OFFICIAL ANNOUNCEMENT

RWTH AACHEN UNIVERSITY

NUMBER 2021/192 **PAGES** - 14 **DATE** November 24, 2021 **EDITORIAL STAFF**

Please note: This publication is an English translation of the Examination Regulations for the M.Sc. Textile Engineering created by RWTH International Academy. Only the German original of these regulations published in the Official Announcements of RWTH Aachen University ("Amtliche Bekanntmachungen") is legally binding.

Program-Specific Examination Regulations

for the Master's degree program

Textile Engineering

of RWTH Aachen University

dated August 5, 2019

in the second revised version of the Examination Regulations

dated November 22, 2021

published as a complete version

(2019 version of the Examination Regulations)

On the basis of §§ 2 para. 4, 64 of the law governing the universities of the Federal State of North Rhine-Westphalia (Higher Education Act – HEA) in the version of the Announcement dated September 16, 2014 (GV. NRW p. 547), most recently amended by article 1 of the Act on the progress of digital technology in higher education in view of the experiences made during the Coronavirus-Pandemic as well as on the operation of universities in the event of an epidemic situation or a major disaster dated November 3, 2021 (GV. NRW S- 1180), RWTH Aachen University (RWTH) has issued the following Examination Regulations:

Table of Content

Appendices:

I. General Information

§ 1
Scope of Application and Academic Degree

(1) These Examination Regulations apply to the Master's degree program Textile Engineering at RWTH Aachen University. They apply in conjunction with the General Examination Regulations (GER) in their relevant applicable version only, and include additional program-specific regulations. In cases of doubt, the General Examination Regulations take precedence over the program-specific Examination Regulations.

(2) After the successful completion of this Master's degree program, the Faculty of Mechanical Engineering awards the academic degree of Master of Science RWTH Aachen University (M.Sc. RWTH).

§ 2
Type and Objectives of the Study Program and Language Provisions

(1) This is a Master's degree program for the purpose of further education according to § 2 para. 4 GER.

(2) The overall educational objectives are set out in § 2 para. 1, 3 and 4 GER. For further information and provisions on the objectives of this Master's degree program, please refer to appendix 3 of the present Examination Regulations.

(3) Teaching takes place in the German and English language.

(4) Examinations may be taken in German or English, in agreement with the examiner in question.

§ 3
Admission Requirements

(1) Requirement for admission is a recognized first degree from a recognized university according to § 3 para. 4 GER.

(2) To meet the educational prerequisites and successfully complete the Master's degree program Textile Engineering, the applicant must have the necessary competence in the following areas:

A total of 120 Credit Points from the fields of engineering, mathematics and natural sciences:

Module	CP
Mathematics	**75**
Mechanics	
Materials Science	
Thermodynamics	
Chemistry	
Physics	

Machine Design / CAD	
Macromolecular Chemistry	**45**
Quality Management	
Electrical Engineering	
Computer Science	
Simulation Methods in Mechanical Engineering	
Business Administration/Economics	

The proven performance must be comparable to the Bachelor's degree program Mechanical Engineering at RWTH Aachen.

In addition, all applicants are required to successfully pass the Graduate Record Examination (GRE) General Test. Applications without the GRE will not be considered. The following minimum scores must be achieved in the individual sections:

Verbal Reasoning: 145 points
Quantitative Reasoning: 160 points
Analytical Writing: 3 points

Applicants who are citizens of a member state of the European Union or the European Economic Area (EEA), as well as graduates with a Bachelor's degree from a German university are exempt from this rule.

(3) When admission is granted on condition of completion of additional requirements, § 3 para. 6 GER applies. If additional requirements corresponding to more than 30 Credit Points are required, admission to this Master's degree program is not possible.

(4) Applicants are required to have relevant professional experience of typically no less than one year.

(5) For this Master's degree program, adequate knowledge of the English language according to § 3 para. 9 GER and knowledge of the German language on an A1 level must be proven at enrollment. The following certificates are accepted as proof of German language proficiency in any case:

a) Certificate from a Goethe Institute: Certificate A1 and

b) telc German A1.

(6) Admission to this Master's degree program is granted based on a selection procedure that is determined and conducted by the Examination Board. It is defined in a separate document on the following website: http://master-mechanical-engi-neering.com/course/msc-textile-engineering

(7) § 3 para. 12 GER applies for determining whether admission requirements are met.

