

Madan Bhandari University of Science and Technology Invitation of Applications for Admission to Academic Programs November 3, 2023

1. Introduction

Madan Bhandari University of Science and Technology (MBUST) was established through the promulgation of the Madan Bhandari University of Science and Technology Act, 2079 (2022 AD) on August 3, 2022. This Act grants extensive autonomy to the University creating an enabling environment for developing the MBUST into a world-class research-oriented university. The MBUST holds the promise of making a direct contribution to the economic development of the country through the creation of new knowledge and technology, which should enhance the competitiveness of the country's economy.

The MBUST vision is to be a world-class university and the mission is to build prosperous and just Nepal. The MBUST is committed to provide world-class education by attracting talented and committed students and academic staff, and providing a conducive environment for research and development activities focused at solving real-life problems of the industry using the state-of-the-art knowledge and technology.

2. Academic Programs

The teaching and research activities of the University will be guided by the real-life problems of the industry. Teaching and research programs of the University will be delivered through the Institutes engaged in research related to specific economic sectors. The students will pursue their study in close collaboration with related industries and are expected to develop a new technology for collaborating industrial partners. This approach is designed to produce graduates who are "job creators" rather than "job seekers".

Academic programs to be offered are Research Master's and Doctor of Philosophy in:

- 1. Forest Biomaterials Science and Engineering
- 2. Organic Agriculture
- 3. Tourism Infrastructure

Program structure (Attachment 1), list of resource persons (Attachment 2) and proposed research topics (Attachment 3) are appended to this notice. Please visit <u>www.mbust.edu.np</u> for more details.

3. Intake, Fees and Scholarships

| Program | Total | Tuition fee waiver and | Tuition fee |
|---|---------|------------------------|--------------|
| | intake | scholarships | waiver |
| PhD in Forest Biomaterials Science and | Up to 4 | For all | For all |
| Engineering | | | |
| Master's in Forest Biomaterials Science | Up to 8 | For up to 4 | For up to |
| and Engineering | _ | | additional 4 |
| PhD in Organic Agriculture | Up to 4 | For all | For all |
| Master's in Organic Agriculture | Up to 8 | For up to 4 | For up to |
| | _ | _ | additional 4 |
| Master's in Tourism Infrastructure | Up to 8 | For up to 4 | For up to |
| | _ | _ | additional 4 |

Monthly scholarship of Rs.25,000 may be provided to Master's students based on scholastic performance for two years subject to meeting the prescribed performance threshold. Monthly scholarship of Rs.30,000 may be provided PhD students based on scholastic performance for three years subject to meeting the prescribed performance threshold. Scholarships are subject to availability of resources.

For getting tuition fee waivers and scholarships students will have to commit to serving at the MBUST or institutions placed by the MBUST for at least two years in case of Master's students and three years in case of PhD students. The duration for service will be half of the above for students getting only the fee waiver.

If recipients of tuition fee waiver and scholarship leave the study before completion they will have to reimburse the total amount of scholarship received and pay tuition fees for the whole course. The tuition fees for one year is Rs.150,000 for both Master's and PhD programs.

To encourage only committed students to get admitted and handle the University property with care the following non-tuition fees will be charged: registration fee of Rs.25,000; refundable deposit of Rs.50,000, which will be refunded on completion of the study; and refundable security deposit of Rs.25,000 towards the compensation for possible damages to the University property associated with negligence. In addition, a transportation charge will apply for students using office shuttle service to and from Chitlang. Students who are genuinely not able to afford such fees may contact the administration for assistance.

4. Admission Schedule

| November 3, 2023 | Call for Applications |
|-------------------|---|
| November 21, 2023 | Last date for submission applications |
| November 22, 2023 | Publication of the short-listed of candidates for admission |
| November 24-25, | Examinations, interview and document verification |
| 2023 | |
| November 26, 2023 | Publication of the admission list |
| November 27-28, | Last date for admission |
| 2023 | |
| November 29-30, | Registration for electives and non-credit courses |
| 2023 | |
| December 1, 2023 | Orientation and start of the session |

5. Eligibility

Master's level

• 4-year Bachelor's in science/engineering/technology subjects with CGPA of 2.75/4.0 (or international equivalent).

PhD level

• Master's in Engineering/Technology/Science subjects with CGPA of 3.0/4.0 (or international equivalent).

