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University of Priština in Kosovska Mitrovica (UPKM)

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Faculty of Technical Sciences

WP2 Development of competence-based curricula aligned with EU trends
WP2.1 – Development of specific competencies and learning outcomes of curricula in WB
20.9.2019 - Rijeka

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Existing study programme improvement

The University of Pristina in Kosovska Mitrovica – UPKM will innovate existing programme studies in Civil engineering – Structures, with new courses related to water resources management. This will be achieved by introducing new courses at the undergraduate level (first cycle qualifications) and in the master study program in Civil engineering – Structures (second cycle qualifications).

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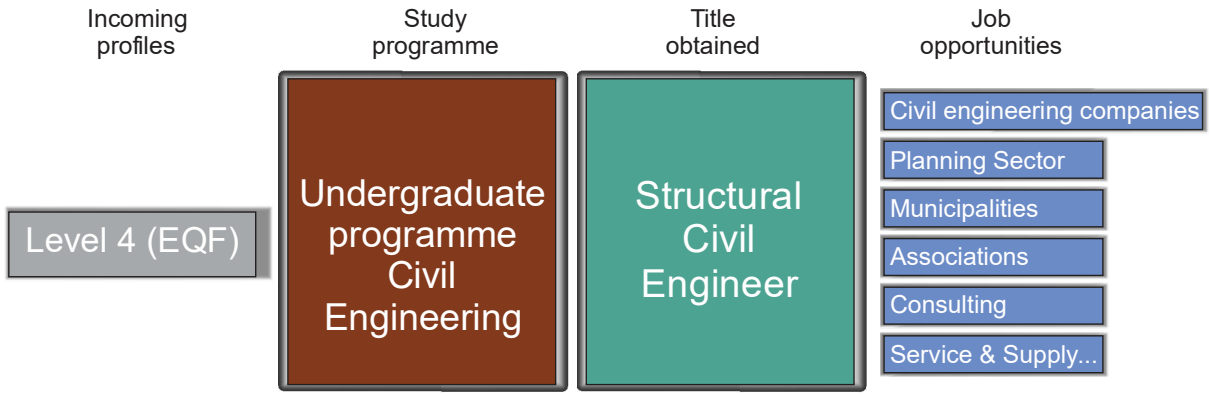
Programme input and output 1

Programme input and output of study programmes on department for Civil Engineering on our institution for undergraduate study:



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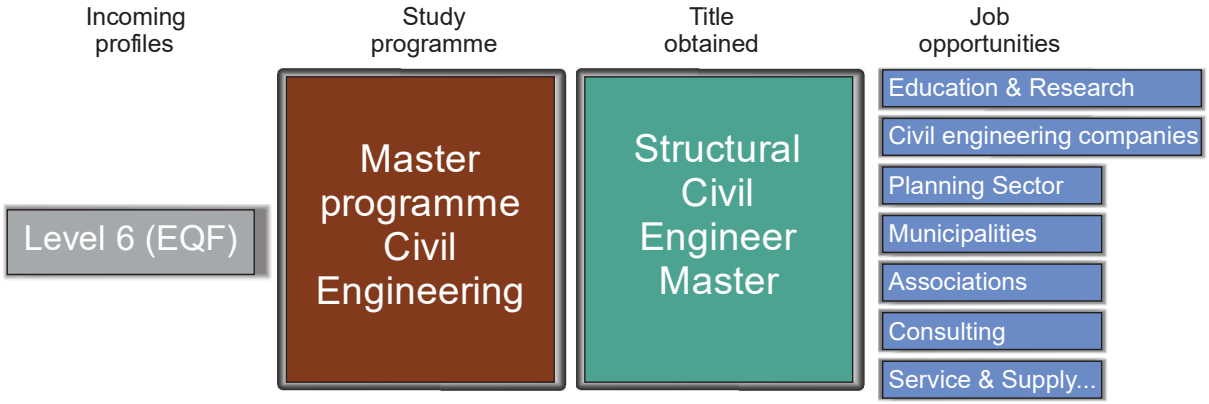
Programme input and output 2

