



DEPARTMENT OF CIVIL ENGINEERING

STRATEGIC DEVELOPMENT PLAN

2024-2028

INTRODUCTION

1 Mission

The Department of Civil Engineering at EPOKA University offers a comprehensive and practice-oriented education across all three study cycles: Bachelor, Master and PhD. The programmes are designed to equip students with the technical knowledge, analytical skills, and ethical awareness required for a successful career in civil engineering.

The undergraduate program builds a solid foundation in structural analysis, geotechnics, hydraulics, construction materials, transportation systems, and project management, supported by theoretical and laboratory-based learning. The curriculum is structured to provide hands-on experience through design projects, fieldwork, and internships, fostering both technical competence and professional readiness.

At the graduate level, the Master of Science and Professional Master programmes deepen students' expertise in specialized fields such as Structural Engineering, Geotechnical Engineering, Construction Management, Construction Materials Engineering and Water Resources Engineering. The programmes emphasize research, innovation, and interdisciplinary collaboration, preparing graduates for leadership roles in academia, industry, and public institutions.

The doctoral programme aims to develop high-level researchers capable of advancing the frontiers of civil engineering knowledge and contributing to sustainable infrastructure solutions.

Throughout all levels, the Department promotes critical thinking, ethical practice, and lifelong learning to prepare graduates to contribute effectively to the development needs of Albania and the broader region, while being competitive in global academic and professional environments.

2 Context

The Department of Civil Engineering at EPOKA University, in line with Albania's aspiration to join the European Union, is committed to aligning its educational standards with European and international best practices. The department actively engages in collaborations with universities across the EU and beyond, aiming to prepare its students for both the regional and global civil engineering markets. Internationalization of the curriculum, participation in EU-funded projects, and academic mobility are central to this effort.

The main aim of the Department is to educate and train competent, innovative, and ethically responsible civil engineers who are capable of designing and managing "*Climate-resilient infrastructure*" and "*Green innovation*" through projects like "*GreenWB*", in response to societal needs. Through a strong foundation in engineering principles, combined with practical experience, research engagement, and interdisciplinary collaboration, the department aims to equip students with the skills and knowledge required to solve complex engineering problems both nationally and internationally.

The department also seeks to promote critical thinking, creativity, and lifelong learning among its students, while contributing to the advancement of civil engineering through scientific research, community involvement, and collaboration with industry and public institutions.

3 Vision: The Department's Ambitions by 2028

The institutional vision of the Department of Civil Engineering is to become:

1. A nationally and regionally recognized leader in civil engineering education, research, and professional development;
 2. A key contributor to sustainable infrastructure and resilient urban development in Albania and the Western Balkans;
 3. A promoter of engineering awareness and innovation for the benefit of society. This includes organizing annual public engagement events, such as Civil Engineering Open Days, STEM outreach for youth, and awareness campaigns on infrastructure safety and sustainability in partnership with schools and municipalities.
 4. A preferred academic center for students, researchers, and industry partners seeking excellence in civil engineering.
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5. Department aims to offer among the top five civil engineering programmes in the Western Balkans by 2028.
 6. It will also target a 50% increase in research output and seek at least three new international academic partnerships annually, involving joint research funding or dual degrees to strengthen academic visibility and credibility.

4 Management and Resources

The Department of Civil Engineering is supported by a highly qualified academic team educated at prestigious higher education institutions. Faculty members are actively engaged in international networks through exchange programmes, collaborative research projects, workshops, and joint academic initiatives. This dynamic academic environment enriches the department's educational and research activities and enhances its international profile.

The current academic staff includes two full-time professors (Prof. Dr.), one associate professor (Assoc. Prof. Dr.), four PhD holders, and other academic members. The department is committed to diversifying and expanding its academic team in line with emerging disciplinary needs such as sustainability and transportation engineering.

