

Study and examination regulations for English language Master's degree course "Advanced Materials" offered by the Faculties for Natural Science, Engineering Science and Computer Science, as well as the Medical Faculty of the University of Ulm from 1st July 2008

On the basis of § 34 section. 1 in connection with § 19 section.1 subsection 2 no. 9 of the law governing universities and colleges of cooperative education within the federal state of Baden-Württemberg (state law on education LHG) in the version dating from 1st January 2005 (GBI p. 1ff), last amended by article 1 of the law dating 20th November 2007 (GBI p. 505), the senate of the University of Ulm, on the advice of the Faculties of Natural Science, Engineering Science and Computer Science, as well as the Medical Faculty, did, in a meeting on the 11th June 2008, pass the following statutes. The president gave his approval on 1st July 2008, in compliance with § 34 section.1, state law on education (LHG).

Table of Contents

Preliminary Remarks on Use of Language

I. General Regulations

- § 1 Applicability
- § 2 Course objectives, academic degrees
- § 3 Commencement of study
- § 4 Standard course length, credit points
- § 5 Additional modules
- § 6 Deadlines
- § 7 Courses, examination requirements
- § 8 Courses and examinations in English
- § 9 Subject-specific examining board
- § 10 Organisation of module examinations
- § 11 Related study courses
- § 12 Regulations on module Master's thesis (Master's thesis and defence of thesis)
- § 13 Evaluation of module examinations
- § 14 Retaking module examinations

II. Master's Examination

- § 15 Course contents, admission to module and module (part) examinations
- § 16 Subject-specific admission requirements for the module examination and Master's thesis
- § 17 Commencement

Preliminary Remarks on Use of Language

According to article 3, section. 2 of the German constitution, women and men are equal; all designations relating to people or functions in these regulations apply equally to men and women.

I. General Regulations

§ 1 Applicability

(1) The current subject-specific study and exam regulations relevant to specific study areas contain specific rules for the Master's degree course "Advanced Materials".

(2) The subject-specific study and exam regulations complements the general provisions for the study and examination regulations for the Bachelor's and Master's study programme at the University of Ulm (guideline regulations). In cases of doubt, this guideline has precedent.

§ 2 Course objectives, academic degrees (§ 2 guideline regulations)

(1) The Master's study programme "Advanced Materials" is a research-oriented course of study. It should enable graduates to solve independently questions relating to natural and material science using the methods of the natural sciences and engineering sciences. In the area of biomaterials, interdisciplinary approaches from medicine and biology are added. The educational aim is the acquisition of knowledge and abilities which qualify the graduate for work within the area of research, development and application in natural sciences, engineering sciences and biomaterials, in particular at universities, research institutes, and in industrial research and development. The Master's study programme allows for both the study areas of nanomaterials and biomaterials. On registration for the first examination in the Master's study programme, the student states his/her choice of a specific area of study.

(2) At the University of Ulm, the non-consecutive Master's study programme "Advanced Materials" is offered with the final degree of "Master of Science" (MSc).

§ 3 Commencement of Study (§ 3 guideline regulations)

Study for the Master's study programme "Advanced Materials" commences in the winter semester.

§ 4 Standard Length of Course (§ 5 guideline regulations)

The standard length of the Master's course is four semesters.

§ 5 Additional Modules (§ 5 section 8 guideline regulations)

Students may also choose modules offered by Master's courses at the University of Ulm as additional modules. A module is classified as an additional module if the student states this expressly irrevocably on registration for a module examination. On application by the student, no more than 2 additional modules will be included in the certificate.

§ 6 Deadlines (§ 6 section. 9 guideline regulations)

By the time the period allowed for the examination has expired in the fourth regular semester in the Master's study programme "Advanced Materials", the student should have completed module examinations in accordance with § 14 for required and optional modules totalling at least 90 credit points (LPs). By the time the period allowed for the examination has expired in the sixth regular semester, the student should have completed module examinations in accordance with § 14 for required and optional modules, totalling at least 120 credit points (LPs). The right of admission to an examination ceases if the credit points defined in subsection 2 are not acquired within the prescribed period of time defined in subsection 2, unless the student is not responsible for not acquiring the prescribed number of credit points within the prescribed period of time.

