

**UNIVERSITY OF MARIBOR
FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING**

**INFORMATION PACKAGE /
INTERNATIONAL EXCHANGE STUDENTS' GUIDE
2021/2022**

Part II

Information on study programmes

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FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING

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1. QUALIFICATION AWARDED

Faculty of Chemistry and Chemical Engineering offers study programmes at the first (Bachelor), second (Masters) and third (Doctorate) cycle.

1.1. First Cycle Degrees

Bachelor's university degree programme Chemical Engineering

Qualification awarded: diplomirani/a inženir/ka kemijskega inženirstva (UN)
(Bachelor's Degree in Chemical Engineering)

Duration of studies: 3 years

Bachelor's university degree programme Chemistry

Qualification awarded: diplomirani/a kemik/kemičarka (UN)
(Bachelor's Degree in Chemistry)

Duration of studies: 3 years

Higher professional programme Chemical Technology

Qualification awarded: diplomirani/a inženir/ka kemijske tehnologije (VS)
(Higher Professional Degree in Chemical Technology)

Duration of studies: 3 years

1.2. Second Cycle Degrees

Master's programme Chemical Engineering

Qualification awarded: magister inženir kemijskega inženirstva,
magistrica inženirka kemijskega inženirstva
(Master's Degree in Chemical Engineering)

Options: Chemical Engineering
Biochemical Engineering

Duration of studies: 2 years

Master's programme Chemistry

Qualification awarded: magister/magistrica kemije
(Master's Degree in Chemistry)

Duration of studies: 2 years

1.3. Third Cycle Degree

Doctoral programme Chemistry and Chemical Engineering

Qualification awarded: doctor/doktorica znanosti
(PhD in Science)

Duration of studies: 4 years

2. ADMISSION REQUIREMENTS

Bachelor's university programme Chemical Engineering and
Bachelor's university programme Chemistry admits candidates who have successfully completed:

- a) a secondary education programme with matura examination or
- b) vocational matura examination with an additional examination (mathematics or foreign language) or
- c) any four-year secondary education programme before 1. 6. 1995.

In case of enrolment limitations, applicants in options a) and c) are registered according:

- grade point average (GPA) on the matura or vocational matura examination (60 % of the points),
- overall GPA in the third and fourth year of secondary school (40 % of the points).

In case of enrolment limitations, applicants in option b) are registered according:

- GPA on the vocational matura examination (40 % of the points) ,
- overall GPA in the third and fourth year of secondary school (40 % of the points).
- GPA on additional examination (20 % of the points).

Higher professional programme Chemical Technology registers candidates who have successfully completed a final examination in any four-year secondary education programme, or vocational matura examination, or matura examination. In case of enrolment limitations, applicants are registered according to their grade point average (GPA) on the final examination, or vocational matura examination, or matura examination (60 % of the points) and their overall GPA in the third and fourth year of secondary school (40 % of the points).

Master's programme Chemical Engineering admits graduates who have successfully completed:

- the appropriate first cycle study programme in chemistry, chemical technology, chemical engineering, process engineering, biochemical engineering, educational chemistry,
- the first cycle study programme in any other natural or technical sciences not mentioned above. Before admission, student has to pass successfully the exams in the amount of 47 ECTS, that are essential for continuing the studies: General Chemistry, Inorganic Chemistry, Organic Chemistry I and II, Physical Chemistry I, Heat Transfer, Mass Transfer, Separation Processes II and Chemical Reaction Engineering I,
- higher professional programme, accepted before June 11, 2004, in chemistry, chemical technology, chemical engineering, process engineering, biochemical engineering,
- higher professional programme, accepted before June 11, 2004, in other natural or technical sciences not mentioned above. Before admission, student has to pass successfully the exams in the amount of 47 ECTS, that are essential for continuing the studies: General Chemistry, Inorganic Chemistry, Organic Chemistry I and II, Physical Chemistry I and II, Heat Transfer, Mass Transfer, Separation Processes II and Chemical Reaction Engineering I.

