



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

**FACULTY OF ENGINEERING AND INFRASTRUCTURE
BACHELOR STUDY PROGRAM
MARKET RESEARCH**

Pristina, 2023

UBT was established in Pristina, Kosovo in October 2004 by Prof. Dr. Edmond Hajrizi. The institution was built on the previous experience of the Institute of Enterprise Engineering and Management (IEME). The College holds the license of the Ministry of Education, Science and Technology (MEST) No.808/02-1 dated 18.10.2004 and it is also supported by its centers in various other cities in Kosovo.

UBT is accredited by the Kosovo Accreditation Agency as a UBT College. The institution has undergone a number of external accreditation (both institutional and program) procedures.

UBT is demand-driven though it has also offered programs in mechatronics and robotics where it feels that can contribute to Kosovo's long-term economic and social development. UBT student orientation is balanced between three broad areas: (1) ICT, mathematics and natural science, (2) engineering, manufacturing and construction and (3) social science.

With regard to the changes in the external environment UBT devotes particular attention to initiatives and developments in the context of EU Lisbon Strategy, the Bologna Group, the European Network of Information Centers, EU Directives on Regulated Professions and European Qualification Framework. With regard to developments and best practices in quality assurance UBT regularly monitors the European Association of Quality Assurance in Higher Education.

In relation to best practices in HE management, programs, services and funding models it regularly monitors the developments in the European University Association (EUA). Best practices related to student and staff mobility it follows the developments in the EU Erasmus + Initiative. Developments related to research and industry cooperation are monitored in the context of Horizon 2020 Initiative, Western Balkans Research and Innovation Initiative, OECD SEE Reports and Regional Cooperation Council (RCC) Smart Growth Initiative.

UBT offers a dynamic and innovative 21 century academic environment. It provides a supportive and challenging opportunity for the students, faculty and staff in participatory and self-governance setting. Building on a tradition of teamwork between Students, faculty, staff and administrators, UBT is committed to enhance its participation as an active member of community by providing learning opportunities driven by teaching and research excellence, intellectual interaction and creativity. UBT is a preeminent center of intellectual and cultural activity in Kosovo, improving the region's quality of life through the skills, knowledge, experience and engagement of its faculty, staff, students and alumni (<https://www.ubt-uni.net/en/study/alumni/>).

UBT will be a leading contributor to the growth, and strategic development of the Kosovo and region. It will serve the Kosovo and region, by preparing leaders for the 21st century with a global outlook and the skills needed for educational, social, economic, political, environmental and cultural advancement.

In delivering the mission statement for the benefit of students and all other stakeholders, the institution has identified several strategic objectives:

Achieving academic excellence - the institution aspires excellent quality standards and consistent active learning approaches which offer authentic experiences and an inspiring, values-based learning environment to a diversity.

Developing research, innovation and social responsibility - offer innovative ways for learners, spin-in and spin-out companies as well as external clients to engage with enterprise supports and applied research, thus creating new knowledge and new employment.

Creating a positive working and learning environment- the institution aims to offer a high-quality and supportive working and learning environment for all types of students (full-time, part-time, priority groups) and staff,

Maintaining and increasing internationalization and regional partnerships - formation of the new local and international higher education alliances and continued excellent performance against international and regional efficiency and effectiveness benchmarks.

Partnering with the community - will continue to forge strong links with industry and wider society, which will be supported through mainstream funding, alternative income streams and volunteering arrangements in order to provide service to the industry and the community at institutional, staff and student level.

All these strategic objectives are also a driving force for the Faculty of Civil Engineering and Infrastructure. We as program of Civil Engineering and Infrastructure aim to develop a study program that goes in line with the market needs, this through Memorandum of Understanding (MOU) with the private sector, with local and central administration, and with other stakeholders. The Program of Civil Engineering and Infrastructure is going at the same pace as other international study programs, through various projects such as ERASMUS +, COST Action, Horizon 2020 Applications, etc. All this engagement in such projects helps with the internalization of the study programme. In terms of going in line with the HEI strategic objective, the program of civil engineering and infrastructure has a driving role concerning social responsibility. In every case when is needed, Faculty of Civil Engineering and Infrastructure is ready to engage. In the past was demonstrated during the Albanian Earthquake of the 26th of November, where 30 staff of the program was engaged in assessing the structural conditions of buildings in the Durrës region in Albania, also in the relation with the need of central and local institution our staff helped with the professional skill to solve different questions related with the social activities, including private sector with such a feasibility studies, practical problems, etc.

