



Subject-Specific Study and Examination Regulations for the English-taught Consecutive Master's Programme in "Energy Science and Technology" offered by the Faculties of Natural Sciences as well as Engineering and Computer Sciences at Ulm University of 2 June 2014

On the basis of § 19 (1) sentence 2 no. 9 in conjunction with § 32 of the Federal State Higher Education Act Baden-Württemberg (*Landeshochschulaesetz – LHG*) in the version of Article 1 of the third act amending higher education regulations (*Drittes Hochschulrechtsänderungsgesetz – 3. HRÄG*) of 1 April 2014 (Law Gazette no. 6, p.99ff), the Senate of Ulm University adopted the following subject-specific study and examination regulations for the English-taught consecutive master's programme in "Energy Science and Technology" in its meeting on 14 May 2014. The President of the Ulm University gave his consent on 2 July 2014 in accordance with § 32 (3) sentence 1 of the *LHG*.

Table of contents

Preliminary remark on the use of language

I. General provisions

- § 1 Scope of application
- § 2 Study objectives, academic degrees
- § 3 Start of the programme
- § 4 Standard period of study
- § 5 Deadlines
- § 6 Types of courses, examination achievements
- § 7 English as language of instruction and examinations
- § 8 Subject examination board
- § 9 Organisation of module examinations
- § 10 Related study programmes
- § 11 Regulations regarding the module master's thesis (master's thesis and disputation)
- § 12 Assessment of module examinations
- § 13 Repetition of module examinations

II. Master's examination

- § 14 Study contents, admission to module and module part examinations
- § 15 Subject-specific requirements for admission to the master's thesis

III. Final provisions

- § 16 Effective date and transitional provisions

Preliminary remark on language use

According to Article 3 (2) Basic Law, men and women have equal rights; all male designations of persons and positions used in these regulations apply equally to men and women.

I. General provisions

§ 1 Scope of application

- (1) These subject-specific study and examination regulations contain specific regulations for the master's programme in "Energy Science and Technology".
- (2) The subject-specific study and examination regulations supplement the General Provisions for Study and Examination Regulations regarding Bachelor's and Master's programmes at Ulm University (General Framework). In case of doubt, the General Framework has priority.

§ 2 Study objectives, academic degrees (General Framework, § 2)

- (1) The master's programme in "Energy Science and Technology" is a research-oriented study programme. It aims to enable graduates to independently pursue research questions related to energy matters in the fields of natural sciences and engineering whilst applying methods from natural sciences and engineering. The programme objective is to convey the knowledge and competencies qualifying graduates to work in research, development and application in the fields of energy-oriented natural and engineering sciences, with a focus on electrochemical energy technologies, at universities, research institutes and those sectors of industry engaged in research and development.
- (2) Ulm University offers the consecutive master's programme in "Energy Science and Technology" leading to the academic degree of "Master of Science" ("MSc").

§ 3 Start of the programme (General Framework, § 3)

The master's programme "Energy Science and Technology" begins in the winter semester.

§ 4 Standard period of study (General Framework, § 5)

The standard period of study in the master's programme is four semesters.

§ 5 Deadlines (General Framework, § 6(9))

- (1) By the end of the examination period of their fourth semester in the master's programme in "Energy Science and Technology", students must have earned a minimum of 90 credit points from module part examinations in the compulsory and compulsory elective modules listed in § 14. By the end of the examination period of their sixth semester, students must have earned a minimum of 120 credit points from module part examinations in the compulsory and compulsory elective modules listed in § 14.
- (2) Students' right to examination lapses if they fail to obtain the number of credit points specified in paragraph 1 sentence 2 above within the period specified in paragraph 1 sentence 2 above unless they are not responsible for failing to obtain the specified number of credit points within the specified period.

§ 6 Types of courses, examination achievements

Programme objectives and contents are conveyed in the following types of courses:

- lectures,
- laboratory courses,
- seminars, and
- field trips.

Examination achievements may be through written or oral examinations.

§ 7 English as language of instruction and examinations (General Framework, § 7)

Courses are taught and examinations are conducted in English.

§ 8 Subject examination board (General Framework, § 10)

- (1) A subject examination board for the master's programme in "Energy Science and Technology" is formed.
- (2) The subject examination board consists of seven members. It is composed of four full-time university lecturers and full-time professors of Ulm University, one scientific staff member and two students in an advisory capacity. The students should be enrolled in different semesters of the master's programme in "Energy Science and Technology". The term of office of the university lecturers, the full-time professors of Ulm University and the member of the scientific staff is three years; the term of office of the student members is one year. Re-appointment is possible.
- (3) The subject examination board for the master's programme in "Energy Science and Technology" decides in cases of doubt covered by neither these subject-related study and examination regulations nor the General Framework.

§ 9 Organisation of module examinations (General Framework, § 13)

Deviating from the recommendations made in § 13 (1) of the General Framework, written module examinations in the master's programme are, as a rule, conducted in the last two weeks of the lecture period of each semester and in the following three weeks; repeat examination are offered in the first two weeks of the lecture period of the following semester.

§ 10 Related study programmes (General Framework, § 14)

Related study programmes as defined in § 14 of the General Framework are, in particular, chemistry, chemical engineering, materials science and electrical engineering.

