

INFORMATION PUBLICATION

Second-cycle Master's study programme

SANITARY ENGINEERING

applies for students enrolled in the 2020/2021 academic year

1. Information about the study programme

Second-cycle Master's study programme *Sanitary Engineering* lasts 1 years (2 semesters) and comprises a total of 60 credits. After completing the programme, the graduate is awarded the professional title **magister sanitarnega inženirstva** or **magistrica sanitarnega inženirstva**, abbreviation **mag. san. inž.**

ISCED:	Health care (72)	SOK:	SOK level 8
KLASIUS-P:	Health technology (other) (7259)	EOK:	EOK level 7
KLASIUS-P-16:	Medical diagnostic and therapeutic technology (0914), Interdisciplinary educational activities, predominantly health and social security (0988)	EOVK:	Second cycle
FRASCATI:	Medical sciences (3)		

2. Basic programme goals and general competences acquired with the programme

The basic goal of the programme is to provide the Master of Sanitary Engineering with the knowledge, skills and mentality to work in the field of hygiene, epidemiology and health and ecology and train him/her to manage hygienic processes in the work and living environment as well as protect people from the harmful effects of the environment, protect the environment from harmful human interventions and improve the quality of the environment for human health and well-being.

The competencies of a Master of Sanitary Engineering are:

- Ability to understand and creatively solve problems and set principles and theories.
- Ability to develop critical, analytical and synthetic thinking.
- Ability to obtain and evaluate acquired data.
- Ability to manage and lead in the selected area of expertise.
- Develop creativity and the ability to adapt to new situations and follow trends in his/her field of expertise.
- Ability to use various methods for monitoring, evaluation and management of issues in the field of sanitary engineering and verification of their effectiveness.
- Ability to assess, draw up and evaluate hygienic-technical and environmental standards.
- Ability to draw up prevention programmes using state-of-the-art tools.
- Ability to draw up risk assessments and environmental and health impact assessments.
- Ability to draw up plans and solve problems in the event of emergency.
- Ability to lead and participate in an interdisciplinary expert group.
- Ability of ethical research work in the field of sanitary engineering.
- Ability to plan, analyse and evaluate project solutions in the field of sanitary engineering.
- Ability to identify needs and draw up and implement programmes to maintain and enhance health, and promotion in this respect.

- Ability to draw up and implement programmes for the detection, analysis and prevention of nosocomial infections.
- Ability to assess food safety principles in the food supply chain.
- Ability to draw up recovery plans in the field of health and environment.
- Ability to correctly apply substantive provisions in the field of health and environment.
- Ability to manage and make decisions in inspection procedures in the field of health and environment.

3. Conditions for enrolment and selection criteria in the case of restricted enrolment

The candidates who have completed the following may enrol in the Master's study programme Sanitary Engineering:

- a) first-cycle university study programme;
- b) the professional higher education study programme or four-year two-cycle higher education study programme Sanitary Engineering; the four-year two-cycle higher education study programme Sanitary Engineering was adopted in 1993 based on the Targeted Education Act and implemented from the 1993/94 academic year to the 1995/96 academic year. Graduates who have completed the higher vocational study programme Sanitary Engineering may enrol in the study programme. Pursuant to Article 88 of the Higher Education Act, students enrolled in this programme had been given the opportunity to complete their studies by 30 September 2000.
- c) first-cycle study programme from other areas of expertise (evaluated with 240 ECTS credits) if they gain an additional 10 to 30 credits from the set of compulsory general and compulsory professional subjects of the first-cycle university study programme Sanitary Engineering (Anatomy and physiology with pathology, Biophysics, Mathematics, Chemistry, Informatics, Statistics, Microbiology and parasitology, Basics of hygiene and ethics, Basics of Ecology, Special biophysics, Biochemistry, Analytical chemistry, Structural sets of buildings, Hygiene and ergonomics of work, Disinfection, Disinsection and deratization, Communal hygiene, Epidemiology, Sanitary engineering in emergency situations and first aid, Hygiene of facilities and processes, Administrative procedure with sanitary and ecological law, Bioclimatic planning, Work and living environment, Atmosphere and pollution, Food technology and safety, Waste management, Technology and technology of drinking and waste water, Energy and environment, Acquisition, management and implementation of projects). Obligations are determined by the competent study commission according to the diversity of the area of expertise; the candidate must pass additional exams before enrolling in the master's study programme.
- d) first-cycle study programme from other areas of expertise (evaluated with 180 ECTS credits) if the candidate additionally gains the missing 60 ECTS credits (of a total of 240 ECTS credits) and an additional 10 to 30 credits from the set of compulsory general and compulsory professional subjects of the first-cycle university study programme Sanitary Engineering (Anatomy and physiology with pathology, Biophysics, Mathematics, Chemistry, Informatics, Statistics, Microbiology and parasitology, Basics of hygiene and ethics, Basics of Ecology, Special biophysics, Biochemistry, Analytical chemistry, Structural sets of buildings, Hygiene and ergonomics of work, Disinfection, Disinsection and deratization, Communal hygiene, Epidemiology, Sanitary engineering in emergency situations and first aid, Hygiene of facilities and processes, Administrative procedure with sanitary and ecological law, Bioclimatic planning, Work and living