The department offers a well-equipped learning and research environment that includes modern classrooms, specialized Civil Engineering Laboratories, computer laboratories with access to industry-standard software, and access to digital and physical libraries.

As part of the strategic priorities for 2024–2028, the Department aims to:

- Expand its laboratory infrastructure to include advanced materials testing, structural health monitoring, geotechnical and geophysical testing equipment, and ISO certification for selected tests laboratory.
 - Upgrade digital learning and design technologies, aligned with BIM and smart infrastructure trends.
 - Ensure the provision of necessary infrastructure for students to produce and finalize engineering projects;
 - Secure dedicated funding for scientific research, academic mobility, and staff development;
 - Strengthen academic support services by strategically recruiting research-active faculty members and specialists to drive innovation and elevate research output.
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These resources will be managed transparently and efficiently under the coordination of the Head of Department, in close cooperation with the Dean's Office and the university's administrative bodies. Regular internal assessments and strategic reporting will ensure continuous improvement, sustainability, and alignment with national and international standards in civil engineering education and research.

5 Achievements from the Last Period

Since its establishment, the Department of Civil Engineering at EPOKA University has experienced steady growth in student enrolment and programme visibility. Over the years, the applicant pool has increased significantly, with a growing number of high-achieving and diverse students choosing the programme for its academic quality, international perspective, and strong employability outcomes. Over 25% of graduates from the undergraduate programme have pursued Master's or doctoral studies in top European or American universities, while the majority have secured employment in the public or private sector shortly after graduation.

The Department has made substantial progress in aligning its curriculum with contemporary engineering challenges, integrating hands-on learning, and promoting student engagement with real-world problems through site visits, laboratory work, and design projects. It remains a leader in Albania in implementing practical, student-centred learning approaches and digital tools for structural analysis, design, and construction management.

Faculty and graduate students have published more than 120 scientific papers in national and international peer-reviewed journals and have participated in international conferences, further strengthening the research profile of the department. Staff members are involved in several international academic collaborations, including Erasmus+ projects and COST Actions. The Department continues to support academic mobility and research engagement at both national and European levels.

The Department of Civil Engineering organized the *International Balkans Conference on Challenges of Civil Engineering (BCCCE)* and regularly hosts technical seminars, guest lectures from industry professionals, and student-focused workshops. These events enhance academic discourse and build strong bridges with the local and regional civil engineering community.

Site visits, field excursions, and company visits are integrated into courses, allowing students

to connect theoretical knowledge with practical field applications. Student clubs, such as the “*Future Engineers Club*”, promote extracurricular engagement by organizing technical competitions, volunteering projects, and awareness campaigns on sustainable construction and infrastructure safety.

The Department remains committed to contributing not only to student excellence but also to the broader community by supporting the local development through consultancy, applied research, and knowledge-sharing activities.

Priority Areas for Strategic Development

Theme 1: Provide a High-Quality Environment for Teaching and Learning

The Department of Civil Engineering is committed to preserving and strengthening its tradition of excellence in teaching while adapting to emerging educational demands, technologies, and global challenges. It aims to enhance learning by fostering technical competence, critical thinking, and innovation among its students.

The Department prioritizes the integration of practice-oriented education with the latest developments in civil engineering, including the use of advanced software, digital tools, and field-based learning. Its mission is to educate future civil engineers through a solid academic foundation, hands-on experiences, and engagement with real-world problems, preparing them to lead projects and processes across diverse environments.

It will continue to improve teaching methodologies, promote student-centred learning, and adapt curricula to reflect the needs of the Albanian, regional, and European labour markets. The educational approach focuses on ensuring that students acquire relevant technical knowledge and transversal skills for sustainable development, infrastructure resilience, and adaptive problem-solving.

The Department also aims to attract and retain a highly qualified, diverse academic staff, actively involved in international collaboration and mobility. The Department will continue to engage in national and international research projects and integrate research outcomes into their teaching. Students at all levels, especially Master's and doctoral, will be engaged in applied research projects that serve community and industry needs.