§ 11 Regulations regarding the module master's thesis (General Framework, § 16c)

- (1) The period from the assignment of the topic to the submission of the master's thesis is six months. This period may be extended on request by up to one month by the subject examination board.
- (2) The volume of the master's thesis is equivalent to 30 CP.
- (3) The master's thesis comprises a presentation of approx. 45 minutes including a discussion of the subject of the master's thesis or an oral defence on the topic of the thesis.
- (4) The master's thesis must be written in English.
- (5) One of the examiners is the thesis supervisor; the second examiner should not be from the same institute.
- (6) The master's thesis must be submitted in two bound copies plus one electronic copy to the student administration and examinations office (*Studiensekretariat*).
- (7) If the master's thesis is done outside Ulm University in accordance with § 16c (5) of the General Framework, a supervision plan must be drawn up containing an outline of the envisaged project and the approval of the external supervisor. This supervision plan must be submitted to the subject examination board together with the application for approval of the external master's thesis.

§ 12 Assessment of module examinations (General Framework, § 17)

- (1) All taken and graded examinations listed in § 14 (2), no. 1-9, 11 and 12 below, weighted according to their respective credit points, count towards the overall grade of the master's programme.
- (2) Within a module, ungraded coursework may be required in the form of participation in classes, papers, seminar presentations pertaining to the module. Form and scope of such coursework are published in the module handbook. Such coursework may be a precondition for admission to the module (part) examination (examination prerequisite).

§ 13 Repetition of module examinations (General Framework, § 20)

Up to four failed module part examinations (compulsory and compulsory elective modules) may be repeated up to two times each but only within the academic year following the failed attempt. If students fail to take the module part examination in the period specified in sentence 1, they lose their right to examination unless they are not responsible for exceeding the deadline. This decision is taken by the subject examination board upon request.

II. Master's examination

§ 14 Study contents, admission to module examinations

- (1) All modules conclude with one or several module part examination(s).
- (2) The following modules must be completed:

No.	Module/examination(s)	CP
1	Chemistry I	9
1a	Physical Chemistry	4
1b	Introductory Laboratory	5
2	Chemistry II	9
2a	Materials Chemistry	4
2b	Surfaces-Interfaces-Heterogeneous Catalysis-Electrocatalysis	5
3	Electrical Engineering	5
3a	Electrical Engineering	5
4	Materials Science	10
4a	Materials Science I	5
4b	Materials Science II	5
5	Energy Science and Technology I (General Aspects)	10
5a	Energy Science and Technology I	5
5b	Energy Science and Technology II	5
6	Energy Science and Technology II (Applications)	11
6a	Energy Technology Laboratory I	9
6b	Energy Science and Technology Seminar	2
7	Energy Science and Technology III (Electrochemical EST)	9
7a	Energy Technology Laboratory II	4
7b	Energy Science and Technology III (Batteries and Fuel Cells)	5
8	Energy Science and Technology IV (Simulation and Modeling)	5
8a	Simulation and Modeling	5
9	Compulsory elective module Chemistry/Electrical Engineering, either examination 9a or 9b pursuant to paragraph 3	3
9a	Introductory Chemistry	3
9b	Introductory Electrical Engineering	3
10	Transferable skills	8
10a	German Language I	3
10b	German Language II	3
10c	German Language III	2
11	Electives	11
12	Master's thesis	30

- (3) Students who did their undergraduate studies in engineering take the examination in "Introductory Chemistry" pursuant to paragraph 2 no. 9a. Students who did their undergraduate studies in natural sciences or chemical engineering, take the examination in "Introductory Electrical Engineering" pursuant to paragraph 2 no. 9b. The subject examination board decides in cases of doubt.

- (4) Foreign nationals holding a German university entrance qualification as well as native speakers of German select courses from Ulm University's offer of transferable skills to meet the requirements of the module "Transferable skills".
- (5) The module handbook specifies which exams and courses may be selected in the module "Elective Courses". In individual cases the subject examination board may approve courses not listed in the module handbook as elective courses.

§ 15 Subject-specific requirements for admission to the master's thesis

Students may only be admitted to the master's thesis after having obtained a minimum of 75 CP from modules within the master's programme.

III. Final provisions

§ 16 Effective date and transitional provisions

- (1) These study and examination regulations take effect on the day of their publication. They are published in the Official Bulletin (*Amtliche Bekanntmachungen*) of Ulm University. At the same time, the subject-specific study and examination regulations for the English-taught non-consecutive master's programme in "Energy Science and Technology" offered by the Faculties of Natural Sciences as well as Engineering and Computer Sciences of Ulm University of 25 July 2013, published in the Official Bulletin (*Amtliche Bekanntmachungen*) of Ulm University, no. 23 of 29 July 2013, pages 248-253, cease to have effect subject to paragraph 2 below.
- (2) Students enrolled in the master's programme in Energy Science and Technology on the effective date of these regulations and who are covered by the subject-specific study and examination regulations of the English-taught non-consecutive master's programme in "Energy Science and Technology" offered by the Faculties of Natural Sciences as well as Engineering and Computer Sciences of Ulm University of 25 July 2013 may submit an irrevocable written request for continuing and completing their studies under the provisions of the subject-specific study and examination regulations of the English-taught non-consecutive master's programme in "Energy Science and Technology" of 25 July 2013.
- (3) Paragraph 1 above does not apply to students enrolled in the master's programme in Energy Science and Technology on the effective date of these regulations and covered by the subject-specific study and examination regulations for the English-taught non-consecutive master's programme in "Energy Science and Technology" offered by the Faculties of Natural Sciences as well as Engineering and Computer Sciences of Ulm University of 8 March 2012. Such students complete their studies under the subject-specific study and examination regulations for the English-taught non-consecutive master's programme in "Energy Science and Technology" of 8 March 2012.

Ulm, 2 June 2014

Signed

Prof. Dr. K. J. Ebeling
- President -