

**Study and Examination Regulations
for the bachelor's degree programme
Materials Engineering at the
Rosenheim Technical University of Applied Sciences**

26 February 2025

In accordance with Article 9, Sentence 1 in conjunction with Art. 80, Paragraph 1, Sentence 1, and Article 84, Paragraph 2, Sentence 1 of the Bavarian University Innovation Act (BayHIG), the Rosenheim Technical University of Applied Sciences issues the following regulations:

§ 1

Purpose of the Study and Examination Regulations

These Study and Examination Regulations serve as a supplement to the current version of the General Examination Regulations for the Rosenheim Technical University of Applied Sciences (*Allgemeine Prüfungsordnung der Technischen Hochschule Rosenheim – APO*) from 9 August 2023.

§ 2

Programme Objectives

(1) The aim of the bachelor's degree programme in Materials Engineering is to provide students with an education based on scientific knowledge and methods through application-oriented teaching. The course qualifies graduates to work in engineering positions that require in-depth knowledge of materials as well as their processing and application. Emphasis is placed on a comprehensive and interdisciplinary education. Career opportunities are available in industry, the public sector and through self-employment.

(2) The Materials Engineering degree programme combines technical and scientific fundamentals relevant to engineers and delves deeply into the properties and applications of materials. A wide range of technical elective modules allows students to tailor their education to their personal preferences and the requirements of their chosen career.

(3) Work in this field requires a comprehensive understanding of materials, design issues and processing techniques. Flexibility, decisiveness, communication and teamwork skills are developed, along with leadership capabilities. Graduates will be able to develop solutions to problems that arise from the application of different engineering materials and their combinations, with solutions corresponding to the state of the art in technology and science.

(4) This course of study can also be pursued alongside additional work experience as part of a dual work-study program (*Duales Studium*) or in conjunction with an apprenticeship (Verbundstudium). For both options, separate contracts between the student, the university and the company should be entered into at the start of the degree programme. The contracts must be in place no later than the start of the fourth semester.

§ 3

Admission Requirements and Programme Structure

(1) The bachelor's programme has a standard length of seven semesters, or eight semesters as a part-time programme to enable the acquisition of German language skills at level B2 or higher. It is open to prospective students who speak German as their native language and to prospective international students who can demonstrate German language skills at the A2 level. If the university entrance qualification is not in German, German language skills at level A2 or higher must be demonstrated at the beginning of the programme in accordance with the statutes governing language admission requirements. The course of study comprises six semesters of coursework (seven with part-

time study) and a one semester industrial internship.

(2) The courses and examinations scheduled during the first two full-time semesters are also offered in English, according to the Plan of Studies.

(2) The industrial internship can be completed either as a continuous semester or during several shorter periods.

(3) The examinations in the modules 'Mathematics 1.1' and 'Engineering Mechanics 1: Statics' must be taken by the end of the second semester. If the student exceeds this deadline through their own fault, the examination will be considered to have been taken for the first time and failed. In addition, only students who have obtained at least 25 credits are entitled to enter the third semester (fourth semester of part-time study) and continue their studies.

(4) Admission to courses in the the fourth semester and beyond is only permitted for those who can prove German language skills at B2 level or higher, in accordance with the statutes governing language admission requirements.

(5) In order to begin the sixth semester on campus, German language skills at the level B2 or higher must be definitively demonstrated in accordance with the statutes governing language admission requirements. If this requirement is not met, enrolment will be revoked.

(6) Students in the dual studies programme (*Duales Studium*) are required to complete projects at their partner company, for which they receive a total of 10 credits from compulsory modules and required elective modules.

(7) The degree programme includes a bachelor's thesis.

§ 4 Modules and Exams

(1) The modules, their number of contact hours, the ECTS credits, the type of course and the form and scope of the examinations are set out in the appendix to this document. The regulations defined in these statutes are supplemented by the Plan of Studies.

