

# Strategic Plan 2020-2030

## FACULTY OF ENGINEERING, FARWESTERN UNIVERSITY, NEPAL

### EXECUTIVE SUMMARY:

#### 1.0 INTRODUCTION:

Far-western University (FU) was established in 2010 through an Act of Parliament as a government funded university. Its main vision is to become a top-tier academic institution in the country through an academic excellence, creative innovation and research based education. The strategic location of the University at the Far western region would not only support improving the access of local people to higher education but also create dynamism on the overall development of the region. The central office of the university is located at Bhimdatta Municipality of Kanchanpur district. Since its inception, FU has been striving to fulfill its responsibility of making higher education accessible to the people of this region. Adopting the principle of "everyone has the right to education, and higher education shall be equally accessible to all", the Far-western University has extended its constituents campuses in the nine different districts of the Farwestern Province to deliver diverse educational programs, both in undergraduate and graduate level, through six faculties including Humanities and Social Sciences; Education; Management; Science and Technology; Engineering; and Agriculture. All the undergraduate courses of the university are of four-year duration.

Since 2014, the University has started Bachelor of Civil Engineering Program (4 Year Program) at School of Engineering to enhance and expand the capacity of the university to promote technical education. All the engineering courses are now operated under the newly established Faculty of Engineering (FOE). The FOE aims to provide high class teaching learning environment, promote quality technical education and produce competitive technical manpower for national and international market through its experienced faculties and well-equipped laboratory and library. With its highly competitive teaching staffs, students get greater exposure to both professional and academic knowledge on the diverse field of engineering. In addition, technical education at FOE would help

fostering socio-economic development of the far-western region and the nation. The FOE has been working in extending its academic relationship and collaboration with the world class institutions of different countries including India and China.

## **2.0 VISION OF THE FACULTY OF ENGINEERING**

To become a centre of excellence in engineering education and research, and produce globally competent professional minds with human values and ethics to serve the society by taking part in industrial, scientific innovation, academic and entrepreneurship activities within the country and abroad.

## **3.0 MISSION STATEMENT**

The mission of the Faculty of Engineering is to:

- deliver quality education and achieve excellence in teaching-learning and research activities through the state-of-the-art, high technology engineering educational programs
- provide students the innovative and entrepreneurial skills to meet the need of the industry and society, and make them able to compete successfully in a global economy.
- Build a culture of collaborative efforts and facilitate effective interactions of engineering students, faculty and management with the industry personnel, alumni, academicians of premier institutions and local, national and international community.
- Develop partnership with the government institutions, private sector, and academic institutions in Nepal and abroad specifically to enhance teaching-learning activities, research, mutual exchange programs and creation of new engineering knowledge and technology transfer.

- Achieve excellence in application-oriented research in the selected areas of technology to contribute to the development of the Farwestern region and the nation.

## 4.0 VALUES AND CORE PRINCIPLES

The culture of FOE is a shared system of values, beliefs and attitudes that shapes and influences behaviour. These values are adhered and expressed through actions and activities of the FOE specifically to continuously improve the teaching-learning environment. We define following core operating principles integrated into the long-term strategic plan of FOE. All aspects of the FOE, from academics to infrastructure draw upon these core principles.

1	Academic excellence	2	Respect and commitment towards diversity & inclusiveness
3	Integrity, accountability, and ethical decision making	4	Lifelong learning
5	Innovation, creativity and academic Freedom	6	Sustainability

## 5.0 GOALS OF THE STRATEGIC PLAN 2020-2030

The goals of this strategic plan intend to help the faculty and administration of the University to make proactive decisions in realizing the vision of the Faculty of Engineering. The plan will serve as a guideline in allocating resources and materializing decisions and vision of the University. The specific goals and strategic priorities of the plan will enable the faculty to measure progress toward achieving the vision of the Faculty of Engineering by the 2030.

<b>Goal 1</b>	Achieve excellence in teaching –learning process and create a culture of intellectual curiosity and conduct high-quality research
<b>Goal 2</b>	Set up new departments and academic programs of strategic importance
<b>Goal 3</b>	Increase human resource capacity
<b>Goal 4</b>	Enhance diversity, community relations and collaborative activities
<b>Goal 5</b>	Expand the infrastructure and opportunities for excellence
<b>Goal 6</b>	improve academic quality of engineering programs and produce competent engineers equipped with profound technical knowledge and communication and leadership skills
<b>Goal 7</b>	Strengthen the financial stability of the Faculty of Engineering

The Faculty of Engineering has set its foundation of excellence in faculty and students. However, the greatest challenge facing the Faculty is that it is too small in number of teaching faculty, students and graduates, and in terms of research expenditures specifically to become one of the nation's leading engineering institutions. It is crucial to increase the size and quality of the institution and the strategic plan outlines the steps and actions that the Faculty of Engineering must take to grow with excellence.