Programme input and output of study programmes on department for Civil Engineering on our institution for master study:



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Programme description for undergraduate academic studies

Programme title:	**CIVIL ENGINEERING**
Level:	**Undergraduate academic studies**
EQF level:	**6th level**
Academic title:	**Civil Engineer – Structural Civil Engineer – 240 ECTS**
Language:	**Serbian**
Duration:	**4 years – 8 semesters**
ECTS credits:	**240 ECTS**
Knowledge:*	**Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles.**
Skills:*	**Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study.**
Responsibility and autonomy:*	**Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups.**

* - in accordance with the European Qualifications Framework (EQF)

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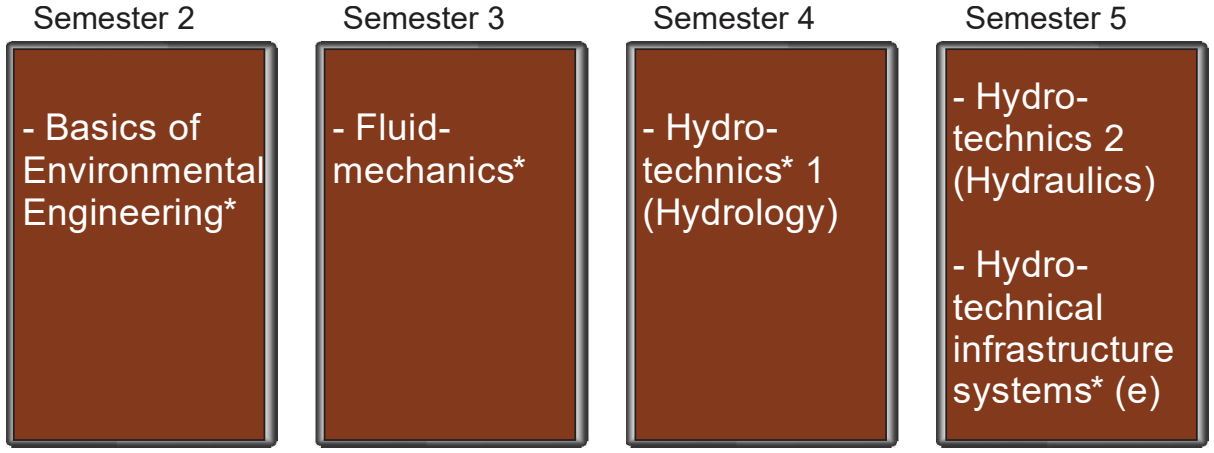
Programme description for undergraduate academic studies

Existing courses and courses which will be introduced on undergraduate study programme related to water resources management.



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Aims and objectives

The Civil Engineering study program was established with the following objectives:

- training students to apply the required knowledge in fundamental scientific disciplines (mathematics, physics, mechanics, etc.).
- achievement of professional competences of students in various fields of civil engineering through scientific-professional and professional-applied subjects,
- developing students' creative abilities to consider engineering problems and their critical thinking skills;
- developing teamwork skills,
- developing professional ethics,
- developing the ability to publicly present work results,
- training in the use of common computer tools for document creation, presentation, budgeting, and simulation,
- training for continuing education at higher levels.

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General competencies

By completing undergraduate Civil Engineering study programme, the students acquire the following general competencies:

- identifying, describing and solving engineering problems,
- applying fundamental knowledge to solve practical problems in construction,
- using common computer tools for document creation, presentation, budgeting and simulation,
- sharing information, ideas, problems and solutions with people in and outside the profession,
- collaboration in team professional work,
- taking an ethical stance in solving engineering problems,
- continuing education in graduate academic studies in civil engineering or other related fields.

