



**FACULTY OF CIVIL ENGINEERING (CONSTRUCTION) AND
INFRASTRUCTURE**

**CIVIL ENGINEERING AND INFRASTRUCTURE STRATEGIC
DEVELOPMENT PLAN**

Pristina, 2024

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EXECUTIVE SUMMARY

The Faculty of Civil Engineering and Infrastructure was founded in 2013 and is within the UBT (Institution of Higher Education). Its field of competences, activities and activity has a main focus on higher education - scientific research and innovation, offering to new generations who complete secondary education and choose to pursue studies at the bachelor's and master's level in this faculty-study program. The Faculty of Civil Engineering and Infrastructure is the largest faculty in the country and its tradition, competence, infrastructure, services and access to human resources at all levels are indicative of the broad scale and unique advantage that this faculty has.

The portfolio of innovative, scientific research combined with twenty-first century experience, practice, techniques, and technology demonstrates a world-class quality that can be easily combined and adapted to address the current engineering challenges facing humanity today. The Faculty of Civil Engineering has a clear, well-addressed Mission and Vision to achieve objectives and goals in advancing teaching, research, scientific inquiry, and innovation. Teaching is based on the methodologies and requirements of the Bologna Charter, the European Union, the Legal Acts on Higher Education in the Republic of Kosovo, etc., thus offering students a research, scholarly, scientific and innovative core in harmony with the latest developments that the scientific community implements and aims to advance further.

The Faculty of Civil and Infrastructure Engineering Program offers all its staff, students, industry partners, etc., a highly connected community for the sharing and development of engineering knowledge. The Faculty of Civil and Infrastructure Engineering Program aims to benefit the community (society) by providing, developing and creating world-class engineering knowledge that promotes well-being, development, sustainability, prosperity, perspective, etc. It also aims to share knowledge and transfer it to the industry community through collaboration, teaching-training, seminars, conferences, scientific publications, etc. The Faculty of Civil Engineering and Infrastructure values intellectual correctness, teaching, research and connection with them, cooperation, sharing and application of scientific research work, structures and staff, recognizing them as the main values of its development and advancement. The teaching-curriculum of the Faculty of Civil Engineering and Infrastructure has shown and resulted in success and this is being demonstrated by the attraction of students not only from Kosovo but also from countries in the region such as (Albania, Montenegro, North Macedonia, Serbia), etc. Also indicative of success are the academic staff who are working in this program, which are an opportunity and guarantor for long-term success, development and innovation. The modules, along with their content, are being continuously updated to reflect advances in engineering, including scientific research and collaboration with faculties, programs, the industry sector, the labor market, etc., during their review and updating. The Faculty of Civil Engineering and Infrastructure takes into account the developments of the sector and its contribution to the gross domestic product and in this regard sees opportunities in close cooperation with the industry through solving and generating

knowledge for them, addressing research in the service of the industry to improve their technical and technological capacities through an integrated approach. Staff and the students also support the construction sector through their work and professional experience. Internationalization, stability, digitalization, advancement of laboratories, research, scientific research, innovation, active participation, organization of forums, conferences, etc., are also and remain a high priority for the Faculty of Civil Engineering and Infrastructure, as indicated in the following strategic plan. The involvement of all parties in the process of drafting strategic documents, plans, curriculum, module content, etc., is also an indicator of the success and results that the Faculty of Civil Engineering and Infrastructure is continuously showing. Therefore, this executive summary refers to the mission, vision and values, highlights the core goals and, provides an overview of the process used to create the plan, describes how the plan will be evaluated on an ongoing basis and expresses gratitude to those involved in the development of this strategic plan.

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MISSION

Civil Engineering and Infrastructure Department provides through its staff professional and innovative experience by giving the basic informations to the students and together to provide the next generation of the researchers and consequently the industry leaders by creating new products for civil engineering and new opportunities.

Program of Civil Engineering and Infrastructure - CEI develops and utilizes science and technical knowledge for the benefit of society and the sustainable development of buildings and the built environment.

