

# Magister inženir/magistra inženirka tehniškega varstva okolja

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## Selected qualifications

<b>Name of qualification</b>	Magister inženir/magistra inženirka tehniškega varstva okolja
<b>Translated title (no legal status)</b>	Master of Science in technical environmental protection
<b>Type of qualification</b>	Diploma druge stopnje
<b>Category of qualification</b>	Izobrazba
<b>Type of education</b>	Master's education
<b>Duration</b>	2 years
<b>Credits</b>	120 credits

Enrolment in the second-cycle study Technical Environmental Protection programme is open to candidates who have completed:

- A first-cycle study programme in a relevant field: Engineering (52); Textiles, clothes, footwear, leather (542); Building and civil engineering (582); Environmental pollution control (environmental protection technology, 851); Community sanitation services (853); Biology and biochemistry (421); Environmental science (422); Physical science (broad programmes, 440).
- A first-cycle study programme in another field: Mathematics (461); Computer science (481); Materials (wood, paper, plastic, glass, 543); Mining and extraction (544); Architecture and town planning (581); Medical diagnostic and treatment technology (725); Transport services (840) – if prior to enrolment in the programme the candidate has completed course units essential for further study, totalling 15 ECTS credits. These course units may be completed during the first-cycle programme, during supplementary study programmes or by passing differential examinations before enrolment in the programme. Candidates must complete the following course units: Mathematics with statistics (8 ECTS credits), Chemistry (7 ECTS credits).
- A completed professional higher education programme, adopted before 11 June 2004, in a relevant field: Engineering (52); Textiles, clothes, footwear, leather (542); Building and civil engineering (582); Environmental pollution control (environmental protection technology, 851); Community sanitation services (853); Biology and biochemistry (421); Environmental science (422); Physical science (broad programmes, 440).
- A professional higher education programme, adopted before 11 June 2004, in another field: Mathematics (461); Computer science (481); Materials (wood, paper, plastic, glass, 543); Mining and extraction (544); Architecture and town planning (581); Medical diagnostic and treatment technology (725); Transport services (840) – if prior to enrolment in the programme the candidate has completed course units essential for further study, totalling 15 ECTS credits. These course units may be completed during the first-cycle programme, during supplementary study programmes or by passing differential examinations before enrolment in the programme. Candidates must complete the following course units: Mathematics with statistics (8 ECTS credits), Chemistry (7 ECTS credits).
- An academic higher education programme, adopted before 11 June 2004, in a relevant field: Engineering (52); Textiles, clothes, footwear, leather (542); Building and civil engineering (582); Environmental pollution control (environmental protection technology, 851); Community sanitation services (853); Biology and biochemistry (421); Environmental science (422); Physical science (broad programmes, 440). As a rule 60 ECTS credits are recognised for such candidates within the study programme and candidates may enrol in the second year of the programme if with these recognised course units they meet the conditions for transition laid down by an accredited study programme.
- An academic higher education programme, adopted before 11 June 2004, in another field: Mathematics (461); Computer science (481); Materials (wood, paper, plastic, glass, 543); Mining and extraction (544); Architecture and town planning (581); Medical diagnostic and treatment technology (725); Transport services (840). For such candidates 30 ECTS credits are recognised within the study programme and candidates may enrol in the corresponding year of the programme.
- A professional higher education programme, adopted before 11 June 2004, and a programme leading to a specialisation, adopted before 11 June 2004, in a relevant field: Engineering (52); Textiles, clothes, footwear, leather (542); Building and civil engineering (582); Environmental pollution control (environmental protection technology, 851); Community sanitation services (853); Biology and biochemistry (421); Environmental science (422); Physical science (broad programmes, 440). As a rule 60 ECTS credits are recognised for such candidates within the study programme and candidates may enrol in the second year of the programme if with these recognised course units they meet the conditions for transition laid down by an accredited study programme.
- A professional higher education programme, adopted before 11 June 2004, and a programme leading to a specialisation, adopted before 11 June 2004, in another field: Mathematics (461); Computer science (481); Materials (wood, paper, plastic, glass, 543); Mining and extraction (544); Architecture and town planning (581); Medical diagnostic and treatment technology (725); Transport services (840). For such candidates 30 ECTS credits are recognised within the study programme and candidates may enrol in the corresponding year of the programme.