(2) All modules are either compulsory, required electives, or true electives:

1. Compulsory modules (*Pflichtmodule*) are those subjects in the degree programme that are mandatory for all students.
2. Required electives (*Wahlpflichtmodule*) are subjects from which students must select a certain number in accordance with these regulations. The subjects are specified in the Plan of Studies. The selected subjects are treated in the same way as compulsory modules.
3. True electives (*Wahlmodule*) are not mandatory to achieve the objectives of the study programme. They can be chosen by students from the entire range of courses offered at the Rosenheim Technical University of Applied Sciences.

§ 5 Plan of Studies

(1) The Faculty of Engineering creates a Plan of Studies to ensure the provision of courses and to provide students with information about the structure and details of the degree programme. It is approved by the Faculty Council and made publicly available within the university. The announcement of new regulations must be made no later than the beginning of the semester in which the regulations are to be applied for the first time. The Plan of Studies contains regulations and details about:

1. the objectives, content, contact hours per week, credits, language and method of instruction for each module, as far as these are not fully defined in this document. It includes a list of the current technical electives, including conditions and restrictions regarding course enrollment.
 2. the objectives and content of the primary internship and the required accompanying lectures, as well as their form, organization and number of credits;
 3. the objectives and content of the dual study programme and the integration of theory and practice in terms of content, timing and organization, the design of the practical work component and the number of credits;
 4. detailed provisions on examinations, including prerequisites for admission and conditions of participation;
 5. detailed provisions on the structure of the bachelor's thesis.
- (2) There is no guarantee that all elective courses will actually be offered. Similarly, there is no guarantee of these classes being held if the number of participants is insufficient. The Examination Committee may set prerequisites for participation and maximum numbers of participants for certain courses.

§ 6

Preliminary Internship and Primary Internship

- (1) The degree programme requires a preliminary internship (*Vorpraxis*) according to the details laid out in the Plan of Studies.
- (2) The preliminary internship should normally be completed before the beginning of studies. Proof of completion must be provided no later than the start of the primary internship.
- (3) The primary internship (*studienbegleitendes Praktikum*) comprises a total of 18 weeks of practical, supervised work experience in a relevant field, to be completed at an appropriate company. It can be undertaken in one continuous period during a dedicated "practical semester." Alternatively, it is possible to complete the internship across multiple shorter time periods of at least 4 weeks each during semester breaks, starting from the fourth semester. The primary internship is supplemented by a set of accompanying lectures (*praxisbegleitende Lehrveranstaltungen*). Further details are set out in the Plan of Studies.
- (4) For both the preliminary internship and the primary internship, the required time periods and content must be documented with a certificate from the place of training based on the template provided by the Rosenheim Technical University of Applied Sciences, and a report of the experience must be submitted by the student in a timely manner and evaluated as passing by an authorised person. Only then is each internship considered to be successfully completed.

§ 7

Bachelor's Thesis

- (1) Successful completion of the primary internship is required to apply for a bachelor's thesis topic.
- (2) The bachelor's thesis must be submitted no later than five months after the topic is issued.
- (3) The bachelor's thesis is assessed and graded by two examiners. At least one of the two should be a full-time professor in the Faculty of Engineering at the Rosenheim Technical University of Applied Sciences.
- (4) The bachelor's thesis may be written in German or English. A summary in both German and English must always be included.

§ 8

Academic Advising

If a student does not obtain at least 25 credits after two semesters of full-time study or three semesters of part-time study, they are obliged to seek assistance from the programme's academic advisor. An individual progress plan is to be agreed upon with the academic advisor.

§ 9

Examination Committee

The Examination Committee consists of at least three professors from the Faculty of Engineering. The committee members are appointed by the Faculty Council for a period of two years.

§ 10

Final Grade and Transcript

(1) The final grade is the arithmetic mean of the individual grades, weighted by the corresponding credits, rounded to one decimal place. Certain modules, as marked with the corresponding footnote in the appendix, contribute only half of their credits to the final grade. Ungraded internships or practical training periods do not contribute to the final grade.

(2) Upon completion of all degree requirements, a certificate (*Zeugnis*) and transcript (*Diploma Supplement*) are issued, in accordance with the templates provided in the appendix of the General Examination Regulations of the university.

§ 11

Academic Title

(1) Upon completion of all degree requirements, the student shall be awarded the academic title of "Bachelor of Engineering", abbreviated as "B. Eng."