UBT follows national trends and changes in the education legal framework, standards, and administrative instructions. In the dimension of quality management, it regularly participates and contributes to Kosovo Accreditation Agency, Capacity Development Seminars, and EU Tempus Seminars, Erasmus + Seminations, Horizon 2020, etc. With regard to institutional management and standards, it regularly monitors legal standards and amendments to the Law on Higher Education, Administrative Instruction on the Accreditation of Private Bearers of Higher Education, National Qualification Framework and Administrative Instruction on the Licensing of Private Bearers of Higher Education and National Bologna Group Experts. As

part of the Strategic Plan process it has been consulted the Kosovo National Development Plan 2016-2021, Kosovo Strategic Education Plan 2017-2021, Kosovo Vision for Skills 2016-2021, Kosovo Research Plan, Kosovo Innovation Strategy as well as sectors strategies in trade, ICT, public administration, business, law, transport, and agriculture.

See: http://www.kryeministri-ks.net/repository/docs/National_Development_Strategy_2016-2021_ENG.pdf: <https://masht.rks-gov.net/uploads/2017/02/20161006-action-plan.pdf> : http://www.kryeministri-ks.net/repository/docs/Kosovo_IT_Strategy.pdf

Labour Market ratio

The Kosovo labor market demand for construction and infrastructure professionals has been particularly high in recent years. Based on a recent study of higher education graduate demand in economic and skill sectors in Western Balkans and Kosovo (https://neighbourhood-enlargement.ec.europa.eu/system/files/2023-11/COM_2023_691_New%20Growth%20Plan%20Western%20Balkans.pdf), civil engineering and infrastructure technicians and engineers are one of the most dynamic occupations in employment growth in Kosovo. The construction and infrastructure sector captures nearly 20 percent of annual economic activity in Kosovo and in recent years has been the key source of growth and income generation. The high demand for civil engineering, construction and infrastructure has been very high due to increased government spending (5.91% of GDP, circa 260 million Euro), foreign direct investment (<https://www.imf.org/external/datamapper/profile/UVK>) and private investments (<https://www.state.gov/reports/2023-investment-climate-statements/kosovo/#:~:text=In%202022%2C%20the%20net%20flow,by%20financial%20services%20and%20energy>).

The construction boom has not lost any pace since the post-war reconstruction phase. In order to meet the existing market demand, Kosovo will need in the next years some 80,000 new apartments including infrastructure, roads, kindergartens, and schools.

Construction and infrastructure is one of the main pillars of the newly adopted Kosovo National Development Plan. The plan stresses the need for improved regulatory framework, investments and human capital creation in the sector. As part of the human capital creation, the plan calls on education institution to play a more active role in both increasing the share of students enrolled in related programs but also pay greater attention to specialist studies to advance the knowledge base. (http://www.kryeministri-ks.net/repository/docs/National_Development_Strategy_2016-2021_ENG.pdf).

Another factor that is helping to boost the demand for skills is the construction of the roads and railways (New and Rehabilitation line 10 – Hani I Elezit-Jarinje – EU Investments – EBRD - <https://www.ebrd.com/news/2022/ebrd-and-eu-back-rehabilitation-of-kosovos-railway-network.html>). The government of Kosovo has set to connect the country from several directions: Albania, Macedonia, Serbia and highways inside Kosovo to connect Prishtina with other regions, ex. Gjilan, Peja, Dukagjini Highway, Mitrovica, etc. Highway construction and rural development infrastructure will stimulate the economic sector and create additional demand for labour. Another important factor is the EU-funded development aid which will be

oriented towards railway and rural development infrastructure (IPA 2018) https://ec.europa.eu/neighbourhood-enlargement/instruments/funding-by-country/kosovo_en. In fact, CEI staff and Students have actively involved in the process of feasibility study, design and supervision of different crucial projects in Kosovo such as railway, highway etc through also the Institute for Urban and Infrastructural Planning (<https://cus.ubt-uni.net>).

