



University of Maribor

Faculty of Mechanical Engineering

UNIVERSITY OF MARIBOR
FACULTY OF MECHANICAL ENGINEERING
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2ND-CYCLE STUDY PROGRAMMES (<https://www.fs.um.si/en/study/study-programme/second-cycle>):

1. MECHANICAL ENGINEERING

3 study options: *Power, Process and Environmental Engineering, Engineering Design, and Manufacturing Technologies and Systems*

2. ENVIRONMENTAL ENGINEERING

3. PRODUCT DESIGN

2 study options: *Product Design* and *Textile and Fashion Design*

4. DESIGN AND TEXTILE MATERIALS

2 study options: *Textile Materials* and *Engineering Design of Textile Materials* (*The Engineering Design of Textile Materials* study option will not be available for enrolment in the 2024/25 academic year and it is not being implemented. Candidates interested in this field of study are advised to enrol in the 2nd-cycle study programme in Product Design, Textile and Fashion Design option.)

Location: Maribor

Duration: 2 years, 120 ECTS

Access requirements:

1. MECHANICAL ENGINEERING

Study options:

Students may select one of the three study options: *Power, Process and Environmental Engineering, Engineering Design, or Manufacturing Technologies and Systems*. A study option shall be selected when applying to enrol.

Candidates who completed the following may apply for the 2nd-cycle (master's) study programme in *Mechanical Engineering*:

1. A 1st-cycle (bachelor's) study programme in one of the following fields: mechanics and metal trades (0715), chemical engineering and processes (0711), building and civil engineering (0732), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), or physics (0533).

2. A 1st-cycle (bachelor's) study programme in one of the following fields: chemistry (0531), mathematics (0541) software and applications development and analysis (0613), environmental protection technology (0712), electricity and energy (0713), motor vehicles, ships and aircraft (0716), textiles (clothes, footwear and leather) (0723), or mining and extraction (0724).

Prior to enrolment, candidates shall pass the following courses corresponding to 30 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Mathematical Analysis* (6 ECTS), *Linear Algebra* (3 ECTS), *Vector Analysis* (6 ECTS), *Differential Analysis* (3 ECTS), *Mechanics I* (6 ECTS), and *Mechanics II* (6 ECTS).

3. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: mechanics and metal trades (0715), chemical engineering and processes (0711), building and civil engineering (0732), or inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788).

4. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: chemistry (0531), physics (0533), mathematics (0541), software and applications development and analysis (0613), environmental protection technology (0712), electricity and energy (0713), motor vehicles, ships and aircraft (0716), textiles (clothes, footwear and leather) (0723), or mining and extraction (0724).

Prior to enrolment, candidates shall pass the following courses corresponding to 30 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Mathematical Analysis*

(6 ECTS), *Linear Algebra* (3 ECTS), *Vector Analysis* (6 ECTS), *Differential Analysis* (3 ECTS), *Mechanics I* (6 ECTS), and *Mechanics II* (6 ECTS).

5. An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: mechanics and metal trades (0715), chemical engineering and processes (0711), building and civil engineering (0732), or inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788).
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
6. An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: chemistry (0531), physics (0533), mathematics (0541), software and applications development and analysis (0613), environmental protection technology (0712), electricity and energy (0713), motor vehicles, ships and aircraft (0716), textiles (clothes, footwear and leather) (0723), or mining and extraction (0724).
Candidates are awarded 30 ECTS credits and may enrol in the corresponding year of study.
7. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: mechanics and metal trades (0715), chemical engineering and processes (0711), building and civil engineering (0732), or inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788).
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
8. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: chemistry (0531), physics (0533), mathematics (0541), software and applications development and analysis (0613), environmental protection technology (0712), electricity and energy (0713), motor vehicles, ships and aircraft (0716), textiles (clothes, footwear and leather) (0723), or mining and extraction (0724).
Candidates are awarded 30 ECTS credits and may enrol in the corresponding year of study.

Prior to enrolment in the second year of study, all candidates shall demonstrate the Slovene language proficiency at level B1 in accordance with the Common European Framework of Reference for Languages (CEFR).

