



UNIVERSITY
OF LJUBLJANA

Doctoral study at
the Faculty of Civil and
Geodetic Engineering

FGG

Faculty of Civil and
Geodetic Engineering



About the Faculty

The University of Ljubljana is a globally recognized research institution, dedicated to attracting and retaining the brightest minds from around the globe. We provide a dynamic and intellectually stimulating environment where researchers can thrive and make a meaningful impact in the world.

Faculty of Civil and Geodetic Engineering has been operating in various forms within the University of Ljubljana since its establishment in 1919. Its primary mission is to provide education and conduct research in the fields of civil engineering, environmental civil engineering and geodetic engineering, supporting societal advancement and economic growth in Slovenia and internationally.

For more information on University's site:

<https://www.uni-lj.si/en/research/young-researchers>

Doctoral study information on Faculty's site:

<https://www.en.fgg.uni-lj.si/study/3rd-cycle-study-programmes/>

Educational activity

The Faculty has about 1000 students studying in 5 undergraduate, 5 graduate and 2 doctoral study programmes. It employs around 200 full-time staff, with more than half dedicated to academic and research work. Among them are many experienced professors and researchers who contribute significantly to the Faculty's strong reputation in both education and scientific research.

The Faculty of Civil and Geodetic Engineering consists of **Department of Civil Engineering**, **Department of Environmental Civil Engineering** and **Department of Geodetic Engineering**, together offering the following undergraduate study programmes:

- Academic study programme Civil Engineering,
- Academic study programme Water Science and Environmental Engineering,
- Academic study programme Geodesy and Geoinformation, as well as
- Higher education professional study programme Construction Management, and
- Higher education professional study programme Geodetic Engineering and Real Estate Management,

and the master study programmes:

- Civil Engineering
- Water Science and Environmental Engineering,
- Geodesy and Geoinformation,
- Buildings, and
- Spatial Planning.

Special attention is given to doctoral students, who can enrol in two interdisciplinary doctoral study programmes:

- **Built Environment**, covering the disciplines of Civil Engineering, Geodetic Engineering, Spatial Planning and Geology, as well as
- **Environmental Protection**, a collaborative effort combining the scientific fields of thirteen faculties at the University of Ljubljana.

The details of the doctoral study programmes are given below.

Young researchers



Young researchers are doctoral students working in UL member institutions in research programmes. Their doctoral tuition fees are fully covered, and their employer provides them with the material resources they need to carry out their research.

Young researcher programme for doctoral students

Young researchers are doctoral students employed at member institutions of the University of Ljubljana, including the Faculty of Civil and Geodetic Engineering. They hold the full status of employees, with the majority of their obligations dedicated to completing their doctoral studies. As members of core research programmes aligned with the Faculty's focus areas, they benefit from **fully funded tuition fees**, a **competitive monthly salary**, and the access to all **necessary research materials and resources**. The employment duration is **four years**. The programme is conducted in **English**. Applications are accepted **until the end of September**.

Each year, the Faculty of Civil and Geodetic Engineering offers more than **10 positions** for young researchers pursuing doctoral degrees.

Research activity

Research is an important part of our activities. The Faculty's researchers are engaged in basic, applied and developmental research, which generates about a quarter of the Faculty's income. Based on sound research and professional work, the researchers are successful in acquiring both national, European and other international research projects. Thus, our researchers are currently leading or participating in approximately 40 national projects and 20 projects within the framework of Horizon Europe or other European research programmes.

The main research topics that our researchers are involved in as part of core research groups, funded by the Slovenian National Research and Innovation Agency, are:

- Building Structures,
- Earthquake Engineering,
- E-Civil Engineering,
- Geoinformational Infrastructure and Sustainable Spatial Development of Slovenia,
- Structural Mechanics,
- Water Science and Technology, and Geotechnical Engineering: Tools and methods for process analyses and simulations, and development of Technologies,
- Earth Observation and Geoinformatics, and
- Dynamic Earth.

We provide our staff and students with a high-quality working environment, modern classrooms and teaching methods, well-equipped laboratories and professional library materials. At the same time, we also take care of extracurricular activities and additional training.



Doctoral study programme Built Environment

The Interdisciplinary doctoral study programme Built Environment is offered by the Faculty of Civil and Geodetic Engineering in collaboration with the Faculty of Natural Sciences and Engineering, both of which are members of the University of Ljubljana. This third-cycle study programme builds upon the content and methodology of the first-cycle and second-cycle studies, providing the scientific advancement of the curricula in Civil Engineering, Geodetic Engineering, Spatial Planning, and Geology. Professors and researchers from both faculties who have achieved outstanding results from their research actively cooperate in this programme.