## Admission requirements

## ISCED field

Field  
Tehnika, proizvodne tehnologije in gradbeništvo

## ISCED subfield

subfield interdisciplinarne izobraževalne aktivnosti/izidi, pretežno tehnika, proizvodne tehnologije in gradbeništvo

## Qualification level

SQF 8  
EQF 7  
Second level

## Learning outcomes

The qualification holder will be able to:

(general competences)

- apply research methods across a broad spectrum of problems and in new or changed circumstances,
- assume responsibility for managing highly complex work processes and systems,
- apply research methods, procedures and processes in the broader field of technical protection of the environment,
- design, consult on, plan and implement technical solutions in the field of environmental protection using professional critical judgement, self-critical assessment and responsibility, taking into account professional excellence, social utility, ethical responsibility, a commitment to professional ethics and criteria for the environmental integrity of their creations,
- carry out an independent technical assessment on the basis of scientific analysis and synthesis,
- place new information and interpretations in the context of the fundamental discipline,
- demonstrate understanding of the basic structure of the fundamental discipline and the links between its sub-disciplines,
- display individual creative thinking, find new solutions and use a research approach to the design and manufacture of products that are connected to new techniques and the most advanced technologies,
- effectively integrate theory and practice, including via project tasks,
- analyse problems, exclude unimportant effects, produce a synthesis, foresee possible solutions, select the best decision in a given moment and assess related consequences,
- work as part of a team in national and international contexts

(subject-specific competences)

- demonstrate mastery of knowledge in a chosen scientific field (e.g. construction and design of engineering and environmental systems, computer modelling of engineering and environmental systems, computer modelling and experimental modelling of environmental phenomena, advanced concepts in environmental protection management) and further develop that knowledge,
- find new sources of knowledge in the academic and professional spheres of environmental protection,
- plan, evaluate and build advanced technologies, innovative products and systems that can potentially be offered in global markets, either now or in the future,
- master new technological procedures and processes,
- master new procedures in environmental process engineering,
- employ a holistic approach to waste management,
- incorporate the findings of other disciplines into the broader field of technical protection of the environment,
- demonstrate coherent mastery of basic knowledge and integrate knowledge from various fields,

- demonstrate understanding of and apply the methods of environmental analysis,
- create detailed models of environmental systems,
- use modern computer simulation tools for the virtual modelling of environmental systems,
- demonstrate understanding of economics of environmental protection,
- demonstrate knowledge of advanced waste water treatment processes,
- demonstrate the impacts of energy production on the environment and prevent the negative impacts of these processes,
- demonstrate knowledge of hazardous substances released into the environment,
- demonstrate knowledge of legislation, strategy and control in environmental protection,
- demonstrate understanding of transmission phenomena in environmental systems.

## Assessment and completion

Examination performance is scored as follows: 10 (excellent); 9 (very good: above-average knowledge but with some mistakes); 8 (very good: solid results); 7 (good); 6 (adequate: knowledge satisfies minimum criteria); 5–1 (inadequate). In order to pass an examination, a candidate must achieve a grade between adequate (6) and excellent (10).

## Progression

Progression through the programme is possible if the student completes the course units prescribed by the study programme and meets other requirements of the Statute of the University of Maribor.

Conditions for progression to the second year: in order to progress to the second year, students must have completed first-year course units totalling at least 45 ECTS credits.

If a student fails to meet all progression requirements, the Studies Committee of the Senate of the Faculty of Mechanical Engineering may approve enrolment in the second year at the student's request in accordance with the provisions of the Statute of the University of Maribor.

## Transitions

Third-cycle doctoral study programmes (SQF level 10)

## Condition for obtaining certificate

In order to complete the programme, students must complete all course units prescribed by the study programme.

## Awarding body

Faculty of Mechanical Engineering, University of Maribor

URL

<http://www.fs.um.si/en/study/study-programme/second-cycle/>

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