



UNIVERSITY  
OF LJUBLJANA

**FGG**

Faculty of Civil and  
Geodetic Engineering

## **Presentation of the study programme**

1<sup>st</sup> CYCLE ACADEMIC STUDY PROGRAMME

**CIVIL ENGINEERING (BSc)**

## INFORMATION ABOUT THE STUDY PROGRAMME CIVIL ENGINEERING

### 1. Basic data

Programme name	<b>Civil Engineering</b>
Programme characteristics	
Type	academic
Cycle	bachelor
KLASIUS-SRV	Academic higher education (first Bologna cycle)/Academic higher education (first Bologna cycle) (16204)
ISCED	<ul style="list-style-type: none"> <li>• architecture, urbanism and civil engineering (58)</li> </ul>
KLASIUS-P	<ul style="list-style-type: none"> <li>• Civil Engineering (not specified in detail) (5820)</li> </ul>
KLASIUS-P-16	<ul style="list-style-type: none"> <li>• Civil Engineering (0732)</li> </ul>
Frascati	<ul style="list-style-type: none"> <li>• Technical sciences (2)</li> </ul>
Level SOK	Level SOK 7
Level EOK	Level EOK 6
Level EOVK	First cycle
Areas/modules/orientations	<ul style="list-style-type: none"> <li>• No subdivision (study programme)</li> <li>• Hydraulics (module)</li> <li>• Municipal Engineering (module)</li> <li>• Structures (module)</li> <li>• Traffic (module)</li> <li>• Buildings (module)</li> </ul>
Member of University of Ljubljana	<ul style="list-style-type: none"> <li>• Faculty of Civil and Geodetic Engineering, Jamova 2, 1000 Ljubljana, Slovenia</li> </ul>
Duration (years)	3
Number of ECTS per year	60
Implementation of study	full time, part time

### 2. Basic goals of the programme

- The graduate acquires general basic knowledge and understanding in the wider area of civil engineering.
- The graduate is motivated for further study at the postgraduate level.
- The graduate understands the creative relation necessary for designing built environment in natural or existing urban environment.
- The graduate has wider knowledge of civil engineering allowing interdisciplinary connection with several other areas.
- The graduate acquires education comparable to related study programmes in Slovenia and in wider European area.
- The student is allowed to change to related undergraduate studies.
- The programme is harmonised with the principles of the Bologna Declaration and follows the recommendations by EUCEET and the FEANI Engineering Association.
- Progression conditions and educational practices that encourage regular study as well as the tutorship system assure good progression rate of the students.

### 3. General competences

General competences of the graduate after the finished university bachelor degree programme of Civil Engineering are mainly the following:

- Ability to define, understand and creatively solve professional challenges.
- Development of the ability of critical, analytical and synthetic thinking.
- Development of professional responsibility and ethics.
- Skills related to professional understanding and written expression, including the use of foreign technical language (beside literature reading, this competence is supported by lectures of foreign visiting professors, field trips abroad, work on projects in cooperation with foreign partners).
- Ability to use information-communication technology.
- Ability to use the acquired knowledge for independent solving of technical problems in civil engineering.

- Ability to find sources, critically evaluate information, independently upgrade the acquired knowledge and deepen the knowledge in individual specialised areas of civil engineering.
- Ability to establish interdisciplinary connections.
- Taking into account the aspects of safety, functional, economic and ecological principles at work.

#### 4. Course-related competences

The graduate of the first cycle study of Civil Engineering acquires mainly the following course-related competences:

- Mastering fundamental theoretical knowledge essential for the technical field of civil engineering.
- Managing the basic professional knowledge from the area of civil engineering and essential complementary sciences (geology, geodesy, organisation of works, information science).
- Basic qualifications in the area of civil engineering that allow continuation at the second cycle study.
- Ability to individually acquire new skills.
- The graduate is capable of individual performance of less demanding works and solving individual well defined tasks in civil engineering in the areas of design and realisation of works (for buildings as well as engineering structures), spatial planning, laboratory testing of building materials, etc., and is as such a good co-worker in a wider expert team, although generally not capable of independent project management.
- Specific competences are given within the description of individual subjects (see study plans).

