UNIVERSITY GRADUATE STUDY PROGRAMME OF CIVIL ENGINEERING

The University Graduate Study of Civil Engineering at the Faculty of Civil Engineering, Architecture and Geodesy lasts two academic years and is organised in four semesters.

The curriculum consists of compulsory and elective courses. It is aligned with the European Credit Transfer and Accumulation System (ECTS) of the European Higher Education Area (EHEA) and students earn a minimum of 60 ECTS credits each academic year. In order to obtain the qualification (master's degree), students must earn a minimum of 120 ECTS credits.

The courses of the University Graduate Study of Civil Engineering are divided into four specialisations/programmes:

- General Programme,
- Modelling of Structures Programme,
- Structural Engineering Programme,
- Hydrotechnical Engineering Programme.

The holders of this qualification are entitled to use the academic title of University Master of Civil Engineering (univ. mag. ing. aedif.) and are qualified to pursue a professional activity in the field for which they have acquired the title. After graduation, they fulfil part of the requirements for registration in the Register of Certified Civil Engineers of the Croatian Chamber of Civil Engineers.

After completing the University Graduate Study of Civil Engineering, the student may pursue further studies at the postgraduate level in the field of civil engineering and other fields of technical sciences, according to the admission requirements set by the higher education institutions conducting these studies.

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1. INTRODUCTION

1.1. Assessment of the feasibility of the study

Since the foundation of the Faculty to this day, the Civil Engineering study programmes have produced the most recognised experts who have left their mark both in the Republic of Croatia and abroad. Given the continuous quality of the study programme, as evidenced by the results of internal and external quality assessments, this study programme produces professionals capable of solving problems in various areas of civil engineering: (1) design, (2) performance of works, (3) supervision, (4) preparation of study documents, (5) project management, (6) management of complex construction works, (7) employability in local or regional administration institutions, (8) employability in managerial structures. This product generated by the Faculty has been recognised in the labour market of the wider Split area.

Through continuous contact with the State Employment Bureau, data on the employability/non-employability of people who have completed bachelor's and master's level civil engineering programmes are constantly monitored and the quotas for enrolment in the respective programme are determined accordingly.

The students can choose between the following four specialisations/programmes: General Programme, Hydrotechnical Engineering Programme, Modelling of Structures Programme and Structural Engineering Programme. This ensures that the student specialises in a narrow area of interest. Given the expertise of the teaching staff in the field of scientific research and professional activity, the study programme offers a large number of specialised elective courses.

1.2. Collaboration with the local community (economy, entrepreneurship, civil society...)

The Faculty has recently strengthened its links with the regional economy sector and local government bodies. Given the current shift in the functioning, maintenance and implementation of scientific research projects, in recent years the Faculty has applied for several infrastructure projects, some of which have been successfully completed while others are still in the evaluation process, with clear indications of successful implementation. Accordingly, the Faculty has focused on collaboration with the private sector, engaging the construction sector and its stakeholders to collaborate, especially on research projects whose results are to public benefit. Through this partnership, the following primary objectives are achieved: (1) ensuring scientific research, (2) improving scientific research infrastructure, (3) raising quality of highly qualified engineering jobs and study programmes and the competence of highly qualified engineering professionals, (4) as a result of the implementation of projects, generating products which, in some cases, are of public interest, (5) ensuring the possibility of patenting research results, and finally (6) gaining a realistic insight into market demands concerning the required learning outcomes.

In addition to this collaboration with the economy, the Faculty has established a formal partnership relationship with local government units, producing studies and strategic documents as required.

1.3. Compliance with the requirements of professional organisations

The Faculty cooperates continuously with the representative body of the Croatian Chamber of Civil Engineers. Together with the Alumni and teaching bases/companies in the field of civil engineering in the region, they are involved in revising the relevant study programme through the work of the expert group for the revision of learning outcomes of civil engineering study programmes. In this way, the process of harmonising the study programme with the requirements of professional associations is facilitated. The Faculty is a member of the Association of Croatian Faculties of Civil Engineering which works on adequate harmonising of study programmes at the level of the Republic of Croatia in order to ensure horizontal and vertical mobility of students within the Republic of Croatia.

