"Development of Nation through Science, Technology and Innovation"

मध्यपश्चिमाञ्चल विश्वविद्यालय
Mid-Western University
Estd 2067
सुर्खेत, नेपाल
Surkhet, Nepal





Prospectus 2075-76 (2019-20)







Mid-Western University

FACULTY OF SCIENCE AND TECHNOLOGY (FoST)

Birendranagar, Surkhet

Message from the Vice Chancellor



Dear Guardians and Students,

It's my pleasure that Faculty of Science and Technology is going to publish prospectus 2019/2020. No development, progress, prosperity and change can be imagined in absence of science and technology. Science and technology is the most important academic language to gain competitive capability of people and attain the basic norms of development. Systematized body of knowledge is possible to obtain only through experience, experiment and observation. I am proud to declare that the Faculty of Science and Technology (FoST) is able to explore new knowledge, ideas and innovations in the field of science and technology.

"Dedication, devotion, determination and discipline are the keys to develop and sustain professionalism".

It's my pleasure to present you the Mid-Western University as a destination of excellent academic institution. Mid-Western University is a newly recognized institution established by the effort of local people of this region in general and Surkhet in particular to impart quality and sustainable education with the concept of regional balance in educational opportunities.

FoST is the foundation of development of the nation. I am glad to express that FoST has proven the energetic, committed, successful faculty of MWU, working to achieve mission of the University in the field of science and technology with full efficiency. You will really be happy being the member of FoST family. Let's join hands and move together for the development of the global culture of academia.

Thank you all!

- Prof. Upendra Kumar Koirala
MBA, Ph. D.
Vice Chancellor

Message from the Registrar

Dear Guardians and Students,

The modern world that we are living in could not be imagined without Science and Technology. Today transfer of knowledge of any discipline has become more substantial with the innovation of new tools, and techniques. I feel proud to present few words to all stake holders about Faculty of Science and Technology (FoST) Mid-Western University, a dynamic and newly recognized University in the Mid-Western region of Nepal. In this competitive world, we are committed to provide highly skilled, well-disciplined and responsible people for their country and for the whole humanity.



I, as a registrar, would like to assure that to meet the world class quality education in the field of science and technology; we are utilizing all sorts of resources with full efficiency and creating a better ambience to learning. I am convinced that the FoST is continuously striving to cater the learning thirst of the students and playing crucial role to transform the society and the nation.

Mr. Yam Bahadur Karki
Acting Registrar

Message from Dean



Dear Scientists, Guardians and Students,

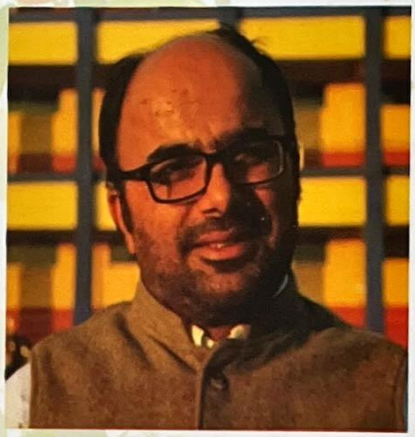
It is my great pleasure to bring out this publication of "Prospectus 2019/2020" for Faculty of Science and Technology (FoST), Mid-Western University (MWU). Science, technology and innovation are the key for the development of the nation. Science studies the nature of the entire universe and is one of the greatest cultural achievements of humankind. It not only informs us of the profundity of nature, but also gives us a glimpse into people's long and tireless efforts towards discovery.

I believe advancement of quality of our campus departments in terms of effective teaching learning activities, quality education, research activities and the presentation as a Centre of excellence by setting up well equipped laboratories, libraries, employing high skilled manpower with close collaboration of national and international academic organizations are the fundamental responsibility of our faculty. At present, we are running B. Sc. (Physical and Biology group) ,B.Sc.CSIT and M.Sc. (Physics) programs. We are planning to add more Bachelor and Master Degree programs in the coming years.

I welcome with great pleasure to the distinguished scientists, technologists, guardians and students to join the helping hand for the development of our faculty.

- Prof. Dr. Deba Bahadur Khadka
Dean

Message from the Campus Chief



Dear All,

Mid-Western University was established in 2010 with a vision to build a world class prestigious institution offering innovative and high quality education. It's my pleasure to welcome you all to the Central Campus of Science and Technology (CCST), faculty of science and technology in Mid-Western University. At our Central campus which is located in scenic surrounding of Surkhet, students are provided congenial and professionally conducive environment to pursue their educational goal. Students are guided and helped by experienced and dedicated faculties. At the campus recreational and sporting facilities are provided to encourage students to organize and engage in extracurricular activities while maintaining a strong focus on learning and research.