6. Application Submission

Online application form (Attachment 4) is available in MBUST at <u>http://mbust.edu.np</u>. Applications must be submitted online. Applications are open to all nationalities. Applications in hard copies or scanned copies shall not be entertained.

Bank details to deposit application fee: MADAN BHANDARI BIG. TA. PRA. BISHWABIDHYALAYA A/C No. 01800106701870000001 Nepal Bank Limited Gabahal Branch, Lalitpur

In case of difficulties in applying online, please contact:

Name: Saroj Joshi

Email Id: Jsaroj284@gmail.com

Contact number: 9868795646

7. Documents and Information to be submitted

Mandatory documents

- 1. Academic transcripts
 - a. Bachelor's level for Master's level application
 - b. Bachelor's for PhD application
 - c. Master's level for PhD application
 - d. Secondary school transcript (grade 12)
 - e. Secondary Education Examination transcript (grade 10)
- 2. Research statement (Attachment 5)
- 3. Personal statement (Attachment 5)
- 4. CV
- 5. Bank voucher/evidence of the deposition of application fee (NRs. 500)

Optional documents

- 1. Publication list
- 2. Experience certificates
- 3. Additional transcripts
- 4. Other documents (not more than five)

8. Selection of Students

Criteria for selection

The students will be selected based on the following set of criteria.

| Criteria | Trans- cripts | Research statement | Personal statement | Special skills | References | Essay writing | Interview | Total |
|--------------|------------------|--------------------|--------------------|----------------|------------|------------------|-----------|-------|
| Weighting, % | 20 | 10 | 15 | 10 | 10 | 10 | 25 | 100 |

Students should submit the names of three referees who can provide the firsthand reference on the students. The students should name only those referees who agree to be interviewed by the University.

Students are encouraged to submit documents showing special achievements/skills which could enhance the chances of their success in the studies.

Students with publication records in peer-reviewed journals and conferences will have an advantage in the selection. Therefore, students are encouraged to provide a list of publications (Attachment 6).

Essay writing and interview will take place at the University premises at Chitlang.

Short-listing

Students will be shortlisted based on the cumulative score of the first five criteria. Students with the cumulative score of 30 out of 65 will be qualified for the shortlist. However, the number of students to be shortlisted will not exceed the double of the planned intake.

Final selection

The final selection will be based on the cumulative score of all criteria.

9. Pledge

The selected students shall be required to sign a pledge committing, among others, to complete the study, serve the MBUST or an institution assigned by the MBUST in lieu of scholarship and fee waiver provided at the time of admission.

10. Open House

The MBUST is organizing an Open House for prospective students and interested stakeholders on November 6, 2023 from 11am to 4pm at the University premises at Chitlang. The Open House should help students and other stakeholders to get more information about the academic programs, human resources of the University, interact with the teaching and administrative staff and laboratory and other facilities. The participation in the Open House should also help students to get information on the queries they have and get a better idea about the preparation required for the study at the University.

Students are expected to make their own arrangement for the travel to the University for the participation in the Open House. However, the MBUST will make best efforts to arrange pick up from and drop off to Kalanki for students who may have difficulty in making their travel arrangements. Students looking for the help from the University for the travel should book bus seats not later than 1pm on November 5, 2023. For booking bus seats they should send emails to info@mbust.edu.np or messages to 9840088016 and 9849848053. For booking bus seats students should provide their names and an ID numbers and types, preferably a citizenship certificate.

Information on the University is available at https://www.mbust.edu.np.

President

Madan Bhandari University of Science and Technology Chitlang, Thaha Municipality Ward 9, Bagmati Province

Program Structure

A. Forest Biomaterials Program aims

The program has been designed to provide graduates with:

- 1. specialist in-depth knowledge and understanding of forest biomaterials science (chemistry and physics), engineering and technology.
- 2. understanding of Nepal's forest conservation and management practices, and the importance of the forest sector to climate change, biodiversity, sustainable development, economic income, and social equity.
- 3. provide first-hand knowledge on forest sector through field trips, internships, and collaborative projects on addressing real issues faced by industries. They will work in the state-of-the art laboratory facilities available at the university.
- 4. latest research analysis and computer programming tools, such as Artificial Intelligence (AI) and data analytics and modeling.
- 5. entrepreneurship, communications, and leadership trainings in the curriculum to develop professional skills.
- 6. build partnerships among industry, community, academia, and government for an enriched educational experience.
- 7. exposure to frontier science and technology developments through interactions with leading scientists from around the world and opportunities of collaboration and partnership and national and international institutes and industries.
- 8. strengthen the forest-based industries such as timber seasoning, grading, plywood and wood-based biomaterials design, utilization of rosin, turpentine, tannin, cellulose, hemicellulose, lignin and herbal materials and essential oil production and processing.