1.4. Partners outside the higher education system

For the purpose of implementing the study programme, the Faculty continuously invests in improving cooperation with teaching bases. So far, 36 agreements on scientific research cooperation have been signed, and 3 more are in the process of being signed. Efforts are being made to include companies with different areas of activity (design, supervision, construction) in the teaching bases model, thus ensuring the possibility of selection according to the students' area of interest. It is noteworthy to underline the support of the teaching bases and other partner institutions and companies in the field of civil engineering in the implementation and execution of field teaching within the study programme. *Internship* is an elective course in the third semester, which is intended to give final-year students an understanding of the practical side of the profession and thus introduce them to potential employers.

1.5. Funding

The study programme is mainly funded from three sources: (1) tuition fees paid by the Ministry of Science and Education for students who have earned more than 55 ECTS credits in the previous academic year, (2) participation in tuition costs by students who have earned less than 55 ECTS credits in the previous academic year, (3) self-funding to a lesser extent.

1.6. Comparability of the study programme with the programmes of accredited higher education institutions in Croatia and the European Union

The proposed programme of the University Graduate Study of Civil Engineering is largely comparable to the study programme at the Faculty of Civil Engineering at Delft University of Technology (Netherlands) (https://www.tudelft.nl/en/) and ETH Zurich (Switzerland) (https://www.ethz.ch/en.html). This university graduate study programme lasts 4 semesters, during which students acquire a minimum of 120 ECTS credits. The defined expected learning outcomes of a large number of courses are very similar in terms of level and scope to the above-mentioned study programmes in the Netherlands and Switzerland.

1.7. Openness of the study programme towards student mobility (horizontal, vertical in the Republic of Croatia and international)

Student mobility is ensured on several levels. Within the University, students can enrol in elective courses at institutions outside the Faculty. The harmonisation of study programmes ensures the possibility of further education or short-term mobility at graduate programmes of civil engineering faculties within the Republic of Croatia. The Faculty is a signatory to numerous bilateral agreements for international mobility under the ERASMUS programme and is constantly working to increase the number of agreements in accordance with the expressed interest of the student body. In addition to student mobility, the ERASMUS programme also provides teaching and non-teaching staff mobility.

1.8. Harmonisation with the mission and strategy of the University and the Faculty and with the strategic document of the Network of Higher Education Institutions

The study programme is harmonised with the strategic document of the Network of Higher Education Institutions and Study Programmes in the Republic of Croatia which encourages the opening of study programmes in the STEM field, including the proposed study programme.

The study programme is also in line with the Strategy of the University of Split for the period 2015 - 2020 (mission, vision and strategic guidelines). In addition to the mission and vision of the University of Split, the following strategic documents were used as guidelines when defining the strategic objectives:

- European Sustainable Development Strategy EU 2030;

- Strategic documents of the European Research Area (ERA);

- Strategic documents of the European Higher Education Area (EHEA);

- Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG);

- Strategy of Education, Science and Technology of the Republic of Croatia;

- Mission Statement of the European University of the Seas "SEA-EU".

The study programme is in line with the development guidelines of the Faculty of Civil Engineering, Architecture and Geodesy of the University of Split and with the mission, vision and strategic goals set out in the Development Strategy of the Faculty of Civil Engineering, Architecture and Geodesy of the University of Split for the period 2018–2022, and is fully aligned with the strategic goals of the Strategy of the Faculty of Civil Engineering, Architecture and Geodesy in Split for the period 2023-2027.

In addition, the study programme is aligned with the Strategic Programme of Scientific Research of the Faculty of Civil Engineering, Architecture and Geodesy for the period 2023 – 2027, in which the areas of scientific research of the Faculty are mainly focused on the field of civil engineering.