#### 5. Conditions for enrolment

To enrol to the first cycle of the university bachelor degree programme Civil Engineering the candidates are required to:

- a) pass the general matura exam;
- b) pass vocational matura exam from one of the four-year secondary school programmes Electrician, Surveyor, Geotechnician, Civil Engineering Technician, Graphic Technician, Chemical Technician, Ship Mechanical Technician, Wood Technician, Logistic Technician, Media Technician, Metallurgical Technician, Navigation Technician, Mechanical Technician, Technician of Economic Communications, Mechatronic Technician, Computer Technician, Security Technician, and exam from the general matura exam from mathematics;
- c) finish any of the four-year secondary school programs before 1. 6. 1995.

The study programme is also available for candidates who acquired equivalent education abroad.

#### 6. Selection criteria when enrolment is restricted

In the event of limited enrolment:

- the candidates from items 5. a) and 5. c) shall be selected according to:
  - general success in general matura exam or school-leaving exam 60 %
  - general success in the 3rd and 4th years of the secondary school 40 %
- the candidates from item 5. b) shall be selected according to:
  - general success in professional matura exam 40 %
  - general success in the 3rd and 4th years of the secondary school 40 %
  - success in extra matura examination 20 %

#### 7. Criteria for recognising knowledge and skills acquired before enrolment in the programme

Knowledge conforming in contents and scope to the contents of the courses in the programme Civil Engineering may be acknowledged. The recognition of knowledge and skills acquired before the enrolment is subject to the decision by the Study Board of the Department of Civil Engineering of UL FGG based on student's written application, certificates and other documents proving successful acquisition of knowledge and the contents of the knowledge, and in accordance with the Rules on procedure and criteria for the recognition of informally acquired knowledge and skills, adopted at the 15th meeting of the Senate of UL, 29. 5. 2007.

Based on the approval of the acquired knowledge by the departmental Study Board, the knowledge will be evaluated with the same number of ECTS credit points as defined for the related course.

## 8. Assessment methods

The assessment methods are in accordance with the Statute of University of Ljubljana and listed in the Course Syllabi.

## 9. Conditions for progression through the programme

### Conditions for progression from one year to another

Student can enrol in the second year if, by the end of the academic year, he/she has fulfilled the prescribed obligations and achieved 54 ECTS credits from the first year. Student can enrol in the third year if, by the end of the academic year, he/she has fulfilled the prescribed obligations and achieved at least 54 ECTS credits from the second year and completed all the prescribed obligations and achieve 60 ECTS credits from the first year.

Considering the conditions from the above paragraph, students may also enrol to the next year when they accumulate at least 40 credit points according to ECTS. The UL FGG Commission for solving student applications decides on exceptional enrolment.

A student who shows above-average academic results in his/her studies is given the opportunity to advance faster. The decision on this is made by the Dean of UL FGG on the basis of the candidate's application and the reasoned opinion of the Study Board of the UL FGG Department of Civil Engineering. The decision determines the method of faster advancement.

### Conditions for repeated enrolment in the same year

Failing to meet all the obligations defined by the study programme for the advancement in the next year, students may enrol in the same year for the second time, provided that they have obtained at least 30 credit points according to ECTS.

## 10. Transfers between study programs

Transfer between programmes shall mean termination of education in the student's original study programme (first programme) and continuation of education in the first cycle academic study programme of Civil Engineering (second programme), in which a part of the completed study requirements from the first study programme are recognised as completed.