(8) General regulations on the recognition of prior examination performances are stated in § 13 GER.

§ 4
Standard Period of Study, Curriculum, Credit Points and Scope of Study

(1) The standard period of study is four semesters (two years) full-time, including preparation of the Master's thesis. This degree program can only be commenced in the winter semester.

(2) The study program consists of a general compulsory area, a track specific compulsory area and a track specific compulsory elective area. Students must choose one of the two offered tracks "Focus on Coursework" or "Focus on Research".
A total of 120 Credit Points must be acquired to successfully complete this program. The Master's examination is composed as follows:

	Track "Focus on Coursework"	Track "Focus on Research"
Compulsory Area	50 CP	56 CP
Compulsory Elective Area as per track (Engineering Electives)	28 CP	22 CP
Internship	12 CP	12 CP
Master's Thesis	30 CP	30 CP
Sum	120 CP	120 CP

(3) Depending on the chosen track, this program comprises 12 to 13 compulsory courses and 17 compulsory elective courses. The Master's thesis module is included. All modules are defined in the module catalog. The weighting of the examinations with Credit Points to be taken in the individual modules is carried out in compliance with § 4 para. 4 GER.

§ 5
Obligatory Attendance in Classes

(1) According to § 5 para. 2 GER, obligatory attendance can only be stipulated in courses of the following type:

1. Tutorials
2. Seminars and introductory seminars
3. Colloquia
4. (Laboratory) practicals
5. Excursions
6. Projects

(2) Courses for which attendance is compulsory according to para. 1, are identified as such in the module catalog.

§ 6
Examinations and Examination Deadlines

(1) General regulations on examinations and examination periods are stipulated in § 6 GER.

(2) If the successful participation in modules or examinations or passing of module components according to § 5 para. 4 GER is stipulated as a precondition for participation in other examinations, this is indicated accordingly in the module catalog.

§ 7
Types of Examinations

(1) General regulations on types of examinations are stipulated in § 7 GER.

(2) The duration of a written examination is ...

1. 60 to 90 minutes for 1 to 5 Credit Points awarded
2. 90 to 120 minutes for 6 to 7 Credit Points awarded
3. 120 minutes or more for 8 or more Credit Points awarded.

(3) The duration of an oral examination is 15 minutes at least and 60 minutes at most per candidate. An oral examination as a group examination is carried out with no more than four candidates.

(4) The scope of a written paper is 10 to 20 pages. The time frame for completing a written paper is at least 75 and at most 150 hours.

(5) The following applies to project work in particular: in a project, students will in a small group under tutelage independently work out the solution to a narrowly defined, scientific problem, describe it in writing and present it. The scope of a written work is at least 10 and at most 100 pages. The duration of the presentation is at least 10 and at most 45 minutes.

(6) The following applies to Research Projects specifically:

1. In their Research Project, students under guidance work on a scientific problem in the field of mechanical engineering
2. Students will usually work on their Research Projects alone; depending on the topic of research they may also work in groups of two to five students.
3. The timeframe for students to complete the Minor Research Project (Focus on Coursework) is 210 hours; the timeframe for students to complete the First Research Project (Focus Research) is 240 hours and the Second Research Project (Focus Research) is 480 hours.

(7) For a case study report, the following applies specifically: in a project (Case Study), students will in a small group under tutelage independently work out the solution to a narrowly defined and practical problem and describe it in writing. The scope of the written description is at least 5 and at most 100 pages.

(8) The scope of a written preparation for a presentation is 5 to 10 pages. The duration of a presentation is 15 to 45 minutes.

(9) The following applies to colloquia in particular: the duration of the colloquium is at least 30 and at most 60 minutes.

(10) At the start of a course, the examiner specifies the duration of the examination and, if applicable, other modalities of the examination.

(11) Admission to module examinations may be conditional on the successful completion of module components as pre-examination within the meaning of § 7 para. 15 GER. For relevant modules, this will be outlined in the module catalog. At the start of the semester and no later than by the time of the first course session, the lecturer provides precise criteria in the CMS regarding possible improvement of grades through the completion of module components, particularly the amount and type of tutorials qualifying for bonus as well as the mode of correction and evaluation.