Learning outcomes

- 1. The graduates specialized with cognitive and technical skills in forest biomaterials will independently demonstrate:
- 2. capacity for independent research or experimentation using appropriate methods on forest biomaterials.
- 3. communication, critical use of source material, experimental results, published works in relevant peer-reviewed academic journals.
- 4. diversification in use of forest services and optimization in managing forest products for livelihoods improvement.
- 5. technological advancement and innovative process applicable in forest biomaterials for sustainable and environmentally friendly use and economic productivity.
- 6. capacity to produce thesis and patent application meeting the international standards of science.
- 7. contribute government strategy and policies for timber non-timber forest products and their utilization.

Research Master's in Applied Science

| | Core | Non-Credit | | Core | Non-Credit | Technical Elective |
|--|--|--|----------------|---|--|---|
| Semester I | Fundamentals of Forest Biomaterials Science (4 Cr) | Research Methods and Data Mining (0 Cr) | Semester II | Advanced Topics in Sustainable Bioproducts (4 Cr) | Entrepreneurship, Communication and Leadership (0 Cr) | One course from the list related to thesis (4 Cr) |
| | Development Policy (4 Cr) | | | Thesis | Forest Conservation and Management (0 Cr) | (+ CI) |
| | Chemistry of Biomaterials (4 Cr) | | | | | |
| Semester III | Thesis | | Semester IV | Thesis | | |
| Total credit for Thesis = 30 Cr Total credit for Master's course 50 Cr (16 Cr Core course + 4 Cr Technical elective + 30 Cr Thesis) | | | | | | |

Course Framework

PhD

Course Framework

| | Core | Non- | Technical | | Core | Non- | Technica |
|---|------------------|----------|------------------|----------|-------------|------------|------------|
| | | Credit | Elective | | | Credit | I Elective |
| Semester I | Fundament | Research | | Semester | Advanced | Entrepren | One |
| | als of | Methods | | 11 | Topics in | eurship, | course |
| | Forest | and Data | | | Sustainable | Communi | from the |
| | Biomaterial | Mining | | | Bioproducts | cation and | list |
| | s Science | (0 Cr) | | | (4 Cr) | Leadershi | related to |
| | (4 Cr) | | | | | р | thesis |
| | | | | | | (0 Cr) | (4 Cr) |
| | Developme | | | | | Forest | |
| | nt Policy | | | | | Conserva | |
| | (4 Cr) | | | | | tion and | |
| | | | | | | Manage | |
| | | | | | | ment (0 | |
| | | | | | | Cr) | |
| | Chemistry | | | | Thesis | | |
| | of | | | | | | |
| | Biomaterial | | | | | | |
| | s (4 Cr) | | | | | | |
| Semester | Thesis | | One | Semester | Thesis | | |
| III | | | course | IV | | | |
| | | | from the | | | | |
| | | | list related | | | | |
| | | | to thesis | | | | |
| | | | (4 Cr) | | | | |
| Semester | Thesis | | | Semester | Thesis | | |
| V | | | | VI | | | |
| Total credit | for Thesis $= 5$ | 1 Cr | | | | | |
| Total credit for PhD course 75 Cr (16 Cr Core course + 8 Cr Technical electives + 51 Cr Thesis) | | | | | | | |

B. Organic Agriculture

Program aims

The program has been designed to provide graduates with:

- 1. solid foundation in fundamental agriculture science and technology.
- 2. understanding of Nepal's agriculture management practices and importance of the climate change, biodiversity, sustainable development, economic income, and social equity to the agriculture sector.
- 3. provide first-hand knowledge in the agriculture sector through field trips, internships, and collaborative projects on real problems. They will also work in the state-of-the art laboratory facilities at the university.
- 4. latest research analysis and computer programming tools, such as AI and data analytics and modeling.
- 5. entrepreneurship, communications, and leadership trainings in the curriculum to develop professional skills.
- 6. build partnerships among industry, community, academia, and government for an enriched educational experience.
- 7. exposure to frontier science and technology developments through interactions with leading scientists from around the world and be provided with opportunities to participate in international training programs.
- 8. strengthen the agriculture-based industries.

