



پوهنتون کاردان  
KARDAN UNIVERSITY

# Strategic Plan

Faculty of Engineering Department  
of Civil Engineering



(2021-2025)



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## Overview

The Department of Civil Engineering provides an undergraduate program of study in the planning, design, and management of civil infrastructure and service systems. Each student receives professional education in all fundamental areas of civil engineering, however, specialty areas of study offered include transportation engineering, environmental and water resources engineering, structural engineering, geotechnical engineering, hydrology and hydraulic engineering, and construction engineering and management.

The Department of Civil Engineering Kardan University has a long and rich tradition of excellence in teaching, research, and service. The department strives to maintain and enhance this position through a continuing process of creating and identifying new opportunities and moving swiftly, but thoughtfully, to bring it to fruition.

The Department of Civil Engineering offers a Bachelor of Civil Engineering (BCE). This Degree Program is to be ordinarily of 4 academic years (8 Semesters), with the year being divided into two Semesters of 18 weeks each for course work. A total 44 courses & Research is offered by Civil Engineering Department. Out of 44 courses, 32 are core courses and 12 general courses, with a curriculum that focuses on seven civil engineering sub-discipline (environmental, geotechnical, geomatics, structure, transportation, construction and water resources engineering) and supporting areas. The environmental engineering courses include Environmental Engineering, Water Supply, and Wastewater Engineering. In geotechnical comprehensive course like Foundation Engineering, Engineering Geology and Soil Mechanics are offered. The structural Engineering courses include Statics, Strength of Materials, Structural Analysis, Reinforced Concrete Design, and Structural Steel Design. The transportation courses include Transportation Engineering and Highway Design. The water resources course includes comprehensive Hydrology, Hydraulics and Fluid Mechanics. The geomatics courses include Surveying I and Surveying II. The supporting areas include courses such as Numerical Analysis, Project Management, Professional Development, Languages, General Knowledge and Principal of Engineering economics. Students in the civil engineering program will also enrol in a design project during the fall and winter semesters on an approved topic. The project normally involves a literature review, study design, data collection, and analysis, drawing conclusions and making recommendations.

This department was founded in 2008 to meet the increasing demand for highly educated engineering graduates. Now, after more than ten years, Civil Engineering Department has grown beyond expectations and is consistently ranked among the top Engineering Departments of Afghanistan. The department is committed to provide quality education to prepare nationally competitive undergraduate students for a successful career in civil engineering; to provide advanced skills and knowledge in state-of-the-art research and design in sub-disciplines of civil engineering. Kardan's civil engineering has a vigorous and diverse education and research program in several disciplines in the field. This document is organized by presenting the SWOT analysis, strategic objectives and priorities and key action require for achieving these strategic objectives.

### Vision Statement

To Endeavour for excellence in Educating, inspiring and mentoring future engineers.

### Mission Statement

A leading engineering program offering quality engineering expertise committed to excellence in education, research and public services.

## I Program Objectives

The following set of objectives describes what our graduates are expected to achieve within four years of educational period.

- » The graduates of the Civil Engineering Program at Kardan University will have the necessary intellectual tools and technical skills to take on careers of leadership in the development of new technologies, construction of modern infrastructure, and to contribute to society through participation in policy making and governance. Graduates will have a solid foundation in civil engineering and will achieve success in graduate education and a broad range of career opportunities.
- » Our graduates will become team leaders, and will successfully address open-ended problems applying critical thinking.
- » Civil Engineering graduates will become effective communicators of technical and professional information in written, oral, visual and graphical form.
- » Professional careers of graduates will be distinguished with a high degree of awareness of moral, ethical, legal and professional obligations to protect human health, human welfare, and the environment.

## Objectives Specified Based on Need Assessment

Based on need assessment by Students, Alumni, Faculty members and staff, the civil engineering department has defined objectives as given for strategic plan (2021-2025)

### Curriculum Development

Code and data for water engineering subjects should be updated,  
Apply update engineering code for analysis and design for vertical and horizontal structures.  
To enrich the curriculum aligned to job market and increase practical activities.