1.9. Previous experience with the implementation of equivalent or similar programmes

Since its foundation until today, the Faculty has been operating successfully. It is based on the unity of scientific research, teaching and professional activity. All areas of activity are mutually complementary, intertwining and paving the way for the prosperity of the Faculty

through a kind of interaction, the power of a multitude of positive impulses, and the principles of synergy. Every few years, the Faculty has updated the existing curricula in line with the demands of the economy and modern scientific achievements.

The quality of education is reflected in many of our students who, after graduation, continued working in the fields of science, education and business both in the country and abroad.

The study programme has been conducted in this form since 2005 and has since undergone amendments in accordance with the information gathered through the quality assurance system, with the aim of popularising and aligning it with the strategic documents and market demands. Through continuous efforts of the teaching staff, new content is constantly being added to the study programme in line with the opportunities and global achievements of the profession.

2. SYLLABUS

The tables below show information for the current and the former semesters. Detail plans for specific semesters and academic years are published on the following Faculty's website: this link (for example the last one - this link).
General Programme, Modelling of Structures Programme, Structural Engineering Programme and Hydrotechnical Engineering Programme

General Programme

Teacher	Course	Related learning outcomes	Teaching and learning	Assessment	Code	Hours	ECTS
	I. semester						
S. Ivelić Bradanović	Applied mathematics	a,h,k	1,2,3	1,2	GAB701	30+30	5,0
A. Harapin, N. Grgić	Concrete structures I	j,m	1,2,3,4	1,2,3	GAE701	30+30	5,0
Ž. Nikolić	Dynamics of structures and earthquake engineering	a,c,j,k,p,t	1,2,3	1,2,3	GAO701	30+15	4,0
P. Miščević, G. Vlastelica	Geotechnical engineering	a,d,e,j	1,2,3,4,5,6	1,2	GAG703	30+30	5,0
D. Bojanić	Hydraulics	a,b,f,h	1,2,3	1,2	GAH701	45+30	6,0
D. Breški, D. Cvitanić	Pavement structures	b,c,n	1,2,3	1,2	GAF701	30+30	5,0
	II. semester						
I. Andrić	Hydrotechnical systems	b,c,g,i	1,2,3	1,2,3	GAJ701	30+30	5,0
V. Denić-Jukić, D. Jukić	Engineering hydrology	a,d,h,i	1,2,3	1,2,3	GAI701	30+30	5,0
V. Srzić	Coastal engineering	a,f,k	1,2,5	1,2	GAK701	30+30	5,0
D. Breški, D. Cvitanić	Traffic engineering	b,c,n	1,2,3	1,2,3	GAF702	30+30	5,0
P. Miščević, G. Vlastelica	Rock mechanics	a,d,e,j	1,2,3,4,5	1,2,3	GAG701	30+30	5,0
K. Rogulj	Operational research in civil engineering	b,c,d,r,s	1,2,3	1,2,3	GAL701	30+30	5,0
	III. semester						
R. Andričević	Hydropower Engineering	b,c,f,g,i	1,2	1,2	GAK801	30+30	5,0
N. Jajac	Business and Investments in Civil Engineering	b,c,r,s	1,2,3	1,2	GAL702	30+30	5,0
	Elective courses – agreed by mentor						15,0
	Elective courses – student's free choice						5,0
	IV. semester						
	Master's thesis	b,c,d,t	7	2,3	GAX801		30,0