UBT, on the other hand uses an indicator framework to assess demand for professionals and economic sectors. The indicator framework is composed of: (1) skill sectors employing most of the professionals (to differentiate among all workers in the sector), (2) share of professionals' distribution in all economic sectors (ISCO) and (3) job creation tendency in the past decade for the respective economic sector (NACE). According to the Kosovo Labour Force Survey (<https://ask.rks-gov.net/>, <https://ask.rks-gov.net/Publication> Acces - 2023), the economic sectors with one of the highest share of employment and job creation are trade, manufacturing, and construction. Adjusting to changing demands is usually rooted in knowledge used for civil engineering and construction projects in a thriving local and international market. UBT civil engineers and construction professionals have found employment and opportunities beyond Kosovo, namely Albania, Macedonia, Montenegro, Turkey, Middle East, Croatia, Slovenia, Italy Germany etc, USA and Asia (<https://www.ubt-uni.net/en/study/bachelor-programs/construction-engineering-and-infrastructure/success-stories/>). If the know-how is created at education institutions in close interaction with industry, the competitive advantage build on cheap labour may position professionals and firms in the sector in terms of better income, employment and overall social welfare. Therefore, domestic knowledge growth and development are key to gain and retain competitiveness based on the job creation indicator, construction, and infrastructure rate among the top-performing and job creation industries.

Almost two thirds of Kosovo's population is of working age (age 15-64) <https://ask.rks-gov.net/PopulationStats/Pyramid>). It is expected that the working age population to increase rapidly over the next decade as Kosovo is among the countries with the youngest population in Europe.

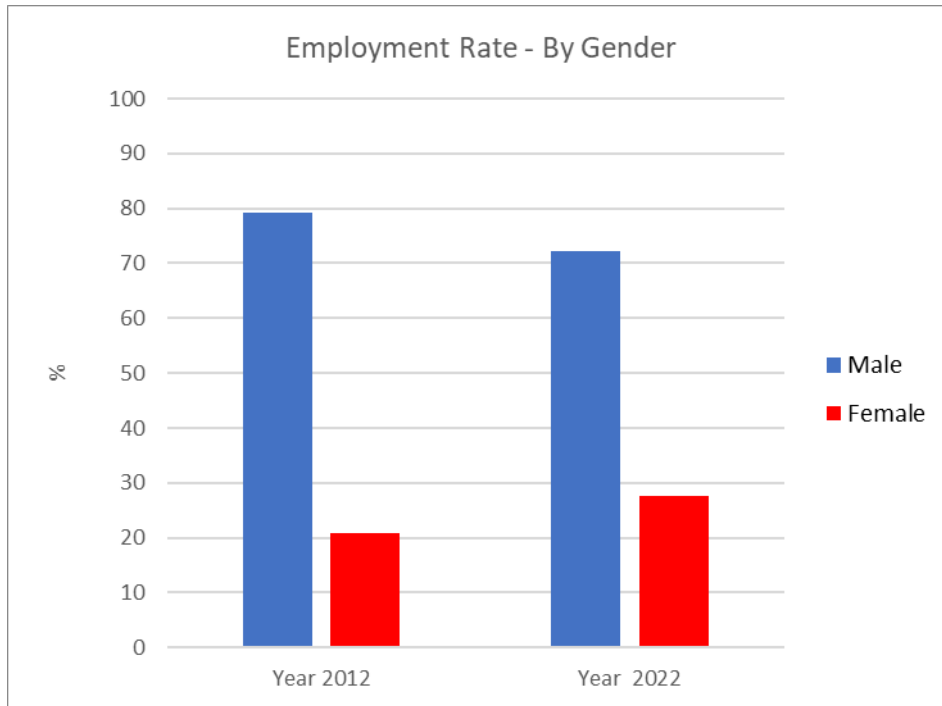


Fig.1 Employment rate by gender

UBT as institution has invested to change the gender employment rate in comparison to the national one.