The Strategic Plan calls for significant growth in carefully selected areas such as Civil Engineering, Computer Engineering, Architecture, Electronics and Robotics Engineering, Construction Project Management, and Structural Engineering where the large number of students would likely enroll and the programs will also get industrial and institutional support. The intent is to broaden the excellence in the FOE by creating a critical mass of faculty and graduate students in selected new research areas, and to provide both undergraduate and postgraduate engineering education that will attract high-quality students to the new departments, while continuing to strengthen and improve existing programs.

## **6.0 STRATEGIC PRIORITIES (STRATEGIC IMPERATIVES)**

The overarching goal of the Faculty of Engineering for the next decade is to become one of the leading engineering institutions in the Farwest province and the country. To achieve this goal, there is a need of significant increase in the numbers of experienced faculty and programs, undergraduate and graduate enrollments, and provision of research activities and funding and

improvements in teaching-learning process, infrastructure and community outreach. The strategic plan consists following mutually reinforcing strategic goals and priorities that will lead the FOE achieving its vision.

### **STRATEGIC IMPERATIVE 1: Foster excellence in teaching-learning process and impact in research services.**

As one of the key goals of this strategic plan is to make Faculty of Engineering as one of the top engineering Institutions in the Farwestern Province and the country; the FOE will continuously improve teaching-learning process by adopting student-centered innovative approaches. It will also increase research activities by engaging faculties and students in the field of Engineering. The FOE must create a Center for Engineering Research and Consultancy Services, specifically aiming to lead in Civil Engineering, Architecture and Computer Sciences and Information Technology. The success of these initiatives depends on recruiting and retaining the top-quality faculty and students and increasing the externally funded research and consultancy services. To attract the best faculties, the FOE will explore possibilities of providing additional benefits (technical incentives) and engaging them in consultancy and research services. The best faculty will be recruited through University Service Commission, and they will enjoy the benefits of permanent tenure as mentioned in the University regulations. Candidates with excellent academic, teaching and research performance with PhD degrees will be given top priority during recruitment. In addition, the FOE will increase the expenditure on research activities over the next decade.

### **STRATEGIC IMPERATIVE 2: Add new departments and degree programs of strategic importance**

To become one of the top-tier engineering institutions in Nepal with undergraduate and graduate engineering through continuous improvement in teaching-learning process, research and professional activities is our top priority. In addition to Civil Engineering, we will also add Bachelor's Degree in Computer Engineering, and Architecture, and Master's Degree in Construction Project Management by 2025, and Bachelors Degree in Electronics and Robotics Engineering and Masters Degree in Structural Engineering

by 2030. Different engineering programs will be run under different departments such as Civil Engineering program remains under the Department of Civil Engineering; Bachelor of Architecture program will be under the Department of Architecture; Bachelor of Computer Engineering program will be under the Department of Computer Engineering; and Electronics and Robotics Engineering program will be under the Department of Electronics and Robotics Engineering. Similarly, masters programs on Construction Project Management and Structural Engineering will be under the Department of Postgraduate Studies. The detail course structure and syllabus of undergraduate programs on Computer Engineering and Architecture and graduate programs on Construction Project Management and Structural Engineering have already been prepared and approved by the Academic Council of the University. We will conduct feasibility study of adding the undergraduate programs on Electronics and Robotics Engineering soon and will start it from the academic year 2025.

### **STRATEGIC IMPERATIVE 3:**

**Increase the number of faculty, staff, and students through an appropriate process of recruitment**

There exists only one tenure-track faculty, and two numbers of administrative staff in the Department of Civil Engineering. In addition, there are 7 numbers of Teaching Assistants [5 with BE Civil Degree holders+2 with MSc/MA (Chemistry/Mathematics) degree holders]; one Associate Professor; one Assistant Professor and one office helper on a contract-based tenure. The total number of students is 192. In order to be competitive with top tier engineering institutions, it is very essential to significantly increase the number of tenure-track faculties, and staff. By 2025, we must add at least 25 tenure-track faculty positions, together with suitable number of non-tenure track teaching faculty and supporting staff. Similarly by 2030, there will be more than 40 tenure-track faculty along with appropriate numbers of non-tenure-track teaching faculty and staff for different activities. We will increase the total number of student population to 916, while maintaining the ratio of approximately 89% (n=816) students in undergraduate and 11 % (n=100) in graduate level.