Modelling of Structures Programme

Teacher	Course	Related learning outcomes	Teaching and learning	Assessment	Code	Hours	ECTS
	I. semester						
S. Ivelić Bradanović	Applied mathematics	a,h,k	1,2,3	1,2	GAB701	30+30	5,0
A. Harapin, N. Grgić	Concrete structures I	j,m	1,2,3,4	1,2,3	GAE701	30+30	5,0
Ž. Nikolić	Dynamics of structures and earthquake engineering	a,c,j,k,p,t	1,2,3	1,2,3	GAO701	30+15	4,0
P. Miščević, G. Vlastelica	Geotechnical engineering	a,d,e,j	1,2,3,4,5,6	1,2	GAG703	30+30	5,0
A. Munjiza	Stability of structures	a,j,l,t	1,2	1,2,3	GAO702	54+6	5,0
I. Boko	Metal structures I	j,k,m	1,2,3,4	1,3	GAP701	45+30	6,0
	II. semester						
M. Smilović Zulim, B. Trogrlić	Masonry structures	b,j,k,m	1,2,3,4	1,2	GAE702	30+30	5,0
V. Kozulić	Mechanics of deformable bodies	a,c,k,o,p,t	1,2,3	1,2,3	GAD701	30+30	5,0
V. Kozulić	Surface structures	a,l,o,p,t	1,2,3,4	1,2,3	GAD702	30+30	5,0
M. Galić	Mechanics of materials	a,c,k,o,p,t	1,2,5	1,3	GAR701	30+30	5,0
B. Trogrlić	Nonlinear building statics	a,j,k,l,o	1,2,3	1,3	GAO703	30+30	5,0
Ž. Nikolić	Dynamic models of earthquake engineering	a,o,p,t	1,2,3	1,2,3	GAO704	30+30	5,0
	III. semester						
N. Jajac	Business and investments in civil engineering	b,c,r,s	1,2,3	1,2	GAL702	30+30	5,0
M. Galić, V. Divić	Testing of structures	b,l,m	1,5	1,3	GAR702	30+30	5,0
	Elective courses – agreed by mentor						15,0
	Elective courses – student's free choice						5,0
	IV. semester						
	Master's thesis	b,c,d,t	7	2,3	GAX801		30,0

Structural Engineering Programme

Teacher	Course	Related learning outcomes	Teaching and learning	Assessment	Code	Hours	ECTS
	I. semester						
S. Ivelić Bradanović	Applied mathematics	a,h,k	1,2,3	1,2	GAB701	30+30	5,0
A. Harapin, N. Grgić	Concrete structures I	j,m	1,2,3,4	1,2,3	GAE701	30+30	5,0
Ž. Nikolić	Dynamics of structures and earthquake engineering	a,c,j,k,p,t	1,2,3	1,2,3	GAO701	30+15	4,0
P. Miščević, G. Vlastelica	Geotechnical engineering	a,d,e,j	1,2,3,4,5,6	1,2	GAG703	30+30	5,0
A. Munjiza	Stability of structures	a,j,l,t	1,2	1,2,3	GAO702	54+6	5,0
I. Boko	Metal structures I	j,k,m	1,2,3,4	1,3	GAP701	45+30	6,0
	II. semester						
M. Smilović Zulim, B. Trogrlić	Masonry structures	b,j,k,m	1,2,3,4	1,2	GAE702	30+30	5,0
D. Matešan, N. Grgić	Prestressed concrete	b,j,k,l,m	1,2,3,4	1,2	GAE703	30+30	5,0
A. Harapin, N. Grgić	Concrete structures II	a,j,k,l,m	1,2,3,4	1,2	GAE704	30+30	5,0
I. Boko	Metal structures II	a,j,k,l,m	1,2,3,4	1,3	GAP702	30+30	5,0
V. Divić, N.Torić	Reliability of structures	a,b,l	1,2,3,4	1,3	GAP703	30+30	5,0
	Elective courses – student's free choice						5,0
	III. semester						
N. Jajac	Business and investments in civil engineering	b,c,r,s	1,2,3	1,2	GAL702	30+30	5,0
D. Matešan	Concrete bridges	c,j,k,l,m	1,2,3,4	1,2,3	GAE801	30+30	5,0
I. Boko, I. Uzelac Glavinić	Metal bridges	c,j,k,l,m	1,3,4	1,3	GAP801	30+30	5,0
	Elective courses – agreed by mentor						15,0
	IV. semester						
	Master's thesis	b,c,d,t	7	2,3	GAX801		30,0

