This English translation is offered for information purposes only.
In the event of any discrepancy or doubt in interpretation, the original German texts published in the Official Notices of Rhine-Waal University of Applied Sciences take precedence. Only the original German texts are considered legally binding.

Examination Regulations

for

Mechanical Engineering, M.Sc.

at Rhine-Waal University of Applied Sciences
Dated 6 August 2019
(Published in Official Notices 29/2019)

In accordance with Section 2 (4) sentence 1 and Section 64 (1) of the Higher Education Act of North Rhine-Westphalia [*Hochschulgesetz NRW*], in the amended form produced by the Act for the Future Development of Universities [*Hochschulzukunftsgesetz*] of 16 September 2014 (GV.NRW. 2014, p. 547), last amended by the Act of 17 October 2017 (GV.NRW. 2017, p. 806) and the General Examination Regulations for Bachelor's and Master's Degree Programmes at Rhine-Waal University of Applied Sciences (RPO) from 3 January 2018 (Official Notices 07/2018), the Faculty Council of the Faculty of Technology and Bionics of Rhine-Waal University of Applied Sciences enacted the following examination regulations on 14 November 2018:

Contents

Section 1
Applicability

These examination regulations apply to the master's degree programme Mechanical Engineering, M.Sc., offered in English by the Faculty of Technology and Bionics of Rhine-Waal University of Applied Sciences, in conjunction with the General Examination Regulations for Bachelor's and Master's Degree Programmes ("RPO") of Rhine-Waal University of Applied Sciences. They govern the contents, structure and progression of the degree programme, as well as related assessments, including examinations.

Section 2
Academic Objectives; Purpose of Examination; Master's Degree

(1) Building upon a first undergraduate degree, this degree programme results in an advanced professional degree that qualifies graduates to pursue a doctoral degree in accordance with the Higher Education Act NRW, Section 67 (4) sentence 1 (c).

(2) Academic aims and objectives are outlined in Section 3 RPO.

(3) A strong command of the English language is essential to success in this degree programme, as it is a necessary prerequisite for the overarching goal of consolidating and expanding students' technical language and communication skills.

(4) The academic title "Master of Science", abbreviated as "M.Sc.", is awarded for passing the master's assessment.

(5) In the graduation certificate, the name of the degree programme will be amended to include the graduate's selected focus field (refer to Section 4 (3)). These designations are possible:

- Mechanical Engineering – Digital Engineering
- Mechanical Engineering – Development and Design
- Mechanical Engineering – Production

Section 3
General Admission Requirements

(1) General admission requirements are defined in Section 4a RPO.

(2) Admission to this degree programme is further regulated by the Admission Regulations for Mechanical Engineering M.Sc. and Bionics M.Sc. of Rhine-Waal University of Applied Sciences.

Section 4
Standard Duration of Study; Programme Structure; Volume of Instruction Hours

(1) The standard study duration, the programme structure and the volume of instruction hours are defined in Section 5 (2) RPO.

(2) The total volume of instruction for this degree programme is 36 SWS (combined hours per week for all lecture periods in the standard study duration).

(3) This degree programme is divided into the following focus fields: Digital Engineering, Development and Design, or Production. Students are obliged to select one of these three fields during their studies.

Section 5
Scope of Examinations

(1) The time allotted for a written examination depends on the number of obtainable credits. As a rule, 30 minutes are allotted for every one credit, for a total duration up to, but not exceeding, two hours.

(2) An oral examination generally lasts between 30 and 45 minutes.

(3) Assignments, term papers or projects should generally not exceed 10,000 words.

Section 6
Parts of the Final Master’s Assessment; Credit Points

(1) The parts of the master’s assessment, as well as the rules regarding the awarding of credit points, are set forth in Section 6 RPO.

Section 7
Admission to the Thesis and Colloquium

(1) Admission to the thesis is regulated by Section 24 (1) RPO.

(2) Students must have obtained at least 50 credits to be eligible for admission to the thesis.

(3) Admission to the colloquium is regulated by Section 27 (2) RPO.

(4) Students must have obtained at least 87 credits to be eligible for admission to the colloquium.

Section 8
Thesis

(1) Rules regarding the completion and submission of the thesis are defined in Sections 25 and 26 RPO.

(2) The text portion of the thesis should generally be between 15,000 and 20,000 words in length. The thesis may also be supplemented with other media as well, provided their use is appropriate and helpful as additional documentation within the context of the assigned task. In this case the length of the text portion of the thesis may deviate from the aforementioned minimum requirement.

Section 9
Credit Values for the Thesis and Colloquium

(1) Twenty-two credits are awarded for passing the thesis.

(2) Three credits are awarded for passing the colloquium.