Appropriate certificates proving the required proficiency are:

- the Slovene language examination certificate at level B1 or an equivalent certificate;
- the final certificate of primary education in RS or foreign primary education with Slovene as the language of teaching;
- a matura certificate or the final year certificate of a vocational secondary education programme showing the candidate has passed the Slovene language course;
- a certificate of completed bilingual (Slovene and a foreign language) secondary education or completed foreign secondary education with Slovene as the language of teaching;
- a diploma from a higher education institution in RS and a certificate (statement) that the candidate has completed the programme in Slovene.

Selection criteria in the event of limited enrolment:

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to:

- grade point average including the thesis: 100%.

Transfer criteria:

In accordance with the Criteria for Transferring Between Study Programmes, candidates may enrol:

- in the second year of the 2nd-cycle (master's) study programme in *Mechanical Engineering* if they have ceased their studies in the previous study programme in the field of mechanics and metal trades (0715), chemical engineering and processes (0711), building and civil engineering (0732), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), or physics (0533) and will continue them under this study programme at the same level.

Candidates may transfer to the study programme provided they fulfil the following criteria:

- criteria for enrolment in the first year of the 2nd-cycle study programme in *Mechanical Engineering*;
- they are transferring from a study programme leading to the acquisition of comparable competences or learning outcomes;
- at least half of the study obligations evaluated according to the ECTS credit system of the previous study programme relating to compulsory courses of the new study programme are recognised.

The transfer shall be addressed by the Committee for Academic Affairs of the Faculty of Mechanical Engineering. In accordance with the Rules on the Recognition of Knowledge and Skills in Study Programmes of the University of Maribor, the candidate shall submit to the faculty:

- an application for the recognition of knowledge and skills at the University of Maribor;
- proof of fulfilled study obligations (exams) including grades and ECTS credits;
- validated course syllabi according to which knowledge was acquired;
- a receipt of payment for the recognition procedure.

If under the recognition procedure enough fulfilled study obligations is recognized that the candidate meets the criteria for enrolment in the second year of the 2nd-cycle (master's) study programme in *Mechanical Engineering*, enrolment in the second year is approved and study obligations required for completion of the new study programme are laid down.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average.

Mode of study: full-time and part-time

The part-time study programme shall be implemented only in the event of 10 or more students enrolled in the first year of study.

The implementation of the study process in part-time studies is organised in such a way that one year of study corresponds to one academic year. Depending on the number of students enrolled in a year of study or in the course, the study process is implemented in the following way:

- a) 1 to 3 enrolled students per course: compulsory and elective courses are conducted in a condensed form in the scope of 10% of the number of hours of lectures, theoretical and laboratory classes determined by the accredited study programme.
- b) 4 to 9 enrolled students per course: compulsory and elective courses are conducted in a condensed form in the scope of 30% of the number of hours of lectures, theoretical and laboratory classes determined by the accredited study programme.
- c) 10 or more enrolled students per course: compulsory and elective courses are conducted in a condensed form in the scope of 50% of the number of hours of lectures and theoretical classes and 40% of the number of hours of laboratory classes determined by the accredited study programme.

2. ENVIRONMENTAL ENGINEERING

Candidates who completed the following may apply for the 2nd-cycle (master's) study programme in *Environmental Engineering*:

1. A 1st cycle (bachelor's) study programme in one of the following fields: engineering and engineering trades (071), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), environmental protection technology (0712), mechanics and metal trades (0715), textiles (clothes, footwear and leather) (0723), chemical engineering and processes (0711), electricity and energy (0713), engineering and engineering trades not elsewhere classified (0719), building and civil engineering (0732), biological and related sciences (051), biology (0511), biochemistry (0512), environmental sciences (0521), chemistry (0531), earth sciences (0532), or physics (0533).
2. A 1st-cycle (bachelor's) study programme in one of the following fields: mathematics (0541), inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics (0588), database and network design and administration (0612), software and applications development and analysis (0613), materials (glass, paper, plastic and wood) (0722), mining and extraction (0724), architecture and town planning (0731), community sanitation (1021), occupational health and safety (1022), or transport services (1041).

Prior to enrolment, candidates shall pass the following courses corresponding to 13 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Mathematical Analysis* (6 ECTS) and *Chemistry* (7 ECTS).

3. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), environmental protection technology (0712), mechanics and metal trades (0715), textiles (clothes, footwear and leather) (0723), chemical engineering and processes (0711), electricity and energy (0713), engineering and engineering trades not elsewhere classified (0719), building and civil engineering (0732),

biological and related sciences (051), biology (0511), biochemistry (0512), environmental sciences (0521), chemistry (0531), earth sciences (0532), or physics (0533).

4. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: mathematics (0541), inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics (0588), database and network design and administration (0612), software and applications development and analysis (0613), materials (glass, paper, plastic and wood) (0722), mining and extraction (0724), architecture and town planning (0731), community sanitation (1021), occupational health and safety (1022), or transport services (1041).

Prior to enrolment, candidates shall pass the following courses corresponding to 13 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Mathematical Analysis* (6 ECTS) and *Chemistry* (7 ECTS).

5. An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), environmental protection technology (0712), mechanics and metal trades (0715), textiles (clothes, footwear and leather) (0723), chemical engineering and processes (0711), electricity and energy (0713), engineering and engineering trades not elsewhere classified (0719), building and civil engineering (0732), biological and related sciences (051), biology (0511), biochemistry (0512), environmental sciences (0521), chemistry (0531), earth sciences (0532), or physics (0533).

Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.

6. An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: mathematics (0541), inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics (0588), database and network design and administration (0612), software and applications development and analysis (0613), materials (glass, paper, plastic and wood) (0722), mining and extraction (0724), architecture and town planning (0731), community sanitation (1021), occupational health and safety (1022), or transport services (1041).

Candidates are awarded 30 ECTS credits and may enrol in the corresponding year of study.

7. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), environmental protection technology (0712), mechanics and metal trades (0715), textiles (clothes, footwear and leather) (0723), chemical engineering and processes (0711), electricity and energy (0713), engineering and engineering trades not elsewhere classified (0719), building and civil engineering (0732), biological and related sciences (051), biology (0511), biochemistry (0512), environmental sciences (0521), chemistry (0531), earth sciences (0532), or physics (0533).

Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.

8. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: mathematics (0541), inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics (0588), database and network design and administration (0612), software and applications development and analysis (0613), materials (glass, paper, plastic and wood) (0722), mining and extraction (0724), architecture and town planning (0731), community sanitation (1021), occupational health and safety (1022), or transport services (1041).

Candidates are awarded 30 ECTS credits and may enrol in the corresponding year of study.

Prior to enrolment in the second year of study, all candidates shall demonstrate the Slovene language proficiency at level B1 in accordance with the Common European Framework of Reference for Languages (CEFR).

Appropriate certificates proving the required proficiency are:

- the Slovene language examination certificate at level B1 or an equivalent certificate;
- the final certificate of primary education in RS or foreign primary education with Slovene as the language of teaching;
- a matura certificate or the final year certificate of a vocational secondary education programme showing the candidate has passed the Slovene language course;
- a certificate of completed bilingual (Slovene and a foreign language) secondary education or completed foreign secondary education with Slovene as the language of teaching;
- a diploma from a higher education institution in RS and a certificate (statement) that the candidate has completed the programme in Slovene.

Selection criteria in the event of limited enrolment:
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If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to:

- grade point average including the thesis (100%).

Transfer criteria:

In accordance with the Criteria for Transferring Between Study Programmes, candidates may enrol:

- in the second year of the 2nd-cycle (master's) study programme in *Environmental Engineering* if they have ceased their studies in the previous study programme in the field of engineering, manufacturing and construction (07), or natural sciences, mathematics and statistics (05) and will continue them under this study programme at the same level.

Candidates may transfer to the study programme provided they fulfil the following criteria:

- criteria for enrolment in the first year of the 2nd-cycle study programme in *Environmental Engineering*;
- they are transferring from a study programme leading to the acquisition of comparable competences or learning outcomes;
- at least half of the study obligations evaluated according to the ECTS credit system of the previous study programme relating to compulsory courses of the new study programme are recognised.

The transfer shall be addressed by the Committee for Academic Affairs of the Faculty of Mechanical Engineering. In accordance with the Rules on the Recognition of Knowledge and Skills in Study Programmes of the University of Maribor, the candidate shall submit to the faculty:

- an application for the recognition of knowledge and skills at the University of Maribor;
- proof of fulfilled study obligations (exams) including grades and ECTS credits;
- validated course syllabi according to which knowledge was acquired;
- a receipt of payment for the recognition procedure.

