachelor's Thesis. [3]In addition, eight weeks (11 credits) of study practice must be completed. [4]The scope of the study and examination achievements in the compulsory and elective areas according to Appendix 1 in the Bachelor's degree program in Forestry and Resource Management thus amounts to at least 180 credits. [5]The standard period of study for the bachelor's degree program is six semesters in total.

§ 36
Qualification requirements

For the bachelor's degree program in Forestry and Resource Management, the general admission requirements for studying at a university must be met in accordance with the Ordinance on Qualification for Studies at the Universities of the Free State of Bavaria and the State-recognized Non-State Universities (Qualification Ordinance-QualV) (BayRS 2210-1-3-UK/WFK), as amended.

§ 37
Modularization, courses, language of instruction

(1) [1]General regulations on modules and courses are set out in §§ 6 and 8 APSO. [2]In the event of deviations from module specifications, § 12 Para. 8 APSO shall apply.

(2) The study plan with a list of the modules to be taken in the compulsory and elective areas is listed in Appendix 1.

(3) [1]As a rule, the language of instruction in the bachelor's degree program in Forest Science and Resource Management is German. [2]If individual modules are held wholly or partly in English, this is indicated in Annex 1.

§ 37 a
Professional internship

(1) [1]Practical vocational training must be completed as a course credit within the meaning of Section 6 (7) APSO. [2]Its duration is eight weeks (11 credits). [3]Successful participation is confirmed by the companies and authorities in which the training took place and evidenced by internship reports.

(2) The board of examiners decides on the recognition of successfully completed vocational training or an equivalent achievement as practical vocational training.

§ 38
Examination deadlines, study progress monitoring, missed deadlines

(1) Examination deadlines, study progress monitoring and missed deadlines are regulated in § 10 APSO.

(2) [1]A fundamentals and orientation examination (GOP) from the fundamentals of the bachelor's degree program must be completed by the end of the second semester. [2]In the modules listed in the GOP, the following are required

1. At least 21 credits by the end of the second semester of study,
2. To complete at least 40 credits by the end of the third semester.

[3]If the deadline is exceeded, Section 10 para. 5 APSO shall apply accordingly.

§ 39
Audit Committee

The body responsible for decisions in examination matters according to § 29 APSO is the Bachelor Examination Board Forestry of the Faculty of Forestry and Resource Management.

§ 40
Crediting of periods of study, academic achievements and examination results

The crediting of periods of study, coursework and examinations is governed by § 16 APSO.

§ 41
Course-related examination procedure, forms of examination

(1) Possible forms of examination according to § 12 and 13 APSO are, in addition to written examinations and oral examinations in this study program, in particular laboratory performances, exercise performances (if necessary, tests), reports, project work, presentations, scientific papers and the examination course.

a) [1]An **examination** is a written work under supervision with the aim to recognize problems in a limited time with the given methods and defined aids and to find ways to solve them and to

be able to apply them if necessary. [2]The duration of written examinations is regulated in § 12 para. 7 APSO.

b) [1]Laboratory services include, depending on the discipline, experiments, measurements, work in the field, field exercises, etc. with the aim of carrying out, evaluating and gaining knowledge. [2]Components can be e.g.: the description of the processes and the respective theoretical basis incl. literature study, the preparation and practical execution, if necessary necessary calculations, their documentation and evaluation as well as the interpretation of the results with regard to the knowledge to be gained. [3]The laboratory performance can be supplemented by a presentation in order to test the communicative competence in presenting scientific topics to an audience. [4]The specific components of the respective laboratory performance and the competencies to be tested with it are listed in the module description.

c) [1]The **exercise performance (if applicable, tests)** is the processing of given tasks (e.g. mathematical problems, programming tasks, modeling, etc.) with the aim of applying theoretical content to solve application-related problems. [2]It serves the verification of factual and detailed knowledge as well as its application. [3]The exercise performance can be carried out in writing, orally or electronically, among others. [4]Possible forms are e.g. homework, exercise sheets, programming exercises, (e-)tests, tasks in the context of university internships, etc. [5]The concrete components of the respective exercise performance and the competencies to be tested with it are listed in the module description.