§ 8
Assessment and Grading

(1) General regulations on assessing examinations and the formation of grades are stipulated in § 10 GER.

(2) If an examination consists of several tests, each test must be passed, or have a grade of at least "sufficient" (4.0).

(3) A module has been passed, if all associated partial examinations have been passed with a grade of at least "sufficient" (4.0), and all other Credit Points have been achieved or module components have been completed.

(4) The overall grade is formed taking into account all module grades and the grade of the Master's thesis in accordance with § 10 para. 10 GER.

(5) In accordance with § 10 para. 13 GER, one weighted module grade corresponding to 5 Credit Points can be removed from the student's academic record, in the case that all module examinations of the Master's degree program have been completed within the standard period of study.

§ 9
Examination Board

The responsible Examination Board according to § 11 GER is the Master's Examination Board Mechanical Engineering of the Faculty of Mechanical Engineering.

§ 10
Repeating Examinations or the Master's Thesis and the Loss of Right to Examination

(1) General provisions on repeat examinations, the Master's thesis, and the loss of right to examination are stipulated in § 14 GER.

(2) Freely selectable modules within an area of this Master's degree program (compulsory elective area) can be replaced, provided the examination of the relevant module was not evaluated as "failed", and provided this is permitted in the relevant module catalog. It is not possible to change compulsory modules.

(3) The specialization area (track) of this Master's degree program can be changed once and upon application to the responsible Examination Board.

§ 11
Deregistration, Non-Attendance, Withdrawal, Deception, Non-Compliance

(1) General provisions on deregistration, non-attendance, withdrawal, deception or noncompliance are stipulated in § 15 GER.

(2) The following applies to deregistration from practical work and seminars: deregistration from block courses is possible up to one day before the first course session.

II. Master's Examination and Master's Thesis

§ 12
Type and Scope of the Master's Examination

(1) The Master's examination consists of

1. examinations that are to be completed based on the structure of the degree program according to § 4 para. 2 and detailed in the module catalog, as well as

2. the Master's thesis and the Master's colloquium.

(2) The order of courses is based on the curriculum (appendix 1). The assignment for the Master's thesis can only be issued if 80 Credit Points have been attained.

§ 13
Master's Thesis

(1) General regulations on the Master's thesis are set out in § 17 GER.

(2) Regarding the supervision of the Master's thesis, reference is made to § 17 para. 2 GER.

(3) The Master's thesis is written in the German or in the English language.

(4) The time frame for students to complete their Master's thesis usually is six months. In justified exceptional cases, the time frame can be extended by a maximum of up to six weeks upon application to the Examination Board in accordance with § 17 para. 7 GER. The scope of the written work of the Master's thesis should not exceed 80 pages without annexes.

(5) The candidate presents the results of the Master's thesis as part of a Master's colloquium. § 7 para. 12 GER in connection with § 7 para. 6 apply accordingly.

(6) The workload for preparing and composing the Master's thesis as well as fort the colloquium corresponds to 30 Credit Points. The grading for the Master's thesis can only be carried out after the Master's colloquium was held.

§ 14
Acceptance and Assessment of the Master's Thesis

(1) General provisions on acceptance and assessment of the Master's thesis are stipulated in § 18 GER.

(2) The Master's thesis must be submitted in due time in duplicate copies to the Central Examination Office (Zentrales Prüfungsamt, ZPA). The copies must be printed and bound. Additionally, the thesis must be submitted as a PDF file on a data storage device.

III. Final Provisions

§ 15
Viewing of Examination Files

Review of examination documents is carried out in accordance with § 22 GER.

§ 16
Coming into Effect, Publication and Transitional Provisions

(1) These Examination Regulations are published in the Official Announcements of RWTH Aachen University ("Amtliche Bekanntmachungen") and come into effect on the day after publication.

(2) These Examination Regulations apply to all students who enrolled in the Master's degree program Textile Engineering at RWTH.

(3) Module components, which were completed before the Winter Semester 2019/2020, are valid for all examination attempts offered for a course.

Issued based on the resolutions of the Faculty Council of the Faculty of Mechanical Engineering dated October 9, 2018, May 23, 2019, September 29, 2020, November 24, 2020 and February 23, 2021.

