

Magister inženir informacijskih tehnologij v gradbeništvu/magistrica inženirka informacijskih tehnologij v gradbeništvu

Selected qualifications

Magister nanoznanosti in nanotehnologij/magistrica nanoznanosti in nanotehnologij



Name of qualification

Magister inženir informacijskih tehnologij v gradbeništvu/magistrica inženirka informacijskih tehnologij v gradbeništvu

Translated title (no legal status)

Master of Science of information technology engineering in construction

Type of qualification

Diploma druge stopnje

Category of qualification

Izobrazba

Type of education

Master's education

Duration

2 years

Credits

120 credits

Admission requirements

In order to be eligible to enrol in the 2nd cycle Civil Engineering study programme, candidates must have completed:

- A first-cycle study course from relevant fields of expertise: civil engineering (5820), industrial engineering – civil engineering programme (5829), architecture (5811).
- A first-cycle study programme from other fields of expertise: transportation services (8400), technology (transportation engineering) (5200), mechanical engineering (5211) and city planning (5812), if prior to enrolling in the study programme, they completed those study obligations deemed crucial for the continuation of studies corresponding to a ECTS range between 10 and 60, which the candidate may complete during their first-cycle studies, in training programmes or by passing bridging exams prior to the enrolment in the study programme. They must complete obligations from the following fields: constructional industry, building technology, operative civil engineering, construction materials.
- Higher vocational study programme adopted prior to 11 June 2004 from the relevant field of expertise: civil engineering (5820).
- Higher vocational study programme adopted prior to 11 June 2004 from other fields of expertise: transportation services (8400), technology (transportation engineering) (5200), mechanical engineering (5211) and city planning (5812), if prior to enrolling in the study programme, they completed those study obligations deemed crucial for the continuation of studies corresponding to a ECTS range between 10 and 60, which the candidate may complete during their first-cycle studies, in training programmes or by passing bridging exams prior to the enrolment in the study programme. They must complete obligations from the following fields: constructional industry, building technology, operative civil engineering, construction materials.
- Academic study programme adopted prior to 11 June 2004 from relevant fields of expertise: civil engineering (5820), industrial engineering – civil engineering programme (5829), architecture (5811). As a rule, such candidates are granted 60 ECTS and may enrol in year two of the study programme if the recognised obligations meet the conditions for transition set out in the accredited study programme.
- Academic study programme adopted prior to 11 June 2004 from other fields of expertise: transportation services (8400), technology (transportation engineering) (5200), mechanical engineering (5211) and city planning (5812). Such candidates are granted up to 40 ECTS as part of this study programme and may accordingly enrol in the corresponding year of the study course.
- Professional higher education programme adopted prior to 11 June 2004, and specialisation study course adopted prior to 11 June 2004 from relevant fields of expertise: civil engineering (5820), industrial engineering – civil engineering programme (5829), architecture (5811). As a rule, such candidates are granted 60 ECTS and may enrol in year two of the study programme if the recognised obligations meet the conditions for transition set out in the accredited study programme.
- Professional higher education programme adopted prior to 11 June 2004, and specialisation study course adopted prior to 11 June 2004 from other fields of expertise: transportation services (8400), technology (transportation engineering) (5200), mechanical engineering (5211) and city planning (5812). Such candidates are granted up to 40 ECTS as part of this study programme and may accordingly enrol in the corresponding year of the study course.

ISCED field

Field
Tehnika, proizvodne tehnologije in gradbeništvo

ISCED subfield

subfield gradbeništvo

Qualification level

SQF 8
EQF 7
Second level

Learning outcomes

The qualification holder will be able to:

General competences:

- the ability to combine fundamental knowledge with the problem of planning, designing, construction and building of construction works, and design of construction products,
- the ability to manage projects and project teams independently,
- the ability of greater creativity and innovation as the result of broader knowledge of the field while at the same time focusing on individual sub-fields,
- the ability of internal communication within the organisation and external communication with the partners and clients home and abroad, in processes constituting the entire life cycle of the construction works,
- the ability to analyse, synthesise and anticipate solutions and consequences,
- the ability to solve the most difficult of practical problems by using scientific methods and procedures,
- good command of research methods, procedures and processes, the development of critical and self-critical assessment and of the ability to seek optimum solutions in given circumstances,
- the ability to use state-of-the art knowledge in practice,
- the development of communication abilities and skills, especially communication in an international setting,
- cooperativity, team work, work in an international environment.

Subject-specific competences:

- the understanding of the fundamental fields of civil engineering from the point of view of information flow and structure: architecture and structure of construction work, building technology, construction projects in terms of product and process life cycles, systems in construction works and the functioning of construction works (installation), management of construction works,
- the understanding of the basics of civil engineering IT:
 - Programme engineering and programme interoperability
 - Data and knowledge (collection, structuring, analysis and use)
 - Digital models and building information modelling (BIM) and space modelling (GIS)
 - Virtual design and construction, visualisation (including VR/AR)
 - Computer-supported communication and collaboration
 - Automatization in construction (including robotics applications)
- the ability to use the knowledge of civil engineering IT in construction projects and to solve demanding problems in civil engineering:

- Specification of IT demands and formulation of computer-supported solutions
- Analysis of the state of IT-support in project consortiums (determining the level of development of civil engineering IT and interconnectivity of the partners' technologies)
- Organisation and management of IT support for all stages of a buildings life cycle (planning, construction and management)
- Re-engineering and automatization in all stages of a building's life cycle
- Independent and creative performance of tasks from the field of civil engineering.

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 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

The student will progress to year 2 if he/she accumulates at least 45 ECTS from the exams passed in year 1.

Transitions

Third-cycle doctoral study programmes (SQF level 10)

Condition for obtaining certificate

The study course is completed by those students who complete all of the obligations under the study programme and thus accumulate at least 120 ECTS credits.

Awarding body

Faculty of Civil Engineering, Transportation Engineering and Architecture

URL

<https://www.fgpa.um.si/>
