

# MALAWI UNIVERSITY OF SCIENCE & TECHNOLOGY



## CALL FOR APPLICATIONS: POSTGRADUATE PROGRAMMES

The Malawi University of Science and Technology is inviting motivated and suitably qualified candidates to pursue postgraduate programmes in various schools and departments of the University. The postgraduate programmes are as follows:

### Masters programmes

#### A. Masters programmes under Academy of Medical Sciences (AMS)

##### 1. Master of Science in Medical Microbiology

This is a two-year programme that is offered over four semesters. In the first year, students take taught courses using a combination of face-to-face and virtual lectures. The lectures will be offered on a full time basis during which the candidates will periodically be taught and allocated time to work on assignments after classes. During the second semester of the second year, candidates will undertake a research project which is relevant to Medical Microbiology. At the end of the project, the candidates will submit a well-structured Dissertation that has been reviewed and approved by their supervisors.

##### 2. Master of Science in Diagnostic Ultrasound

This is a two-year programme that is offered over four semesters. In the first year, students take taught courses using a combination of face-to-face and virtual lectures. The lectures will be offered on full time basis during which the students cover all the modules allocated for the specific semester and are allocated time to do assignments. Due to the nature of the programme, candidates will spend substantial amount of time involved in conducting medical imaging practical sessions. In the second year, candidates will conduct a research project under the supervision of an expert in imaging field focusing on diagnostic ultrasound. At the end of the project, the candidates will submit a well-structured Dissertation that has been reviewed and approved by their supervisors.

### 3. Master of Science in Infection and Immunity

This is a two-year programme that is offered over four semesters. In the first year, students take taught courses using a combination of face-to-face and virtual lectures. The lectures will be offered on a full time basis during which the candidates will periodically be taught and allocated time to work on assignments after classes. During the second semester of the second year, candidates will undertake a research project which is relevant to Immunology. At the end of the project, the candidates will submit a well-structured Dissertation that has been reviewed and approved by their supervisors.

## B. Masters programme under Ndata School of Climate and Earth Sciences (NSCES)

### 1. Master of Science in One Health

The One Health curriculum is to build capacity and expertise that can address emerging issues of ecosystems, animal and human health to minimize both economic and human losses due to crises arising from natural and anthropogenic situations. The specific objective is to train and educate workforces, who are equipped to deal with the interrelated and interconnected challenges of human, animal and environmental health. 'One Health' is a public health approach which promotes the health of humans, animals and the environment in all policies, practices and programmes. It is closely linked to the ecological health with the underlying premise that the health and well-being of humans and animals (including livestock) cannot be sustained if the planet is polluted.

This is a two-year programme that is offered over four semesters. In the first year, students take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students are periodically taught and also given time to work on assignments at home. In the second year, students undertake a research project focusing on the One Health triad (human health, animal health and ecosystem health).

## C. Masters programme under Malawi Institute of Technology (MIT)

### 1. Master of Science in Innovation

This is a two-year programme that is offered over four semesters. In the first year, students take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students are periodically taught and also given time to work on assignments at home. In the second year, students undertake a research project focusing on product or process innovation and submit a Dissertation.

### 2. Master of Science in Entrepreneurship

This is a two-year programme aimed at equipping students with knowledge, skills, and attitudes needed to survive and thrive in business to propel Malawi and the region to greater socio-economic heights. The programme is offered over four semesters. During first year, students take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students are periodically taught and also given time to work on assignments at home. In the second year, students undertake a research project focusing on entrepreneurship and submit a Dissertation.

### **3. Master of Business Leadership**

This postgraduate programme targets applicants that are working in highly dynamic modern organizations that require dynamic and robust leaders with strong skills in business leadership. Graduates will acquire management skills, and the ability to flourish in a dynamic global environment with global teams that are vibrant and challenging. The graduates will further be able to strategically assess and analyze their business and manage new business challenges ahead of time to enable growth and profitability of their businesses. This is a two-year programme that will be offered over four semesters. During first year, students will take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students will periodically be taught and also given time to work on assignments at home. In the second year, students will undertake a research project focusing on business leadership and submit a Dissertation.

### **4. Master of Science in Strategic Family Business**

Family owned businesses make substantial contributions to the social and economic welfare and development of societies, countries, and regions of the world. They are, therefore, an important source of wealth creation and employment. The major problem with family businesses is succession and transfer of leadership and ownership from one generation to the other among the family members. Only a few family businesses successfully manage the succession to the second or third generations of family members amidst periods of risks and set-backs. This program is specifically and carefully designed to ensure success and full contribution of family businesses to the socio-economic development of Malawi and beyond.