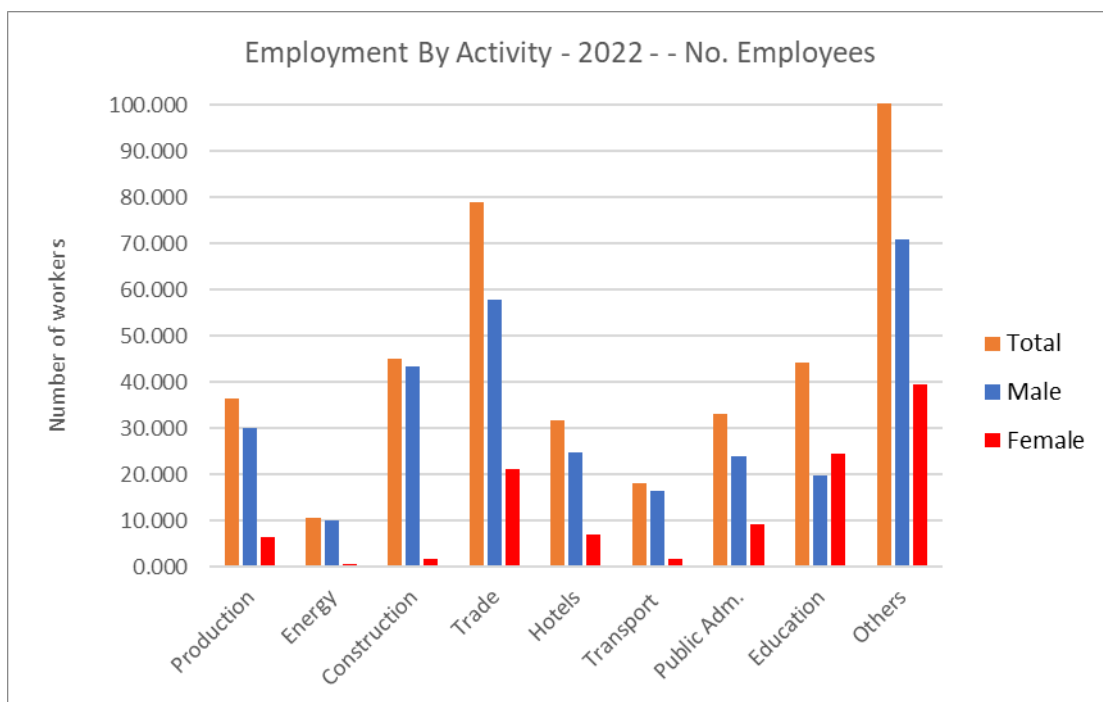


Fig.2 Employment by activity and gender (in thousand)

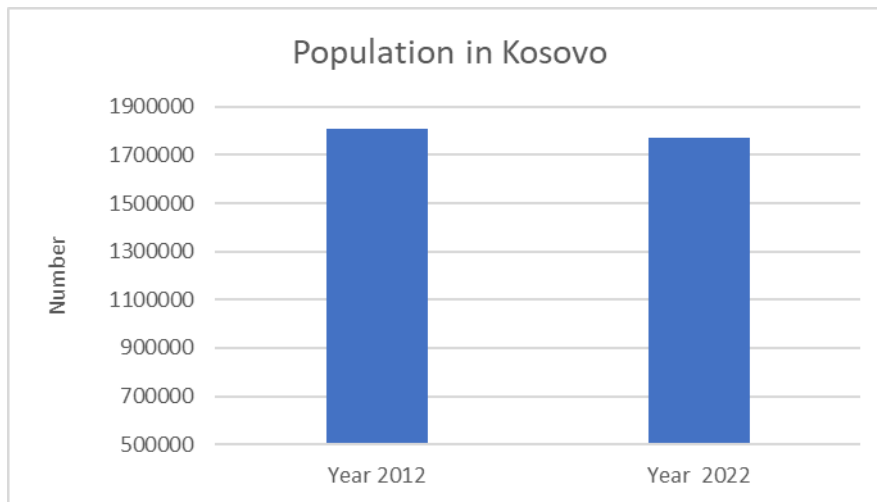


Fig.3 Population in Kosovo

In summary, on the basis of Labour Force Survey construction, civil engineering and infrastructure are the skill areas employing the highest share of professionals. Trade, construction, education and manufacturing employ more than half of employed persons in the second quarter of 2018 (see Fig.3). The sector has created around 45 000 jobs in the past decade and according to economic projections another 10,000 new jobs will be created until 2025 (<https://abgj.rks-gov.net/publikimet/106/raporte-dhe-hulumtime>).

