

**Examination Regulations (Rules) of the Faculty of Engineering  
at Christian-Albrechts-Universität zu Kiel (Kiel University) for students of the  
'Materials Science and Engineering' Master of Science degree programme  
of 15 May 2014**

Version published on 18 July 2014 (Bulletin of the Ministry of Science, Economic Affairs and Transport of the Land Schleswig-Holstein (NBl. MWV. Schl.-H.), p. 48).

Based on Section 52 (1) Sentence 1 of the Schleswig-Holstein Higher Education Act (HSG) of 28 February 2007 (GVOBl. Schleswig-Holstein, p. 184), most recently amended by Article 12 of the Act implementing the EU Directive on services in the internal market (Bolkestein Directive) of 22 August 2013 (GVOBl. Schleswig-Holstein, page 356), after a resolution was passed by the Convention of the Faculty of Engineering on 30 April 2014 the following Rules were issued:

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**Section 1: General Regulations**

**§ 1  
Scope of application**

These Examination Regulations in conjunction with the Examination Procedure Regulations (Rules) of Kiel University for students of Bachelor's and Master's Degree Programmes (PVO) apply to the teaching and assessment of the Master's degree programme "Materials Science and Engineering". When not stated otherwise in the individual sections below, the provisions of the PVO apply.

## **§ 2**

### **Examination Board**

- (1) The Materials Science Examination Board is responsible for the organisation of examinations in accordance with these Examination Regulations, as well as for the tasks allocated by these Examination Regulations. The business of the Examination Board is managed by the Materials Science Examination Office.
- (2) The Examination Board consists of four university professors, two students and one member of the scientific personnel.

## **§ 3**

### **Module examinations and module grades**

- (1) The Master's examination consists of module examinations and a Master's thesis. The following regulations regarding the performance of module examinations and the assignment of module grades apply to modules offered by the Institute for Materials Science. In the case of modules offered by other faculties, the regulations of the subject responsible for the module generally apply. The Chair of the Examination Board makes decisions regarding the recognition of modules offered by other faculties. The student can object to this decision within three weeks at the Examination Office. The Examination Board will decide in these cases.
- (2) Oral examinations and seminar paper presentations are permitted as oral types of examination. Group examinations of up to three candidates are possible. The final oral examination of a module shall generally last at least 15 and no more than 30 minutes per candidate.
- (3) Written examinations and assignments are permitted as written types of examination. The final written examination of a module shall generally last at least 60 and no more than 120 minutes.
- (4) Parts of an examination may consist of assignments, practical laboratory exercises, reports, seminar papers, written or oral tests. The type, number and weighting of the parts of the examination are determined in the module description. The module coordinator may deviate from the module description in justified cases, if the student receives all necessary information at the beginning of the course.
- (5) Supervisors for laboratory exercises are appointed by the responsible module coordinator.

## **§ 4**

### **Resitting module examinations**

Failed practical laboratory exercises may only be repeated if the corresponding course is on offer, but at least once within two semesters.

## **§ 5**

### **Recognition of study periods, coursework and examinations**

The Chair of the Examination Board makes decisions regarding the recognition of modules. The student can object to this decision within three weeks at the Examination Office. The Examination Board will decide in these cases.

## **Section 2: Regulations for the Master's Degree Programme**

### **§ 6**

#### **Objective of the degree programme**

- (1) The Master of Science (M.Sc.) degree programme in Materials Science and Engineering is based on the preceding Bachelor's programme in Materials Science. The degree programme aims to equip graduates with the ability to understand the diverse problems within materials science, and to do research on this subject using scientific methods. Graduates will learn how to present new scientific knowledge to the benefit of materials science at any time. The degree programme must ensure the level of variety required for the different fields of activity of the Master of Science. Furthermore, the aim is to enable graduates to conscientiously perform independent research projects.
- (2) The student will be introduced to the latest research results in at least one field, and will obtain the ability to conduct independent scientific work which must be proven in the Master's thesis.