Learning outcomes

The graduates specialized with cognitive and technical skills in agriculture will independently demonstrate:

- 1. independent research or experimentation on agriculture
- 2. critical use of source material, experimental results, published works
- 3. diversification and optimization in use of agriculture products and manage in a sustainable and productive manner for livelihoods improvement.
- 4. technological advancement and innovative process applicable in agriculture for sustainable and environmentally friendly use and economic productivity
- 5. capacity to produce well written thesis

Research Master's in Applied Science

| | Core | Non-Credit | | Core | Non-Credit | Technical Elective |
|-----------------|---|---|----------------|---|--|---|
| Semester I | Organic Agricultural Food systems and Agroecology (4 Cr) Soil Fertility and Soil Ecology in Organic Agriculture (4 Cr) | Quantitative Research Methodology and Data Mining (0 Cr) Technology Management (0 Cr) | Semester II | Plant Protection in Organic Agricultural System/ Animal Production in Organic Agriculture (4 Cr) | Entrepreneurship, Communication, Socioeconomic and Leadership (0 Cr) | One course from the list related to thesis (4 Cr) |
| Semester III | Thesis | | Semester IV | Thesis | | |
| Total credit | for Thesis = 34 Cr | | | | | • |

Course Framework

Total credit for Master's course 50 Cr (12 Core course + 4 Technical elective + 34 Thesis)

PhD

Course Framework

| | Core | Non-Credit | Technical Elective | | Core | Non-Credit | Technical Flective |
|-----------------|---|---|---|----------------|---|--|--|
| Semester I | Organic Agricultural Food systems and Agroecology (4 Cr) Soil Fertility and Soil Ecology in Organic Agriculture (4 Cr) | Quantitative Research Methodology and Data Mining (0 Cr) | | Semester II | Plant Protection in Organic Agricultural System/ Animal Production in Organic Agriculture (4 Cr) | Entrepreneur ship, Communicat ion, Socioecono mic and Leadership (0 Cr) | One course from the list related to thesis (4 Cr) |
| Semester III | | Technology Management (0 Cr) | One course from the list related to thesis (4 Cr) | Semester IV | Thesis | | |
| Semester V | Thesis | | | Semester VI | Thesis | | |

Total credit for Thesis = 55 Cr

Total credit for PhD course 75 Cr (12 Core course + 8 Technical electives + 55 Thesis)

If someone continues to Ph.D. after completing MS by research, courses taken in master level will be exempted.

However, there could be addition of technical elective courses as suggested by admission committee.

C. Tourism Infrastructure

Program aims

The program has been designed to provide graduates with:

- 1. Solid foundation on the fundamental in tourism, including its history, trends and prospects
- 2. Understanding of the attributes of Nepal's tourism infrastructure: types, status, database and demand
- 3. Systems thinking skills related to the planning, development and execution of tourism infrastructures and services
- 4. Project engineering skills related to the planning, design, and construction of tourism infrastructures
- 5. Knowledge of latest research analysis and computer programming tools, such as AI, data analytics and modeling.
- 6. First-hand knowledge of tourism sector through field trips, internships, and collaborative projects.
- 7. Exposure to frontier science and technology developments through interactions with leading scientists from around the world.

Learning outcomes

The graduates specialized in tourism infrastructure will demonstrate the following capabilities:

- 1. Independent research or experimentation on tourism infrastructure and services
- 2. Critical analysis of source material, experimental results, published works
- 3. Systems thinking to engineer the tourism sector and its components
- 4. Vision for the advancement of technological and innovative processes applicable in tourism sector for economic growth, employment opportunity and sustainability
- 5. Production of well written thesis with systematic identification of a problem, and application of knowledge and skills necessary to arrive at a rational solution
- 6. Presentation and publication of the study and research outcomes
- 7. Team building and leadership skills for applied research and innovation.