If under the recognition procedure enough fulfilled study obligations is recognized that the candidate meets the criteria for enrolment in the second year of the 2nd-cycle (master's) study programme in *Environmental Engineering*, enrolment in the second year is approved and study obligations required for completion of the new study programme are laid down.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average.

Mode of study: full-time

3. PRODUCT DESIGN

Study options:

Students may select one of the two study options: *Product Design* or *Textile and Fashion Design*. A study option shall be selected while studying and is implemented in the second year of study.

Candidates who completed the following may apply for the 2nd-cycle (master's) study programme in *Product Design*:

1. A 1st-cycle (bachelor's) study programme in one of the following fields: engineering and engineering trades (071), textiles (clothes, footwear and leather (0723), building and civil engineering (0732), architecture and construction (073), transport services (104), mathematics and statistics (054), Information and Communication Technologies (ICTs) (061), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), audio-visual techniques and media production (0211), fashion, interior and industrial design (0212), fine arts (0213), or inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs) (0688).
2. A 1st-cycle (bachelor's) study programme in a field not specified under point 1.
Prior to enrolment, candidates shall pass the following courses corresponding to 23 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Materials I* (3 ECTS), *Technical Documentation* (4 ECTS), *Production Technologies I* (4 ECTS), *Computer-Aided Engineering* (3 ECTS), *Fundamentals of Engineering Design* (3 ECTS), *Physical Modelling of Technical Systems* (3 ECTS), and *Engineering Design Methods* (3 ECTS).
3. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), textiles (clothes, footwear and leather (0723), building and civil engineering

(0732), architecture and construction (073), transport services (104), mathematics and statistics (054), Information and Communication Technologies (ICTs) (061), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), audio-visual techniques and media production (0211), fashion, interior and industrial design (0212), fine arts (0213), or inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs) (0688).

4. An undergraduate professional study programme adopted prior to 11 June 2004 in a field not specified under point 3. Prior to enrolment, candidates shall pass the following courses corresponding to 23 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Materials I* (3 ECTS), *Technical Documentation* (4 ECTS), *Production Technologies I* (4 ECTS), *Computer-Aided Engineering* (3 ECTS), *Fundamentals of Engineering Design* (3 ECTS), *Physical Modelling of Technical Systems* (3 ECTS), and *Engineering Design Methods* (3 ECTS).
5. An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), textiles (clothes, footwear and leather (0723), building and civil engineering (0732), architecture and construction (073), transport services (104), mathematics and statistics (054), Information and Communication Technologies (ICTs) (061), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), audio-visual techniques and media production (0211), fashion, interior and industrial design (0212), fine arts (0213), or inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs) (0688).
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
6. An undergraduate academic study programme adopted prior to 11 June 2004 in a field not specified under point 5. Candidates are awarded 30 ECTS credits and may enrol in the corresponding year of study.
7. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), textiles (clothes, footwear and leather (0723), building and civil engineering (0732), architecture and construction (073), transport services (104), mathematics and statistics (054), Information and Communication Technologies (ICTs) (061), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), audio-visual techniques and media production (0211), fashion, interior and industrial design (0212), fine arts (0213), or inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs) (0688).
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
8. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in a field not specified under point 7.
Candidates are awarded 30 ECTS credits and may enrol in the corresponding year of study.

Prior to enrolment in the second year of study, all candidates shall demonstrate the Slovene language proficiency at level B1 in accordance with the Common European Framework of Reference for Languages (CEFR).

Appropriate certificates proving the required proficiency are:

- the Slovene language examination certificate at level B1 or an equivalent certificate;
- the final certificate of primary education in RS or foreign primary education with Slovene as the language of teaching;
- a matura certificate or the final year certificate of a vocational secondary education programme showing the candidate has passed the Slovene language course;
- a certificate of completed bilingual (Slovene and a foreign language) secondary education or completed foreign secondary education with Slovene as the language of teaching;
- a diploma from a higher education institution in RS and a certificate (statement) that the candidate has completed the programme in Slovene.

Selection criteria in the event of limited enrolment:

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to:

- grade point average including the thesis (100%).