d) [1]A **report** is a written review and summary of a learning process with the aim of reproducing what has been learned in a structured manner and analyzing the results in the context of a module. [2]The report should prove that the essential aspects have been recorded and can be reproduced in writing. [3]Possible report forms are, for example, field trip reports, internship reports, work reports, etc. [4]The written report can be supplemented by a presentation in order to test the communicative competence in presenting the contents to an audience.

e) [1]In the context of a **project work, a** project assignment is to be achieved as a defined goal in a defined time and with the use of suitable instruments in several phases (initiation, problem definition, role allocation, idea generation, criteria development, decision, implementation, presentation, written evaluation). [2]In addition, a presentation can be part of the project work in order to test the communicative competence in presenting scientific topics to an audience. [3]The concrete components of the respective project work and the competencies to be tested with it are listed in the module description. [4]The project work is also possible in the form of group work. [5]In this case, it should be demonstrated that tasks can be solved in a team. [6]The contribution to be assessed as examination performance in each case must be clearly individually recognizable and assessable. [7]This also applies to the individual contribution to the group result.

f) [1]The **scientific paper** is a written performance in which a challenging scientific or scientific-application-oriented question is independently processed using the scientific methods of the respective discipline. [2]It should be demonstrated that a question corresponding to the learning outcomes of the respective module can be completely processed in compliance with the guidelines for scientific work - from analysis to conception to implementation. [3]Possible forms, which differ in their respective level of demand, are e.g. thesis paper, abstract, essay, study paper, seminar paper, etc. [4]The scientific elaboration can be accompanied by a presentation and, if necessary, a colloquium in order to test the communicative competence of presenting scientific topics in front of an audience. [5]The concrete components of the respective scientific elaboration and the competences to be examined with it are listed in the module description.

g) [1]A **presentation** is a systematic, structured and visually supported oral presentation using suitable media (such as beamers, transparencies, posters, videos), in which specific topics or results are illustrated and summarized and complex issues are reduced to their essential

core. [2]The presentation is intended to demonstrate the ability to work on a specific topic in a given time in such a way that it can be presented to an audience in a clear, concise and comprehensible manner. [3]In addition, it should be demonstrated that questions, suggestions or discussion points of the audience can be dealt with in an informed manner in relation to the respective subject area. [4]The presentation may be supplemented by a short written preparation. [5]The presentation may be given individually or in groups. [6]The contribution to be assessed as an examination performance must be clearly recognizable and assessable individually. [7]This also applies to the individual contribution to the group result.

h) [1]An **oral examination** is a time-limited examination discussion on specific topics and concrete questions to be answered. [2]In oral examinations, it should be demonstrated that the qualification objectives documented in the module descriptions have been achieved and that the interrelationships of the examination area have been recognized and special questions can be placed in these interrelationships. [3]The oral examination can be conducted as an individual examination or as a group examination. [4]The duration of the examination is regulated in § 13 Para. 2 APSO.

i) [1]In the context of an **examination course,** several examination elements are to be completed within one examination performance. [2]In contrast to a partial module examination, the examination performance is examined in an organizationally (spatially or temporally) coherent manner. [3]Examination elements are several different examination formats which in their entirety cover the complete competence profile of the module. [4]Examination elements can in particular also be examination formats according to letters a) to h). [5]The total duration of the examination shall be specified in the module catalog; the examination form and duration of the individual examination elements shall be specified in the module description.

(2) [1]The module examinations are usually taken during the course of study. [2]The type and duration of a module examination are specified in Annex 1. [3]In the event of deviations from these stipulations, § 12 Para. 8 APSO must be observed. [4]For the evaluation of the module examinations, § 17 APSO shall apply. [5]The grade weights of partial module examinations correspond to the weighting factors assigned to them in Annex 1. [6]The modules marked with * in Annex 1 are only passed if each module sub-examination is passed.

(3) If Appendix 1 specifies for a module examination that it is written or oral, the examiner shall announce the binding type of examination to the students in an appropriate manner no later than the beginning of the lecture.

(4) At the request of the student and with the approval of the examiners, examinations may be taken in a foreign language for courses taught in German.

§ 41 a
Multiple choice

The implementation of multiple-choice procedures is regulated in § 12 a APSO.

§ 42
Study achievements

In addition to the examinations specified in § 48 Para. 1, the successful completion of coursework in the Professional Internship module amounting to 11 credits in accordance with § 37 a must be demonstrated.