### **§ 7**

#### **Structure and scope of curriculum, standard period of study**

- (1) The standard period of study for the Master's degree programme is four semesters. The degree programme encompasses approximately 69 weekly 45-minute teaching units for the duration of one semester of about 12 weeks (Semesterwochenstunden - SWS) and 120 ECTS credits, including 30 ECTS credits for the Master's thesis.
- (2) At least 55 ECTS credits must be obtained in the compulsory modules, which are defined in the annex.
- (3) At least 30 ECTS credits must be obtained from the technical optional modules. Here, modules covering at least 20 ECTS credits, offered by the department for the Master's degree programme Materials Science and Engineering, must be completed. Students will be notified of the optional modules available, along with the ECTS credits allocated to each module, in due time before the start of the semester.  
Up to 10 ECTS credits may be obtained from technical modules offered by an institution of Kiel University other than the Faculty of Engineering, provided the number of ECTS credits awarded is at least 2 and they are completed with an examination or a test. The selection of these modules has to be requested in written form from the Chair of the Examination Board at least 4 weeks before the respective module commences. In cases of doubt, the Examination Board will decide upon the technical character of a module.
- (4) At least 5 ECTS credits must be obtained from non-technical optional modules. These non-technical modules may be selected from the entire range of courses offered at Kiel University, provided the number of ECTS credits awarded is at least 2 and they are completed with an examination or a test. The degree-specific examination regulations for the subject offering the module apply here. If the module is offered by the Centre for Key Qualifications at Kiel University (ZfS), then the rules and regulations regarding the Supplementary Studies ("Profil Facherganzung") at this institution apply. A module is considered to be non-technical if it is not offered by the Faculty of Engineering and has no obvious technical character, or is offered by the Faculty of Engineering but has an obviously non-technical character. In cases of doubt, the Chair of the Examination Board will decide.

### **§ 8**

#### **Academic year**

- (1) The academic year applies to this degree programme. Courses for both new students and returning students from odd-numbered semesters are only offered in a winter semester.
- (2) Registrations are possible for either a winter or summer semester.

For information purposes only, the German original is binding.

- (3) Applications are only possible for a winter semester, for the following academic year (winter plus summer semester).

## **§ 9**

### **Admission to the Master's degree programme**

- (1) Graduates from the Materials Science Bachelor's degree programme at Kiel University are admitted to the Master's degree programme without any further technical requirements. Notwithstanding the language requirements, graduates from other degree programmes and other institutions of higher education are admitted, if the university degree of the graduate shows no substantial differences to the Bachelor's degree from Kiel University in terms of scope and content. This decision on the equivalence rests with the Chair of the Examination Board.
- (2) Graduates holding a degree from a degree programme which differs substantially from the Materials Science Bachelor's degree programme at Kiel University in terms of scope and content may be admitted to the Master's degree programme under certain conditions determined on a case-by-case basis. They may e.g. be required to pass certain module examinations of the Bachelor's programme, provided these do not exceed 30 ECTS credits. The decision on admittance and any conditions that may be imposed rests with the Chair of the Examination Board, after consultation with the relevant university professors.
- (3) In so far as English is not the native language, and neither the qualification for admission to higher education nor the first degree qualifying for a professional career were obtained in English, evidence of English language skills must be provided which corresponds to one of the following: the Test of English as a Foreign Language (TOEFL), with 550 points on the written test or 213 points on the computer test, Cambridge Proficiency, Oxford Higher Certificate, International Certificate Conference ICC Stage 3 (Technical) or IELTS 6.0.
- (4) Applications for admission to the Master's degree programme, including the necessary proof of qualification as mentioned in (1) to (4), are to be addressed to the Chair of the Examination Board.

## **§ 10**

### **Teaching and examination language**

- (1) Lectures and examinations will be held in English.
- (2) Concerning examinations the student may apply to the Materials Science Examination Office for admission to answer written examinations in German and to hold oral examinations in German.

## **§ 11**

### **Academic title**

- (1) The student is awarded the degree of Master of Science (M.Sc.) if he or she has obtained at least a final grade of 'sufficient'.
- (2) The degree programme and branch of study is stated as 'in Materials Science and Engineering' on the degree certificate.

## **§ 12**

### **Master's thesis**

- (1) Any candidate who has obtained at least 74 ECTS credits from examinations in compulsory and optional modules may be admitted to the Master's thesis.

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- (2) When applying for admission to the Master's thesis, the examination candidate may propose examiners and a topic for the thesis, without this giving rise to any claim for the proposal to be considered.
- (3) The period for completing the Master's thesis is six months.  
This deadline may only be extended by up to three months in exceptional cases. More details can be found in the PVO. The deadline may be extended by the Chair of the Examination Board upon a written request.
- (4) In the case of a Master's thesis which is prepared in cooperation with an officially recognised university in accordance with § 9 (1), the deadline may be adapted to that of the cooperating university in justified exceptional cases. A corresponding application is to be included with the application as per (2).
- (5) The topic of the Master's thesis may be handed back only once and only within the first two months of the examination period.
- (6) The Master's thesis will be evaluated by both examiners within four weeks of submission.
- (7) The Master's thesis may be produced in English or German. Amendments or supplements in other languages are not permitted.
- (8) A dedication may be included in the front of the actual Master's thesis and/or acknowledgements at the end. These must be in English or German.
- (9) At least three written copies of the Master's thesis must be submitted to the responsible Examination Office.

