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Subject-specific study and examination regulations for the bachelor's programme in Chemical Engineering ("Chemieingenieurwesen") and the English-taught master's programme in Chemical Engineering offered by the Faculty of Natural Sciences at Ulm University of 10 July 2025

Based on § 32 (3) sentence 1 of the Federal State Higher Education Act Baden-Württemberg (*Landeshochschulgesetz,* LHG) in the version of 1 January 2005 (law gazette pages 1 ff, amended several times, last amended by article 24 of the ordinance of 17 December 2024 (law gazette p. 114), the Senate of Ulm University, upon the approval of the Faculty of Natural Sciences at Ulm University, adopted the following Subject-specific study and examination regulations (FSPO) for the bachelor's programme in Chemical Engineering and the English-taught master's programme in Chemical Engineering in its meeting on 25 May 2025.

The President of Ulm University gave his consent on 10 July 2025 in accordance with § 32 (3) sentence 1 of the *LHG*.

Content

General information

Scope of application (§ 1 General Framework)

These Subject-specific study and examination regulations for the bachelor's programme in Chemical Engineering and the English-taught master's programme in Chemical Engineering supplement and specify the provisions of the General Study and Examination Regulations (General Framework).

Programme objectives (§ 2 General Framework)

(1) (1)The bachelor's programme aims to convey the scientific and methodical foundations in Chemical Engineering. 2The bachelor's examination aims to establish if students have acquired the technical knowledge required for an early transition into a professional career and if they have a good working knowledge in their subject.

(2) (1)The master's programme in Chemical Engineering is a research-oriented programme. 2It aims to deepen and complement the scientific and methodological qualifications acquired in the bachelor's programme. 3The programme objective is to convey knowledge and skills to the students that enable them to independently work on complex problems in chemical and process engineering applying scientific methods and to thus qualify them for work in research, science, development and application in the industry, higher education and research institutes. 4In particular, the master's degree qualifies graduates for doctoral studies.

Start of the programme (§ 3 General Framework)

1Studies in the bachelor's programme in Chemical Engineering start in the winter semester. 2Studies in the master's programme in Chemical Engineering can be taken up in the winter or the summer semester.

Study organisation

Organisation and content of the bachelor's programme in Chemical Engineering (§ 4 General Framework)

(1) The following compulsory, compulsory elective and complementary modules must be completed:

No.	Area/module	CP
A	**Compulsory area**	**145**
A1	**Fundamentals of Natural Sciences**	**32**
1	General chemistry	7
2	Physics for Engineers I	6
3	Organic chemistry I	7
4	Physical chemistry I	8
5	Fundamentals of analytical chemistry	4
A2	**Mathematics**	**25**
6	Higher mathematics I	10
7	Higher mathematics II	10
8	Higher mathematics III	5

No.	Area/module	CP
A3	**Fundamentals of engineering**	**29**
9	Engineering mechanics	5
10	Introduction to materials science	4
11	Fluid mechanics	5
12	Technical thermodynamics	5
13	Thermodynamics of mixtures	5
14	Heat and material transmission	5
A4	**Chemical Engineering**	**30**
15	Introduction to Chemical Engineering	5
16	Mechanical process engineering I	5
17	Thermal process engineering I	5
18	Chemical reaction engineering I	5
19	Process dynamics and control	5
20	Plant and apparatus engineering	5
A4	**Specialisation digital tools**	**17**
21	Digital tools in Chemical Engineering I	5
22	Digital tools in Chemical Engineering II	5
23	Digital tools in Chemical Engineering III - practical course	7
A6	**Thesis**	**12**
24	Bachelor’s thesis	12
B	**Compulsory elective area**	**min. 23**
B1	Interdisciplinary specialisation	min. 12
B2	Laboratory courses	min. 11
C	**Complementary area**	**min. 12**
Total		180

(2) In the compulsory elective area (B), students must complete modules amounting to a minimum of 23 CP.