§ 43
Registration and admission to exams

(1) [1]Registration for an examination in a compulsory and elective module is governed by § 15 para. 1 APSO. [2]Registration for a corresponding repeat examination in a failed compulsory module is governed by § 15 Para. 2 APSO.

(2) [1]Departing from para. 1, students are considered to be registered for the course-related examinations in the compulsory modules of the basic and orientation examination of the bachelor's degree program in forestry and resource management that belong to the modules provided for in Annex 1 of the semester in which the student is located. [2]If the student fails to appear at the examination date, the module examination shall be deemed to have been taken and not passed, unless there are valid reasons in accordance with § 10 Para. 7 APSO.

§ 44
Repetition, failure of examinations

(1) The repetition of examinations is regulated in § 24 APSO.

(2) The failure of examinations is regulated by § 23 APSO.

II. basic and orientation examination

§ 45
Admission and registration for the foundation and orientation examination

Students are considered admitted to the examinations of the Fundamentals and Orientation Examination upon enrollment in the Bachelor's Degree Program in Forest Science and Resource Management at the Technical University of Munich.

§ 46
Scope and evaluation of the basic and orientation examination

(1) The Fundamentals and Orientation Examination consists of the module examinations in the corresponding compulsory modules according to Appendix 1.

(2) [1]The Fundamentals and Orientation Examination is passed if the required number of 54 credits has been earned from the compulsory modules assigned to it in accordance with Appendix 1. [2]A failed module examination that was taken as part of a foundation and orientation examination during the course of study can only be repeated once. [3]Departing from sentence 2, the student may repeat examinations of the basic and orientation examination to the extent of 14 credits as often as desired within the framework of the study progress control according to § 10 para. 3 APSO.

(3) The students receive an examination notice about the passed basic and orientation examination.

III Bachelor examination

§ 47
Admission to the Bachelor's examination

Upon enrollment in the Bachelor of Science in Forestry and Resource Management program, students are considered admitted to the module examinations of the bachelor's degree.

§ 48
Scope of the Bachelor's examination

(1) The bachelor's examination includes:
1. the module examinations according to par. 2,
2. the Bachelor's Thesis according to § 49 as well as
3. the academic achievements listed in § 42.

(2) [1]The module examinations are listed in Appendix 1. [2]90 credits in compulsory modules and 15 credits in elective modules must be proven. [3]When choosing the modules, § 8 para. 2 APSO is to be observed.

§ 49
Bachelor's Thesis

(1) [1]Pursuant to § 18 APSO, students must prepare a Bachelor's Thesis as part of the Bachelor's examination. [2]The Bachelor's Thesis is issued and supervised by two expert examiners of the Faculty of Forest Sciences and Resource Management (topic setter). [3]The expert examiners according to sentence 2 are appointed by the examination board.

(2) [1]The completion of the Bachelor's Thesis module should normally represent the final examination performance. [2]Students may be admitted to the Bachelor's Thesis prematurely upon application if the goal of the Thesis can be achieved within the meaning of § 18 Para. 2 APSO, taking into account the previous course of study.

(3) [1]The time from issuance to delivery of the Bachelor's Thesis may not exceed three months. [2]The Bachelor's Thesis shall be deemed to have been taken and not passed if it is not delivered on time without reasons recognized in accordance with § 10 Para. 7 APSO. [3]For the passed Bachelor's Thesis 10 credits are awarded.

(4) [1]If the Bachelor's Thesis has not been evaluated with at least "sufficient" (4.0), it can be repeated once with a new topic. [2]It must be re-registered no later than six weeks after the notification of the result.

§ 50
Passing and evaluation of the Bachelor examination

(1) The bachelor's examination is passed if all examinations listed within the framework of the bachelor's examination according to § 48 have been successfully taken and a point account balance of at least 180 credits has been achieved.

(2) [1]The module grade is calculated according to § 17 APSO. [2]The overall grade of the Bachelor's examination is calculated as the weighted grade average of the modules according to § 46 para. 1 and § 48 para. 2 as well as the Bachelor's thesis. [3]The grade weights of the individual modules correspond to the assigned credits. [4]The overall grade is expressed by the predicate according to § 17 APSO.