### § 13

#### Calculation of the final grade

When calculating the final grade and the grades of the optional sections, the relevant module grades and the grade for the Master's thesis are weighted by ECTS credits as allocated to the modules. In order to achieve the required number of ECTS credits in the technical and non-technical optional sections, the best modules from each section will be taken into account in descending order, until at least the required number of ECTS credits is obtained. If the required number of ECTS credits is exceeded with the last optional module, the full number of ECTS credits for this module will be taken into account.

$$\text{Grade Component}_{\text{Compulsory Modules}} (G_C) = \sum_{\text{Compulsory Modules}} \frac{\text{Grade} \cdot \text{ECTS Credits}}{46}$$

$$\text{Grade Component}_{\text{Technical Optional Modules}} (G_{tO}) = \sum_{\substack{\text{Accounted} \\ \text{Technical Optional Modules}}} \frac{\text{Grade} \cdot \text{ECTS Credits}}{\text{Sum ECTS Credits}}$$

$$\text{Grade Component}_{\text{Non-technical Optional Modules}} (G_{ntO}) = \sum_{\substack{\text{Accounted} \\ \text{Non-technical Optional Modules}}} \frac{\text{Grade} \cdot \text{ECTS Credits}}{\text{Sum ECTS Credits}}$$

$$\text{Final Grade} = \frac{G_C \cdot 46}{111} + \frac{G_{tO} \cdot 30}{111} + \frac{G_{ntO} \cdot 5}{111} + \frac{\text{Grade}_{\text{Master's Thesis}} \cdot 30}{111}$$

### **Section 3: Final Provisions**

#### **§ 14**

##### **Entry into force, expiry, transitional provisions**

- (1) These Examination Regulations enter into force on the day after the date they are published.
- (2) At the same time, the Examination Regulations (Rules) of the Faculty of Engineering at Kiel University for students of the 'Materials Science' Master of Science degree programme of 7 June 2012 (NBl. MWV. Schl.-H., p. 46), ceases to be in force.
- (3) For students who enrolled before the 2014/15 winter semester, the provisions of the examination regulations in accordance with § 14 (2) continue to apply.
- (4) Modules in accordance with the examination regulations § 14 (2) are offered by the Institute for Materials Science for the last time as follows:
  - Modules from the 1<sup>st</sup> academic half-year in the 2014/15 winter semester
  - Modules from the 2<sup>nd</sup> academic half-year in the 2015 summer semester
  - Modules from the 3<sup>rd</sup> academic half-year in the 2015/16 winter semester
  - Modules from the 4<sup>th</sup> academic half-year in the 2016 summer semester
- (5) Module examinations in accordance with the examination regulations § 14 (2) are offered for a maximum of four semesters after the module is no longer offered.
- (6) Students may apply (reasoned request) to change to this new degree-specific examination regulations if the outstanding modules are no longer offered by the department, or only a small number of ECTS credits have been covered at the time of application.

The University Board at Kiel University granted its approval in accordance with Section 52 (1) 1 of the Schleswig-Holstein Higher Education Act in its letter dated 15 May 2014.

Kiel, 15 May 2014

Prof. Dr Ing. Eckhard Quandt  
Dean of the Faculty of Engineering  
at Kiel University

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**Annex to the degree-specific examination regulations:**

**Programme schedule for the *Materials Science and Engineering* Master's degree programme**

Semester	Module description	Compulsory/ Optional	Requirements	ECTS credits
1st Semester	Basic Lab	C	none	4
	Solid State Physics 1	C	none	4
	Thermodynamics and Kinetics 1	C	none	4
	Analytics 1	C	none	4
	Advanced Materials A Part 1	C	none	4
	Advanced Materials A Part 2	C	Part 1	4
	Advanced Mathematics	C	none	6
				<b>Σ 30</b>
2nd Semester	Solid State Physics 2	C	none	4
	Thermodynamics and Kinetics 2	C	none	4
	Analytics 2	C	none	4
	Advanced Materials B Part 1	C	none	4
	Advanced Materials B Part 2	C	Part 1	4
	Advanced Lab	C	none	5
	Non-technical Optional Module (e.g. German language course)	O	see module	5
				<b>Σ 30</b>
3rd Semester	Technical Optional Modules	TO	see module	
				<b>Σ 30</b>
4th Semester	Master-Thesis	C	min. 74 ECTS	30
				<b>Σ 30</b>

**Explanations:**

Requirement: Admission requirements for the course  
 ECTS: ECTS credits  
 C: Compulsory section  
 O: Non-technical optional section  
 T.O.: Technical optional section