Research Master's of Applied Science

Course framework

| Semester | Core | Non- Credit | Semester | Core | Non-Credit | Technical Elective |
|--------------------------------------|--|---|-----------------|--|--|---|
| Semester I | Fundamentals of Tourism (4 Cr) | Research Methods and Data Mining (0 Cr) | Semester II | Advanced Topics on Tourism (2 Cr) | Entrepreneurship, Communication and Leadership (0 Cr) | One course from the list related to thesis (4 Cr) |
| | Tourism Infrastructure (4 Cr) | | | Tourism Social Science (2 Cr) | Tourism Development Initiatives in Nepal (0 Cr) | |
| | Development Policy (4 Cr) | | | Thesis | | |
| Semester III | Thesis | | Semester IV | Thesis | | |
| Total credit for Total credit for | r Thesis = 30 Cr r Master course 50 C | Cr (16 Core course | e + 4 Technical | elective + 30 Thesi | is) | |

PhD

Course Framework

| Semester | Core | Non-Credit | Technical | Semester | Core | Non-Credit | Technical |
|-------------|-----------------------|-------------------|-------------------|-------------|------------|------------------|-------------------|
| | | | Elective | | | | Elective |
| Semester | Fundamentals of | Research | | Semester | Advanced | Entrepreneurship | One course |
| Ι | Tourism | Methods and | | II | Topics on | , Communication | from the list |
| | (4 Cr) | Data Mining | | | Tourism | and Leadership | related to thesis |
| | | (0 Cr) | | | (2 Cr) | (0 Cr) | (4 Cr) |
| | Tourism | | | | Tourism | Tourism | |
| | Infrastructure (4 | | | | Social | Development | |
| | Cr) | | | | Science (2 | Initiatives in | |
| | | | | | Cr) | Nepal (0 Cr) | |
| | Development | | | | Thesis | | |
| | Policy | | | | | | |
| | (4 Cr) | | | | | | |
| Semester | | | One course | Semester | Thesis | | |
| III | | | from the list | IV | | | |
| | | | related to thesis | | | | |
| | | | (4 Cr) | | | | |
| Semester | Thesis | | | Semester | Thesis | | |
| V | | | | VI | | | |
| Total credi | t for Thesis $= 51$ C | 'r | | | | | |
| Total credi | t for PhD course 7 | 5 Cr (16 Core cou | rse + 8 Technical | electives + | 51 Thesis) | | |

Total credit for PhD course 75 Cr (16 Core course + 8 Technical electives + 51 Thesis)

If someone continues to Ph.D. after completing MS by research, courses taken in master level will be exempted. However, there could be addition of technical elective courses as suggested by the admission committee.

Resource Persons

A. Forest Biomaterials

| Resource Persons | Specialization |
|-----------------------------|--|
| Prof. Hom Nath Dhakal | Advanced polymers and composites |
| Prof. Bishnu Prasad Acharya | Cellulose-based biomaterials, biochemicals and |
| | nanocomposites |
| | Thermochemical and biochemical conversion technologies |
| Prof. Sergio Rossi | Forest ecology and ecophysiology |
| Prof. Marco Carrer | Dendrochronology, Dendro wood anatomy, Dendro ecology, |
| | Tree physiology |
| Prof. Giai Petit | Dendrochronology, Dendro wood anatomy, Dendro ecology, |
| | Tree physiology |
| Prof. Nam-In Baek | Pharmaceutical Sciences (Natural products chemistry) |
| Prof. Stefano Dall'Acqua | Medicinal plant chemistry |
| Dr. Krishna Gopal Dongol | Synthesis and process development |
| | Product development and formulation for health and nutrition |
| Dr. Suman Karki | Natural products, nutrients and metabolic reprogramming |
| Dr. Sabina Shrestha | Biotechnology (Oriental medicinal materials engineering) |
| Dr. Sudip Pandey | Dendroanatomy, Natural resource management |
| Dr. Nischal P. N. Pradhan | Structural engineering |

| Name | Specialization |
|--------------------------------|--|
| Dr. Hiroki Sato | Entomopathogenic fungi, biofertilizer, |
| | biological control |
| Prof. Shin Yee Fung | Natural compound isolation from |
| | mushroom |
| Prof. (Ad.) Dr. Kentaro Hosaka | Taxonomy, ecology, biodiversity, |
| | biogeography of mushroom |
| Dr. Kim Jong Hwa | Horticulture (Plant Pigmentation) |
| Prof. Ananda Shova Tamrakar | Vermicompost |
| Prof. Suresh Manandhar | Artificial Intelligence |
| Prof. Kalyani Mishra | Biofertilizer |
| Dr. Ram Devi Timila | Plant Pathology |
| Dr. Bhaniswor Pokhrel | Biofertilizer, fertigation |
| Dr. Pooja Manadhar | Soil microbial ecology |
| Dr. Bhushan Shrestha | Mycology |
| Dr. Anupama Shrestha | Plant Pathology |
| Dr. Rameshwar Rai | Horticulture |
| Dr. Samudra Lal Joshi | Applied entomology, biological control |