Transfers are possible from the first cycle study programmes, and until their expiration also from the undergraduate study programmes adopted after June 11 2004, where the competences of the finished studies are comparable and according to the acknowledgement criteria at least half of the obligations according to ECTS from the first study programme related to compulsory courses of the second study programme can be acknowledged. Considering the scope of acknowledged obligations from the first study programme in the Republic of Slovenia or abroad student may enrol to the same or higher year in the second study programme. Transferring students shall fulfil the conditions for the enrolment to the second study programme.

Applications of candidates for the transfer to the first cycle academic study programme Civil Engineering and the scope of acknowledged obligations in the study programme will be examined individually by the Study Board of the Department of Civil Engineering. If in the procedure of acknowledging obligations for the purpose of transfer the candidate is approved at least the amount of credit points and those point that are required for the enrolment to a higher year of the first cycle academic study programme Civil Engineering, the candidate may enrol to the higher year of the first cycle academic study programme Civil Engineering.

## 11. Requirements for completion of the study

Students finish the study by accomplishing the foreseen obligations totalling 180 credit points according to ECTS, including practical training and diploma thesis.

## 12. Conditions for completion of individual parts of the programme

The study is uniform.

## 13. Qualification, professional or academic title

Bachelor of Science in Civil Engineering

## **14. Qualification, professional or academic title (abbreviation)**

- B. Sc. Civ. Eng.

## STUDY PROGRAMME COURSES WITH FOORSEEN COURSE COORDINATORS

### 15. No subdivision (study programme)

#### 1<sup>st</sup> year, mandatory

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038602	Introduction to Civil Engineering		45	0	0	0	0	45	90	3	1st semester	no
2.	0033792	Physics	Zvonko Jagličić	75	15	45	0	0	135	270	9	1st semester	no
3.	0038601	Building Materials	Violeta Bokan-Bosiljkov	60	0	60	0	0	120	240	8	1st semester	no
4.	0033791	Mathematics I	Gašper Jaklič, Marjeta Kramar Fijavž	75	0	75	0	0	150	300	10	1st semester	no
5.	0033793	Mathematics II	Marjeta Kramar Fijavž, Nik Stopar	60	0	60	0	0	120	240	8	2nd semester	no
6.	0038603	Engineering Communication	Žiga Turk	30	0	15	0	0	45	90	3	2nd semester	no
7.	0038605	Computer Science and Informatics	Matevž Dolenc	30	0	30	0	0	60	120	4	2nd semester	no
8.	0038604	Introduction to Statics and Dynamics	Dejan Zupan, Goran Turk	75	0	60	0	0	135	270	9	2nd semester	no
9.	0038606	Buildings I	Mitja Košir, Vlatko Bosiljkov	45	15	30	0	0	90	180	6	2nd semester	no
		Total		495	30	375	0	0	900	1800	60		

2<sup>nd</sup> year, mandatory

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038607	Roads	Peter Lipar	45	0	45	0	0	90	180	6	1st semester	no
2.	0038608	Hydromechanics	Gorazd Novak	45	0	30	0	0	75	150	5	1st semester	no
3.	0038609	Technologies in Civil Engineering	Andrej Kryžanowski	30	15	30	0	0	75	150	5	1st semester	no
4.	0038610	Strength of Materials	Dejan Zupan, Igor Planinc	75	0	75	0	0	150	300	10	1st semester	no
5.	0038611	Spatial development	Alma Zavodnik Lamovšek, Daniel Kozelj	30	0	30	0	0	60	120	4	1st semester	no
6.	0038612	Geodetic engineering	Simona Savšek	30	0	30	0	0	60	120	4	2nd semester	no
7.	0038613	Soil Mechanics and Engineering Geology	Boštjan Pulko, Petra Štukovnik	60	0	40	0	5	105	210	7	2nd semester	no
8.	0038614	Organisation and Management of Construction Works	Robert Klinc	45	0	45	0	0	90	180	6	2nd semester	no
9.	0038615	Structural analysis	Anže Babič, Tatjana Isaković	45	0	45	0	0	90	180	6	2nd semester	no
10.	0038616	Buildings II	Mitja Košir	30	0	15	0	0	45	90	3	2nd semester	no
11.	0038702	Elective course		30	0	30	0	0	60	120	4	1st semester, 2nd semester	yes
Total				465	15	415	0	5	900	1800	60		