§ 51
Certificate, Diploma Supplement

(1) [1]If the Bachelor examination has been passed, a certificate, a certificate and a Diploma Supplement with a Transcript of Records shall be issued in accordance with § 25 Para. 1 and § 26 APSO. [2]The date of the certificate shall be the date on which all study and examination achievements have been completed.

(2) [1]Upon completion of the course, graduates have the opportunity to apply to the competent authority for a "Plant Protection Certificate of Expertise". [2]Appendix 2 shows which achievements from the course of study have to be proven.

IV. final provision

§ 52
Entry into force*)

(1) [1]These regulations come into force on October 1, 2015. [2]It applies to all students who begin their studies at the Technical University of Munich from the winter semester 2015/16 onwards.

(2) [1]The subject examination and study regulations for the bachelor's degree program in Forestry and Resource Management at the Technical University of Munich dated August 14, 2008, last amended by the statutes dated August 21, 2012, shall cease to apply at the same time, subject to the provision in para. 1 sentence 2. [2]Students who have already commenced their subject studies at the Technical University of Munich prior to the winter semester 2015/16 shall complete their studies in accordance with the statutes pursuant to sentence 1. [3]They may change to these subject examination and study regulations upon application.

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*) This provision concerns the entry into force of the Articles of Association in the original version of August 27, 2015. The date of entry into force of the amendments is specified in the amending Articles of Association.

Appendix 1: Examination modules

No.	Module name	Teaching form V Ü S	Sem.	SWS	Credits	Exam type	Exam duration	Teaching-language

Fundamentals and Orientation Exam:

Mandatory modules

WZ1819	Biology	V	1	8	8	Written exam	120 min.	German
WZ4220	Chemistry	4V 2T	1	6	6	Written exam	180 min.	German
WZ2700	Forest and environmental history	1.3 V 1.7S	1	3	3	Project work		German
WI001062	Introduction to economics	V	1	4	5	Written exam	120 min.	German
WZ2711	Dendrology	2V 2T	1 and 2	4	5	Exam + Lab (SL) + Lab (SL)	60 min.	German
WZ4222	Ecoclimatology	V	1 and 2	4	5	Written exam	90 min.	German
WZ2701	Statistics and computer science	V Ü	2	6	6	Written exam	120 min.	German
WZ2702	Material properties of wood	V	2	4	5	Written exam	90 min.	German
WZ4219	Inventory	3V 1T	2	5	6	Written exam	90 min	German
PH9017	Practical physics*	4P	2	4	5	Exercise performance + laboratory (1:1)		German
	Total				**54 credits**			

No.	Module name	Teaching form V Ü S	Sem.	SWS	Credits	Exam type	Exam duration	Teaching-language

Bachelor's Exam:

Mandatory modules

WZ2703	Supra-disciplinary competences	VÜS	1		5	According to the instructor(s)	According to the instructor(s)	German
WI000201	Forestry business administration	V	3	4	5	Written exam	60 min.	German
WZ0150	Forestry process engineering and logistics	3.5 V 0.5 Ü	3	4	5	Written exam	120 min.	German
WZ0527	Forest growth and environment	V	3	5	6	Written exam	60 min.	German
WZ0143	Technology and utilization lines of wood	V	3	4	5	Written exam	60 min.	German
WZ1820	Animal and wildlife ecology	3V 3T	3	6	5	Written exam + lab (SL)	90 min.	German
WZ2704	Natural resources: soil and site	6V 2T	3 and 4	8	8	Written exam	120 min.	German
WZ2705	Natural Resources: Vegetation	4V 2T	3 and 4	6	5	Written exam	90 min.	German
WZ2706	Silviculture	4V 3S	4	7	6	Written exam	120 min.	German
WZ0154	Forest Conservation	2V 3T	4	5	5	Written exam + lab (SL)	60 min.	German
WZ2707	General legal bases	V	4	4	5	Written exam	120 min.	German
WZ0158	Project	V Ü S	4	4	5	Project work		German
WZ0162	Forest Planning	4V 1T	5	5	5	Written exam	90 min.	German/English
WZ0157	Landscape Development	2V 2T	5	4	5	Written exam	100 min.	German
WZ0156	Commodity markets, life cycle assessment, forest certification	V	5	4	5	Written exam	90 min.	German
WI000213	Forestry and environmental policy	1.5V 1.5Ü	5	3	5	Oral examination	20 min	German
WZ2708	Bachelor colloquium		6		5	Oral examination	30 min	German
	Total				**90 credits**			