I am glad that our faculties are using both semiotic and interactive methods for transmission of knowledge. we have introduced recently Master in Physics (M.Sc. Physics) in addition to B.Sc. and B.Sc. CSIT, which will initiate the higher level research work required for development of nation through Innovation in Science and Technology. We have highly consistent manpower doing best for the teaching learning process for the benefit of students. We are working very hard to emulate the mission and objectives of this institution.

On the behalf of the science campus, I welcome all future students to visit and be part of this campus.

- Krishna Prasad Chapai
Campus Chief

Introduction:

Mid-Western University (MWU) is an autonomous and state funded, governmental institution of higher learning with the mission to serve the people of Nepal and enrich the global learning community by extending the advantages of higher education was established by the great effort of the people of Mid- Western Development Region in Nepal on **June 17, 2010 A. D.** under the concept of multi-university system. The central office of the university is located in Birendranagar, **Surkhet,** capital of Karnali Province.

From the inauguration of first Academic Year 2012-13, various quality programs at undergraduate and graduate level are being launched in the fields of Humanities and Social Sciences, Science and Technology, Management Studies, Education and Engineering. From 2018 faculty of Law has been started. However, the university remains committed to commence new programs in the fields of medical sciences and vocational courses on various areas in upcoming years.

The Mission, Vision and Goal of Faculty of Science and Technology

Mission:

- To promote academic excellence by creating and expanding a scientific culture in the socety for the improvement of the quality of life of people.

Vision:

- The faculty considers itself as an agent of socio-cultural transformation and powerful engine for economic growth, innovation and sustainable development of the country and the world that the University serves.

Goals:

- ✓ To prepare high-skilled and scientifically oriented manpower of different levels to meet the requirements of the nation.
- ✓ To encourage students to get involved in different scientific activities which are relevant and make contributions to the society.
- ✓ To enhance teaching learning activities to make students able to think innovatively and creatively.

Strategy:

Goals are achieved through:

- The establishment of research groups, supporting facilities, students is encouraged to do basic and applied researches in crucial areas of science and technology with national and international collaboration.
- Setting up well-equipped laboratories, employing skilled human resources, and providing advisory services, training in science and technology.
- Supporting faculty members' development programs in both educational and technical areas.
- Hosting of international academic programs for the effective training of human resources, implementing research projects, organizing joint seminars, workshops, conferences at all levels.
- Continuously adapting and developing study programs, curricula and introducing new subjects in science and technology.

Campus Hour: 11:00 A.M. to 5:00 P.M.(Bachelor); 6:00 A.M. to 11:00 A.M.(Master)

Laboratory: We have physics, chemistry, zoology, botany, computer laboratory, which are equipped with all necessary devices and materials.

Library: We have well–stocked library with text books, related reference materials along with national and international journals. It also supports our students with sufficient reading material to broaden their horizon of mind.

Student Counseling: Our goal is shaping every student to become a professional, highly academic person bearing a total quality personality. It can be obtained when we are in constant touch with the students. Through counseling and guidance, we provide guidelines to the students that enable them to be successful in every aspect of their life.

Field Visit: Depending upon the nature of course we provide field visit program a part of as teaching learning activities which enables students to combine theory with practice. With project works, field visits and internship students get exposure to the practical skills.

Grading System in academic Semester: In each course, the students will be evaluated on a 4.0-point scale.

Grade	Range%	Grade category	Grade Point
A	85-100	Outstanding	4.00
A-	80-84	Distinction	3.67
B	75-79	Excellent	3.33
B-	70-74	Very good	3.00
C	65-69	Good	2.50
C-	60-64	Average	2.00
D	55-59	Satisfactory	1.50
D-	50-54	Fair	1.00
F	<50	Failure	0.00

Entrance Criteria: B. Sc. and B. Sc. CSIT: Minimum second division in 10+2 science, I. Sc or equivalent.

Type of the Question: Multiple Choices (Objective)

Total Marks: 100

Physical (B. Sc.)	Physics (25%)	Mathematics (25%)	Chemistry (25%)	English (25%)
Biology (B. Sc.)	Zoology (25%)	Botany (25%)	Chemistry (25%)	English (25%)
B. Sc. CSIT	Physics (20%)	Mathematics (40%)	Chemistry (20%)	English (20%)

Course Structure for B.Sc.