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Specific competencies

Through undergraduate programme, the student acquires the following competencies specific to the field of Civil Engineering:

- design and construction of high-rise buildings and associated facilities,
- design and construction of hydro-technical facilities and hydro-technical infrastructure of lower capacity,
- design of construction organization and technology,
- execution of construction works on all types of low-capacity buildings,
- knowledge and application of various building materials and appropriate technologies,
- application of computational models for solving engineering problems in construction,
- reviewing the principles for environmental impact assessment of building structures.

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Curriculum structure

The basic academic study program in Civil Engineering lasts 4 years (divided into 8 semesters) and is worth 240 ECTS credits. The academic title acquired after graduation is a civil engineer.
Curriculum structure encompasses distribution of courses over eight semesters, the fund of teaching hours during 30 working weeks of 1 school year and ECTS credits distribution (30 ECTS in each of the eight semesters).
All subjects of the study program are one-semester courses. In addition to attending classes, students' obligations include a two-week professional internship in construction companies (design offices or construction sites) worth 2 ECTS credits. Final year work is a compulsory part of the studies and is worth 12 ECTS credits.

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Programme description for master academic studies

Programme title:	**CIVIL ENGINEERING MASTER**
Level:	**Master academic studies**
EQF level:	**7th level**
Academic title:	**Graduated Civil Engineer Master – Structural Engineer – 300 ECTS**
Language:	**Serbian**
Duration:	**1 year – 2 semesters**
ECTS credits:	**60 ECTS**
Knowledge:*	**Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research. Critical awareness of knowledge issues in a field and at the interface between different fields.**
Skills:*	**Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields.**
Responsibility and autonomy:*	**Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.**

* - in accordance with the European Qualifications Framework (EQF)

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Programme description for master academic studies

Existing courses and courses which will be introduced on master study programme related to water resources management.

Semester 1

- Design of Hydraulic Structures*
- Hydro technical Systems (e)
- Facilities of hydro power systems and plants (e)
- Planning and design of hydraulic structures (e)

* - existing course
(e) - elective course

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Aims and objectives

The Master's Degree Program in Civil Engineering has been established with the following objectives:

- achievement of professional competences of students in various fields of civil engineering (extended and deepened in relation to basic academic studies) and training for top professional jobs in the given field,
- training in development or scientific research in the chosen field of construction,
- training in the application of advanced computational models to solve technical problems,
- developing students' creative abilities to consider engineering problems and their critical thinking skills,
- developing professional ethics,
- training for further academic training in doctoral or specialist studies.

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General competencies

By completing the Master's Degree Program in Civil Engineering, the student acquires general academic and personal skills for:

- critical and self-critical evaluation of arguments, assumptions, concepts and data in decision making,
- solving engineering problems in a creative way,
- implementation of advanced computational models in solving technical problems,
- communication with the international environment,
- application of acquired knowledge in further academic education,
- research activities to analyze and solve specific problems in construction theory and practice.

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Specific competencies

Through programme mastering, the student acquires the following competencies specific to the field of Civil Engineering:

- design and construction of all types of structural structures of structures in high-rise, low-rise, and hydro-construction,
- design and execution of works on rehabilitation and reconstruction of damaged buildings,
- design and construction of all types of structures in the field of geotechnics,
- development and implementation of construction and equipment management projects,
- preparation of pre-investment studies and valuation of construction works and structures,
- application of methods for assessing the environmental impact of construction facilities and technical environmental measures in the process of planning, designing, constructing and maintaining the facilities.

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Curriculum structure

Graduate Academic Studies - Master's Degree Program in Civil Engineering takes 2 semesters and is worth 60 ECTS credits. The academic title acquired after graduation is a Bachelor of Civil Engineering - Master.

All courses of the study program are listened to in one semester and are worth 25 ECTS credits, while the second semester is reserved for study research work on the preparation of the diploma thesis (worth 10 ECTS credits) and the preparation of the diploma thesis (20 ECTS credits). In addition to attending classes, students' obligations include a one-month professional practice (5 ECTS), which is carried out at design bureaus, scientific institutes or government institutions in the field of construction and related fields.