### Communication Resources

- » Enhance suitable environment that having good communication between faculty and students.
- » Enhance suitable environment that having good communication between staff and students.
- » New test machines for engineering Lab and establishing lab for remaining subjects which need testing of materials.

### Academic Program Facilities

Improvement of library to be used by the students and faculty members inside the main campus.  
Providing trainings and seminars for the alumni, students and faculty members from other sectors.

### Technology Enhancement

Application of new technology and online education, teaching and learning activities.  
Improvement of technology software in teaching and learning activities.

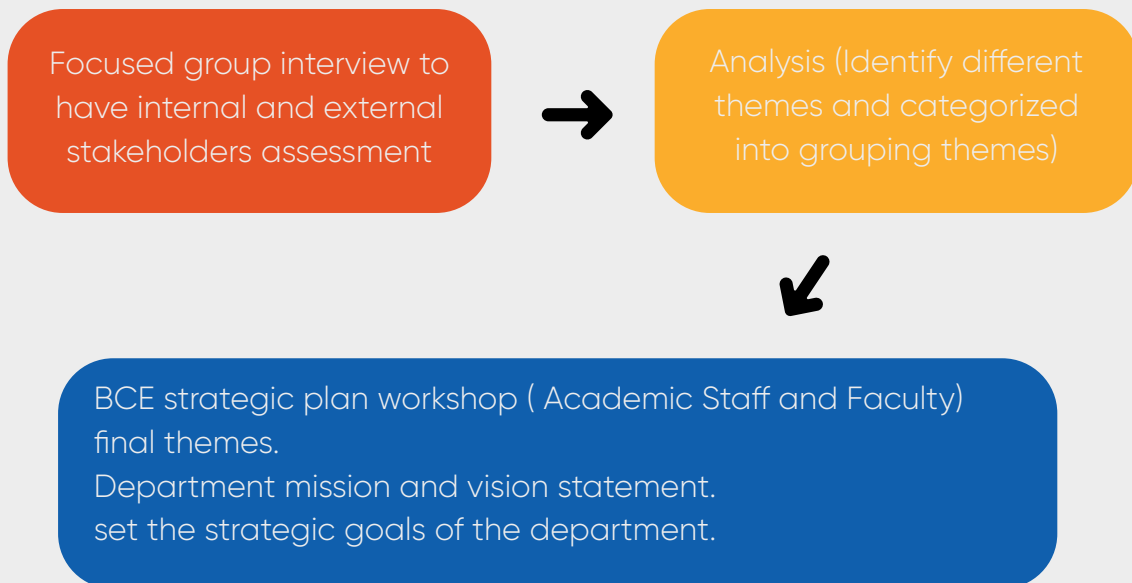
# | Planning Process

The Engineering department provided much effort to develop five years' strategic plan 2021-2025 in order to achieve its future vision in a systematic way and to set the policies and procedures that help to pursue the achievement of strategic objectives, and to set system for regular evaluation.

## The development of the strategic plan based on the following steps:

- » To develop a vision, mission and goals for the engineering department
- » Determine the program (civil engineering) objectives to be achieved.
- » Developing the strategic plan within the departments in line with its strategic goals and objectives.
- » Developing performance indicators at department levels to measure and evaluate the quality of implementation of plan.