Transfer criteria:

In accordance with the Criteria for Transferring Between Study Programmes, candidates may enrol:

- in the second year of the 2nd-cycle (master's) study programme in *Product Design* if they have ceased their studies in the previous study programme in the field of engineering and engineering trades (071), textiles (clothes, footwear and leather (0723), building and civil engineering (0732), architecture and construction (073), transport services (104), mathematics and statistics (054), Information and Communication Technologies (ICTs) (061), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), audio-visual techniques and media production (0211), fashion, interior and industrial design (0212), fine arts (0213), or inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs) (0688) and will continue them under this study programme at the same level.

Candidates may transfer to the study programme provided they fulfil the following criteria:

- criteria for enrolment in the first year of the 2nd-cycle study programme in *Product Design*;
- they are transferring from a study programme leading to the acquisition of comparable competences or learning outcomes;
- at least half of the study obligations evaluated according to the ECTS credit system of the previous study programme relating to compulsory courses of the new study programme are recognised.

The transfer shall be addressed by the Committee for Academic Affairs of the Faculty of Mechanical Engineering. In accordance with the Rules on the Recognition of Knowledge and Skills in Study Programmes of the University of Maribor, the candidate shall submit to the faculty:

- an application for the recognition of knowledge and skills at the University of Maribor;
- proof of fulfilled study obligations (exams) including grades and ECTS credits;
- validated course syllabi according to which knowledge was acquired;
- a receipt of payment for the recognition procedure.

If under the recognition procedure enough fulfilled study obligations is recognized that the candidate meets the criteria for enrolment in the second year of the 2nd-cycle (master's) study programme in *Product Design*, enrolment in the second year is approved and study obligations required for completion of the new study programme are laid down.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average.

Mode of study: full-time

4. DESIGN AND TEXTILE MATERIALS

Study options:

Students may select one of the two study options: *Textile Materials* or *Engineering Design of Textile Materials*. (The *Engineering Design of Textile Materials* study option will not be available for enrolment in the 2024/25 academic year and it is not being implemented. Candidates interested in this field of study are advised to enrol in the 2nd-cycle study programme in *Product Design, Textile and Fashion Design* option.) A study option shall be selected when applying to enrol and is implemented in the first semester.

Candidates who completed the following may apply for the 2nd-cycle (master's) study programme in *Design and Textile Materials*:

1. A 1st-cycle (bachelor's) study programme in one of the following field: fashion, interior and industrial design (0212), chemistry (0531), chemical engineering and processes (0711), textiles (clothes, footwear and leather) (0723), materials (glass, paper, plastic and wood) (0722), or environmental sciences (0521).
2. A 1st-cycle (bachelor's) study programme in one of the following fields: environmental protection technology (0712), fine arts (0213), or architecture and town planning (0731).
Prior to enrolment, candidates shall pass the following courses corresponding to 27 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Fibreforming polymers* (6 ECTS), *History and Culture of Dressing* (5 ECTS), *Drawing and Painting* (4 ECTS), *Construction of Textiles* (6 ECTS), and *Basics of Textile Design* (6 ECTS).
3. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: fashion, interior and industrial design (0212), chemistry (0531), chemical engineering and processes (0711), textiles (clothes, footwear and leather) (0723), materials (glass, paper, plastic and wood) (0722), or environmental sciences (0521).

4. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: environmental protection technology (0712), fine arts (0213), or architecture and town planning (0731).
Prior to enrolment, candidates shall pass the following courses corresponding to 27 ECTS credits under the 1st-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Fibreforming polymers* (6 ECTS), *History and Culture of Dressing* (5 ECTS), *Drawing and Painting* (4 ECTS), *Construction of Textiles* (6 ECTS), and *Basics of Textile Design* (6 ECTS).
5. An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: fashion, interior and industrial design (0212), chemistry (0531), chemical engineering and processes (0711), textiles (clothes, footwear and leather) (0723), materials (glass, paper, plastic and wood) (0722), or environmental sciences (0521).
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
6. An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: environmental protection technology (0712), fine arts (0213), or architecture and town planning (0731).
Candidates are awarded 45 ECTS credits and may enrol in the corresponding year of study.
7. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: fashion, interior and industrial design (0212), chemistry (0531), chemical engineering and processes (0711), textiles (clothes, footwear and leather) (0723), materials (glass, paper, plastic and wood) (0722), or environmental sciences (0521).
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
8. A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: environmental protection technology (0712), fine arts (0213), or architecture and town planning (0731).
Candidates are awarded 45 ECTS credits and may enrol in the corresponding year of study.