Based on the information provided above and the overall mentality of the region, we see that the number of girls and women employed in the construction sector is very low. We as UBT and as Faculty of Civil Engineering and Infrastructure and Infrastructure are doing the maximum to engage girls and women in our study programs. This through financial help, scholarships, through public speaking of woman professors to give the example and to change the mentality that civil engineering and infrastructure is a profession not only for boys and men, but this profession and study program is for everyone.

Comparability with international faculties

The Faculty of Civil Engineering and Infrastructure has been designed to respond to the context and demand in the labour market as well as the preferences outlined by staff and students. However, the programme does generally include a core of education practice in the study field. The Curriculum Committee has taken into account the content similar programs from several programs in Western Balkans and Europe. The program enshrines the principles and the guidelines offered by EUCEET (European Civil Engineering Education and Training, where UBT is member) For more details see the link: <http://www.euceet.eu/>).

The table below presents an overview of how Faculty of Civil Engineering and Infrastructure UBT program compares with similar programs in the region and wider in Europe:

Universities	TU Delft	ETH	GF Osijek	TU Graz	GF Spliti	FG Maribori	EUCEET	UBT
ECTS	180	180	180	180	180	180	180,0	180.0
Mathematics	20,0	24,0	22,0	29,0	30,0	27,7	23,0	15,0
Mechanics	20,0	21,0	33,0	48,0	22,0	38,9	31,5	26,0
Building constructions	20,0	19,0	20,0	9,5	23,0	18,6	22,0	20,0
Hydrotechnics	18,0	13,0	13,0	16,0	9,0	5,3	10,5	14,0
Geotechnics	9,0	19,0	17,0	0,0	9,5	13,4	13,0	10,0
Materials	3,0	13,0	6,0	4,0	12,0	8,6	6,5	6,0
Organization/Economy	13,0	7,0	14,0	3,0	9,0	13,6	18,0	15,0
Communications	5,0	7,0	5,0	12,5	5,0	6,2	4,5	24,0
Informatics	2,0	9,0	8,0	10,5	3,5	6,4	8,0	4,0
Spatial planning	7,0	7,0	5,0	1,0	0,0	0,0	7,5	0,0
Geodesy	3,0	6,0	4,0	7,0	6,0	4,2	5,5	5,0
Law	4,0	4,0	2,0	0,0	0,0	0,0	0,0	4,0
Physics	0,0	7,0	6,0	5,0	5,0	13,9	6,5	6,0
Descriptive geometry	2,0	0,0	4,0	8,5	3,5	6,0	5,0	6,0
Chemistry	0,0	0,0	0,0	0,0	0,0	0,0	3,5	0,0
Others	51,0	24,0	15,0	0,0	37,5	9,8	9,0	20,0

Fig.3 Faculty of Civil Engineering and Infrastructure comparison with similar programs in the region and wider in Europe

The EUCEET project on ‘curriculum harmonization in Europe’ has informed both the philosophy of teaching, approach, and the curriculum structure. The program is also harmonized with SEFI Indicators (European Society for Engineering Education - <https://www.sefi.be/>) the standards of AsBau (Akkreditierung und Qualitätssicherung zeitgemäßer Studiengänge des Bauingenieurwesens an deutschen Hochschulen - <https://www.asbau.org/dl/standards.pdf>) and US ABET (Engineering Accreditation Commission, Accreditation Board for Engineering and Technology - <https://www.abet.org/>). Lastly, the ASCE Body of Knowledge and EUCEET recommendations have been integrated into the curriculum where the Civil Engineering and Infrastructure Program of UBT is a member (<https://tsuab.ru/upload/iblock/483/%D0%A7%D0%BB%D0%B5%D0%BD%D1%8B%20%D0%B0%D1%81%D1%81%D0%BE%D1%86%D0%B8%D0%B0%D1%86%D0%B8%D0%B8.pdf>) We have been also invited to Participate in the ECCE Project: Update of the book "Civil Engineering Profession in Europe" - UBT - Higher Education Institution - Faculty of Civil Engineering (<http://www.ecceengineers.eu>).