The doctoral study primarily focuses on basic and applied research, interdisciplinarity, and collaboration with internationally renowned experts. According to the recommendations of the European University Association, the study foresees student exchange and requires the publication of at least one scientific paper in an internationally recognized journal as proof of the conducted research work. A special emphasis is on fostering a strong relationship between the doctoral student and the supervisor. The students also have the opportunity to select co-supervisors among internationally renowned and established scientists and experts. The entire programme is evaluated according to the European Credit Transfer System (ECTS), enabling participation in international student exchanges with countries that use this system.

The doctoral study programme leads to the scientific title **Doctor of Science – PhD**.

The doctoral study programme Built Environment is divided into four parts **Civil Engineering, Geodetic Engineering, Spatial Planning, and Geology**, including the following topics:

- Civil Engineering covers structural analysis and design, building materials, mechanical and mathematical modelling, earthquake engineering, efficient energy use and dwelling comfort, traffic and municipal engineering, geotechnics, construction informatics, construction management and technology.
- Geodetic Engineering encompasses geodesy and engineering geodesy, satellite geodesy and navigation, geophysics, cartography, photogrammetry and remote sensing, and geoinformatics.

- Spatial Planning includes theories, methods and techniques in spatial research on the local, regional, EU and international level, design of urban built environment and other settlements and landscape design.
- Geology addresses all major fields of the geological sciences, specializing at the same time into geological conditions in the wider Central European and Mediterranean area.

The doctoral study programme Built Environment lasts for **four years** (eight semesters) and totals **240 ECTS credits**. The study programme consists of **organized teaching activities within the scope of 60 ECTS credits**, with the remaining **180 ECTS credits allocated for individual research work** in preparation for the PhD thesis.

Basic goals of the doctoral study programme and general competences

The doctoral study programme Built Environment is aimed at educating the highest-qualified professionals and academics. After completing their studies, graduates are capable of employing scientific and creative thinking to solve challenging scientific problems and cooperate in addressing demanding practical issues using an interdisciplinary approach. They are capable of tackling research problems with the latest scientific methods, critically evaluating research findings, developing new scientific techniques, and transferring new technologies and knowledge into practical applications.

The doctoral students receive in-depth foundational knowledge across a range of disciplines and are trained to conduct research and tackle complex professional challenges. They also acquire a strong command of scientific methods and procedures essential for advanced academic and applied work. The areas of study are closely related to the built environment, including civil engineering, geodetic engineering, spatial planning, and geosciences. Additional subject-specific competences can be seen in individual course syllabi for each course.

For more information:

<https://www.en.fgg.uni-lj.si/study/3rd-cycle-study-programmes/>



Conditions for enrolment and selection criteria when enrolment is restricted

The third cycle study programme Built Environment allows the enrolment of graduates from:

- Second cycle study programmes,
- Study programmes leading to professions regulated by the directives of the European Union, evaluated by 300 ECTS credits, or other unified master study programmes evaluated by 300 ECTS credits.
- Prior study programmes leading to the title master of science or specialization after the study programme leading to the university degree from the area of technical and natural sciences (for the area of spatial planning, also social sciences); prior study obligations are recognized in the scope of 60 ECTS credits.

The doctoral study programme Built Environment is also available for students from other international universities. The assessment of the adequacy of prior education abroad is established in the procedure for recognizing foreign education according to Article 121 of the University Statute.

Criteria for recognizing knowledge and skills acquired before enrolment in the programme

In the case of restricted enrolment, the selection procedure will take into account the knowledge and skills acquired through formal, informal or empirical learning prior to enrollment in the programme, in accordance with the criteria for accrediting study programmes. The Study Board for the doctoral study of the Faculty of Civil and Geodetic Engineering and the Faculty of Natural Sciences and Engineering decides about the recognition of knowledge and skills that a candidate acquired prior to enrollment into the programme.

For the recognition of such knowledge and skills, the following shall be considered:

- professional specialization,
- diploma from another higher education institute,
- prior scientific and research work,
- published scientific works,
- expert qualifications, or
- adequate work experience.

Conditions for progression through the programme

Conditions for the progression from the 1st to the 2nd year of the doctoral study consist of completed study obligations amounting to at least 45 ECTS credits.

Candidates may enrol in the 3rd year of doctoral studies if they complete all study obligations related to organized study activities from the 1st and 2nd years, including the proposal of the doctoral thesis topic.

Candidates may enrol in the 4th year of doctoral studies if they complete individual research work worth 60 ECTS credits and obtain the consent of the University Senate to the proposed topic of their doctoral thesis.