Prior to enrolment in the second year of study, all candidates shall demonstrate the Slovene language proficiency at level B1 in accordance with the Common European Framework of Reference for Languages (CEFR).

Appropriate certificates proving the required proficiency are:

- the Slovene language examination certificate at level B1 or an equivalent certificate;
- the final certificate of primary education in RS or foreign primary education with Slovene as the language of teaching;
- a matura certificate or the final year certificate of a vocational secondary education programme showing the candidate has passed the Slovene language course;
- a certificate of completed bilingual (Slovene and a foreign language) secondary education or completed foreign secondary education with Slovene as the language of teaching;
- a diploma from a higher education institution in RS and a certificate (statement) that the candidate has completed the programme in Slovene.

Selection criteria in the event of limited enrolment:
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If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to:

- grade point average including the thesis (100%).

Transfer criteria:

In accordance with the Criteria for Transferring Between Study Programmes, candidates may enrol:

- in the second year of the 2nd-cycle (master's) study programme in *Design and Textile Materials* if they have ceased their studies in the previous study programme in the field of fashion, interior and industrial design (0212), chemistry (0531), chemical engineering and processes (0711), textiles (clothes, footwear and leather) (0723), materials (glass, paper, plastic and wood) (0722), or environmental sciences (0521) and will continue them under this study programme at the same level.

Candidates may transfer to the study programme provided they fulfil the following criteria:

- criteria for enrolment in the first year of the 2nd-cycle study programme in *Design and Textile Materials*;
- they are transferring from a study programme leading to the acquisition of comparable competences or learning outcomes;
- at least half of the study obligations evaluated according to the ECTS credit system of the previous study programme relating to compulsory courses of the new study programme are recognised.

The transfer shall be addressed by the Committee for Academic Affairs of the Faculty of Mechanical Engineering. In accordance with the Rules on the Recognition of Knowledge and Skills in Study Programmes of the University of Maribor, the candidate shall submit to the faculty:

- an application for the recognition of knowledge and skills at the University of Maribor;
- proof of fulfilled study obligations (exams) including grades and ECTS credits;
- validated course syllabi according to which knowledge was acquired;
- a receipt of payment for the recognition procedure.

If under the recognition procedure enough fulfilled study obligations is recognized that the candidate meets the criteria for enrolment in the second year of the 2nd-cycle (master's) study programme in *Design and Textile Materials*, enrolment in the second year is approved and study obligations required for completion of the new study programme are laid down.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average.

Mode of study: full-time

3RD-CYCLE STUDY PROGRAMMES (<https://www.fs.um.si/en/study/study-programme/third-cycle>):

1. DOCTORAL SCHOOL OF THE FACULTY OF MECHANICAL ENGINEERING

3 study options: *Mechanical Engineering*, *Environmental Engineering*, and *Design and Textile Materials*

Location: Maribor

Duration: 3 years, 180 ECTS

Access requirements:

1. DOCTORAL SCHOOL OF THE FACULTY OF MECHANICAL ENGINEERING

Study options:

Students may select one of the three study options: *Mechanical Engineering*, *Environmental Engineering*, or *Design and Textile Materials*. A study option shall be selected when applying to enrol and is implemented in the first year of study.

Candidates who completed the following may apply for a 3rd-cycle (doctoral) study programme of the *Doctoral School of the Faculty of Mechanical Engineering*:

- A 2nd-cycle (master's) study programme.
- An integrated (long-cycle) master's study programme corresponding to 300 ECTS credits.
- An undergraduate academic study programme adopted prior to 11 June 2004 corresponding to a minimum of 240 ECTS credits.
- A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004, corresponding to a minimum of 240 ECTS credits in total. Prior to enrolment, candidates shall fulfil the following study obligations corresponding to 30 ECTS credits:
 - *Mechanical Engineering* option: the *Selected Topics in Mathematics* (6 ECTS), *Selected Topics in Mechanics* (6 ECTS), *Advanced Engineering Materials* (6 ECTS), *Methodology of Experimental Work* (6 ECTS), and *Numerical Modelling and Computer Simulations* (6 ECTS) courses under the 2nd-cycle (master's) study programme in *Mechanical Engineering*.
 - *Environmental Engineering* option: study obligations corresponding to 30 ECTS credits in the field of ecology and environmental protection under the 2nd-cycle (master's) study programme in *Environmental Engineering* shall be determined by the Faculty's Academic Affairs Committee, taking into account the candidate's previous field of expertise (the type of previously completed study programme).
 - *Design and Textile Materials* option: Candidates shall complete study obligations under the 2nd-cycle (master's) study programme in *Design and Textile Materials* depending on the selected doctoral dissertation topic. Candidates preparing a doctoral dissertation in the field of materials and technologies shall pass the *Analytical Methods in Textiles*, *Mechanical Properties of Textile Materials*, *Surface Properties of Polymer Materials*, *Methods of Textile Materials Recycling*, and *Nanomaterials* courses. Candidates who decide for a doctoral dissertation in the field of design shall pass the *Colour Metrics*, *Presentation Techniques and Virtual Catalogues*, *Fashion Design*, *Management of Textile Product Development*, *Visual Communication*, or *Multifunctionality in Design* courses.
- An equivalent qualification obtained abroad.

Selection criteria in the event of limited enrolment:

If the number of applications exceeds the number of available positions, candidates shall be ranked according to:

- grade point average including the thesis (100%).

Transfer criteria:

Candidates may transfer to the study programme provided they fulfil the following criteria:

- criteria for enrolment in the first year of the 3rd-cycle study programme of the *Doctoral School of the Faculty of Mechanical Engineering*;
- they are transferring from a study programme leading to the acquisition of comparable competences or learning outcomes;

- at least half of the study obligations evaluated according to the ECTS credit system of the previous study programme relating to compulsory courses of the new study programme are recognised.

In accordance with the Criteria for Transferring Between Study Programmes, candidates who completed the following may be admitted to a corresponding year of the 3rd-cycle (doctoral) study programme of the *Doctoral School of the Faculty of Mechanical Engineering*:

1. A master of science study programme adopted prior to 11 June 2004 in the field of engineering and natural sciences. Depending on the similarity of the study programmes, candidates are awarded between 60 (enrolment in the second year of study) and 120 ECTS credits (enrolment in the third year of study).
2. A specialisation (a minimum of 60 ECTS credits) following an undergraduate academic study programme in the field of engineering and natural sciences (a minimum of 240 ECTS credits) adopted prior to 11 June 2004 and corresponding to at least 300 ECTS credits in total. Candidates are awarded 60 ECTS credits.

Candidates may transfer to the study programme also from other 3rd-cycle study programmes in the field of engineering and natural sciences provided they fulfil the access requirements and there are enough enrolment places available.

The transfer shall be addressed by the Committee for Academic Affairs of the Faculty of Mechanical Engineering. In accordance with the Rules on the Recognition of Knowledge and Skills in Study Programmes of the University of Maribor, the candidate shall submit to the faculty:

- an application for the recognition of knowledge and skills at the University of Maribor;
- proof of fulfilled study obligations (exams) including grades and ECTS credits;
- validated course syllabi according to which knowledge was acquired;
- a receipt of payment for the recognition procedure.

If under the recognition procedure enough fulfilled study obligations is recognized that the candidate meets the criteria for enrolment in the higher year of the 3rd-cycle (master's) study programme of the *Doctoral School of the Faculty of Mechanical Engineering*, enrolment in the second or higher year is approved, and study obligations required for completion of the new study programme are laid down.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average.

Mode of study: part-time

One year of study under the part-time study programme lasts one academic year. Depending on the number of enrolled students, the teaching process is conducted in the following manner:

- a) 1-4 enrolled students: the teaching process is organized individually in the form of group consultations in the amount of 10% of course hours laid down in the study programme.
- b) 5-9 enrolled students: the teaching process is organized in a limited form based on the number of contact hours (CH), which is calculated as follows: $CH = (\text{no. of contact hours under the programme}) \times (\text{no. of enrolled students}) \times 0,1$. The remaining contact hours are implemented in the form of individual coursework in accordance with the instructions of the course coordinator or lecturer.
- c) 10 or more enrolled students: the teaching process is conducted in the full amount of course and seminar hours laid down in the study programme.

Number of available enrolment places: The number of available enrolment places is published in tables that represent an integral part of the Call.