Section 10
Awarding of the Master's Degree

(1) The awarding of the master's degree is regulated by Sections 3 (4) and 30 (1) RPO.

Section 11
Entry into Force

(1) These examination regulations shall enter into force on the day after their publication in the Official Notices of Rhine-Waal University of Applied Sciences. They apply to students who first enrolled in Mechanical Engineering M.Sc. of the Faculty of Technology and Bionics of Rhine-Waal University of Applied Sciences in or after winter semester 2019-20.

(2) Students who enrolled in Mechanical Engineering M.Sc. before winter semester 2019-20 may continue their studies according to the previous examination regulations dated 27 March 2015 (Official Notices 09/2014), as amended on 11 March 2016 (Official Notices 08/2016), until 28 February 2022 at the latest. Accordingly, the examination regulations dated 27 March 2015 (Official Notices 09/2014), as amended on 11 March 2016 (Official Notices 08/2016), shall expire on 1 March 2022.

(3) Students currently studying according to the examination regulations dated 27 March 2015, as amended, may submit a written request to the Central Examination Office to switch to the examination regulations defined in this document. The Faculty Examination Board is responsible for all decisions relating to the recognition of previously earned credits.

Issued on the basis of a resolution of the Faculty Council of the Faculty of Technology and Bionics of Rhine-Waal University of Applied Sciences from 14 November 2018 and of the Executive Board of Rhine-Waal University of Applied Sciences from 19 March 2019.

Note:

These examination regulations entered into force on 21 August 2019.

Annex 1: **Recommended Full-Time Study and Examination Plan for Mechanical Engineering, M.Sc.**

Curriculum MM		HPW	Type						Examination form		CP	HPW		
			V	SL	S	Ü	Pra	Pro	Attestation	graded		SS 1	WS 2	SS 3
Core Modules														
Module Code	**Common Core Modules**													
3300	Research Methods for Engineers	3	1			1	1		x		5		x	
3301	Numerical Methods of Simulation	3	2			1				x	5		x	
3302	General Management	3	2				1		x		5	x		
3400	Structural Analysis	3	2			1				x	5	x		
Fokusfeld Digital Engineering*														
Module Code	**Core Modules**													
3402	Principles of Software Development	3	2				1			x	5	x		
3401	Heat Transfer	3	2			1				x	5		x	
Module Code	**Focusfield Modules**													
3403	Materials Selection and Simulation	3	2				1			x	5	x		
3407	Computational Multibody Dynamics	3	1				2			x	5	x		
3408	Factory Simulation	3	2			1				x	5	x		
3404	Advanced CAD	3	1				2			x	5		x	
3405	Computational Fluid Dynamics	3	1				2		x		5		x	
3406	Model based Design of Mechatronics Systems	3	1				2		x		5		x	
Fokusfeld Development and Design*														
Module Code	**Core Modules**													
3401	Heat Transfer	3	2			1				x	5		x	
3406	Model based Design of Mechatronics Systems	3	1				2		x		5		x	
Module Code	**Focusfield Modules**													
3409	Design Methodology	3	2			1				x	5		x	
3410	Tribology	3	2				1			x	5	x		
3411	Thermodynamics of Power Systems	3	2			1				x	5	x		
3412	Energy-efficient and Sustainable Drive Systems	3	1			1	1			x	5	x		
3413	Advanced Simulations Technologies	3	1				2			x	5	x		
3404	Advanced CAD	3	1				2			x	5		x	
Fokusfeld Production*														
Module Code	**Core Modules**													
3402	Principles of Software Development	3	2				1			x	5	x		
3608	Sustainability	3	2			1				x	5		x	
Module Code	**Focusfield Modules**													
3408	Factory Simulation	3	2			1				x	5	x		
3415	Production Management	3	2			1				x	5	x		
3416	Machine Tools and Automation	3	2				1			x	5		x	
3417	Manufacturing Technology Development	3	2			1				x	5		x	
3418	Data Analytics	3	2				1			x	5		x	
3603	Human Machine Interaction	3	2				1		x		5	x		
Final Semester														
Module Code	**Module**													
3303	Applied Research Project (ARP)									x	5			x
3304	Master thesis									x	22			x
3305	Colloquium									x	3			x

Explanations

* Die Fakultät behält sich das Recht vor, sowohl eine Mindestteilnehmerzahl für das Zustandekommen eines Fokusfeldes / Wahlbereiches als auch eine Maximalteilnehmerzahl festzulegen. / * The faculty reserves the right to determine a minimum and a maximum number of participants for offering a focus

Abbreviations

HPW Semesterwochenstunden / hours per week

CP Kreditpunkte / credit points