(3) Students must complete graded modules amounting to at least 12 CP in the compulsory elective area "Interdisciplinary specialisation" (B1) and modules amounting to at least 11 CP in the compulsory elective area "laboratory courses" (B2) from the module catalogues provided for this purpose.

(4) Students must complete modules amounting to at least 12 CP in the complementary area (C). Modules amounting to 12 CP from the complementary area (C) can be replaced by modules from the compulsory elective area (B).

Organisation and content of the master's programme in Chemical Engineering (§ 4 General Framework)

(1) The following compulsory, compulsory elective and complementary modules must be completed:

No.	Area/module	CP
A	**Compulsory area[1]**	**82**
A1	**Chemical Engineering**	**35**
1	Chemical Reaction Engineering II	5
2	Thermal Process Engineering II	5
3	Mechanical Process Engineering II	5
4	Chemical Reaction Engineering III	5
5	Thermal Process Engineering III	5
6	Process Intensification	5
7	Industrial Catalysis	5
A2	**Laboratory and Research Practice**	**17**
8	Advanced Laboratory Chemical Engineering	5
9	Research Internship I	12
A3	**Master's thesis[2]**	**30**
10	Master's thesis	30
B	**Compulsory elective area[3]**	**min. 30**
B1	**Chemical Engineering and subject-specific specialisation**	**min. 25**
B1a	Chemical Engineering Electives	min. 15
B1b	Subject-Specific Specialisation	
B2	**Internships and Laboratories**	**min. 5**
B2a	Chemical Engineering Internships	min. 5
B2b	Subject-Specific Laboratories	
C	**Complementary area[4]**	**min. 8**
Total		120

(2) In the compulsory elective area (B), students must complete modules amounting to a minimum of 30 CP.

(3) [1]Students must complete graded modules amounting to at least 25 CP in the elective area Chemical Engineering and Subject-Specific Specialisation (B1). [2]Of these, at least 15 CP must be completed in graded modules in the area of Chemical Engineering Electives (B1a). [3]The modules worth 10 CP that are missing in order to achieve the minimum number of points in the elective area Chemical Engineering and Subject-Specific Specialisation (B1) can be completed from the areas Chemical Engineering Electives (B1a) and Subject-Specific Specialisation (B1b) from the respective module catalogues provided for this purpose.

[1] Corresponds to "Pflichtbereich" in German

[2] Corresponds to "Abschlussarbeit" in German

[3] Corresponds to "Wahlpflichtbereich" in German

[4] Corresponds to "Ergänzungsbereich" in German

(4) Students must complete modules worth 5 CP from the Chemical Engineering Internships (B2a) area from the module catalogue provided for this purpose in the Internships and Laboratories (B2) compulsory elective area.

(5) Students must complete modules amounting to at least 8 CP in the complementary area (C). Modules amounting to 8 CP from the complementary area (C) can be replaced by modules from the compulsory elective area (B).

(6) Modules from the compulsory area and complementary area are recommended for a mobility window.

Multiple use of modules

(1) Multiple use of modules within a degree programme is not permitted.

(2) If modules of the master's programme in Chemical Engineering have already been completed in the bachelor's programme with the same study and examination achievements and in the same examination form (identical modules), these must be replaced by other compulsory elective or complementary modules with at least the number of credit points of the identical modules not to be credited.

Types of courses (§ 6 General Framework)

In addition to the types of courses listed in § 6 of the General Framework, teaching content is conveyed in the form of project events, project seminars, mentoring and tutorials.

Compulsory attendance at courses (§ 7 General Framework)

[1]Attendance is compulsory for excursions and laboratory courses as study achievements. [2]If there are reasons for absences for which the student is not responsible, then

a) the absence can be compensated by a competency-based substitute achievement,

individual events can be made up for,

parts already completed from previous courses can be credited.