§ 7 Courses, Examination Requirements

Course objectives and contents are incorporated in the following courses:

- lectures
- courses
- tutorials
- practical work
- projects
- seminars
- field trips

Examination work is in the form of written and oral examinations.

§ 8 Courses and Examinations in English (§ 7 guideline regulations)

The language of instruction and examination is, as a rule, English.

§ 9 Subject-specific Examining Board (§ 10 guideline regulations)

(1) An examination committee is formed for the Master's study programme "Advanced Materials".

(2) The examination committee consists of 7 members. It is composed of four full-time university lecturers and full-time habilitated members at the University of Ulm, one each of whom should come from the Faculty of Engineering Science and the Medical Faculty, and two from the Faculty of Natural Science, and one academic member of staff from a faculty involved in the study programme, as well as two students with an advisory vote. The students should be from two different semesters in the Master's study programme "Advanced Materials". The period of office for the full-time lecturers, the full-time habilitated members and the academic members of staff is three years; for student members, one year. Re-appointment is possible.

§ 10 Organisation of Module Examinations (§ 13 guideline regulations)

Written module examination, at variance with the recommendation in § 13, section 1 of the guideline regulations in the Master's study programme, take place during the three weeks following the semester; The repeat examinations take place within the first two weeks after the commencement of the following semester.

§ 11 Related Study Courses (§ 14 guideline regulations)

Related subjects in accordance with § 14 of the guideline regulations are, in particular, those of physics and chemistry. The examining board decides on study courses not listed in subsection 1.

§ 12 Regulations on Module Master's Thesis (§ 16c guideline regulations)

(1) The Master's thesis has a total of 30 credit points. The time allowed for the Master's thesis is six months. An extension of at most three months is possible on approval by the examination committee.

(2) If a Master's thesis is undertaken externally in accordance with § 16c, section. 5 of the guideline regulations, this must be substantiated by a supervisory plan. The candidate may make suggestions for the topic of the Master's thesis.

(3) The Master's thesis is to be submitted to the university offices bound and in triplicate.

§ 13 Evaluation of Module Examinations (§ 17 guideline regulations)

(1) The final grade relevant modules for the overall grade of the Master's examination are those module (part) examinations listed in § 14 and the module "Master's thesis".

(2) The overall grade of the Master's examination is calculated in accordance with § 17, section 3 of the guideline regulations. At the same time, the grades of the module (part) examinations of the module Materials Science and the Master's thesis assume double importance.

§ 14 Retaking Module Examinations (§ 20 guideline regulations)

No more than 4 failed module (part) examinations may be repeated twice each, following an unsuccessful attempt, and then only within the academic year following the unsuccessful attempt. Should a student not take a module (part) examination at the time appointed in subsection 1, he/she loses their right to admission to the examination, unless they are not responsible for the failure to meet the deadline.

§ 15 Course Contents, Admission to Module Examinations

(1) Each module is completed with one or more module (part) examinations.

(2) The following modules are to be completed:

a) Subject area nanomaterials

No.	Module	ECTS	Course Type	Form of Examination	Semester	Final Grade Relevance
1	Materials Science I	5	L,S	written or oral	1	yes
2	Materials Science II	5	L,S	written or oral	2	yes
3	Computation in Material Science	4	L,S	written or oral	2	yes
4	Material Science Lab I	5	P	report	2	no
5	Material Science Lab II	5	P	report	3	no
6	Physical Chemistry	4	L,S	written or oral	1	yes
7	Synthesis of Organic and Inorganic Materials	4	L,S	written or oral	1	yes
8	General Chemistry	2	L,S	written or oral	1	no
9	Introductory Solid State Physics	5	L,S	written or oral	1	yes
10	Advanced Physics of Materials	4	L,S	written or oral	2	yes
11	Physics Lab	4		report	1	no
12	Introductory Engineering	5	L,S	written or oral	1	yes
13	Micro- and Nanotechnology	4	L,S	written or oral	3	yes
14	Functional Properties of Nanomaterials	3	L,S	written or oral	3	yes
15	Principles of Structure Formation in Nanomaterials	5	L,S	written or oral	3	yes
16	Additive Key Qualifications (ASQ)	8		written	1-3	no
17	Elective Courses	at least 18	L,S	written or oral	1-3	yes
18	Master's Thesis	30	thesis	written	4	yes

b) Subject area biomaterials

No.	Module	ECTS	Course Type	Form of Examination	Semester	Final Grade Relevance
1	Materials Science I	5	L,S	written or oral	1	yes
2	Materials Science II	5	L,S	written or oral	2	yes
3	Computation in Material Science	4	L,S	written or oral	2	yes
4	Material Science Lab I	5	P	report	2	no
5	Material Science Lab II	5	P	report	2	no
6	Physical Chemistry	4	L,S	written or oral	1	yes
7	Synthesis of Organic and Inorganic Materials	4	L,S	written or oral	1	yes
8	General Chemistry	2	L,S	written or oral	1	no

9	Introductory Solid State Physics	5	L,S	written or oral	1	yes
10	Physics Lab	4	P	report	1	no
11	Introductory Biology and Cell Biology	5	L	written or oral	1	yes
12	Biological Tissues	2	L,S	written or oral	2	yes
13	Classes of Biomaterials	2	L,S	written or oral	2	yes
14	Applications of Biomaterials	2	L,S	written or oral	2	yes
15	Degradation of Biomaterials	2	L,S	written or oral	3	yes
16	Testing of Biomaterials	2	L,S	written or oral	3	yes
17	Host Reactions to Biomaterials	2	L,S	written or oral	3	yes
18	Production of Biomaterials	2	FT	participation	3	no
19	Additive Key Qualifications (ASQ)i	8	P,S	written	1-3	no
20	Elective Courses	at least 20	L,S	written or oral	1-3	yes
21	Master's Thesis	30	thesis	written	4	yes

(3) Students whose mother tongue is German, and educational residents are required to complete examinations in subjects within the framework of the module “additive key qualifications” (“ASQ”) offered by the Centre for Languages and Philology or the Humboldt Study Centre. Students not covered by subsection 1 are required to complete examinations in the module “additive key qualifications” (“ASQ”) “German Language I-III” to the amount of in total 8 credit points (LPs). In exceptional cases the examination committee decides on the required work.

§ 16 Academic Requirement for Admission to a Master's Thesis

Only those may be admitted to a Master's thesis who have attained at least 83 credit points in modules within the Master's degree programme.

II. Final Provisions

§ 17 Commencement

The study and exam regulations take effect from the winter semester of 2007/08. They will be announced in the official publications of the University of Ulm. The University of Ulm's study and exam regulations for the Master's degree programme “Advanced Materials” of the Faculties for the Natural Sciences, Engineering Sciences and the Medicine Faculty from the 15th November 2002 published in the official announcements of the University of Ulm, no. 19 of 4th December 2002, and the first articles governing the changes of the study and exam regulations of the University of Ulm for the Master's degree programme “Advanced Materials” of the Faculties for the Natural Sciences, Engineering Sciences and the Medicine Faculty from the 17th August 2004, published in the official announcements of the University of Ulm, no. 13 of 25th August 2004, are abrogated. Students who, in the winter semester 2007/08, were in a higher semester than the first regular semester complete their studies according to the exam regulations of 2002.

Ulm, 1st July 2008

sgd.
Prof. Dr. Karl Joachim Ebeling
President