SLOVENSKO
OGRODJE
KVALIFIKACIJ

Diplomirani inženir kemijske tehnologije (vs)/diplomirana inženirka kemijske tehnologije (vs)

Selected qualifications

Name of qualification	Diplomirani inženir kemijske tehnologije (vs)/diplomirana inženirka kemijske tehnologije (vs)
Translated title (no legal status)	Bachelor of Applied Science in chemical technology
Type of qualification	Diploma prve stopnje (VS)
Category of qualification	Izobrazba
Type of education	Professional bachelor's education
Duration	3 years
Credits	180 credits
Admission requirements	• Matura or • vocational matura; or • school-leaving examination (prior to 1 June 1995) under any four-year secondary school programme

ISCED field

Field
Tehnika, proizvodne tehnologije in gradbeništvo

ISCED subfield

subfield kemijsko inženirstvo in procesi

Qualification level

SQF 7
EQF 6
First level

Learning outcomes

The qualification holder will be able to:

(general competences)

- use mathematical, scientific and chemical engineering knowledge to resolve analytical and technical problems,
- address specific problems of analysis and synthesis in the field of chemistry and chemical technology and demonstrate understanding of the influence of technical solutions on environmental and social relations,
- integrate technical knowledge, techniques, skills and modern engineering tools in the addressing of technological problems,
- use and have some experience in the use of relevant software and other advanced tools,
- communicate effectively, including in English, and use modern presentation tools,
- acquire knowledge from relevant literature and data sources, including computer databases,
- work as part of a team in multidisciplinary groups,
- demonstrate understanding of the principles of leadership and understanding of business practice,
- demonstrate understanding of their own professional and ethical responsibility,
- demonstrate understanding of the meaning of entrepreneurship,
- demonstrate knowledge of the practical applications of process and product engineering (through projects),
- pursue autonomous learning and recognise the need for lifelong learning.

(subject-specific competences)

- demonstrate knowledge of relevant basic disciplines and their genesis (particularly mathematics, chemistry, biochemistry, physics) in order to understand, describe and address phenomena in technical chemistry and chemical technology:
- demonstrate understanding of the basis of chemical terminology, nomenclature and the use of units,
- demonstrate knowledge of basic types of chemical reactions and their basic characteristics,
- demonstrate knowledge of the bases and procedures of chemical analysis and the characterisation of compounds,
- demonstrate knowledge of the characteristics of various aggregate states and the theories that describes them,
- demonstrate knowledge of the basics of thermodynamics and their application in chemistry,
- demonstrate knowledge of the basics of the kinetics of chemical change, including catalysis,
- demonstrate knowledge of the classification of elements and their compounds, including the periodic system,
- demonstrate knowledge of the most important properties of aliphatic, aromatic, heterocyclic and

organometallic compounds and the nature and properties of functional groups in organic molecules,
- demonstrate knowledge of the main synthesis pathways in organic and inorganic chemistry,
- demonstrate knowledge of the chemistry of biological molecules and processes.
- demonstrate understanding of the general structure of chemical engineering and the connections between its sub-disciplines,
- demonstrate understanding of basic principles in chemical engineering:
- matter and energy balances, motion quantity balances, cost balances,
- equilibrium,
- flow processes (chemical reaction, matter transfer, energies and motion quantities) – and use them to resolve various chemical engineering problems (analytically, numerically and graphically),
- basic operations,
- observe and measure chemical properties and changes and systematically and reliably control, record and process data in chemistry and chemical technology,
- use acquired knowledge to address qualitative and quantitative tasks in the field of chemical technology,
- demonstrate understanding of the basic concept of the regulation of processes,
- demonstrate knowledge of and use modern methods of process and product measurement,
- recognise and complement good laboratory practice, carry out standard laboratory procedures including the use of instruments in synthesis and analytical procedures, and communicate and interpret laboratory results,
- demonstrate basic understanding of the issues of safety, health and the environment and the safe handling of chemicals with regard to their physical and chemical properties, and the capacity to carry out a risk assessment regarding the chemicals and procedures used,
- demonstrate understanding of the concept of sustainable development.

Assessment and completion

Students' knowledge is assessed by means of practical exercises and seminar papers, and also via products, projects, performances, services, etc. and by examinations. 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

Students may enrol in the next year if they have met the requirements defined by the programme. Admission requirements for the 2nd year are the completion of all first-year course units (60 ECTS credits). Admission requirements for the 3rd year are the completion of all second-year course units (60 ECTS credits).

Transitions

Second-cycle master's study programmes (SQF level 8)

Condition for obtaining certificate

In order to complete the first-cycle professional higher education programme in Chemical Technology, students must complete all course units prescribed by the study programme, for a total of at least 180 ECTS credits.

Awarding body

Faculty of Chemistry and Chemical Technology, University of Maribor

URL

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