environment, Atmosphere and pollution, Food technology and safety, Waste management, Technology and technology of drinking and waste water, Energy and environment, Acquisition, management and implementation of projects). Obligations are determined specifically for each individual by the competent study commission according to the diversity of the area of expertise; the candidate must pass additional exams before enrolling in the master's study programme.

- e) professional higher education study programme from other areas of expertise (180 ECTS credits) adopted before 11 June 2004, if the candidate additionally gains the missing 60 ECTS credits (of a total of 240 ECTS credits) and an additional 30 to 60 credits from the set of compulsory general and compulsory professional subjects of the first-cycle university study programme Sanitary Engineering (Anatomy and physiology with pathology, Biophysics, Mathematics, Chemistry, Informatics, Statistics, Microbiology and parasitology, Basics of hygiene and ethics, Basics of Ecology, Special biophysics, Biochemistry, Analytical chemistry, Structural sets of buildings, Hygiene and ergonomics of work, Disinfection, Disinsection and deratization, Communal hygiene, Epidemiology, Sanitary engineering in emergency situations and first aid, Hygiene of facilities and processes, Administrative procedure with sanitary and ecological law, Bioclimatic planning, Work and living environment, Atmosphere and pollution, Food technology and safety, Waste management, Technology and technology of drinking and waste water, Energy and environment, Acquisition, management and implementation of projects). Obligations are determined specifically for each individual by the competent study commission according to the diversity of the area of expertise; the candidate must pass additional exams before enrolling in the master's study programme.

Candidates that have completed equivalent education, as referred to in points a) to e), abroad also meet the conditions for enrolment and may enrol under the same conditions as those applicable to candidates who have completed their education in Slovenia.

When applying, all candidates must demonstrate knowledge of the Slovenian language at the B2 level, according to the Common European Framework of Reference for Languages (CEFR), with the appropriate certificate. Relevant proof of compliance with this enrolment condition shall be:

- a certificate of completion of the Slovenian language exam at B2 level or an equivalent certificate,
- a certificate of primary school completion in the Republic of Slovenia or completion of school abroad that features the Slovenian language,
- a matura certificate or certificate on completed secondary professional education, which also shows the Slovenian language course completion,
- a certificate of completed bilingual (in the Slovenian and foreign language) secondary education or completed foreign secondary school that features the Slovenian language,
- a diploma obtained at a higher education institution in the Republic of Slovenia and a certificate (statement) that the candidate has completed the programme in the Slovenian language.

In the case of restricted enrolment:

- the candidates referred to in point a) will be selected based on average grade in exams passed within the first-cycle.
- the candidates referred to in point b) will be selected based on average grade in exams

passed within the first-cycle (80%) and diploma theses (20%).

- the candidates referred to in point c), d) and e) will be selected based on average grade in exams passed within the first-cycle and all other exams that are a pre-condition for enrolment.