(2) The conferral of the academic degree will be recognized with a diploma in accordance with the template provided in the appendix of the General Examination Regulations of the university.

§ 12

Effective Date, Transitional Regulations

(1) These Study and Examination Regulations go into effect on 1 October 2025. They apply to students who begin their studies in winter semester 2025/2026 or later.

(2) The Faculty Council of the Faculty of Engineering Sciences may make special provisions for this course of studies, either generally or in individual cases, if this appears necessary to avoid undue hardship. The Examination Committee can likewise enact special provisions regarding the examinations.

Anlage zur Studien- und Prüfungsordnung für den Bachelorstudiengang Materials Engineering an der Technischen Hochschule Rosenheim

Appendix to the Study and Examination Regulations for the bachelor's degree programme in Materials Engineering at Rosenheim
Technical University of Applied Sciences

1. Theoretische Studiensemester

Required Courses

Modul Nr. <i>Module number</i>	Modulbezeichnung <i>Module name</i>	SWS <i>Contact hours per week</i>	Leis- tungs- punkte <i>ECTS credits</i>	Art der Lehr- veran- staltung <i>1) Mode of instruction</i>	Prüfungen 1) 2) <i>Examinations</i>		Ergänzende Regelungen 1) <i>Supplementary regulations</i>
					Art, Dauer, Bearbeitungsumfang <i>Exam format and duration</i>	ZV Admission require- ments for exam	
MAT11	Mathematik 1.1 <i>Mathematics 1.1</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT12	Informatik Grundlagen <i>Computer Science Fundamentals</i>	4	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 6) 20% 10)
MAT13	Technisches Zeichnen und CAD <i>Engineering Drawing, CAD</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT14	Technische Mechanik 1: Statik <i>Engineering Mechanics 1: Statics</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT15	Grundlagen der Elektrotechnik <i>Basics of Electrical Engineering</i>	5	5	SU & Ü & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT16	Werkstofftechnik 1 <i>Materials Engineering 1</i>	5	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.	Pr, LNmE	3) 5) 6) 10% 10)
MAT21	Mathematik 1.2 <i>Mathematics 1.2</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT22	Physik 1 <i>Physics 1</i>	5	5	SU & Ü & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.	Pr, LNmE	3) 5) 6) 10% 10)
MAT23	Grundlagen Chemie <i>Basic Chemistry</i>	4	5	SU Ü & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT24	Technische Mechanik 2: Elastostatik & Festigkeitslehre <i>Engineering Mechanics 2: Mechanics of Materials</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT 25	Produktdesign <i>Product Design</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT 26	Werkstofftechnik 2 <i>Materials Engineering 2</i>	5	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.	Pr, LNmE	3) 5) 6) 10% 10)
MAT31	Mathematik 2 <i>Mathematics 2</i>	5	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3) 10)
MAT32	Thermodynamik <i>Thermodynamics</i>	4	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT33	Maschinenelemente <i>Mechanical Systems</i>	5	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT34	Polymere Werkstoffe <i>Polymers</i>	4	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.	Pr, LNmE	3) 5)
MAT35	Metallwerkstoffe <i>Metals and Alloys</i>	4	5	SU & Ü & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT36	Werkstoffprüfung <i>Material Testing</i>	5	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT41	Faserverbundwerkstoffe <i>Composite Materials</i>	4	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.	Pr, LNmE	3) 5)