This is a two-year programme that will be offered over four semesters. During first year, students will take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students will periodically be taught and also given time to work on assignments at home. In the second year, students will undertake a research project focusing on family businesses and submit a Dissertation.

### **5. Master of Science in Mathematical Modelling**

This is a two-year programme that serves as a follow-up to Bachelor of Science in the fields of Mathematics, Physics, Statistics, Economics, Engineering, Biological Sciences, Chemistry, Technical Education with honours or minors in Mathematics. This MSc in Mathematical Modelling has focused on studies in the scientific fields. Students on this program are expected to learn how to apply mathematics or its principles to solve practical problems within their field of study e.g finance, insurance, business, ecology, environment, computer science, health sciences and others. During first year, students will take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students will periodically be taught and also given time to work on assignments at home. In the second year, students will undertake a research project that will involve mathematical modelling in any scientific field of their interest and submit a Dissertation.

### **6. Master of Engineering in Applied Chemical Engineering**

The programme aims at addressing a shortfall in human resource needs in Chemical

Engineering for industrial development in Malawi and beyond. It will be offered on block release using blended learning methods. The face-to-face approach for taught courses in the first year will be limited to two weeks per semester, whilst the rest of the contacts with students will be virtual. The programme's duration is two years and students in the second year will conduct a research project in Chemical Engineering related area and submit a Dissertation.

### **7. Master of Science in Computer Science (by Research)**

Computing is a key enabler of any modern knowledge based economy as it opens new channels and means of acquiring knowledge and information exchange in various sectors of an economy. In Malawi, there is a need for skilled human resource that can create advanced computing artefacts for propelling a knowledge based economy. This programme aims at producing locally, computer scientists that have mastered advanced practical principles of computer science and its sub-branches to positively contribute to the creation of tools for a vibrant knowledge based economy in Malawi and beyond. This two-year programme is by research, but students will take two pre-requisite courses and participate in seminars as they work on their dissertations. The students will conduct a research project in Computer Science and submit a Dissertation.

### **8. Master of Science in Data Science**

As the Fourth Industrial Revolution unfolds, it has become commonplace to refer to data as the “new oil” of the global economy. Data scientists are the talent that provides the ability to extract, refine and deploy this new source of value for decision making in the global economy and even within the context of Malawi. The MSc in Data Science programme is designed to help the graduate student master advanced practical principles of data science and its related courses, including machine learning, data mining, business intelligence, big data analytics, data management and their applications. It is a two-year taught programme. During first year, students will take coursework using a combination of face-to-face and virtual lectures. In second year, students will conduct a research project in Data Science and submit a Dissertation.

### **9. Master of Science in Information Technology (by Research)**

Information Technology (IT) concerns the usage of computer technologies to solve problems in various contexts including business settings. The aim of this programme is to produce high calibre graduates equipped with advanced knowledge and practical skills in information technology which will enable them to resourcefully and cost-effectively apply information technology tools, at their disposal, in solving real-life problems in Malawi and beyond. This two-year programme is by research. Students will, however, take two pre-requisite courses and will also be required to participate in seminars as they work on their dissertations. The dissertation will be on a research topic in IT.

## **PhD programmes**

### **A . PhD programme under Malawi Institute of Technology (MIT)**

#### **1. PhD in Applied Mathematics**

The Applied Mathematics doctorate programme runs for three (full time) or four years (part time) and is aimed at enabling learners to conduct advanced applied research in any scientific field such as Engineering, Medicine, Physics, Biology, Computer Sciences and others under the supervision of advisors. There is now an increased need for experts to analyze collected data in line with international standards in this new information age. Hence, mathematical and statistical analyses have become an indispensable element for various industries. During first year, students will take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students will periodically be taught and also given time to work on assignments at home. From year 2 to 4, students will conduct a research project that will apply Mathematics in any scientific field of their interest and submit a Dissertation.

## 2. PhD in Business Leadership

This programme aims at providing professional advanced knowledge and skills to students. The programme emphasizes research on contemporary business leadership issues in Malawi, the region and beyond. It is designed to equip students with better decision-making capabilities on various contemporary challenges facing modern businesses locally and internationally. The programme is for three years (full-time) or five years (part time). During first year, students will take taught courses using a combination of face-to-face and virtual lectures. The lectures are on block release and students will periodically be taught and also given time to work on assignments at home. From year 2 to 5, students will conduct a research project in Business Leadership and submit a Dissertation.