4. Criteria for the recognition of knowledge and skills acquired prior to enrolment in the programme

The student may be recognized knowledge that corresponds to the content of the subjects in the second-cycle study programme Sanitary Engineering, acquired in other study programmes of the appropriate cycle. The Commission for Academic Affairs of the Faculty of Health Sciences is to decide on the recognition of knowledge acquired before the enrolment based on the student's written application, enclosed certificates and other documents proving successfully acquired knowledge and its content.

In recognizing knowledge acquired prior to enrolment, the Commission is to consider the following criteria:

- the adequacy of meeting criteria for accession to different forms of education (required prior education for inclusion in education);
- the relevance of the scope of education (the number of hours of prior education with regard to the scope of the subject for which the obligation is being recognized);
- the relevance of the content of education with regard to the content of the subject for which it is being recognized.

Acquired knowledge may be recognized as a completed obligation if:

- the condition for inclusion in education was in line with the conditions for inclusion in the programme;
- if prior education covered at least 75% of the scope of the subject and if at least 75% of the content corresponds to the content of the subject for which the study obligation is being recognized.
- If the Commission establishes that the acquired knowledge may be recognized, it is to be evaluated with the same number of ECTS points as the number of credit points for the subject.

Informally acquired knowledge and skills which, in terms of content, scope and complexity, fully or partially correspond to general or subject-specific competencies determined by the second-cycle study programme Sanitary Engineering may be recognised to the student. The competent commission is to decide thereof pursuant to the Rules on the procedure and criteria on the recognition of knowledge and skills obtained through informal learning of the University of Ljubljana. The procedure commences with the application. Certificates or other documents that may serve as proof of the candidate's knowledge obtained through informal educational programmes include:

- a certificate on successfully completed educational programme from the education and training providers,
- a certificate on informal education,
- a certificate on internship, project implementation, etc. issued by a company,
- the submission of products, publications and other types of independent work drawn up by candidates.

The following criteria are applied in the recognition procedure:

- the assessment of the acquired competencies must be based primarily on the educational

- objectives or admission requirements of the Sanitary Engineering study programme,
- the candidate's acquired competencies, supported with proof, properly documented and relevant, are recognised regardless of where and how the candidate has obtained them.

In the process of establishing, assessing, confirming and recognising informally obtained knowledge and skills, the competent body decides:

- a) whether or not to assess the informally obtained knowledge or skills,
- b) whether or not to assess the products and services submitted by the candidate as proof of mastering certain knowledge or skills.

If informally obtained knowledge and skills are recognised as a completed study obligation, they must be evaluated in accordance with the criteria for credit assessment of study programmes according to the ECTS. A maximum of 15 ECTS credits of knowledge acquired outside the scope of the study programme can be recognized.

5. Requirements for progression through the programme

The study, within which it is necessary to complete obligations of 60 ECTS credits, lasts one year.

6. Conditions for completing studies

In order to complete his/her studies, a student must complete all requirements demanded by courses and defend the master's thesis.

7. Transferring between study programmes

Pursuant to the Criteria for transferring between study programmes of 18 November 2010 and the duration of the study programme, transfers between study programmes under this title are not possible.

8. Methods of assessment

Students' knowledge is evaluated and assessed by individual subjects so that the learning process related to a particular subject is concluded with the examination of theoretical and / or practical knowledge. Forms of knowledge assessment (oral or written exam, colloquia, seminar papers, project assignments) are defined in the syllabuses. The general rules of knowledge assessment are regulated by the Rules on knowledge assessment of the Faculty of Health Sciences, adopted by the Senate of the Faculty of Health Sciences.

Pursuant to the Statutes of the University of Ljubljana, the following grade chart is used for evaluation:

- 10 – Exceptional knowledge without or with negligible faults
- 9 – Very good knowledge with some minor faults
- 8 – Good knowledge with certain faults
- 7 – Solid knowledge but with several faults
- 6 – Knowledge only meets minimum criteria
- 5 – Knowledge does not meet minimum criteria

A student passes the exam if he/she is graded from 6 to 10.