It will further invest in modernizing laboratories, expanding access to digital learning tools, and fostering an interactive learning environment.

Goal 1.1 – Teaching Goals:

- Enhance teaching content and methodology, including yearly syllabus updates and the introduction of new elective and specialised courses aligned with labour market needs.
- Strengthen practice-oriented knowledge through industry engagement and project-based learning.
- Align undergraduate and graduate programmes with national, regional, and EU professional standards and accreditations.

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- Strengthen internationalization by expanding cooperation with foreign universities and professional institutions.
 - Benchmark teaching and learning quality against national and international accreditation criteria.

Measures:

- Conduct annual curriculum reviews across all programmes with input from academic staff, alumni, and industry professionals.
- Introduce new or updated elective or specialized courses by 2028, aligned with emerging industry trends.
- Integrate project-based learning in at least 20% of undergraduate courses by 2028.
- Establish a formal advisory board including industry professionals to guide curriculum updates and internship opportunities.
- Partner with accreditation bodies to prepare programmes for national and international accreditation.
- Develop bilateral agreements with new international institutions for academic collaboration by 2028.
- Organize or attend at least one teaching methodology workshop per year for academic staff development.

Goal 1.2 – Strengthen Research and Project Development to Enhance Teaching and Learning Quality

Foster a vibrant research culture that directly contributes to improving the quality of teaching, enriches the learning environment, and prepares students for evidence-based, innovative-driven careers.

Measures:

- Establish interdisciplinary research groups aligned with national infrastructure and pedagogical challenges, involving both staff and students to promote research-informed teaching and problem-based learning.
 - Participate in or submit at least three proposals to national and EU research calls, with the requirement that outcomes are translated into curriculum enrichment (e.g., case studies, lab projects, design challenges, Master or PhD students integration in the projects).
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- Formalize co-supervision agreements with industry partners for MSc and PhD theses, ensuring that research questions reflect real-world applications and provide students with practical insight and career readiness.
 - Support staff member attendance at international conferences and research mobility programmes, on the condition that participants share acquired knowledge through teaching seminars, curriculum updates, or joint student workshops.
 - Track and report annual increases in research output (indexed journals, conference proceedings) with emphasis on publications that integrate educational innovation, applied engineering challenges and student co-authorship.

Goal 1.3 – Community Service Goals:

- Develop self-sustaining services that promote collaboration with public authorities, industry, NGOs, and local communities.
- Build stronger partnerships with private and public stakeholders to ensure mutual benefit and social impact.

Measures:

- Develop consultancy and testing services through the Civil Engineering Laboratory to support industry and community projects.
- Initiate at least one service-learning project per year in collaboration with third parties.
- Provide short-term training and certification programmes for engineers and technicians in the region.
- Organise annual stakeholder meetings to build and sustain partnerships with public and private entities.
- Monitor and report the impact of outreach activities through the department's annual reports.

Theme 2: Enroll, Educate, Graduate, and Provide Placement Assistance for a High-Quality and Diverse Undergraduate Student Body

The Department of Civil Engineering is committed to enrolling and educating a diverse and academically talented undergraduate student body while providing the necessary support for successful graduation and career placement. Strengthening this role is vital as the Department contributes to Albania's national development goals and the broader European integration process.

The Department is recognised for its strong academic reputation, hands-on learning environment, and industry-relevant training, which contribute to high employability rates among graduates. All students completing the three-year Bachelor's programme are equipped with foundational and practical knowledge, enabling them to pursue advanced studies or enter the labour market with confidence.

Looking ahead, the Department will expand its recruitment efforts, diversify its learning offerings, and build partnerships to ensure students benefit from a robust academic experience supported by internships, service-learning, and exposure to real-world challenges. Career guidance, alumni engagement, and industry collaboration will remain central to student development and post-graduation success.