Hydrotechnical Engineering Programme

Teacher	Course	Related learning outcomes	Teaching and learning	Assessment	Code	Hours	ECTS
	I. semester						
S. Ivelić Bradanović	Applied mathematics	a,h,k	1,2,3	1,2	GAB701	30+30	5,0
A. Harapin, N. Grgić	Concrete structures I	j,m	1,2,3,4	1,2,3	GAE701	30+30	5,0
T. Vlahović	Hydrogeology	b,c,d,h,i	1,2	1	GAG705	30+15	4,0
D. Bojanić	Hydraulics	a,b,f,h	1,2,3	1,2,3	GAH701	45+30	6,0
P. Miščević, G. Vlastelica	Geotechnical engineering	a,d,e,j	1,2,3,4,5,6	1,2	GAG703	30+30	5,0
	Elective courses (min. 5 ECTS)						
	Elective courses						
T. Duplančić-Leder	Application of GIS in water resources management	As listed in the detail	1,3	1,2	GAF002	30+30	5,0
V. Srzić	Ports and marine structures	plans at the	1,2	1,2	GAK202	30+30	5,0
H. Gotovac	Hydraulic structures	Faculty's web site.	1,2	1,2	GAK201	30+30	5,0
	II. semester						
V. Denić-Jukić	Irrigation and drainage	c,f,g,i	1,2,3	1,2,3	GAI707	30+15	4,0
V. Denić-Jukić, D. Jukić	Engineering hydrology	a,d,h,i	1,2,3	1,2,3	GAI701	30+30	5,0
V. Srzić	Coastal engineering	a,f,k	1,2	1,2	GAK701	30+30	5,0
D. Jukić	Stream regulation	g,h,i	1,2,3	1,3	GAI704	30+30	6,0
I. Andrić	Protection of water resources, municipal wastewater and stormwater treatment	b,c,f,g,i	1,2,3	1,2,3	GAJ702	30+30	5,0
R. Andričević	Integrated water resources management	b,g,i,t	1,2	1,2,3	GAK804	30+30	5,0
	III. semester						
R. Andričević	Hydropower engineering	b,c,f,g,i	1,7	1,2	GAK801	30+30	5,0
H. Gotovac	Groundwater flow and solute transport modelling	a,c,g,h,t	1,2	1,2	GAK802	30+30	5,0
	Elective courses – agreed by mentor						15,0
	Elective courses – student's free choice						5,0
	IV. semester						
	Master's thesis	b,c,d,t	7	2,3	GAX801		30,0

Elective courses (for all programmes)

