
Magister kemije/magistrica kemije

Selected qualifications

Name of qualification	Magister kemije/magistrica kemije
Translated title (no legal status)	Master of Science in chemistry
Type of qualification	Diploma druge stopnje
Category of qualification	Izobrazba
Type of education	Master's education
Duration	2 years
Credits	120 credits

Admission requirements

- A completed first-cycle study programme in a relevant field (e.g. chemistry, biochemistry, pharmacy, chemical technology, chemistry for education); or
- a completed first-cycle programme in another natural science field not covered by the previous indent, if prior to enrolment the candidate has completed course units essential for further study totalling 46 credits; these are: General Chemistry, Inorganic Chemistry, Organic Chemistry 1, 2, Analytical Chemistry 1, 2, Physical Chemistry 1, Molecular Biology; or
- a completed professional higher education programme, adopted before 11 June 2004, in a relevant field: chemistry, chemical technology, chemical engineering, process engineering, biochemical engineering; or
- a completed professional higher education programme, adopted before 11 June 2004, in another natural science field not covered by the previous indents, if prior to enrolment the candidate has completed course units essential for further study totalling 46 credits; these are: General and Inorganic Chemistry, Organic Chemistry 1, 2, Analytical Chemistry 1, 2, Physical Chemistry 1, Basics of Biochemistry.

ISCED field

Field
Naravoslovje, matematika in statistika

ISCED subfield

subfield kemija

Qualification level

SQF 8
EQF 7
Second level

Learning outcomes

The qualification holder will be able to:

(general competences)

- use general scientific methods and models,
- test and improve established methods, resolve problems and carry out scientific research,
- compare facts, theories, concepts and data when addressing complex problems,
- pursue lifelong learning and advanced study,
- work autonomously and in a team,
- communicate effectively, including in English, and present information, problems and solutions to a specialist public using modern presentation tools,

(subject-specific competences)

- demonstrate in-depth knowledge of relevant basic disciplines and their genesis (particularly mathematics, biology, physics) in order to understand, describe and address phenomena in

chemistry,

- demonstrate understanding of the basis of chemical terminology, nomenclature and the use of units,
- demonstrate familiarity with the basic types of chemical reactions and their basic characteristics,
- demonstrate familiarity with the procedures of chemical analysis and the characterisation of compounds,
- demonstrate familiarity with the basic methods of structural tests, including spectroscopy and X-ray diffraction,
- demonstrate familiarity with the characteristics of various aggregate states and the theories that describe them,
- demonstrate in-depth knowledge of quantum mechanics and its application in the description of the structure of atoms and molecules,
- demonstrate familiarity with the principles of thermodynamics and their application in chemistry,
- demonstrate knowledge of the kinetics of chemical change, including catalysis,
- demonstrate in-depth knowledge of the classification of elements and their compounds, including the periodic system,
- demonstrate knowledge of the structural characteristics of elements and their compounds, including stereochemistry,
- demonstrate knowledge of the properties of aliphatic, aromatic, heterocyclic and organometallic compounds,
- demonstrate knowledge of the nature and properties of functional groups in organic molecules,
- demonstrate familiarity with synthesis pathways in organic and inorganic chemistry,
- demonstrate familiarity with the connections between materials and individual atoms or molecules,
- demonstrate familiarity with the chemistry of biological molecules and processes,
- demonstrate understanding of safety, health and environment,
- use relevant software and other advanced tools,
- carry out more advanced experiments and offer more advanced interpretation of results,
- carry out suitable planning and resolve problems through the application of scientific methods and procedures in a given specialised field.

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

In order to progress to the second year, students must have completed a minimum of 50 first-year credits, all first-year practical classes (practical classes are completed when students have completed all assignments specified for them) and passed the following compulsory examinations: Inorganic Chemistry, Organic Chemistry, Analytical Chemistry, Structure of Atoms and Molecules. Condition for obtaining a public document:

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 envisaged by the study programme and write and successfully defend a master's thesis, for a total of at least 120 credits.

Awarding body

University of Maribor, Faculty of Chemistry and Chemical Technology

URL

<http://www.fkkt.um.si/en>