No.	Module name	Teaching form V Ü S	Sem.	SWS	Credits	Exam type	Exam duration	Teaching-language

Bachelor's Thesis

WZ0171	Bachelor's Thesis		6		10	Scientific elaboration		German / English

Elective Modules: In the elective area, modules amounting to 15 credits must be taken from the following list:
The examination board continuously updates the subject catalog of the elective modules. Changes will be announced on the website of the examination board at the beginning of the semester at the latest.

WZ4218	Bee Science	4 AT	6	4	5	Exam + Project work (SL)	60 min.	German
WZ6141	General ecology	4 V	5	4	6	Written exam	120 min.	German
WZ1082	Fish biology and aquaculture	V	5	4	5	Written exam or Oral examination	90 min 30 min	German
WZ4217	Forest Genetics	2V 1S 2Ü	5	5	5	Written exam	60 min.	German
WZ0164	Geographic Information Systems	2V 2T	5	4	5	Oral examination	30 min	German
WZ0163	International forestry	3V 1.5S	6	4,5	5	Oral examination	30 min	German
WZ0165	Renewable raw materials: breeding and plantation technology	3V 1S 1T	6	5	5	Oral examination	30 min	German
WZ2709	Phenology	2V 2S	5	4	5	Project work		German
WZ2710	Theoretical and legal basics of game management	4V 2T	5	6	5	Written exam	100 min.	German
WZ0528	Urban Forestry	2,5 V	5	2,5	5	Written exam	90 min.	English
WZ0706	Forest environmental education and consulting	2V 2T	6	4	5	Project work		German
WZ0705	Communication and public relations	2V 2T	5	4	5	Project work		German
WZ4048	Forest sites in Bavaria	1V 3T	6	4	5	Oral examination	20 min	German

* The module is passed if both partial module examinations are passed.

Examination achievements in the field of Forest Science and Resource Management acquired at another university as part of a Bachelor's degree program (e.g. semester abroad) can also be credited up to a total of 15 credits and included in the Bachelor's examination as elective achievements in the section Elective Modules according to Appendix 1 if there is no corresponding module in the module catalog of Technische Universität München, but the other requirements correspond to those of the Bachelor's degree program Forest Science and Resource Management. The Bachelor Examination Board for Forest Science and Resource Management decides on the recognition in consultation with the subject

advisor for the Bachelor's degree program in Forest Science and Resource Management and the international representative of the Faculty of Forest Science and Resource Management.

No.	Module name	Teaching form V Ü S	Sem.	SWS	Credits	Exam type	Exam duration	Teaching-language

Course Credits: A professional internship of 11 credits must be completed as course work:

WZ0529	Professional internship		6		11	Report		

Explanations:
Sem. = semester; SWS = semester hours per week; V = lecture; Ü = exercise; P = practical course; S = seminar;
SL = course work; lab = laboratory work

Credit balance of the respective semesters:

Semester	Credits Mandatory modules	Credits Elective module	Credits Electives	Credits Bachelor's Thesis	Total Credits	Quantity the Exams
1st semester	30 credits				30 credits	5
2nd semester	29 credits				29 credits	6
3rd semester	30 credits				30 credits	5
4th semester	30 credits				30 credits	6
5th semester	20 credits		10 credits		30 credits	6
6th semester	16 credits		5 credits	10 credits	31 credits	3

Attachment 2:
Plant protection expertise

With the completion of the bachelor's degree program in Forest Science and Resource Management at TUM, the Plant Protection Expertise Certificate can be applied for in terms of the Plant Protection Expertise Ordinance (PflSchSachkV 2013).

For this purpose, the following achievements must be demonstrated in addition to the successful completion of the course of study:

Examination in module WZ2548 Plant Protection
Successful participation in the practical day of the module WZ2548

If proof of the services rendered is available, the Faculty of Forestry and Resource Management certifies that, according to § 1 Para. 1 No. 3 or Para. 2 No. 3 of the Plant Protection Expertise Ordinance, the contents specified in Appendix 1 Part A and B of the Plant Protection Expertise Ordinance were part of the training and examination.