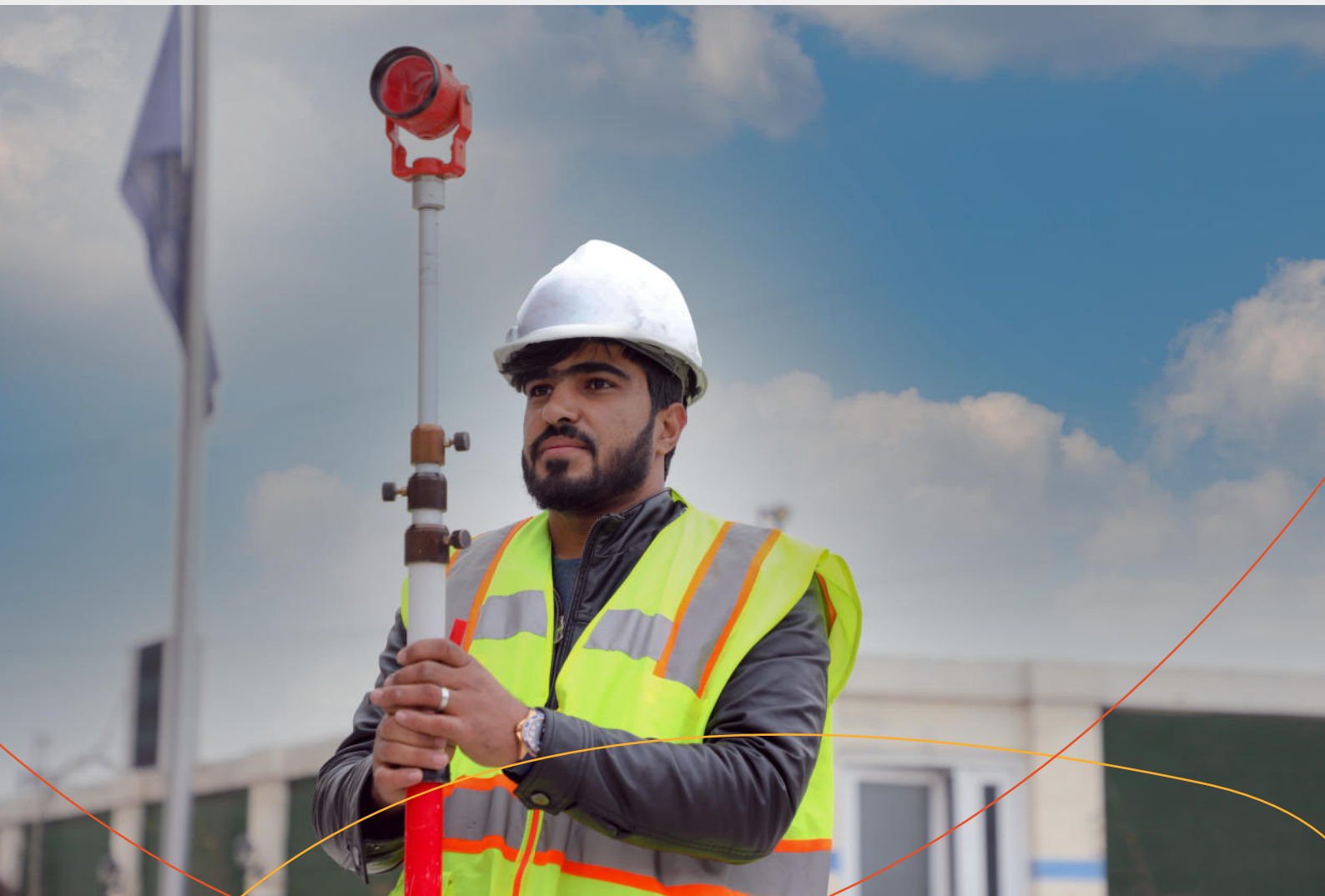
Setting a mechanism for implementation, mentoring and evaluation of the plan performance.



## | Strategic Plan Process

Below is the methodology or strategic planning process being applied to develop the strategic plan for the Engineering department.

- » Formulation of the strategic planning taskforce.
- » Plan to plan, the process stages of developing Strategic plan was set out by VC academic office. Focused group interview to have internal and external stakeholders' assessment collect data and study of all documents, reports and statistics about the engineering department performance.
- » Conduct a brainstorm workshop to Analysis (Identify different themes and categorized into grouping themes) and SWOT analysis.
- » Definition of strategic priorities for the engineering program according to the table of SWOT analysis.
- » Revising the Vision, Mission and values of engineering program.
- » Formulation of the Strategic Objectives & Actions and presenting it to university Strategic Consultation workshop.
- » Development of the implementation plan
- » Development of first draft of strategic plan and get the feedback from the chancellor office.
- » Set the final draft of Strategic Plan 2021 - 2025 for the engineering department.



# | SWOT Analysis

The BCE strategic plan workshop of engineering department has begun with SWOT analysis in which strengths, Weaknesses, Opportunities and Threats of the department are analysed with high rigor and vigour. Following lists of strengths, weaknesses, opportunities and threats may or may not exist in the department. For an effective strategic plan self-realization of these four components are essential.