It should be noted that, according to § 12, para. 5 of the law governing the Universities of the Federal State of North Rhine-Westphalia (Higher Education Act - HEA), a violation of procedural or formal regulations of the regulatory law or other autonomous law of the university can no longer be asserted after the expiry of one year from the date of this announcement, unless

1) the regulations were not duly announced,
2) the rector's office has previously objected to the decision of the body deciding the regulations,
3) the university has been notified in advance of the formal or procedural defect, indicating the legal provision that has been violated and the fact that gives rise to the defect.
4) the legal consequences of the exclusion of the right of appeals was not pointed out when the regulations were published.

The Rector
of RWTH Aachen University

Aachen, November 22, 2021

sgd. Rüdiger

Univ.-Prof. Dr. rer. nat. Dr. h. c. mult. U. Rüdiger

Appendix 1: Curricula
Appendix 1.1: Curriculum for the track “Focus on Coursework”

Master of Science (M.Sc.) in Textile Engineering

Master with a focus on coursework	WS			SS			WS			SS		
	L	E	CP	L	E	CP	L	E	CP	L	E	CP
Control Engineering	2	2	4									
Machine Design Process	2	2	5									
Gear and Transmission Technology	2	2	6									
Advanced Finite Element Methods	2	2	5									
Fluid Dynamics	2	2	5									
Minor Research Project						7						
Language Course I, II, III	2	2	2	2	2	2	2	2	2			
High Performance Fibres				2	2	6						
Composites				2	2	6						
Engineering Electives	**0 to 6**			**6 to 12**			**18**					
Internship (12 weeks)							**12**					
Master Thesis												**30**
Sum of Workload	**27 to 33**			**27 to 33**			**30**			**30**		

Students have to select textile related elective courses of at least 12 CP (coloured ones)						
Electives - Textile Engineering - coursework						
	Lang.	**L**	**E**	**CP**	**Term**	
Fasersloffe 1 (natural fibres)	G	2	0	3	WS	
Textiltechnik 3 (fabrics, finishing)	G	2	2	6	WS	
Ausgewählte Themen der Textiltechnik	G	2	2	6	WS	
Practical Introduction to FEM Software I	E	1	2	5	WS	
Quality Management	E	2	2	6	WS	
Numerical Methods in Mech. Eng.	E	3	2	7	WS	
Computational Fluid Dynamics II	E	1	1	3	WS	
Fundamentals of Lightweight Design	E	2	1	4	WS	
Factory Planning	E	2	2	6		SS
Reliable Simulation in the Mechanics of Materials and Structures	E	2	2	6		SS
Computational Fluid Dynamics I	E	2	1	4		SS
Technische Textilien (technical textiles)	G	2	2	6		SS
Fasersloffe 2 (synthetic fibres)	G	2	0	3		SS
Textiltechnik 2 (yarns)	G	2	2	6		SS
Modellbildung und Simulation in der Textiltechnik	G	2	2	6		SS
Ausgewählte Themen der Textiltechnik	G	2	2	6		SS
Industrial Logistics	E	2	1	5		SS

Appendix 1.2.: Curriculum for the track “Focus on Research”

Master with a focus on research	WS			SS			WS			SS		
	L	E	CP	L	E	CP	L	E	CP	L	E	CP
Control Engineering	2	2	4									
Machine Design Process	2	2	5									
Fluid Dynamics	2	2	5									
First Research Project						8						
Language Course I, II, III	2	2	2	2	2	2	2	2	2			
High Performance Fibres				2	2	6						
Composites				2	2	6						
Second Research Project									16			
Engineering Electives	**12 to 16**			**8 to 10**								
Internship (12 weeks)								**12**				
Master Thesis												**30**
Sum of Workload	28 to 32			28 to 32			30			30		