## B. PhD programme under MIT and MUST Institute of Industrial Research and Innovation (MIIRI)

### 1, PhD in Innovation and Development (By Research)

This is a three-year programme for full time students and four years for part time students. Students will be allowed to secure their own internship or attachment. However, they will have their academic projects incubated through the University Innovation Garage. The world is facing several challenges that include rapid human population growth, environmental degradation, socio-economic and political conflicts, health related problems and specific to developing countries, increased poverty. The use and application of innovation tools and concepts for development, including transformation development in the use of digital technologies, if properly harnessed in the developing countries, may translate the challenges into economic opportunities. This programme aims at producing graduates with new set of skills, critical thinking and development oriented human resource that will use technologies as a vehicle for short and long-term solutions to the global challenges. The programme is by research, however, the learners will participate in seminars and short courses that are relevant to their field of study as they conduct research for their theses.

## C. PhD programme under NSCES

### 1. PhD in One Health

“One Health” is a public health approach focusing on the paradigm shift of the interrelationships between veterinary and human health, and environmental health, and brings the understanding of these three disciplines to a level where the assessment of the implications of any change in sub-system or a policy on the entire system. One Health is closely linked to the ecological health with the underlying premise that the health and well-being of humans and animals cannot be sustained if the planet is polluted.

This is a three-year programme that is offered through course work for the first six months and thereafter intensive research. Students undertake a research project focusing on the increasing interactions between humans and animals within the environment and numerous factors exacerbating ecological (environmental) health and, the emergence, re-emergence and spread of infectious diseases and other growing global threats to human health and socioeconomic wellbeing which necessitate a multi-sectoral and multidisciplinary collaboration and coordination on prevention through environmental management.

### Admission Requirements

- 1, A good Bachelor’s degree from any recognized and accredited university in the relevant field of the programme applied for (for Master’s degree programme applicants) and a good Master’s degree from a recognized and accredited university in the relevant fields of the program applied for (for PhD applicants).
- 2, At least two years of work experience in a relevant field
- 3, A letter of undertaking to pay the required fees from the applicants or their parent/guardian or sponsor with evidence of reliable source of income.

### Fees

The fee for all postgraduate programmes at MUST is US\$5,000 or Malawi Kwacha equivalent per academic year, payable in instalments in each semester. However, for One Health programmes, 100% limited scholarships will be offered to deserving candidates. For the rest of the programmes, limited partial scholarships for up to 50% for masters and 35% for PhD will be offered to deserving candidates.

### Enrolment

To be considered for enrolment, applicants must submit the following mandatory documents:

- 1, A completed postgraduate application form available at MUST registry or downloaded on MUST website ([www.must.ac.mw](http://www.must.ac.mw)) under Media Centre, then Downloads or send a request email to: [admissions@must.ac.mw](mailto:admissions@must.ac.mw)
- 2, A motivation essay of 500 words for MSc applicants and a page long concept for PhD applicants structured with title, background, problem statement, objectives, methods and impact.
- 3, Certified copies of academic certificates

- 4, Sealed academic transcripts
- 5, Proof of funding, for example sponsorship letter or copies of appropriate financial records for self-sponsored students
- 6, Two reference letters (one academic and one professional for Masters programme applicants) and three reference letters (two academic and one professional) for PhD applicants.
- 7, An original bank deposit of a non-refundable application fee of K10,000 for Malawians and US\$50 for all non-Malawians. Payment of application fees should be made into the bank account provided below;

**Bank Name:** Standard Bank  
**Branch:** Limbe  
**Account Name:** MUST Students Account  
**Account Type:** Current Account  
**Account Number:** 9100001063429  
**Swift Code:** SBICMWMX

### Partial Scholarships

Partial scholarships mentioned above will be provided upon being deemed eligible for the same by the University. A mandatory scholarship application letter in this regard will be required.

### Deadline for Submissions

The deadline for receipt of completed applications is 11<sup>th</sup> November, 2022. For enquiries please contact Ms. B. Makanani on email: [bmakanani@must.ac.mw](mailto:bmakanani@must.ac.mw) . Completed application forms should be sent to:

University Registrar  
Malawi University of Science and Technology  
P.O. Box 5196, Limbe  
MALAWI  
Email: [admissions@must.ac.mw](mailto:admissions@must.ac.mw) with a copy to [bmakanani@must.ac.mw](mailto:bmakanani@must.ac.mw)