B. Organic Agriculture

| C. | Tourism | Infrastructure |
|--------|-----------|----------------|
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| Name | Qualification | | |
|-----------------------------|--|--|--|
| Prof. Sudarshan Raj Tiwari | Former professor at IOE, TU of architecture; author of several | | |
| | books | | |
| Dr. Bishnu Prasad Gautam | PhD in civil engineering from the University of Toronto; extensive | | |
| | experience in various infrastructure, policy and planning with study | | |
| | of various tourism development projects | | |
| Mr. Rabi Jung Pandey | University degree from University of Surrey; Tourism expert with | | |
| | 40+ years of experience on tourism at national and international | | |
| | projects | | |
| Prof. Shantanayan Devarajan | Professor at Georgetown University and world-renowned | | |
| | economist; Former professor at Harvard (Online from the US) | | |

Research Topics

A. Forest Biomaterials

| No. | Topics | Level | Student Background Preferred | |
|-----|--|-------------|-----------------------------------|--|
| 1 | Characterization and separation of | PhD | Chemistry, Biotechnology | |
| | components of Rosmarinus officinalis | | | |
| | L. for bio-industrial applications | DI D | | |
| 2 | Characterization of components of | PhD | Chemistry, Biotechnology | |
| | ginger varieties and application for | | | |
| 2 | Skin care products | DLD | Microhiology Distachnology | |
| 5 | aromatic and flavor characteristics of | FIID | wherobiology, biotechnology | |
| | Nepal tea | | | |
| 4 | Immunomodulatory components | PhD | Microbiology, Biotechnology | |
| | from Nepalese herbal materials | | | |
| 5 | Development of oral health care | PhD | Microbiology, Biotechnology | |
| | products from Khair (Acacia catechu) | | | |
| 6 | Immunomodulatory components | PhD | Microbiology, Biotechnology | |
| | from Nepalese medicinal mushrooms | | | |
| 7 | culture | Maataula | Misselister Distated as | |
| / | Quality assurance of products for sustainable agriculture and | Master s | Microbiology, Biotechnology | |
| | international market compliance | | | |
| 8 | Tea processing technology for flavor | Master's | Microbiology, Biotechnology, Food | |
| - | and aroma development | ivitable1 b | technology | |
| 9 | Tea product diversification for | Master's | Microbiology, Biotechnology, Food | |
| | cosmetic and food products | | technology | |
| 10 | Aromatic profiles in teas produced in | Master's | Chemistry, Biotechnology | |
| | Nepal and identification of pesticide | | | |
| 11 | and anthraquinone contaminations | | Microhiology Distachaology Food | |
| 11 | Nepel and their antiovident and anti- | Master's | technology, Biotechnology, Food | |
| | inflammatory properties | | teennology | |
| 12 | Essential oil based biopesticide | Master's | Chemistry, Biotechnology | |
| 13 | Cellulose nanofiber foam system for | Master's | Chemistry, Biotechnology | |
| - | herbal biopesticide material | 1.140001.0 | , | |
| 14 | Health care products from turmeric | Master's | Microbiology, Biotechnology, Food | |
| | varieties of Nepal | | technology | |
| 15 | Microbial characterization for | Master's | Microbiology, Biotechnology | |
| | development of agarwood fragrance | | | |