In case of enrolment limitations, applicants are registered according to their grade on Diploma Thesis (20 %), their overall GPA of the first cycle (50 %), and the average grade of the subjects Mathematics III and Chemical Reaction Engineering I at the first cycle (30 %).

Master's programme Chemistry admits graduates who have successfully completed:

- the appropriate first cycle study programme in chemistry, chemical technology and educational chemistry,
- the first cycle study programme in other natural sciences not mentioned above. Before admission, student has to pass successfully the exams in the amount of 45 ECTS, that are essential for continuing the studies: General Chemistry, Inorganic Chemistry, Organic Chemistry I and II, Analytical Chemistry I and II, Physical Chemistry I,
- higher professional programme, accepted before June 11, 2004, in chemistry, chemical technology, chemical engineering, process engineering, biochemical engineering,
- higher professional programme, accepted before June 11, 2004, in other natural or technical sciences not mentioned above. Before admission, student has to pass successfully the exams in the amount of 45 ECTS, that are essential for continuing the studies: General Chemistry, Inorganic Chemistry, Organic Chemistry I and II, Analytical Chemistry I and II, Physical Chemistry I.

In case of enrolment limitations, applicants are registered according to their grade on Diploma Thesis (20 %), their overall GPA of the first cycle (50 %), and the average grade of the subjects Mathematics III and Organic Synthesis at the first cycle (30 %).

PhD programme Chemistry and Chemical Engineering admits graduates who have successfully completed:

- any second cycle study programme.
- any university programme, accepted before June 11, 2004
- higher professional programme, accepted before June 11, 2004, together with specialization. Before admission, student has to pass study requirements in the amount of 30 ECTS, that are essential for continuing the studies and are prescribed by the Committee for Education of Faculty of Chemistry and Chemical Engineering on the basis of mentor suggestion.
- national or foreign study programme which educates for the occupation in according with EU directives or any other Master's programme (also from the fields different from Chemistry and Chemical Engineering) evaluated by 300 ECTS.

According to the admission rules student can pass to the second year of the PhD programme Chemistry and Chemical Engineering if he/she successfully completed:

- Masters's programme, accepted before June 11, 2004, and at registration 60 ECTS are acknowledged.
- University programme, accepted before June, 11, 2004 together with specialization and at registration 60 ECTS are acknowledged.

Further information on admission requirements for candidates not mentioned above can be obtained at the Faculty of Chemistry and Chemical Engineering.

3. EDUCATIONAL GOALS

Study programmes at the Faculty of Chemistry and Chemical Engineering strive to prepare their graduates to:

- productive, gainful, and ethical career in chemical, biochemical and related industries and organizations,
- utilize knowledge and advanced engineering tools, methods and techniques for research and development of (bio)chemical products and processes,
- develop the abilities for lifelong learning and development of their knowledge,
- develop the ability to pass the acquired knowledge to others,
- gain communication and management skills.

The specific goals of **Bachelor's university programme Chemical Engineering** are to:

- provide students with the basic skills, knowledge and insight in the field of chemical engineering,
- train students to structurally identify a problem, apply holistic problem-solving skills based on fundamental analysis techniques and methodologies and develop scientific solutions.

The specific goals of **Bachelor's university programme Chemistry** are to provide:

- generic skills (communication, problem-solving and calculation skills in chemistry),
- chemistry related cognitive skills (demonstrate knowledge, concepts, principles and theories and applying of knowledge – evaluation, interpretation, presentation and synthesis of chemical information),
- chemistry related practical skills (laboratory work, chemical properties, chemical hazards, instrumentation, synthetic work, measurements, documentation and observations).

The specific goals of **Higher professional programme Chemical Technology** are to:

- provide students with the basic skills and knowledge in the field of chemical technology and chemistry,
- develop the abilities for applicative technological solutions.