Target groups - The Faculty of Civil Engineering and Infrastructure is designed to attract:

- Citizens of the Republic of Kosovo and foreign nationals from the region and beyond have the right to apply for registration in the program of civil engineering and infrastructure under the same conditions;
- Graduated with an upper secondary school in the field of civil engineering and infrastructure;
- Graduated with an upper secondary school related to the field of construction such as architecture, geodesy, mechanics, informatics and other technician directions;
- Graduated with an upper secondary who have been working in a narrowly focused civil engineering areas and want to acquire a more broadly based qualification;
- Graduated with an upper secondary school from non-civil engineering, construction and infrastructure disciplines who want to change career paths namely students from science, mathematics, and engineering, students from business and administration;
- Graduated with an upper secondary school working in civil engineering, construction and infrastructure interested to upgrade their skills and career ladder;
- Graduated with an upper secondary school from public administration and local and central government professionals interested to advance the theoretical and empirical underpinnings of the profession for policy-making and regulatory purposes related to the construction field.
- Acceptation of the candidates for admission to graduate study in civil engineering and infrastructure is based on their success at the previous (secondary upper high school) level of study, and they have the possibility to gain scholarships thanks to their success.

Aim of the study program

The purpose of the reaccreditation of this program is the education of graduated with upper secondary school in construction and infrastructure and other fields detailed above in harmony with the needs and requirements of Kosovo and regional society as detailed by the report of the KAS 2022 (<https://ask.rks-gov.net/>). The graduate of this study program will acquire all the knowledge and competence to work in all construction works and constructions of hydro and road infrastructure outside the borders of the country, within the regional and European, American market and more. The aim of this program is to achieve academic competencies and skills related to the field of Faculty of Civil Engineering and Infrastructure.

Through this program students will gain (control) in an efficient and qualitative scientific basis of the profession of Faculty of Civil Engineering and Infrastructure. This includes the development of creative abilities of the main problems, developing critical thinking and teamworking skills, necessary for construction work in the profession. The aim of the program is education of students who possess basic knowledge in the field of infrastructure, construction, and road-construction and hydro related to the design and construction of buildings.

Developing awareness of the need for permanent education and perfection is also one of the aims of this study program. Studies at this level are trained to apply knowledge (knowledge)

acquired, they are competent to solve real and problems of road infrastructure construction practices and continue further education in master studies in case that they have opted for. The student who performed the studies possesses a high level of knowledge and competence to work in a profession in the field of designing, building and organizing the construction of all types of construction facilities and infrastructure. With the acquisition of this study program students acquire skills for developing communication skills for collaboration and teamwork as well as the acquisition of knowledge of responsibility and professional ethics. Upon completion of academic studies student possesses basic knowledge necessary for understanding the process of construction and design of the construction of important infrastructures. Also, gaining skills for communication and exchange of information and ideas on issues related to the construction profession, for the implementation of the acquired knowledge and skills to use and respect the law, standards and norms. By conducting this Faculty of Civil Engineering and Infrastructure, the student can put in the solution despite the complex engineering problems related to the calculation and design building construction, road and infrastructure construction. Critically evaluate arguments and priorities and select engineering problems creatively.

Conclusion

In summary, on the basis of Labour Force Survey construction, civil engineering and infrastructure are the skill areas employing the highest share of professionals. Trade, construction, education and manufacturing employ more than half of employed persons in the second quarter of 2018 (see Fig.3). The sector has created around 45 000 jobs in the past decade and according to economic projections another 10,000 new jobs will be created until 2025 (<https://abgj.rks-gov.net/publikimet/106/raporte-dhe-hulumtime>).

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