**3<sup>rd</sup> year, mandatory**

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038689	Concrete Structures	Jože Lopatič	60	0	60	0	0	120	240	8	1st semester	no
2.	0038703	Geotechnics	Janko Logar	45	10	30	0	5	90	180	6	1st semester	no
3.	0038704	Engineering Hydraulics	Andrej Kryžanowski, Matjaž Mikoš	45	15	30	0	0	90	180	6	1st semester	no
4.	0171060	Steel Structures I	Jože Korelc, Primož Može	45	0	45	0	0	90	180	6	1st semester	no
5.	0038706	Fundamentals of Earthquake Engineering	Matjaž Dolšek	30	0	30	0	0	60	120	4	1st semester	no
6.	0639657	Modul - B - GR - UNI		171	0	150	0	155	424	900	30	All-year	yes
		Total		396	25	345	0	160	874	1800	60		

**Elective courses**

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038590	Digital Design	Tomo Cerovšek	30	0	30	0	0	60	120	4	1st semester, 2nd semester	yes
2.	0038593	Building Right and Building Contract	Miha Juhart, Peter Grilc	30	0	30	0	0	60	120	4	1st semester, 2nd semester	yes
3.	0038592	Entrepreneurship	Aleš Vahčič	45	0	15	0	0	60	120	4	1st semester, 2nd semester	yes
4.	0038594	Administrative Procedure and Administrative Dispute	Senko Pličanič	45	0	15	0	0	60	120	4	1st semester, 2nd semester	yes
5.	0038595	Sports Education	Branko Škof	5	0	0	0	55	60	120	4	1st semester, 2nd semester	yes
6.	0038730	From idea to building structure		60	0	15	0	0	75	150	5	1st semester, 2nd semester	yes
7.	0643954	English for Civil Engineering	Monika Kavalir	5		55			60	120	4	1st semester, 2nd semester	yes
Total				220	0	160	0	55	435	870	29		

**Hydraulics (module)****3<sup>rd</sup> year, mandatory**

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038650	Hydrology	Mojca Šraj	30	0	30	0	0	60	120	4	2nd semester	no
2.	0038651	Hydraulics	Gašper Rak	30	15	30	0	0	75	150	5	2nd semester	no
3.	0038652	Introduction to Sanitary Engineering	Mario Krzyk, Nataša Atanasova	30	0	30	0	0	60	120	4	2nd semester	no
4.	0038634	Practical Training	Matevž Dolenc	6	0	0	0	80	34	120	4	2nd semester	no
5.	0038625	Diploma work		0	0	0	0	75	75	150	5	2nd semester	no
6.	0041672	External elective subject		60	0	60	0	0	120	240	8	1st semester, 2nd semester	yes
		Total		156	15	150	0	155	424	900	30		

## Municipal Engineering (module)

### 3<sup>rd</sup> year, mandatory

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038721	Municipal economics	Daniel Kozelj	45	0	30	0	0	75	150	5	2nd semester	no
2.	0038722	Building land management	Daniel Kozelj	30	0	30	0	0	60	120	4	2nd semester	no
3.	0038723	Communal technical infrastructure	Daniel Kozelj	30	0	30	0	0	60	120	4	2nd semester	no
4.	0038634	Practical Training	Matevž Dolenc	6	0	0	0	80	34	120	4	2nd semester	no
5.	0038625	Diploma work		0	0	0	0	75	75	150	5	2nd semester	no
6.	0041672	External elective subject		60	0	60	0	0	120	240	8	1st semester, 2nd semester	yes
		Total		171	0	150	0	155	424	900	30		