The last, fourth year, is intended for an elaboration and defence of the doctoral thesis.

Conditions for completion of the study

To complete the study and be awarded the scientific title of Doctor of Science, the candidate must successfully fulfill all academic requirements



specified by the programme. Additionally, the candidate must be the first author of at least one peer-reviewed scientific paper, accepted for publication in a journal indexed in SCI, eSCI, or SSCI, and related to the topic of the doctoral thesis. The doctoral thesis must receive a positive evaluation and be successfully defended by the candidate.

Tuition and co-funding

All doctoral students of the University of Ljubljana are entitled to co-funding of their tuition fee, provided that:

- they are enrolled in the 1st year of doctoral studies and have an average grade of completed education of at least 8.00 out of 10.00
- they are enrolled in the 2nd, 3rd or 4th year of doctoral studies and have regularly advanced to 2nd, 3rd or 4th year of doctoral studies,
- they have not yet completed doctoral degree;
- their PhD studies, even if not completed, have never been co-funded by public funds.

Knowledge of the Slovenian language is not a requirement for co-funding, and neither is Slovenian citizenship.

Students are informed of the co-funding amount after enrolment in the doctoral study programme sometime in December. The co-funding amount for an individual student depends on the number of enrolled students meeting the requirements for co-funding.

Classifications

- KLASIUS-SRV: Doctoral education (third Bologna cycle) / Doctor of Science (third Bologna cycle)
- ISCED: architecture, urbanism and building (58), social sciences (31), engineering (52), environmental protection (85), physical science (44)
- KLASIUS-P: Building and civil engineering (broad programmes) (5820)
- Frascati: Engineering and technology (2), Social sciences (5)
- Level SOK: Level SOK 10
- Level EOK: Level EOK
- Level EOVK: Third cycle





Why pursue a PhD at the Faculty of Civil and Geodetic Engineering?

■ **Interdisciplinarity**

Our programmes foster a dynamic, interdisciplinary environment where students can collaborate across fields – from engineering and natural sciences to social sciences and humanities.

■ **High-quality working environment**

We offer a supportive and stimulating research environment, with access to modern facilities, collaborative workspaces, and a vibrant academic community. Our Faculty is committed to encouraging intellectual curiosity and academic excellence.

■ **Excellent laboratory equipment**

State-of-the-art laboratories and research infrastructure enable cutting-edge experimentation and innovation. Students have hands-on access to advanced tools and technologies, supporting high-impact research across disciplines.

■ **Professional Staff**

Our experienced and internationally recognized supervisors provide personalized mentorship and guidance throughout your research journey. Their expertise and dedication help students thrive academically and professionally.

■ **Employability**

Graduates of our PhD programme are highly sought after in academia, industry, and the public sector. The programme emphasizes transferable skills, international collaboration, and real-world applications, ensuring that students are well-prepared for diverse career paths.

Overview of PhD student achievements in 2024

In 2024, **eight doctoral students successfully defended their PhD theses**, making a significant milestone in their academic careers. In addition to their theses, they contributed to the advancement of science with **over 30 new scientific publications** .

In the same year, **55 active PhD students** at the Faculty of Civil and Geodetic Engineering altogether produced **a total of 108 scientific and professional publications** in monographs, journals and at conferences, reflecting the Faculty's strong research output and commitment to academic excellence.

Additional Information

Doctoral Students Office at University Ljubljana,
Faculty of Civil and Geodetic Engineering,
Ljubljana, 28 Hajdrihova Street
Mr. **Iztok Lovišček**

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Curriculum

1st year

Scientific Research of the Built Environment	ECTS 5
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Individual research work	ECTS 25
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Scientific field: *Civil Engineering*

Mathematics in Research of Built Environment	ECTS 5
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Elective Courses	ECTS 25
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Scientific field: *Geodesy*

Research in Geodesy	ECTS 10
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Mathematics in Research of Built Environment	ECTS 5
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Elective Courses	ECTS 15
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Scientific field: *Spatial Planning and Development*

Spatial Planning Research	ECTS 5
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Elective Courses	ECTS 25
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Scientific field: *Geology*

Elective Courses	ECTS 30
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2nd year

Elective Courses	ECTS 10
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Elaboration and presentation of doctoral topic proposal	ECTS 5
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Individual research work	ECTS 45
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3rd year

Individual research work	ECTS 60
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4th year

Individual research work	ECTS 50
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Presentation of PhD thesis before public defence	ECTS 5
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Elaboration and public defence of PhD thesis	ECTS 5
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Elective courses https://www.fgg.uni-lj.si/wp-content/uploads/2024/08/1001058_Grajeno_okolje_Ucni_nacrti-4.docx



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