Goal 2.1 – Increase the number of enrolled undergraduate students by 30% by 2028, while maintaining high academic standards and diversity.

Measures:

- Promote the Department through high - school outreach, campus visits, and online campaigns targeting top-performing students nationally and regionally.
- Offer scholarships to academically outstanding and financially disadvantaged students to increase access and diversity.
- Improve the visibility of the Bachelor's programme by showcasing alumni success stories and graduate employability statistics.

Goal 2.2 – Enhance the quality of undergraduate education through student-centred teaching methods and practice-oriented learning.

Measures:

- Integrate field trips, lab-based projects, and industry case studies into core undergraduate courses.
- Update course content annually to reflect developments in construction technology, sustainability, and digital tools.
- Support academic staff in adopting innovative teaching approaches through regular training and workshops.

Goal 2.3 – Strengthen employability and transition to the labor market through career development and industry partnerships.

Measures:

- Organise annual career days, job fairs, and employer engagement events in collaboration with the Career Planning and Alumni Office.
- Develop a mentorship programme connecting senior students with industry professionals and alumni.

Theme 3: Enroll, Educate, Graduate, and Provide Placement Assistance for a High-Quality and Diverse Graduate Student Body

The Department of Civil Engineering aims to strengthen its graduate programmes (Master of Science with the respective profiles, Professional Master, and PhD) by attracting highly qualified students, expanding academic offerings, and enhancing the quality of graduate education and research. With growing demand for specialized skills in civil engineering—ranging from structural resilience to infrastructure sustainability—the Department is committed to providing graduate students with an education that combines academic excellence, professional relevance, and a global perspective.

Graduate education is central to the Department’s mission to contribute to national development, scientific advancement, and innovation. The Department will continue to expand its collaboration with national and international academic institutions, public bodies, and

industry stakeholders to ensure that graduate students are well-prepared for leadership roles. The Department also seeks to further integrate research and teaching at the graduate level by involving students in interdisciplinary projects and applied research that address real-world challenges. Graduate students are expected to contribute to knowledge creation while also developing skills that enhance their employability and societal impact.

Goal 3.1 – Increase the number and diversity of enrolled Master’s and PhD students by 2028, with a focus on academic excellence and professional potential.

Measures:

- Strengthen outreach to attract national and international students through targeted promotion, academic fairs, and university partnerships.
- Promote graduate assistantships and scholarship opportunities to support talented students.
- Develop joint or double degree opportunities with foreign universities.

Goal 3.2 – Ensure that graduate curricula remain aligned with evolving scientific, technological, and labor market needs.

Measures:

- Conduct biannual reviews of graduate curricula with stakeholder input to ensure alignment with sectoral demands.
- Introduce new or revise existing courses.
- Encourage interdisciplinary course offerings across the Department and with other faculties.

Goal 3.3 – Promote a research-intensive environment that supports innovation and applied knowledge in the PhD and Master of Science programmes.

Measures:

- Involve students in ongoing departmental or externally funded research projects.
- Encourage co-supervision with industry professionals and foreign academics.
- Support participation in international conferences, research workshops, and publication in indexed journals with the University’s Research Support Fund.
- Establish research groups for graduate student engagement.

Goal 3.4 – Support the transition of graduate students into academic, professional, or research careers.

Measures:

- Strengthen career services programmes tailored for graduate students.
- Track and engage alumni to support mentorship and job placement.
- Encourage strategic partnerships with government institutions, consultancy firms, NGOs, and international organizations to create employment pathways.
- Promote industry-linked PhD opportunities by aligning student research with practical challenges and innovation goals.
- Facilitate structured internship programmes in collaboration with industry, public sector, and research institutions to provide practical experience and enhance employability.

Theme 4: Provide a High-Quality Environment for Research and Project Development

Research and innovation are integral to the mission of the Department of Civil Engineering. As the infrastructure and construction sectors continue to evolve through advancements in technology, sustainability, and resilience, the Department aims to position itself as a hub for high-impact, interdisciplinary research. A robust research culture is essential not only for academic excellence but also for contributing to national development, informing policy, and addressing real-world challenges in Albania and beyond.

