



Subject-Specific Study and Examination Regulations for the Consecutive English Language Master Programme “Energy Science and Technology” offered by the Faculties of Natural Sciences as well as Engineering and Computer Science of Ulm University of 25 July 2013

On the basis of § 19 (1) sentence 2 no. 9 in conjunction with § 34 of the State University Law (Landeshochschulgesetz – LHG), modified on numerous occasions and most recently through article 2 of the law on the introduction of a constituted student body and the advancement of further academic education of 13 July 2013 (law gazette no. 11 pp 457ff, the Senate of Ulm University, at the recommendation of the Faculty of Natural Sciences and the Faculty of Engineering and Computer Science, adopted the following subject-specific study and examination regulations in its meeting on 18 July 2013. The President of the Ulm University gave his consent on 25 July 2013 in accordance with § 34 (1) sentence 3 of the State University Law (LHG).

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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 programme “Energy Science and Technology”.
- (2) The Subject-specific Study and Examination Regulations supplement the General Provisions for Study and Examination Regulations regarding Bachelor and Master Programmes at Ulm University (General Framework). In case of doubt, the General Framework has priority.

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

- (1) The master programme “Energy Science and Technology” is a research-oriented study course. It aims to enable graduates to independently pursue research questions related to energy matters in the fields of natural sciences and engineering applying methods from natural sciences and engineering. The programme objective is that graduates acquire the knowledge and competencies qualifying them 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 programme “Energy Science and Technology” leading to the academic degree of “Master of Science” (“M.Sc.”).

§ 3 Commencement of the programme (General Framework, section 3)

The master programme “Energy Science and Technology” begins in the winter semester.

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

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

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

- (1) By the end of the examination period of the fourth subject-specific semester, students in the master programme “Energy Science and Technology” must have gained a minimum of 90 credit points from partial module examinations in compulsory and compulsory elective modules according to section 14. By the end of the examination period of the sixth subject-specific semester, students must have gained a minimum of 120 credit points from partial module examinations in compulsory and compulsory elective modules according to section 14.
- (2) Students’ right to be examined terminates if they fail to gain 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 not obtaining the specified number of credit points within the specified period.

§ 6 Types of courses, examination achievements

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

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

Examinations may be written or oral.

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

Courses are taught and examinations are held in English.

§ 8 Subject-specific board of examiners (General Framework, section 10)

- (1) A subject-specific board of examiners for the master programme “Energy Science and Technology” is formed.
- (2) The subject-specific board of examiners 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 programme “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. Reappointment is possible.
- (3) The subject-specific board of examiners for the master programme “Energy Science and Technology” decides in cases of doubt covered by neither the subject-related study and examination regulations nor the General Framework.

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

Deviating from the recommendations made in section 13(1) of the General Framework, written module examinations in the master programme are held in the last two weeks of the lecture period of each semester and in the following three weeks; examination retakes are held in the first two weeks of the lecture period of the following semester.

§ 10 Related study courses (General Framework, section 14)

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

§ 11 Provisions regarding the module master thesis (General Framework, section 16c)

- (1) The period from the assignment of the topic to the submission of the master thesis is six months. This period may be extended on request by up to one month by the subject-specific board of examiners.
- (2) The volume of the master thesis is equivalent to 30 CP.
- (3) The master thesis comprises a presentation of approx. 45 minutes including a discussion of the subject of the master thesis or an oral defence on the topic of the thesis.
- (4) The master 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 thesis must be submitted in two bound hardcopies plus one electronic copy (pdf file) to the Student Administration Office ("Studiensekretariat").
- (7) If the master thesis is done outside Ulm University in accordance with section 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-specific board of examiners together with the application for approval of the external master thesis.

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

- (1) The modules counting towards the final result of the master examination are the modules listed in section 14 (2) and the master thesis. The grade of the module "Additional Key Qualifications" is not included in the overall grade (CGPA).
- (2) Within a module, ungraded work may be required by way of exercises, papers, seminar presentations pertaining to the module. Form and scope of such work are indicated in the module handbook. Such work may be a prerequisite for admission to the (partial) module examination (examination prerequisite).

§ 13 Retake of module examinations (General Framework, section 20)

Up to four failed partial module examinations (compulsory and compulsory elective modules) may be retaken up to two times each within the academic year following the failed attempt. Where a student fails to take the partial module examination in the period specified in sentence 1, he or she shall lose their right to be examined unless they are not responsible for exceeding the deadline. This decision is taken by the subject-specific board of examiners upon request.

II. Master examination

§ 14 Study contents, admission to module examinations

- (1) All modules require one or several partial module 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	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	Additional key qualifications	8
10a	German Language I	3
10b	German Language II	3
10c	German Language III	2
11	Electives	11
12	Master thesis	30

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

- (4) Within the module “Additional Key Qualifications”, foreign nationals holding a German university entrance qualification as well as native speakers of German must complete courses selected from Ulm University’s offer of additional key qualifications corresponding to 8 credit points.
- (5) The module handbook specifies which exams and courses may be selected in the module “Elective Courses”. In individual cases the subject-specific board of examiners may approve courses not mentioned in the module handbook.

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

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

III. Final provisions

§ 16 Effective date and transitional rules

- (1) These study and examination regulations take effect in the winter semester 2013/14. They shall be published in the Official Bulletin (“Amtliche Bekanntmachungen”) of Ulm University. The subject-specific study and examination regulations for the English language master programme “Energy Science and Technology” offered by the Faculties of Natural Sciences and Engineering and Computer Science of Ulm University of 8 March 2012, published in the Official Bulletin (“Amtliche Bekanntmachungen”) of Ulm University, no. 12 of 12 March 2012, pages 127-131, cease to have effect subject to paragraph 2 below.
- (2) Paragraph 1 above does not apply to students enrolled in a higher subject-specific semester in the winter semester 2013/14. Such students complete their studies under the subject-specific study and examination regulations for the non-consecutive English-language master programme in “Energy Science and Technology” offered by the Faculties of Natural Sciences and Engineering and Computer Science of Ulm University of 8 March 2012, published in the Official Bulletin (“Amtliche Bekanntmachungen”) of Ulm University, no. 12 of 12 March 2012.

Ulm, 25 July 2013

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