Teacher	Course	Related learning outcomes	Teaching and learning	Assessment	Code	Hours	ECTS
H. Gotovac	Hydraulic structures	As listed in the detail plans at the Faculty's web site.	1,2	1,2	GAK201	30+30	5,0
R. Andričević	Applied stochastic methods		1,2	1,2	GAK803	30+30	5,0
V. Srzić	Ports and marine structures		1,2	1,2	GAK202	30+30	5,0
N. Š. Cvitanović, P. Miščević	Ground improvement		1,2,3,4	2,3	GAG802	30+30	5,0
N. Grgić, I. Uzelac Glavinić	Composite structures		1,2,3,4	1,2,3	GAE705	30+30	5,0
S. Juradin	Building materials II		1,2,5	2,3	GAN701	30+30	5,0
D. Cvitanić, D. Breški	Road interchanges		1,3	2,3	GAF801	30+30	5,0
D. Breški, I. Škarica	English language		1,2	1,2	GAA003	30+30	5,0
B. Trogrlić	Building physics		1,2,3	1,2,3	GAO706	30+30	5,0
D. Cvitanić, D. Breški	Urban traffic areas		1,2,3	2,3	GAF802	30+30	5,0
D. Jukić	Karst hydrology		1,3	1,3	GAI703	45+30	5,5
M. Nikolić, A. Harapin	Construction of engineering structures		1,2,3,4	1,2,3	GAE706	30+30	5,0
N. B. Kurbaša, V. Kozulić	Construction of historical buildings		1,2	2,3	GAD703	30+30	5,0
A. Harapin, M. Galić	Housing installations		1,2,3	1,3	GAM701	30+30	5,0
N. Jajac	Management in civil engineering		1,2,3	1,2,3	GAL703	45+15	5,0
D. Jukić	Surface water-quality modelling		1,3	1,3	GAI706	30+30	5,0
A. Harapin, D. Matešan	Numerical modelling of concrete structures		1,2,3	2,3	GAE803	30+30	5,0
P. Miščević	Numerical modelling in geotechnics		1,2,3	2,3	GAG803	30+30	5,0
I. Boko, N. Torić	Advanced timber structures		1,2,3,4	1,3	GAP704	30+30	5,0
T. Duplančić-Leder	Application of GIS in water resources management		1,3	1,2,3	GAF002	30+30	5,0
B. Trogrlić, A. Harapin	Design of structures by computer		1,2,3	1,2,3	GAO705	30+30	5,0
N. Jajac	Decision systems in civil engineering		1,3	1,2,3	GAL704	45+15	5,0
M. Smilović Zulim, N. Torić	Durability of structures		1,2,3,4	1,2,3	GAE802	30+30	5,0
V. Kozulić, M. Nikolić	Tunnels and underground structures		1,2,3	2,3	GAD704	30+30	5,0
K. Rogulj	Project management		1,3	1,2,3	GAL705	45+15	5,0
V. Denić-Jukić	Urban hydrology		1,3	1,3	GAI705	30+30	5,0
P. Miščević, G. Vlastelica	Earthworks		1,2,3,5	1,3	GAG702	30+30	5,0
I. Andrić	Municipal Solid Waste Management		1,2,3	1,2,3	GAJ703	30+30	5,0
G. Baloević, N. Grgić	High-performance and ultra-high-performance concrete structures		1,2,3,5	1,2,3	GAN703	30+30	5,0
G. Baloević, G. Vlastelica	Laboratory and field tests of geomaterials		1,2,3,5	1,2,3	GAN702	30+30	5,0
D. Matešan, A. Harapin	Bridges		1,2,3,4	2,3	GAE202	30+30	5,0
A. Munjiza	Basics of simulation engineering		1,2	2,3	GAO801	45+15	5,0

Teacher	Course	Related learning outcomes	Teaching and learning	Assessment	Code	Hours	ECTS
A. Munjiza	Applied simulation engineering	As listed in	1,2	2,3	GAO802	45+15	5,0
G. Vlastelica	Retaining structures and construction pits	the	1,2,3,4	2,3	GAG801	30+30	5,0
N. Jajac	Built environment management	detail plans	1,2,3,7	1,2,3	GAA708	30+15	5,0
N. Jajac	Business and investments in civil engineering	at the	1,2,3	1,2	GAL702	30+30	5,0
I. Boko, N. Torić, I. U. Glavinić	Fire engineering	Faculty's	1,2,3	1,2,3	GAP803	30+30	5,0
I. Boko, N. Torić	Glass structures	web site.	1,2,3	1,2,3	GAP802	30+30	5,0
N. Jajac	Internship II		6	3	GAL706	0+40	2,0