Modul Nr. Module number	Modulbezeichnung Module name	SWS Contact hours per week	Leistungs- punkte ECTS credits	Art der Lehr- veranstaltung 1) Mode of instruction	Prüfungen 1) 2) Examinations		Ergänzende Regelungen 1) Supplementary regulations
					Art, Dauer, Bearbeitungsumfang Exam format and duration	ZV Admission requirements for exam	
MAT42	Messtechnik & Analytik <i>Measurement & Analysis</i>	5	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.	Pr, TN	3) 4)
MAT43	Verarbeitungsverfahren <i>Material Processing</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT44	Additive Fertigung <i>Additive Manufacturing</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT45	Projektarbeit <i>Research/Design Project</i>	-	5	PA	PA		3)
MAT61	Qualitätsmanagement & Statistik <i>Quality Management & Statistics</i>	4	5	SU & Ü & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT62	Berechnung & Simulation <i>Simulation and Modeling</i>	4	5	SU & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT63	Glas und Keramik <i>Glass and Ceramics</i>	5	5	SU & Ü & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT64	Holzwerkstoffe <i>Wood-Based Materials</i>	5	5	SU & Ü & Pr	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT71	Ökobilanzierung <i>Life Cycle Assessment</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT72	Ressourcenschonung & Recycling <i>Resource Conservation & Recycling</i>	4	5	SU & Ü	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo.		3)
MAT-FWPM	FWPM-Ingenieurwissenschaften <i>Technical Electives</i>	-	23	-	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo. or SV or mdlP 20-40 min		3) 7) 8)
BA	Bachelorarbeit <i>Bachelor's Thesis</i>	-	12	BA	wA, 40-80 Seiten	-	12)
			180				

2. Studienbegleitendes Praktikum Industrial Internship

Modul Nr. Module number	Modulbezeichnung Module name	SWS Contact hours per week	Leistungs- punkte ECTS credits	Art der Lehr- veranstaltung 1) Mode of instruction	Prüfungen 1) 2) Examinations		Ergänzende Regelungen 1) Supplementary regulations
					Art, Dauer, Bearbeitungsumfang Exam format and duration	ZV Admission requirements for exam	
SP	Studienbegleitendes Praktikum <i>Primary Internship</i>	-	24	Pr	PB		9)
MG-PLV	Modulgruppe Praxisbegleitende Lehrveranstaltungen <i>Seminars supplementing the internship</i>	6	6	SU	schrP 60-120 min or eIP 60-120 min or PStA 8-15 Wo. or SV or mdlP 20- 40 min		3) 11)
			30				

3. Erklärung der Fußnoten (Footnotes):

1) Näheres regelt der Fakultätsrat im Studienplan.

Additional details are provided in the Plan of Studies, as determined by the Faculty Council.

2) Mindestens ausreichende Bewertung aller bestehenserheblichen Prüfungen ist Voraussetzung für das Bestehen.

A passing grade must be obtained for each relevant exam in order to successfully complete the degree programme.

3) Sofern PStA: Termingerechte Abgabe ist Bestehensvoraussetzung.

For PStA: On time submission is necessary to pass.

4) Zulassungsvoraussetzung zur Prüfung ist ein Teilnahmenachweis (TN).

Prerequisite for admission to the exam is proof of participation (TN) in the lab component of the course.

5) Zulassungsvoraussetzung zur Prüfung ist das erfolgreiche Bestehen des Praktikums durch Testate (Leistungsnachweis mit Erfolg: LNmE).

Prerequisite for admission to the exam is proof of successful completion of the lab component of the course, where the lab is graded on a pass/fail basis.

6) Midterm-Prüfungen (MTP): Freiwillig können Bonusleistungen abgelegt werden, die additiv zur Gesamtleistung beitragen, aus der die Note der „schrP“, „elP“ oder „PStA“ berechnet wird. Maximal erzielbar ist der angegebene Prozentsatz der Gesamtleistung. Auch ohne Bonus kann die Note 1,0 erzielt werden.

Midterm exams (MTP) provide the option for bonus points, which are added to the overall score from which the grade for the „schrP“, „elP“ or „PStA“ is calculated. The maximum achievable bonus is the specified percentage of the overall performance. A grade of 1.0 is still possible without bonus points.

7) Der Katalog der fachwissenschaftlichen Wahlpflichtmodule wird nach Maßgabe von § 5 für jedes Semester vom Fakultätsrat beschlossen und jeweils zu Semesterbeginn im Studienplan niedergelegt.

The catalogue of technical elective modules is decided by the Faculty Council based on § 5 for each semester and defined in the Plan of Studies.

8) Bei dualem Studium sollen in der Modulgruppe MG-FWPM Projektarbeiten im Umfang von insgesamt 5 ECTS im Unternehmen belegt werden.