The specific goals of **Master's programme Chemical Engineering** are to:

- provide students with the advanced skills, knowledge and insight in the field of chemical and biochemical engineering,
- train students to solve fundamental research problems of chemical and biochemical engineering, and to accomplish process and product design by taking into account safety, environmental aspects and sustainability.

The specific goals of **Master's programme Chemistry** are to:

- provide students with the understanding and ability of establishing the connections between the structure of the compounds and their reactivity,

- train students to be able to manage and lead the research departments in all areas of chemistry and chemistry related fields,
- give students the skills to resolve complex chemical problems which need the skills of team work.

The specific goals of **Doctoral programme Chemistry and Chemical Engineering** are to:

- provide students with advanced experience in developing new knowledge, concepts, methods and tools regarding theoretical background and applications in chemistry and (bio)chemical engineering,
- gain research methodology and skills for independent solving problems related to the following topics in depth: Chemical Engineering, Biochemical Engineering, Chemistry and Chemometrics, Materials in Chemistry, Chemical Environmental Protection and Sustainable Development,
- acquire the ability of leading, managing and safe performing of research and scientific work,
- gain the ability of original innovating,
- gain the ability of independent solving of complex problems.

4. ACCESS TO FURTHER STUDIES

Bachelor's university programme Chemical Engineering

Bachelor's university programme Chemistry

Higher professional programme Chemical Technology

Graduates who have successfully completed the first cycle university study programmes Chemical Technology or Chemistry, or Higher professional programme Chemical Technology can directly continue their studies at the second cycle programmes leading to Master's degree in Chemical Engineering or Master's degree in Chemistry.

Master's programme Chemical Engineering

Master's programme Chemistry

Graduates who have successfully completed the second cycle Master's study programmes Chemical Engineering or Chemistry (or any other study programme) can directly continue their studies at the third cycle programme leading to PhD degree in Chemistry and Chemical Engineering.

PhD programme Chemistry and Chemical Engineering

The formal education ends with the defence of the PhD thesis. Doctors of science by constant familiarising with professional and scientific literature and acquiring of new knowledge strive towards the lifelong learning and development of their knowledge and abilities. They can enlist in postdoctoral studies at top universities and research institutions in Slovenia and abroad.

5. COURSE CATALOGUE FOR FOREIGN STUDENTS ON MOBILITY

For a list of courses that may be chosen by exchange students, please see the link below. Detailed descriptions of the content of each subject are also available.

https://www.um.si/en/international/erasmus/Documents/Course%20catalogue%202021-22/FKKT_2021-22.pdf

6. FINAL EXAMINATION

In order to graduate, the student has to:

- pass all the examinations specified in the course programme,
- meet the other requirements according to the rules of the programme,
- prepare the final thesis and defend it successfully.

7. EXAMINATION AND ASSESSMENT REGULATIONS

The examinations are usually written and oral. Written examination can be sometimes replaced by several written tests. Laboratory attendance is obligatory and mostly involves preparation of laboratory report. Some of the courses involve the preparation of a seminar work which is usually defended by an oral presentation. The oral examination is mostly preconditioned by successful completion of the written examination.

Timetables for examinations are issued yearly by the Faculty Senate at the beginning of the academic year and are published on the notice boards. There are at least 3 to 4 examinations for each course per academic year and students are free to choose the date of examination. The students need to register for examination 4 days before the examination date. The examination can be cancelled no later than 1 day before the examination date. The use of calculators, literature and other items during the examination is determined by the lecturer and may vary from course to course.

The Bachelor and Master theses are presented before an examination board. The PhD thesis is publicly presented and defended before an examination board, chaired by the Dean of the Faculty. The members of the board are also the mentor, co-mentor and two to three internationally recognized academicians, who are experts in the field.

8. ERASMUS DEPARTMENTAL COORDINATOR

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