## Strengths

- » Experienced faculty members
- » Excellent library services (physical and digital)
- » Professional management
- » Proper evaluation mechanisms in place
- » Support of the management team for innovation and growth
- » Higher employment rate of alumni

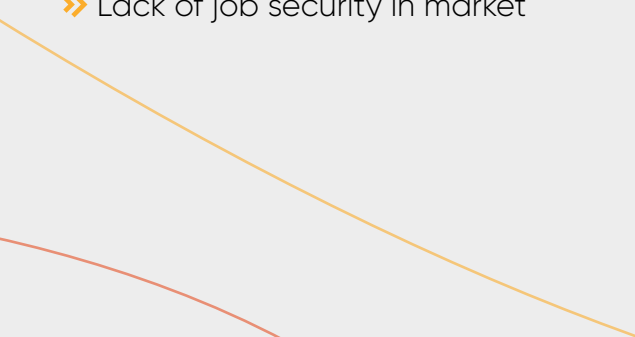
## Weaknesses

- » Lack of faculty and students' exchange opportunities
- » Lack of computer labs for engineering students
- » Lack of other departments
- » Lack of Master programs
- » Heavy work load on faculty
- » Irrelevant digital library for engineering

## Opportunities

- » Possibility of utilizing e-learning and distance education
- » Good relationship with stakeholders
- » Students and faculty members exchange programs
- » Formal teacher's designation based on qualification and experience
- » International linkages through exchange or other programs

## Threats and Trends

- » Inadequate public awareness for engineering profession and job opportunities
  - » Lower enrolment of students
  - » Deterioration of financial situation of households
  - » Lack of job security in market
- 

# Non-compliance with engineering norms and standards Strategic Objectives & Actions

In order to accomplish the vision and mission and in the light of analysing internal and external environment and strategic priorities, engineering department has set the following strategic goals:

Strategic Objectives & Actions	
Appealing educating and learning environment	Upgrading curriculum of civil engineering by updating course content for all engineering subjects In addition, upon survey of job market Include new courses like construction law and energy efficiency and sustainability.
Extra-curricular activities & Social Impact	Set up vital partnership with the academia, industry, and government for preparing and proficient practice.
Research and Publication	(Improve research, creation and its impact) Research and publication through kardan, national and international journals to have standard teaching learning activities.
Recruit and retain qualified faculty and Technology Translation	Recruit retain and develop distinguished faculty and staff who integrate teaching, research, community and Education Opportunities using new technology to extend the foundation and assets with new patterns and Innovation to open doors for greatness.
Digitalization	Enabling new educational and operating models, having a digitally transformed institution.
Internationalization	Providing the foundation for everything we do related to students, faculty, and staff international engagement through international partnerships and collaborations .
Improving students' success.	Practical work and site visits to graduates skillful engineers for rehabilitation of Afghanistan

## Strategic Objective 1:

Appealing educating and learning environment Upgrading curriculum of Civil Engineering by updating course content for all engineering subjects in addition, upon survey of job market including new courses like construction law and energy efficiency and sustainability.

## Goals

Conducting a review of the curriculum, focused on the core, lab experiences, use of new technology and capstone courses, to assess our ability to meet the needs of as specified by the MoHE and market.

Conducting and developing new subject recommendations by curriculum committee that will then be discussed with and voted on by the entire department. The ability to meet accreditation requirements will be a necessary part of those discussions.

Evaluating and updating the curriculum on continuous bases to match current and future market demands.

Articulate the relevant graduate's employability skills and competencies in the learning outcomes.



## Strategic Objective 2: Extra-curricular activities and Social Impact

Set up vital partnership with the academia, industry and government for preparing and proficient practice.

### Goals

Promote the health and well-being of students through extra-curricular, social and non-academic activities.

Counter Narcotics: Discussion and recommendations for students about the harms of drugs and their negative consequences for family members and the community. Involving students in conducting public awareness programs regarding the harms of drugs. Facilitating conducting seminars, and conferences in coordination with national NGOs and governmental organizations regarding counter-narcotics.