The course responsible will check whether compensation is possible in accordance with paragraph 4 sentence 2. If no substitute performance is offered/individual event is made up for or not fulfilled or if crediting is excluded, the study achievement is deemed to not be completed.

Deadlines (§ 8 (1) and (2) General Framework)

(1) Students who have not completed at least 75 credit points in the bachelor's programme in Chemical Engineering by the end of the second examination period of the fourth semester in the programme lose their right to examination, unless they are not responsible for missing the deadline.

(2) Students who have not completed at least 30 credit points in the master's programme in Chemical Engineering by the end of the second examination period of the second semester in the programme lose their right to examination, unless they are not responsible for missing the deadline.

Exams

Thesis (§ 18 General Framework)

(1) [1]The bachelor’s thesis corresponds to 12 CP. [2]This includes an ungraded presentation (1 CP) including a discussion. [3]The presentation is given before the examiner of the bachelor's thesis. [4]The bachelor's thesis is completed within two months alongside the programme.

(2) [1]The master’s thesis corresponds to 30 CP. [2]This includes an ungraded presentation (1 CP) including a discussion. [3]The presentation is in the presence of the examiners of the master’s thesis. Students have six months to complete the master’s thesis.

(3) [1]The topic of the bachelor's and master's thesis is set by an examiner from the Institute of Chemical Engineering. [2]With the approval (prior consent) of the subject examination board, the thesis may be written in an interdisciplinary field or at an external institution. [3]At least one examiner of the thesis must belong to the Institute of Chemical Engineering at Ulm University.

(4) [1]The bachelor's thesis can be written in English if the first examiner agrees. [2]The master's thesis can be written in English if the first examiner agrees.

Final grade (§ 24 (6) General Framework)

[1]The overall grade for the bachelor's programme is based on the bachelor's thesis (12 CP), the graded modules from the compulsory area (128 CP), and the best-graded modules from the compulsory elective area B1 with 12 CP. [2]The module that exceeds the total of 152 CP is weighted proportionally.

[1]The overall grade for the master's programme is based on the master's thesis module (30 CP), the graded modules from the compulsory area (40 CP), and the best-graded modules from the compulsory elective area B1a amounting to 15 CP. [2]The module that exceeds the total of 85 CP is weighted proportionally.

Repetition of module examinations (§ 25 General Framework)

[1]In the bachelor's programme, up to two passed written module examinations from the compulsory areas A1 to A5 may be repeated once each for the purpose of improving grades until the end of the examination period of the sixth semester. [2]In each case, the better, passed examination is counted. [3]It is not possible to repeat a passed thesis in order to improve the grade. [4]The same applies to examination formats that are not written examinations.

Final provisions

Effective date

(1) [1]These study and examination regulations apply with effect from the winter semester 2024/25. [2]At the same time, the subject-specific study and examination regulations for the bachelor's degree programme in Chemical Engineering and the English- taught master's degree programme in Chemical Engineering at the Faculty of Natural Sciences at Ulm University dated 14 August 2020, published in the official bulletin of Ulm University No. 18 dated 24 August 2020, pages 113–121, cease to have effect, subject to paragraphs 2 and 3.

(2) For students who commenced their bachelor's programme before the winter semester 2025/26 or continued it after changing universities or degree programmes, the deadline specified in § 6 (1) sentence 1 of the subject-specific study and examination regulations for the bachelor's programme and the English-taught master's programme in Chemical Engineering at the Faculty of Natural Sciences at Ulm University dated 14 August 2020, published in the Official Bulletin of Ulm University No. 18 dated 24 August 2020, pages 113–121, continues to apply for a transitional period and replaces the provision in § 9 (1) of these regulations.

(3) § 9 (2) of these regulations does not apply to students who commenced their master's programme before the winter semester 2025/26 or who continued their studies after changing universities or degree programmes.

The above statutes have been approved. They are hereby executed and are to be published.

Ulm, 10 July 2025

signed

Prof. Dr.-Ing. Michael Weber
-President-