B. Organic Agriculture

| No. | Topics | Level | Supervisors | Student Background Preferred |
|-----|---|----------|---|---|
| 1 | Taxonomy and biogeography of wild edible mushrooms of Nepal and their domestication | PhD | Dr. Bhushan Shrestha and Dr. Kentaro Hosaka | Microbiology, Biotechnology, Agriculture, Botany |
| 2 | Extraction of natural compounds from medicinal mushrooms of Nepal and product development | PhD | Dr. Bhushan Shrestha and Prof. Shin Yee Fung | Microbiology, Biotechnology, Agriculture, Botany |
| 3 | Development of biofertilizer from organic wastes and spent mushroom substrate | PhD | Dr. Bhushan Shrestha and Dr. Hiroki Sato | Microbiology, Biotechnology, Agriculture, Botany |
| 4 | Lactic acid bacteria (LABs) as a potential biopesticide against plant pathogens | PhD | Dr. Anupama Shrestha and Prof. Ananda Shova Tamrakar | Microbiology, Biotechnology, Agriculture, Botany |
| 5 | Characterization and biological control of <i>Plasmodiophora</i> <i>brassicae</i> , a clubroot pathogen of cauliflower | Master's | Dr. Anupama Shrestha and Dr. Ram Devi Timila | Microbiology, Biotechnology, Agriculture, Botany |
| 6 | Detection and management of mushroom diseases with artificial intelligence in Nepal | Master's | Dr. Anupama Shrestha and Prof. Suresh Manandhar | Microbiology, Biotechnology, Agriculture, Botany, Data Science/ AI |
| 7 | Application of artificial intelligence in detection of agricultural pests and diseases | Master's | Dr. Anupama Shrestha and Prof. Suresh Manandhar | Microbiology, Biotechnology, Agriculture, Botany, Data Science/ AI |
| 8 | Lactic acid bacteria (LABs) as a potential biopesticide against plant pathogens | Master's | Dr. Anupama Shrestha and Prof. Suresh Manandhar | Microbiology, Biotechnology, Agriculture, Botany |
| 9 | Characterization of microbial diversity and nutrient content analysis of compost prepared from local bioresources | Master's | Dr. Anupama Shrestha and Dr. Bhaniswor Pokhrel | Microbiology, Biotechnology, Agriculture, Botany |
| 10 | Biological control of mushroom pests | Master's | Dr. Bhushan Shrestha and Dr. Samudra Lal Joshi | Microbiology, Biotechnology, Agriculture, Botany |
| 11 | Efficacy of cutting and grafting in Kiwifruit: A study on variation due to genotype, methods and time of operation | Master's | Dr. Kalyani Mishra Tripathi and Dr. Rameshwar Rai | Microbiology, Biotechnology, Agriculture, Botany |
| 12 | Establishment of efficient micro propagation technique in Kiwifruit for quick mass multiplication of pathogen free vines | Master's | Dr. Kim Jong Hwa and Dr. Rameshwar Rai | Microbiology, Biotechnology, Agriculture, Botany |

C. Tourism Infrastructure

| No. | Торіс | Level | |
|-----|--|----------|--|
| 1 | Stakeholder's perception about tourism infrastructure | Master's | |
| 2 | Identification of major tourism infrastructure bottlenecks in Patan area and their | | |
| | assessment based on modern tools of computation and data analysis | | |
| 3 | Identification and planning of essential tourism infrastructure for promoting selected | | |
| | historical settlements at the sub-urban area of Lalitpur | | |
| 4 | Status of tourism infrastructure in selected hiking trails in Nepal | | |
| 5 | Assessment and planning of tourism infrastructure in a neighborhood tourism | | |
| | destination of a metropolis: A case of Chitlang, Nepal | | |
| 6 | Impact of poor condition of highways on the tourism industry of Nepal: Aspect of | Master's | |
| | delayed construction and resulting indirect losses | | |

Framework for Personal Statement and Research Statement

Research statement

Research statement of up to 600 to 800 words shall be developed by individual candidate following one of the thematic research areas provided by the university for the identified program. The statement shall include

- Title
- Research problem definition
- Importance of the selected research problem in terms of contribution to national economy
- Research plan
- Expected results and impact

Personal statement

Personal statement shall be a concise description of the personal background, academic journey and research interest of the candidate of up to 800 to 1,000 words. It shall also highlight specific qualities and special skills of the candidate which are helpful to peruse the studies and research. Candidate shall also explain his/her aspirations after completing the studies. Candidates shall also outline his/her reasoning selecting MBUST to peruse the selected academic program and commitment to complete the study.

Format for Publication List

In any chronological order based on the year of publication

| No. | Title of the publication | Author/s | Name and other details of Journal/Book/others | Year |
|-----|--------------------------|----------|--|------|
| | | | | |
| | | | | |
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