3. LEARNING OUTCOMES – University Graduate Study of Civil Engineering

Label	Units of learning outcomes
a/DSG01	To formulate mathematical physics equations for engineering problems, and to solve them analytically or using numerical methods
b/DSG02	To integrate knowledge and handle complexity, and to formulate judgments with incomplete information, that include reflection on social and ethical responsibilities
c/DSG03	To apply knowledge and problem-solving abilities in new environments, within multidisciplinary contexts related to the field of study
d/DSG04	To clearly communicate one's own conclusions and develop skills for lifelong learning
e/DSG05	To design and/or perform calculations for geotechnical structures using the ability to assess information and parameters on the properties of soil or rock mass
f/DSG06	To design hydrotechnical structures, sewage systems, stormwater sewage systems, as well as hydropower and coastal structures
g/DSG07	To plan, analyse and manage hydrotechnical and hydropower objects and systems
h/DSG08	To structure mathematical models in hydrology and hydraulics for the analysis of catchment's processes, as well as of the hydraulics characteristics of open channel flow and pressurised systems
i/DSG09	To interpret the processes in the catchment area and to model water resource systems, as well as to apply the basic elements of water resource management to the catchment scale in line with the EU Water Framework Directive
j/DSG10	To design reinforced concrete, metal, masonry and geotechnical structures (buildings, bridges, tunnels, silos, hydrotechnical structures, dams, etc.) which are composed of different structural load bearing systems
k/DSG11	To analyse processes, structures and systems in particular fields of civil engineering by applying numerical modelling
l/DSG12	To analyse and solve problems related to the durability, stability and reliability of structures
m/DSG13	To participate in the construction of different types of structures and supervise design and construction work
n/DSG14	To determine capacity and the level of service of transportation and to make decisions on conceptual solutions in transportation engineering
o/DSG15	To model and perform calculations for structures exposed to seismic load using linear and non-linear models
p/DSG16	To assess the behaviour of structures during earthquakes and to design seismically resilient structures using numerical models
r/DSG17	To apply the techniques of system analysis and operation research in civil engineering
s/DSG18	To evaluate production using standard indicators, evaluate companies based on their balance sheets and assess investments
t/DSG19	To demonstrate knowledge and understanding that is founded upon and extends and/or enhances preceding qualification's level, and that provides a basis or opportunity for originality in developing ideas, often within a research context

4. TEACHING AND LEARNING

1. Lectures: a teacher teaches ex-cathedra or uses some forms of interactive lectures
2. Theoretical exercises: the teacher demonstrates to students how to solve standard mathematical or engineering tasks
3. Practical exercises: students solve and prepare practical assignments under the supervision of the teacher in standard or IT-equipped classrooms
4. Field exercises: students and teachers visit, or students perform small-scale practical work at construction sites, factories, production plants, etc.
5. Lab exercises: a teacher demonstrates experiments/tasks to students, or students perform their own experiments/tasks in the laboratory under the supervision of teachers and/or technicians
6. Internship: students perform practical work at construction sites during semester or summer vacations
7. Independent work: theoretical or practical assignment under the supervision of a teacher

5. ASSESSMENT

1. Written exams: students solve tasks as the paperwork or by a computer in IT-equipped classrooms. They may be performed throughout the semester or during the examination period
2. Oral exams: a teacher poses questions to students in a spoken form
3. Presentation or defence of a practical or written assignment

The student who attains the University Master`s Degree in Civil Engineering shall:

- acquire basic competencies to comprehensively identify, understand and analyse general civil engineering phenomena and problems and find acceptable solutions, especially in the branch of civil engineering in which he/she has specialised
- be capable of planning, supervising and implementing professional, developmental and scientific projects, assume a leading role in companies and research institutions and creating solutions for technical and human resource problems in the work environment
- be capable of applying the acquired knowledge and skills in the planning, design, execution, monitoring and maintenance of structural facilities and systems in his/her chosen field, taking into account load-bearing capacity, stability, safety, serviceability, economy and environmental protection
- be capable of applying the acquired knowledge and acquire new knowledge and experience, draw scientifically and professionally sound conclusions and develop further in relation to scientific and applied scientific research
- acquire basic knowledge for further training in scientific and specialist postgraduate study programmes and various lifelong learning programmes.

A student who has met the criteria for passing each course, fulfilled all the requirements prescribed by the study programme, and completed and successfully defended the master's thesis will obtain a diploma. Upon completion of the University Graduate Study of Civil Engineering, the student is qualified to apply the acquired knowledge from the field of Civil Engineering and other related scientific fields in designing, construction and work in state administration, as well as in scientific institutions. He/she is qualified for independent and team interdisciplinary work on creative and systematic solving of complex engineering problems, conducting laboratory research, as well as the processes of planning and optimising projects, with the application of modern technology. He/she is qualified for the further acquisition of knowledge in the field of scientific and applied research in postgraduate studies.