### **STRATEGIC IMPERATIVE 4:**

**Enhance diversity, community relations and collaborative activities.**

The location of the University in the Mahendranagar of the Farwest province is of greatest asset. The city is a border town connected with Indian state of Uttarakhand, and is also easily accessible from the major cities of India such as Bareilly, Deharadun, Roorkee, and New Delhi. Attracting students from these cities to pursue engineering programs at FWU, and collaborating with the top-tier engineering institutions of India would indeed support promoting excellence in teaching learning and research activities. Accommodating the people from different indigenous origin, Mahendranagar has really become a culturally vibrant town in the Farwest province. It is very crucial to connect the University with the local community and other academic institutions in the region. To achieve the goal of becoming one of the leading engineering institutions in Nepal, the FOE must broaden the strong ties with industry and communities and maintain strong connection with its alumni. In addition, it must collaborate with the national and international engineering institutions to foster mutual exchange programs, research seminars, conferences and sharing of knowledge. The FOE must also encourage students specifically from the underrepresented groups to get admission in the engineering programs and strengthen the support for such students.

### **STRATEGIC IMPERATIVE 5: To expand the infrastructure and opportunities for excellence**

The proposed Engineering block must be completed within next academic year (2021/22) by adding its 2 ½ storey on the existing one storey building. The ground floor will be used for laboratory purpose while the upper floors will be used for class rooms, staff rooms, and library and reading space. Currently, there is a lack of appropriate space for laboratory, library and staff. In order to accommodate the planned increase in the number of students and faculty; we must construct additional buildings and spaces for academic, research, seminars and classroom activities. We will also enhance teaching-learning opportunities by developing strong virtual platform aided by the advanced ICT facilities that will not only strengthen our academic capacities but also complement our existing curricula.

## **STRATEGIC IMPERATIVE 6: Improve undergraduate and graduate level education**

The FOE must continue to recruit top-quality students in undergraduate and graduate studies through a system of competitive examinations. The quality and achievements of FOE and its students need to be disseminated among the regional, national and international community through different means of communication and media tools. The FOE is working towards achieving the educational standards as set out by the Nepal Engineering Council. To improve the quality of engineering programs, the FOE will strictly follow the internal and external quality assurance process. For the internal quality assurance, the FOE will strictly implement the academic calendar and conduct regular classes, continuous evaluation, and research activities. It will also manage laboratory with advanced equipments and facilities and add research journals and e-library facilities in each departments. Besides fulfilling the requirements of Nepal Engineering Council (NEC), the FOE must also work towards adopting external quality assurance and accreditation (QAA) system such as from UGC Nepal, and other international educational institutions working on quality assurance and accreditation. Since, higher education in engineering field has gained high social value globally; quality assurance and accreditation must be a mandatory process. In addition, students must be connected with the industry and community through continuous interactions, workshops, seminars and talk programs. The FOE will also design and implement a compulsory internship program of at least three-months for the undergraduate students specifically to bridge student's knowledge and ideas with the market (professional jobs).

## **STRATEGIC IMPERATIVE 7: Strengthen the financial stability of the Faculty of Engineering**

The financial well-being of the FOE is considered critical for achieving the goals of the strategic plan as well as the success of the faculty and the university. The FOE must explore additional financial resources in addition to the regular fee obtained from the students. Besides generating revenue from the research and consultancy services, we strictly adopt an innovative management to achieve financial strength and expect that all the members of the university including alumni would be responsible for enhancing

the financial resources. Attempts to increase the financial resources from the donor agencies and philanthropist will be significantly explored. To reduce the internal expenses in the development activities, the FOE will work collaboratively with the local, provincial, and national government, and other NGOs and international institutions specifically in developing the infrastructure, and promoting educational and associated activities. Similarly, the establishment of undergraduate programs on Computer Engineering, Architecture, and Electronics and Robotics Engineering, and MSc programs on Construction Project Management and Structural Engineering will have significant contribution in increasing the financial revenue, which in long-run would strengthen the financial sustainability of the programs in specific and the FOE in general.