As part of a strong university such as UBT, our department undertakes research, offers study programs and is committed to innovation and the highest quality scientific advice in the field of civil engineering with all its sub-sectors: structure, hydro, management, infrastructure, materials engineering and geotechnics.

The department develops new insights and solutions to the challenges facing the construction industry, based on the classical disciplines of object construction, design, and execution and monitoring of all stages of a project.

CEI plays a special role in research and quality education as well as in developing new civil engineering solutions in the region.

VISION

The vision of our department is related and can be modified in relation of the UBT and national or EU vision. In this sense our department as civil engineering should help the society for a better functioning. If we see civil engineering in the context of Kosovo, Kosovo most important investments are in civil engineering and our faculty based on the capacities such as material science should give higher quality materials, optimize the structural solution, and find solution such as environmentally friendly, managing the water resources creating a better life cycle of the construction field.

Civil Engineering and Infrastructure Program - CEI as it is now and in the future will be recognized and respected as one of the major research, study and achievement environments in the relevant fields of civil engineering in our country and in the countries of the region.

Civil Engineering and Infrastructure Program - CEI - will be an international center for the education of young engineers and a preferred provider of engineering graduates, reflecting the great importance of the construction industry to society.

Civil Engineering and Infrastructure Program - CEI - will be a digital-oriented department on a campus with strong teaching, research and experimental capabilities, thereby contributing to the future of the construction industry.

Civil Engineering and Infrastructure Program - CEI - will be a guiding light that others want to follow, and a place where results are created by people - together.

The vision of the Civil Engineering and Infrastructure Program - CEI is based on our innovative, trustworthy and dedicated employees, we want to be recognized and respected for communicating and making useful contributions to the development of the construction industry - challenging construction practices through thinking innovating and introducing new technical solutions.

We understand the importance of communicating and interacting with the outside world and the construction industry. We know that technology is part of a larger picture, which includes an understanding of the socio-technical aspects of research in construction and the importance of our academic culture as a starting point for our activities.

Civil Engineering and Infrastructure Program - CEI - stands for development ideas, we will foster a research culture that within the scope of the department's mission in civil engineering sees and understands the potential of testing new ideas.

Challenges and Opportunities in the Construction Industry

The general context of CEI (Civil Engineering and Infrastructure) - is central to our mission. We look at challenges and opportunities in a broader context on four levels:

- Megatrends in society
- Changes in the construction industry and in the field of civil engineering
- Challenges and opportunities in the built environment
- Changing conditions for universities

The broader context of Civil Engineering and Infrastructure is dominated by a number of long-term megatrends, and we pay particular attention to:

- Digitization

Information technology and opportunities for freer exchange of knowledge across time and space are expected to transform the way design, products and processes are built, education and research as well as experiments.

- Stability

The global need for sustainable development and transformation is expected to set the agenda for the long-term priorities of society, and the platform for understanding and communication. INI - will contribute to achieving a number of these goals of particular relevance to civil engineering and infrastructure.

- Internationalization

Construction products and processes are being internationalized at the same time as digitalization and communication are increasing. The same thing is happening at universities, and the Civil Engineering and Infrastructure - will take a stand on this by perceiving the construction industry as an international partner, as well as seeking strong international partners to address problems and identify solutions in an international context.

Both in Kosovo and in the region and in all other countries, the construction industry and the field of civil engineering are changing and will continue to do so for years to come.

Topics that will face change include:

- Digitization of construction processes, including new tools and software for the design, production and execution of buildings, roads and the like.

Among the main challenges and opportunities are:

- Sustainable construction, including calls for lower consumption of raw materials and energy. Adaptation to the effects of climate change, including floods, weather change and accelerated degradation of building materials.
1. Aging of the built environment and maintenance strategies are becoming increasingly important.
 2. Urbanization, with urban environments and growing infrastructure in size and complexity.

The research and teaching environment at universities in Kosovo and internationally is changing and will continue to do so for years to come, requiring both challenges and opportunities.