Students have to select at least one textile related elective course (coloured ones)						
Electives - Textile Engineering - research						
	Lang.	L	E	CP	Term	
Practical Introduction to FEM Software I	E	1	2	5	WS	
Quality Management	E	2	2	6	WS	
Numerical Methods in Mech. Eng.	E	3	2	7	WS	
Fundamentals of Lightweight Design	E	2	1	4	WS	
Computational Fluid Dynamics II	E	1	1	3	WS	
Technische Textilien (technical textiles)	G	2	2	6		SS
Faserstoffe 2 (synthetic fibres)	G	2	0	3		SS
Textiltechnik 2 (yarns)	G	2	2	6		SS
Ausgewählte Themen der Textiltechnik	G	2	2	6		SS
Modellbildung und Simulation in der Textiltechnik	G	2	2	6		SS
Computational Fluid Dynamics I	E	2	1	4		SS
Innovation Management	E	2	2	5		SS
Production Metrology	E	2	2	5		SS
Failure of Structures and Structural Elements	E	2	1	5		SS
Finite Element Methods in Lightweight Design	E	2	1	5		SS
Nonlinear Structural Mechanics	E	2	2	5		SS
Boundary-Layer Theory	E	2	1	3		SS

Appendix 2: Objectives of this Master's degree program

In the Master's degree program Textile Engineering, students deal with the development of processes and methods for producing fibers, yarns and textiles of all kinds, as well as with the design and construction of textile machines, and with the simulation of textile structures and processes along the entire textile value chain. This study program has an international focus. Students also acquire specialized knowledge on the conception and production of textile machines, new methods and production processes as well as manufacturing and processing of natural and man-made fibers. They deal with the production of technical textiles, e.g. for use in composite materials. In addition, students receive support in developing generic competencies. In particular, these are presentation and communication techniques as well as developing the ability to independently work scientifically, act independently, think system-analytically as well as the ability to think abstractly and to work in a team. Their education at RWTH Aachen University enables graduates to work in a wide variety of fields and industries worldwide. In addition, after successfully completing this Master's degree program, students will be qualified for doctoral studies.

Appendix 3: Internship guidelines

1. Purpose of the internship

Practical work experience (or internship) in companies or research institutions is essential for students to evaluate their choice of program, to understanding technical modules sufficiently and to prepare for their future career (in Germany). Students will acquire knowledge of technical processes used in practice as well as the economic processes used to select and control them. They will also gain insights into the social processes and structures of companies and organizations.

2. Duration and structure of the internship

In the Master of Science in Textile Engineering students need to complete at least 12 weeks of practical work experience.

3. Internship positions

(1) Students are wholly responsible for organizing suitable internship positions.

(2) The internship will be regulated legally by the internship contract between the company or research institution and the intern. The contract stipulates all rights and obligations of the intern and the company or research institution.

(3) Interns usually receive payment.

(4) Missed working days (vacation, sickness, and other absences) – except for public holidays – must be made up in any event.

(5) Interns are subject to compulsory insurance. Information on compulsory insurance can be obtained from German health insurance providers.

(6) As a general rule, internships at university institutes (including affiliated institutes) and at a student’s own or their parents' company cannot be recognized.

4. Recognition of the internship

(1) The Examination Board’s chair is in charge of recognizing a student’s practical work experience and issuing the final certificate.

(2) In order that the internship is recognized, students must submit the original of the internship report compiled in accordance with point 5 of these guidelines as well as the original of the internship certificate issued in accordance with point 6 of these guidelines.

(3) Late submission of the documents referred to in (2) may lead to non-recognition of the internship due to lack of verifiability. The relevant deadlines are specified in (6).

(4) Overall recognition will only be granted, if the internship of the required length has been completed and the internship report and certificate have been submitted within the given deadlines.

(5) Appeals against recognition decisions may be lodged with the Examination Board for the Master’s degree program Textile Engineering within one month after notification of the decision. The Examination Board will decide on the appeal. The Examination Board will communicate its decision in writing.

(6) The following deadlines must be observed in the recognition process: The complete internship documents (internship report and internship certificate) must be submitted to the chair of the Examination Board no later than two months after the end of the internship.

5. Internship report

(1) During their internship, interns are required to write a report on their work and activities.

(2) The scope of the internship report must be at least 10 and at most 12 pages of coherent text. In the coherent text, the student must briefly describe their tasks during the internship. In addition, the student must spend at least one page on critically reflecting on the internship (e.g. supervision, learning objectives and successes or problems).

6. Internship certificate

At the end of their work experience, the intern will receive a certificate from the internship company or research institution, stating the duration of the internship in the respective departments or the intern’s tasks and the number of days of absence due to illness or leave.