The Department aims to expand its research capacity by fostering a supportive environment for academic staff, graduate students, and collaborators. Emphasis will be placed on applied and interdisciplinary research aligned with national priorities, European research frameworks, and the Sustainable Development Goals (SDGs). The Department also seeks to increase its visibility and funding through participation in national and international research programmes such as Horizon Europe, Erasmus+, Interreg, and COST Actions.

By strengthening its research infrastructure, enhancing collaboration with industry and institutions, and investing in academic mobility and dissemination, the Department will improve its contribution to scientific advancement, innovation, and community development.

Goal 4.1 – Promote applied and interdisciplinary research that addresses national infrastructure and sustainability needs.

Measures:

- Establish research areas aligned with Albania’s development priorities. Key focus areas will include earthquake engineering, climate-resilient infrastructure, circular construction and reuse of materials, and nature-based flood management.
- Align research topics with the EU Green Deal, the National Strategy on Science, and the SDGs.
- Develop collaborative research projects with public institutions, local municipalities, and private companies.

Goal 4.2 – Increase research output, visibility, and impact across all levels of academic staff.

Measures:

- Support academic staff and graduate students in publishing in Scopus/WoS-indexed journals through training, peer-review sessions, and incentive schemes.
- Organize annual events to disseminate research findings and promote student involvement.

Goal 4.3 – Strengthen international and national research collaborations.

Measures:

- Participate in or submit proposals to at least three international research funding programmes by 2028 (e.g. Horizon Europe, Erasmus+, COST, Interreg).
- Establish new partnerships with research institutions or centres both regionally and internationally.
- Support academic mobility through bilateral agreements and structured exchange programmes.

Goal 4.4 – Improve research infrastructure and resources within the Department.

Measures:

- Upgrade the Civil Engineering Laboratory with modern equipment and digital

technologies. This includes the acquisition of non-destructive testing devices, mapping technology, and structural health monitoring systems by 2028.

- The Department will also expand its server capacity to support advanced modelling and simulations, and increase access to Scopus, ScienceDirect, and other databases by 50%.
- The department priority is to achieve ISO/IEC 17025 accreditation for its laboratories to provide commercial testing.
- Expand access to research databases, modelling software, and computing resource and increase of utilization rates.
- Increase of faculty h-index metrics in their respective publications.
- Appoint teaching and research assistants to support faculty-led projects and enhance graduate student engagement.

Implementation and Monitoring

The Committee will ensure that each action aligns with defined timelines and milestones, and that all objectives are pursued in a coordinated, transparent, and accountable manner.

The Implementation Committee will:

- Oversee the execution of the strategic action plan and ensure adherence to the defined timeline and milestones.
- Facilitate coordination with the Rectorate, the Quality Assurance Commission, and other relevant academic and administrative units.
- Provide comprehensive annual reports detailing progress, achievements, and areas requiring further attention.
- Actively engage students, alumni, and industry stakeholders through Annual Alumni Survey and the Employer Satisfaction Survey, to ensure continuous alignment with professional standards, market needs, and emerging trends in civil engineering.
- Integration with EU Accession: By 2026, Albania's technical negotiations for Chapter 25 (Science and Research) require specific monitoring of "Open Science" metrics. Open Access publications should be added as a quantitative indicator in the Department Performance Progress Reports.

Progress will be assessed through qualitative and quantitative indicators, including enrolment figures, research outputs, graduate employability statistics, and international collaborations. Regular reviews will inform any necessary adjustments to maintain momentum and effectiveness in reaching the Department's strategic goals.

This Strategic Development Plan reflects the Department's commitment to education, research, and community engagement, and provides a clear roadmap for growth and innovation from 2024 to 2028.