Semester	Period 1 A	Period 1 B	Period 2 A	Period 2 B	Total Credit (Marks)
I	(Bot / Phy) (311+312) (3 + 2) (50 + 30)	(Zool / Math) (313+314) (3 + 2) (50 + 30)	(Chem/Stat) (315+316) (3 + 2) (50+30)	English (317) (3) (50)	18 (290)
II	(Bot / Phy) (321+322) (3 + 2) (50 + 30)	(Zool / Math) (323+324) (3 + 2) (50 + 30)	(Chem/Stat) (325+326) (3 + 2) (50 + 30)	English (327) (3) (50)	18 (290)
III	(Bot / Phy) (331+332) (3 + 2) (50 + 30)	(Zool / Math) (333+334) (3 + 2) (50 + 30)	(Chem/Stat) (335+336) (3 + 2) (50 + 30)	Computer Sc. (337+338) (3 + 1) (50 + 15)	19 (305)
IV	(Bot / Phy) (341+342) (3 + 2) (50 + 30)	(Zool / Math) (343+344) (3 + 2) (50 + 30)	(Chem/Stat) (345+346) (3 + 2) (50 + 30)	Computer Sc. (347+348) (3 + 1) (50 + 15)	19 (305)
V	(Bot, Zool, Phy, Chem, Math, Stat) (451+452) (3 + 2) (50 + 30)	(Bot, Zool, Phy, Chem, Math, Stat) (453+454) (3 + 2) (50 + 30)	Allied/ Interdisciplinary (455+456) (3 + 2) (50 + 30)	Research Methodology 457(3) Term Paper 458(1) (50 + 15)	19 (305)
VI	(Bot, Zool, Phy, Chem, Math, Stat) (461+462) (3 + 2) (50 + 30)	(Bot, Zool, Phy, Chem, Math, Stat) (463+464) (3 + 2) (50 + 30)	Allied/ Interdisciplinary (465+466) (3 + 2) (50 + 30)	Research Methodology 467(3) Term Paper 468(1) (50 + 15)	19 (305)
VII	(Bot, Zool, Phy, Chem, Math, Stat) (471+472) (3 + 2) (50 + 30)	(Bot, Zool, Phy, Chem, Math, Stat) (473+474) (3 + 2) (50 + 30)	Project 475 (6) (100)	Term Paper 476 (1) (15)	17 (275)
VIII	(Bot, Zool, Phy, Chem, Math, Stat) (481+482) (3 + 2) (50 + 30)	(Bot, Zool, Phy, Chem, Math, Stat) (483+484) (3 + 2) (50 + 30)	Project 485 (6) (100)	Seminar 486 (1) (15)	17 (275)
Total					

Fee Structure: B. Sc.: For total 8-semester fee Rs. 98,742 only.

Fee Structure: B. Sc. CSIT: For total 8-semester fee Rs. 316,360 only.

Note: Increment in basic tuition fee by 10% in each new batch.

Award of Degree for B.Sc. and B. Sc. CSIT: Mid-Western University awards B. Sc. and B. Sc. CSIT degree upon completion of all requirements as prescribed in the curriculum. The minimum credit hours needed for B. Sc. degree is 146 and B. Sc. CSIT degree is 120. Cumulative Grade Point Average (CGPA) for the degree shall be awarded upon completion of all requirements.

Course Structure of Master in Physics:

Semester	Subject (Credit)					Total Credit
I	Phy 511 Mathematical Physics-I (3)	Phy 512 Classical Mechanics (3)	Phy 513 Quantum Mechanics-I (3)	Phy 514 Electronics (3)	Phy 515 Laboratory-I (6)	18
II	Phy 551 Mathematical Physics-II (3)	Phy 552 Quantum Mechanics-II (3)	Phy 553 Statistical Mechanics (3)	Phy 554 Electrodynamics-I (3)	Phy 555 Laboratory-II (6)	18
III	Phy 611 Condensed Matter Physics (3)	Phy 612 Quantum Mechanics-III (3)	Phy 61x* Elective-AI (4)	Phy 61y* Elective-BI (4)	Phy 613 Research Methodology (5)	19
IV	Phy 651 Nuclear and Particle Physics (3)	Phy 652 Electrodynamics-II (3)	Phy 65x* Elective-AII (4)	Phy 65y* Elective-BII (4)	Phy 653 Computational Physics (6)	20

*Elective courses are offered based on need and availability of Faculties/Facilities from the following pool of subjects and the dissertation. Students are required to confirm their selection at the beginning of III Semester and the criterion for allocation dissertation will be decided by the respective department.