Enhance internal and external collaboration and develop strategic partnerships agreements with institutions at national and international levels.

Increase faculty and student's participation in community service organizations.

Establish alumni network at college and program levels.

**Air Pollution:** Air pollution is one of the biggest problems in the world, at the faculty level; we will take necessary actions to improve public awareness of the dangers of air pollution and conduct extra classes for the students on the related law and regulations.

Administrative Corruption: Although administrative corruption is one of the important topics of some course outlines of the law program but as a credible academic institution we are committed to transparency, accountability, and integrity. We will initiate public awareness programs regarding the fighting against administrative corruption for the public people, we will conduct seminars and conferences regarding the negative impact of corruption on the government and society, and we will facilitate the conducting of any event related to administrative corruption at the faculty level.

## Strategic Objective 3: Research and Publication

Improve research, creation and its impact. Research and publication through Kardan, national and international journals to have standard teaching learning activities.

### Goals

Identify strategic areas of research with special focus on the Afghanistan and establish plan to address problematic areas.

Identifying intelligent and creative students to present solution for real world problems in the form of posters.

To organize intra department research competitions and explore the hidden talent inside students.

To utilize engineering lab and showroom for engineering research competitions.

Continue to seek new industrial research collaborations as well as collaborative opportunities within and outside of the university in order to increase the CE research base.

To create additional collaborations with academics and industry and to expand the centre's research base.

## **Strategic Objective 4: Recruit and retain qualified faculty and Technology Translation**

Recruit retain and develop distinguished faculty and staff who integrate teaching, research, community and education opportunities using new technology to extend the foundation and assets with new patterns and innovation to open doors for greatness.

### **Goals**

Attract highly qualified and experienced faculty and staff by establishing recruiting strategy and process.

Develop an effective organizational management system, infused with quality.

Provide diversified training programs to improve faculty and staff performance.

Set reasonable workloads and regularly assess the performance of faculty and staff responsibilities and authorities.

## **Strategic Objective 5: Digitalization**

Enabling new education and operating models, having a digitally transformed institution.

### **Goals**

Handouts, lecture notes and slides being made available digitally.

Lectures that are delivered live be recorded digitally and made available for viewing afterwards.

Digital assessments being created and submitted, marked and feedback all online. This may include text matching for plagiarism detection and new methods of feedback such as audio or video.

Establishing the facility of remote studies.

## **Strategic Objective 6: Internationalization**

Providing the foundation for everything we do related to students, faculty, and staff international engagement through international partnerships and collaborations.

### **Goals**

Design transdisciplinary study abroad programs for undergraduate students.

Provide meaningful global experiences and global learning pathways.

Improve international student and visiting scholar safety and security at Kardan University.

Support and incentivize international work and collaboration by faculty and consultation and collaborative work and expertise-sharing across academic units.

Clearly signal to faculty that internationalization is an institutional value.

## Strategic Objective 7: Improving students' success

Practical work and site visits to graduates skilful engineers for rehabilitation of Afghanistan.

### Goals

Hosting recruiting events for graduate students.

Communicating with ministries, NGOs and Construction Companies in providing job opportunities.

Working with university Career Centre in finding new jobs and opportunities for high quality graduates.

Communicating and promoting the fact that students can expect to find an enriching academic experience through internships, interaction with practicing engineers, service learning, and study abroad programs.


Establish alumni network at department and program levels.

Enhance professional practice by regular site visits, on-site training and invited experts from industry.

Attract distinguished students who are committed to engineering before enrolment.

Support to Disabled Students: As a university, we are aware of the needs of disabled students and we respect the related laws and regulations.

### Strategic Initiatives

- » Increase the visibility of the department
  - » Improve recognition for faculty, staff, students, and alumni.
  - » Improve diversity
  - » Continue to improve the quality of graduate students
  - » Grow department resources
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پوهنتون کاردان  
KARDAN UNIVERSITY

✉ [info@kardan.edu.af](mailto:info@kardan.edu.af)

🌐 [kardan.edu.af](http://kardan.edu.af)

☎ 0777 52 83 83

📞 0788538383