In the case of a dual study programme, an additional 5 ECTS credits of project work must be completed in the company as one of the technical electives (FWPM).

9) Bestehenserhebliche Kriterien sind: Termingerechte Abgabe des Praxisberichts und des Praktikumszeugnisses des betreuenden Betriebs, sowie die Bewertung des Praxisberichts mit „bestanden“.

Criteria for passing: timely submission of the internship report and the internship certificate from the supervising company, and the assessment of the report as „passed“.

10) Zur Bildung der Prüfungsgesamtnote trägt das Modul nur mit der Hälfte der ECTS bei.

Only half of the ECTS credits for this module count toward the final grade.

11) Prädikatswertung: Bestanden / nicht bestanden.

Module graded on a pass/fail basis.

12) Umfang der wissenschaftlichen Ausarbeitung ohne Titelseiten, Verzeichnisse und Anhänge; Abweichungen sind nach Absprache möglich.

Length requirement for bachelor's thesis is in reference to technical content only, excluding title pages, indices, and appendices; exceptions are possible with prior approval.

4. Erklärung der Abkürzungen (Abbreviations):

BA = Bachelorarbeit *bachelor's thesis project*

ECTS = European credit transfer system *credit points*

EP = elektronische Prüfung *computer-based exam*

Ex	= Exkursion <i>field trip</i>
FWPM	= fachbezogenes / fachwissenschaftliches Wahlpflichtmodul <i>technical elective</i>
HA	= Hausarbeit <i>research paper (term paper)</i>
LNmE	= Leistungsnachweis mit Erfolg <i>successful completion of requirements (for pass/fail course component)</i>
mdIP	= mündliche Prüfung <i>oral examination</i>
mE	= mit Erfolg abgelegt <i>passed</i>
Min	= Minuten <i>minutes</i>
MTB	= Midterm Prüfung <i>midterm exam</i>
P	= Prüfungen <i>examinations</i>
PA	= Projektarbeit <i>semester-long research or design project</i>
PB	= Praxisbericht <i>internship report</i>
Pr	= Praktikum <i>lab course</i>
PStA	= Prüfungsstudienarbeit (bei Gruppenarbeiten mit zusätzlicher, individueller Prüfung) <i>multi-week project graded via a written report, oral presentation, portfolio or other creative product (in the case of group work, an additional individual assessment or examination is also required)</i>
S	= Seminar <i>seminar</i>
schrP	= schriftliche Prüfung <i>written examination</i>
SU	= seminaristischer Unterricht <i>seminar-style instruction</i>
SV	= Seminarvortrag <i>oral presentation</i>
SWS	= Semesterwochenstunden <i>contact hours per week</i>
TN	= Teilnahmenachweis <i>proof of participation (to confirm completion of an ungraded but mandatory component of the course)</i>
Ü	= Übung <i>recitation (practical problem solving/exercise session)</i>
V	= Vorlesung <i>lecture</i>
wA	= wissenschaftliche Ausarbeitung <i>written scientific thesis</i>
Wo	= Wochen <i>weeks</i>
ZV	= Zulassungsvoraussetzung <i>prerequisites for admission to an exam</i>

Issued based on the resolution of the Senate of the Rosenheim Technical University of Applied Sciences on 12 February 2025 and the approval by the President of the Rosenheim Technical University of Applied Sciences on 26 February 2025.

Rosenheim, 26 February 2025

Technische Hochschule Rosenheim

Represented by

Oliver Heller
Kanzler

These statutes were established at the Rosenheim Technical University of Applied Sciences on 26 February 2025. They may be inspected by prior appointment during business hours at the premises of the Rosenheim Technical University of Applied Sciences, Hochschulstraße 1, 83024 Rosenheim, room T1.07. In addition, the statutes were published digitally on the homepage of the Rosenheim Technical University of Applied Sciences on 26 February 2025 under the heading "Amtsblatt" at <https://www.th-rosenheim.de/studium-und-weiter-bildung/imstudium/studienorganisation/studienregelungen/amtsblatt>. The date of publication is therefore 26 February 2025.