Elective Courses:

Phy 614 & Phy 654 Astrophysics
Phy 615 & Phy 655 Biophysics
Phy 616 & Phy 656 Geophysics
Phy 617 & Phy 657 Material Science
Phy 618 & Phy 658 Nanotechnology
Phy 619 & Phy 659 Optoelectronics
Phy 620 & Phy 660 Plasma Physics
Phy 621 & Phy 661 Seismology
Phy 622 & Phy 662 Solid State Physics
Phy 629 & Phy 699 Dissertation

Fee structure Master of Science (Physics)

M.Sc. 2 Years (FY 2075/2076) First semester fee Rs 33,790
Second to Fourth semester fee = 30,340x3=91.020/- Total program cost = Rs 124,990/-
Dissertation (Optional) 5000 Per semester

Entrance Criteria: M. Sc.: Minimum second division in B.Sc. (Major Physics).

Type of the Question: Multiple Choices (Objective) and Subjective questions.

Faculty Members:

Physics:

- Krishna Prasad Chapai, M.Sc., Assist. Prof. (Campus Chief)
- Tarani Prasad Yadav, M.Sc., Assist. Prof. (Study Leave)
- Dharma Raj Paudel, M. Sc., Assist. Prof. (Head of Instruction Committee)
- Anil Kumar Gurung, M.Sc., Assist. Prof.
- Deepak Kumar Acharya, M.Sc., Assist. Prof.

Chemistry:

- Dikpal Kumar Shahi, M.Sc., Assist. Prof.
- Narendra Prakash Saud, M.Sc., Assist. Prof. (Subject Committee Head)
- Nurul Hoda Khan, M.Sc, Assist. Prof.
- Kirti Raj Joshi, M.Sc., Assist. Prof. (Contract) (Head of Instruction Committee)
- Anup Basnet Chhetri, Ph.D., M.Sc. Assist. Prof.
- Prativa Paudel, M.Sc., Assist. Prof.
- Madhusudhan Acharya, M.Sc., Assist. Prof. (Part –Time)
- Purna Prasad Bhandari, M.Sc., Assist. Prof. (Part –Time)

Mathematics:

- Keshar Singh Rana, Ph.D., M.Sc. Prof. (MWU, Member, Service Commission)
- Moti Prasad Giri, M.A., Assist. Prof.
- Gyan Prasad Paudel, M.A., Assist. Prof.
- Mohan Raj Bhatta, M.A., Assist. Prof.

Zoology:

- Padam Raj Joshi M.Sc., Assist. Prof.
- Dharma Raj Thapa Chhetri, M.Sc., Assist. Prof. (Study Leave)
- Puspha Raj Acharya, Ph.D., M.Sc. Assist. Prof.
- Ruplal Dhakal, M. Sc., Assist. Prof.
- Ganga Shah M. Sc., Assist. Prof. (Part- Time)
- Aadesha Oli M. Sc., Assist. Prof. (Part- Time)

Botany:

- Tulsi Shrestha, M.Sc., Assist. Prof.
- Shiba Raj Ghimire, M.Sc., Assist. Prof.
- Sabita Dhungana, M. Sc., Assist. Prof.
- Shushila Shrestha, M.Sc., Assist. Prof. (Part –Time)

Statistics:

- Ram Suresh Yadav, M.Sc., Assist. Prof.
- Homnath Baral, M.Sc., Assist. Prof.
- Mukunda Sharma, M. Sc. Assist. Prof. (Part-Time)
- Lok prasad Dhungana, M.Sc., Assist. Prof. (Part –Time)

English:

- Chitra Bahadur Khatri, M.Ed., Assist. Prof. (Part –Time)
- Bhim Bahadur Thapa M.Ed., Assist. Prof. (Part –Time)

Computer Science:

- Madhav Dhakal, M. Sc. CSIT, Assist. Prof.
- Yubraj Poudyal, M.Sc. CSIT, Assist. Prof.

Environmental Science:

- Khagendra Rawal, M. Sc., Assist. Prof.(Part-Time)

Management:

- Jit Bahadur Chand, M.B.S., Assist. Prof. (Part –Time)

Visiting Faculties:

- Prof. Dr. Tulasi Pathak, Chemistry, (TU)
- Prof. Dr. Lok Narayan Jha , Physics, (TU)
- Prof. Dr. Pradip Kumar Bhattarai ,Physics, (TU)
- Prof.Dr.Kedar Nath Ghimire, Chemistry, (TU)
- Prof.Dr.Dipak Sharma,Chemistry, (Debi Ahilya University,India)
- Prof.Dr. Ram Prasad Khatiwada, Statistics, (TU)
- Prof.Dr. Raju Khanal, Physics, (TU)
- Prof. Dr. Naryan Prasad Adhikari, Physics, (TU)
- Prof. Dr. Nand Bahadur Singh, Zoology, (TU)
- Prof. Dr. Kanaihya Jha.Mathematics, (KU)
- Prof. Dr. Deepak Subedi,Physics, (KU)
- Prof. Dr. Suman Bhattarai, Botany, (TU)
- Dr. Dinesh Bhuju, Academician, (NAST)
- Dr. Surya Kant Kalauni, Chemistry, (TU)
- Dr. Rabindra Dhakal ,Chemistry, (NAST)
- Mr. Nabraj Paudel,Computer Science, (TU)
- Prof. Dr. Masahiko Hada, Chemistry, (Tokyo Metropolitan University, Japan)
- Prof. Dr. Subarna Shakya, Computer Science, (TU)
- Prof. Dr. Ashish Sharma, Statistics, (GLA University, Mathura, India)

Non-Teaching Staff:

- Mrs. Archana Sharma - Administration (Dean's Office)
- Mrs. Rachana Bista - Account Officer (Dean's Office)
- Mr. Swopnil Paudel-Lab
- Mrs. Satya Thapa-Store
- Mr. Bharat Dhamala -Store
- Mrs. Shiba Shahi-Lab
- Mrs. Yamuna Timilsena-Lab
- Ms. Asmita Regmi-Lab

- Mr. Roshan Dhamala-Administration
- Mrs. Nirmala Bohora- Office Assistant

Programs 2017-2019:

a. International Workshop on Scientific Writing, 12th and 13th June, 2017.

b. National Science Day Celebration in collaboration with MoST 01th Ashoj, 2074. Quiz contest and rally on the occasion of 5th National Science Day -2074 Birendranagar, Surkhet, 16th and 17th September, 2017

c. 17th World Science Day for Peace and Development with slogan for the year 2017 "Science for Global Understanding". Penetration of Innovative Technologies to the Society, 24th Kartik, 2074.

d. Academic Industry Dialogue on the Development of Science and Technology in Nepal, 23-25th December, 2017.

e. Workshop Training on Small Hydro Power in Surkhet Organized by Nepal Academy of Science and Technology Supported by Faculty of Science and Technology and Faculty of Engineering, Mid Western University, 2-5th February, 2018.

f. Recent development on Plasma Physics, Visiting Lecture by Prof. Dr. Raju Khanal, 28th January, 2018.

g. Development on Computer Science, Visiting Lecture by Mr. Nab Raj Paudel, 23th December, 2017.

h. Practical in Chemistry, Visiting Lecture by Associate Prof. Ram Bahadur K. C., 29 & 30th June, 2017.

i. Molecular Biology/Genomic Science, Visiting Lecture by Prof. Dr. Nanda Bahadur Singh, 09th February, 2018.

j. Workshop on "विज्ञान र प्रविधिको विकास र वर्तमान स्थिति एवं भविष्यको अबधारणा", by MoST in Cooperation with NAST, FoST, MWU, Surkhet and MMC,TU, Banke, Nepaljung, 31st Ashoj, 2074 by Dinesh Bhuju.

k. Computational Physics, Visiting Lecture by Narayan Prasad Adhikari, 13th June, 2017.

l. Instrumental Chemistry, Visiting Lecture by Prof. Dr. Dipak Sharma, 12th June, 2017.

m. Talk program on "Presence/Absence Survey Public Awareness of Cheer Phesants at Bajura District Western Part of Nepal", 03rd Asad, 2074.

n. Interaction Program on Promotional Activities of NAST, Mrs Ramila Shrestha, 6th Asad, 2074.

o. Guest Lecture by Prof. Dr. Nanda Bahadur Singh on Molecular Biology at Central Campus of Science and Technology, 9th February, 2018.

p. Possibility of Mutual Cooperation on the Academic Programs, 3rd April, 2018.

q. Workshop on Python Programming for B.Sc. CSIT, 28th May, 2018.

r. Special Talk Program with Japanese Professors, 14-15th April, 2018.

s. Advanced Hands on Laboratory Training for B.Sc. Program, 25-29th June, 2018.

t. Secondary Level Oratory Competition on Sixth National Science day, 24th September, 2018

u. 5th international Young Scientist Congress (IYSC-2019), 8-9th May, 2019.

v. Solar PV and Instrumentation Training for University Teachers, 10-12th Jestha, 2076 Organized by NAST in Collaboration with Faculty of Science and Technoloy, Surkhet.

Glimpses of Activities of our Faculty and Campus:













Building of Science and Technology



Contact Information and Location

Faculty of Science and Technology, Dean's Office, Birendranagar-6, Kuinepani, Surkhet
Central Campus of Science and Technology, Birendranagar-8, Charkpani Path, Surkhet
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