## Structures (module)

### 3<sup>rd</sup> year, mandatory

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038631	Plane Structures	Boštjan Brank	45	0	30	0	0	75	150	5	2nd semester	no
2.	0038632	Concrete and Masonry Structures	Drago Saje, Sebastjan Bratina	30	0	30	0	0	60	120	4	2nd semester	no
3.	0038633	Timber Structures	Jože Lopatič	30	0	30	0	0	60	120	4	2nd semester	no
4.	0038634	Practical Training	Matevž Dolenc	6	0	0	0	80	34	120	4	2nd semester	no
5.	0038625	Diploma work		0	0	0	0	75	75	150	5	2nd semester	no
6.	0041672	External elective subject		60	0	60	0	0	120	240	8	1st semester, 2nd semester	yes
		Total		171	0	150	0	155	424	900	30		

**Traffic (module)****3<sup>rd</sup> year, mandatory**

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038686	Railways	Peter Lipar, Robert Rijavec	45	0	30	0	0	75	150	5	2nd semester	no
2.	0038687	Transportation Engineering	Marijan Žura	30	0	30	0	0	60	120	4	2nd semester	no
3.	0038688	Geographical Information System	Marijan Žura	30	0	30	0	0	60	120	4	2nd semester	no
4.	0038634	Practical Training	Matevž Dolenc	6	0	0	0	80	34	120	4	2nd semester	no
5.	0038625	Diploma work		0	0	0	0	75	75	150	5	2nd semester	no
6.	0041672	External elective subject		60	0	60	0	0	120	240	8	1st semester, 2nd semester	yes
		Total		171	0	150	0	155	424	900	30		

## Buildings (module)

### 3<sup>rd</sup> year, mandatory

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0038668	Introduction to Building Design	Mitja Košir	30	0	45	0	0	75	150	5	2nd semester	no
2.	0038727	Elements of building physics	Zvonko Jagličić	30	0	30	0	0	60	120	4	2nd semester	no
3.	0038670	Building Renovation	Mitja Košir, Vlatko Bosiljkov	30	0	30	0	0	60	120	4	2nd semester	no
4.	0038669	Bioclimatic Design	Mitja Košir	30	0	30	0	0	60	120	4	2nd semester	no
5.	0038728	Project management	Robert Klinc	30	0	30	0	0	60	120	4	2nd semester	no
6.	0038634	Practical Training	Matevž Dolenc	6	0	0	0	80	34	120	4	2nd semester	no
7.	0038625	Diploma work		0	0	0	0	75	75	150	5	2nd semester	no
8.	0041676	External elective subject		60	0	60	0	0	120	240	8	1st semester, 2nd semester	yes
		Total		216	0	225	0	155	544	1140	38		

The student selects two courses from the four offered (Elements of Building Physics, Bioclimatic Design, Building Renovation and Project Management).

## 16. Possibilities of elective courses and mobility

Elective courses/elective module:

- two elective courses: one in the 2<sup>nd</sup> year (4 ECTS) and one in the 3<sup>rd</sup> year (8 ECTS) and
- an elective module in the 6th semester (Hydraulics, Municipal Engineering, Structures, Traffic and Buildings), consisting of three courses (5+4+4 ECTS).

Students can select elective courses from any study programme at the University. Nevertheless, a list of elective courses is proposed also within the study programme Civil Engineering from the area of law, economy, administration, communicology, foreign languages, as well as specialised courses from the technical and natural sciences. At UL FGG students may also select courses from other study programmes: Geodesy and Geoinformatics, Technical Real Estate Management, Water Science and Environmental Engineering and Buildings.

Student may transfer 30 ECTS points of the programme (one study semester) from any other area of civil engineering, provided there exists an adequate agreement signed with UL FGG. As students are required to pass the mandatory exams at the institution of enrolment, such exchange is most appropriate in the 6th semester of the study.