Topics include:

- Decline in public research funding
- The large and growing private knowledge sector
- Increasing the need for lifelong learning
- New opportunities in the form of e-learning and adapted didactics
- Increase electronic research and data management
- Increasing the globalization of the academy

Some notations at Kosovo research strategy and challenges are related with the state policy, while as state spends the least on research and scientific activities in the region. Despite the fact that the Law on Scientific Research Activity provides that 0.7% of the annual budget should be allocated to this area, in 2017 only 0.19% of the budget (or 0.05% of GDP) was allocated, while in 2018 around 0.33% of the budget (or 0.1% of GDP).

However, it is expected that this low budget for research and research in Kosovo will change during 2020, with the support provided by the Ministry of Education and Innovation, through NGO financial support programs, start-up companies, and small and medium-sized enterprises related to research activities.

An important impact at the research it is expected by the international, mostly EU Projects where UBT leads in Kosovo, based on the statistics of the Erasmus +. office in Kosovo.

Actually Civil Engineering program is part of more than 5 capacity building project, mostly interdisciplinary project, while three of them are related with Civil Engineering and Infrastructure program such as Balkan Stone, BESTSDI, GEOGIZ etc.

This year UBT has applied for quite 20 Erasmus + Capacity Building, where at least two of them are related with Retrofitting due to the seismic zones, Curriculum and Research Development in Environment etc.

Base and development

Civil Engineering and Infrastructure Program is based on the polytechnic concept of developing building techniques on a scientific basis. We will develop this foundation through two paths: strong classical disciplines and strong labs.

Classical discipline

Civil Engineering and Infrastructure Activities - based on strong classical disciplines, which provide both research and study programs, basic knowledge of construction and engineering phenomena. We also believe that useful insights into civil engineering are created in the interplay between basic and applied research - between theory and practice. The basic disciplines of CEI Civil Engineering and Infrastructure include:

- Design and processes
- Energy and Services
- Materials and durability
- Geotechnics and Geology
- Structures and Security

Laboratories:

Civil Engineering Research Infrastructure - includes strong, unique labs that support our study programs for future engineers. We regard access to experimental data and experimental verification of models as essential to being able to undertake significant research in the field of construction and believe that new engineering knowledge is created in the interaction between modeling and physical experiments - between theory and reality practical.

The program of Civil Engineering and Infrastructure possesses the following laboratories:

- Materials Laboratory
- Geotechnical laboratory
- Hydraulic Laboratory
- Structures Laboratory

STUDIES (studying/education)

The Faculty of Civil Engineering (Construction) and Infrastructure promotes, encourages, supports and guarantees quality study (quality education), comparable to the countries of the region and the European Union, based on the Bologna charter and standards, with the aim of advancing from year to year.

Purpose/Tasks	Indicators	Target (target values)
Provide and maintain a required standard ratio of the number of academic staff to the number of students.	The number of academic staff engaged in the Faculty of Civil Engineering (Construction) and Infrastructure and the number of students registered by year.	For example it can be 1 staff with 10 students or 1 staff with 15 students (or this ratio still needs to be researched)
The increase in the number of graduates at the level of bachelor's studies in the time frame of the studies.	Number of graduates Bachelor level.	25% from the previous years 2021-2024.
Increasing the number of graduates at the level of master's studies in the time frame of the studies.	Number of graduates Master level.	30% from the previous years 2021-2024.
Increasing the number of students participating in mobility programs financed by EU programs.	The number of students participating in mobility.	25% from the previous years 2021-2024.
Etc....		

RESEARCH

The Faculty of Civil Engineering (Construction) and Infrastructure is a research-research program in the field of construction and infrastructure within which there is a wide range of scientific and innovative activities.

