SLOVENSKO
OGRODJE
KVALIFIKACIJ

Magister inženir tehnologije polimerov/magistrica inženirka tehnologije polimerov

Selected qualifications

Name of qualification	Magister inženir tehnologije polimerov/magistrica inženirka tehnologije polimerov
Translated title (no legal status)	Master of Science in polymers technology
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 (polymers technology, mechanical engineering, chemistry and chemical technology) or;
• a completed first-cycle programme in another field, if prior to enrolment the candidate has completed course units essential for further studies; these requirements are determined with reference to how different the field is, and consist of between 10 and 60 credits (maximum).

ISCED field

Field
Tehnika, proizvodne tehnologije in gradbeništvo

ISCED subfield

subfield lesarska, papirniška, plastična, steklarska in podobna tehnologija

Qualification level

SQF 8
EQF 7
Second level

Learning outcomes

The qualification holder will be able to:

(general competences)

- demonstrate in-depth knowledge and understanding of the essential facts, concepts, principles and theories relating to the second-cycle programme,
- apply knowledge and methodologies to address qualitative and quantitative complex problems including in new, less known and multidisciplinary contexts,
- master research methods, procedures and processes, develop critical and self-critical assessment,
- undertake technical analysis and synthesis and anticipate solutions and consequences,
- place new information and interpretations in the context of the profession,
- demonstrate objectivity in achieving and evaluating results and presenting the results of research,
- demonstrate autonomy in professional work,
- address multidisciplinary problems in collaboration with immediate colleagues and participants from other working environments and fields,
- master information technologies for successful professional work, including the management and implementation of industrial and R&D projects,
- formulate an expert opinion; in cases where inadequate or limited information is available, find the necessary information,
- clearly and effectively communicate/report conclusions, justifications and knowledge to a specialist and non-specialist public,
- demonstrate a capacity for ethical reflection and a commitment to professional ethics,
- cooperate professionally and communicate effectively, including in the international environment (in a foreign language),
- organise work,
- work as part of a team,
- take responsibility for their own professional development and lifelong learning,
- master the knowledge and competences necessary to continue studies in the third cycle,

(subject-specific competences)

- demonstrate broad and in-depth knowledge of polymer materials and the production, modification and processing of polymer materials suitable for the creation of innovations, new ideas and the application of acquired knowledge in the industrial and R&B environment,
- apply knowledge in a new and less-known and multidisciplinary context in the field of the technology of polymer materials,
- lead and implement laboratory procedures and demonstrate familiarity with instruments and their functioning for the implementation of analysis and evaluation of results,
- manage and implement projects at the laboratory, pilot and industrial levels,
- autonomously and safely implement experimental work and evaluate experimental procedures and results,
- demonstrate mastery of knowledge and competences that correspond to the requirements of advanced technologies and applications in the field of the technology of polymer materials and related fields,
- apply knowledge in a new and less-known and multidisciplinary context in the field of the technology of polymer materials,
- demonstrate familiarity with analytical methods for the characterisation of polymers and polymer materials and interpret the results of analyses,
- demonstrate understanding of the importance of sustainable development and the sustainable production and use of polymer materials and plan products made from polymer materials taking into account the principles of sustainable development,
- demonstrate understanding of the relationships between the structure, microstructure and properties of metallic and nonmetallic materials,
- demonstrate familiarity with the importance of additives in polymer materials of nano dimensions and understanding of nano effects,
- demonstrate understanding of the importance and origin of polymer materials from renewable sources,
- demonstrate understanding of the importance of biodegradability and biocompatibility in the use of polymers in biomedicine,
- relate the surface structure of a polymer material to its adhesive properties and demonstrate familiarity with surface characterisation procedures,
- demonstrate familiarity with the preparation and processing of multicomponent polymer materials,
- demonstrate familiarity with and understanding of the importance of high-quality design and construction of polymer products and tools,
- demonstrate theoretical and practical familiarity with and understanding of rheological laws for the planning of polymer processing processes,
- demonstrate familiarity with the theory and practice of numerical methods for the resolution of structural problems in polymer processing,
- demonstrate understanding of the holistic nature of the business environment in organisations and the connections between various managerial processes in that environment and apply this knowledge in practice, in particular knowledge of project work, production management, working with people and change management,
- understand, critically analyse, synthesise and apply theoretical and applied knowledge of quality management in the business and production environment and demonstrate understanding of the introduction of a quality management system to specific production processes of development, manufacture and sales.

Assessment and completion

Examination performance is graded 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 from the first year to the second year, students must have completed at least 45 credits from first-year course units. They must also complete all envisaged course units in the following subjects: Materials Science, Properties and Characterisation of Polymers and Polymer Materials.

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 Polymer Technology

URL

https://www.ftpo.eu/en