Purpose/Tasks	Indicators	Target (target values)
Increasing the number of staff in the Faculty of Civil Engineering (Construction) and Infrastructure program with Doctor of Science degrees.	Number of Faculty of Civil Engineering (Construction) and Infrastructure staff with doctorates by years (2024-2027).	100 %
Completion of doctoral studies of INI staff enrolled in doctoral schools and staff enrolling in 2024.	Number of graduates by year.	25% from the previous years 2021-2024.
Increasing the number of students enrolled in the doctoral school.	Number of registered students.	35% from the previous years 2021-2024.
Increase in the number of students enrolled in Master of Science studies.	Number of registered students.	50% from the previous years 2021-2024.
Increasing the number of academic staff (professors) in the mentoring of doctorates-dissertations and Master of Science subjects.	Number of Faculty of Civil Engineering (Construction) and Infrastructure academy staff involved in mentoring.	30% from the previous years 2021-2024..
Increasing the number of academic staff participating in mobility programs financed by EU programs.	Number of participating academic staff.	25% from the previous years 2021-2024.
Purpose/Tasks	Indicators	Target (target values)

Increase in the number of publications on platforms with impact factor Q1, Q2, and Q3.	The number of works published by the academic staff of Faculty of Civil Engineering (Construction) and Infrastructure Web of Science and Scopus.	50% from the previous years 2021-2024 (each staff at least one publication on one of these two platforms and Q1, Q2 or Q3).
Increasing the quality of scientific articles.	Number of releases with Q1 and Q2.	20% from the previous years 2021-2024 (or 50% of INI staff from 1 publication or as a group of authors 5+ publications)
Purpose/Tasks	Indicators	Target (target values)
Increasing the number of projects financed by the Ministry of Education, Science and Technology of the Republic of Kosovo	The number of applications-projects from Faculty of Civil Engineering (Construction) and Infrastructure .	50% from the previous years 2021-2024.
Increasing the number of projects financed by European Union funding sources for higher education.	The number of applications-projects from Faculty of Civil Engineering (Construction) and Infrastructure .	50% from the previous years 2021-2024.
Increasing the number of projects in which INI is a partner or leader in their implementation and financed by the program, e.g. ERASMUS+	The number of applications-projects from Faculty of Civil Engineering (Construction) and Infrastructure .	50% from the previous years 2021-2024.
Increasing the degree of cooperation with the public and private sector in the design of joint projects financed by the public and private sectors.	The number of applications-projects from Faculty of Civil Engineering (Construction) and Infrastructure .	40% from the previous years 2021-2024.

ACTIVE PARTICIPATION

The Faculty of Civil Engineering (Construction) and Infrastructure promotes, encourages, supports and supports the active participation of staff and students from all levels in topics and issues for the common good. It also shows care and is responsible to the general public.

Purpose/Tasks	Indicators	Target (target values)
Increasing the number of staff and students who are willing to volunteer to participate in various issues and organizations for the benefit of the general public.	Number of participating staff and students.	Participation up to 60% from previous years 2021-2024.
Etc....		

EVENTS

The Faculty of Civil Engineering (Construction) and Infrastructure promotes, encourages, supports and supports participation in various organizations.

Purpose/Tasks	Indicators	Target (target values)
Organizing World Water Day March 22, 2025	Number of participants	Involvement of as many different stakeholders as possible
Organizing World Earth Day April 22, 2025	Number of participants	Involvement of as many different stakeholders as possible
Organization of the International Day for Safety and Health at Work (April 28, 2024).	Number of participants	Involvement of as many different stakeholders as possible

Organization of World Environment Day 05 June 2025	Number of participants	Involvement of as many different stakeholders as possible
Organization of the Summer Academy (second week of July 2025)	Number of participants	Involvement of as many different stakeholders as possible (Professor, student (local and international))
Organization of the UBT-CEI Annual Conference (last week of October 2025)	Number of participants	Involvement of as many different stakeholders as possible (Professor, student (local and international))
Participation in forums, debates, seminars, trainings, conferences inside and outside the country) According to requirements	Number of participants	Inclusion: staff and students of civil and infrastructure engineering
Fair and EuroTrip (every year)	Number of participants	Inclusion: staff and students of civil and infrastructure engineering