

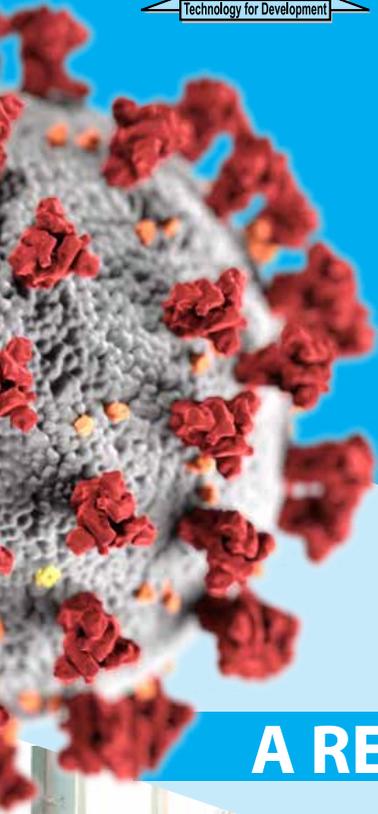


# MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

## COMMUNITY INITIATIVES IN RESPONSE TO

# COVID-19 PANDEMIC

## A RESEARCH PROJECT



DISEASE 2019



## **Vision**

To be the Premier University in Science, Technology and Innovation

## **Mission Statement**

To provide excellent University education, training and research through integrating science, technology and innovation into quality programmes to suit the needs of the dynamic world.

## **Philosophy**

MMUST upholds the view that education, science and technology are indispensable tools in harnessing resources of nature for sustainable development by creating an environment in which all individuals can realize their full potential.

## **Motto**

The University of Choice

## **Quality Policy Statement**

MMUST is committed to providing high quality education that offers intellectual, social, cultural and economic benefits through quality teaching, research, consultancy, extension and community service. The University is dedicated to improved service delivery by encouraging professionalism, innovations, team work and integrity in order to prepare scholars of high intellectual capacity relevant to society. The University Management undertakes to realize this.

## **Core Values**

- Customer Focus
- Accountability
- Collegiality
- Equity
- Excellence
- Innovativeness
- Professionalism



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## MESSAGE FROM THE PRINCIPAL INVESTIGATOR

*Prof. Peter Bukhala - Principal Investigator*



4 In the wake of the COVID -19 pandemic that continues to ravage countries across the world, the Kenya Government implemented various measures to cushion the citizens from the effects of the disease. These include legislations to curb the spread of the disease. Specifically, legislations put in place include the Legal Notice No. 50 which restricts movement of people. This Order led to closure of schools and other institutions and asking people to stay at home. Legal Notice No. 51, which invoked the Public Health Act that restricted movement of people in and out of Nairobi, Mombasa, Kwale and Kilifi, was the closest the Government was to complete lockdown of people in the four regions. In addition, through the Kenya Gazette Notice 41 and Notice 67 of April 2020, the Government announced a national curfew that further restricted movement of citizens between 7pm and 5 am.

“  
**The situation is more pronounced in rural regions of the country.**”

The Government also made it mandatory for all to wear masks in public spaces. All these measures were intended to curb the spread of the Coronavirus. The key message in all these measures has been emphasis on social distancing, washing hands with soap, staying at home, cessation of mass gatherings and masking in order to curb the spread of the disease. However, as noted by the Ministry of Health Cabinet Secretary in his daily briefings, many people are not adhering to the guidelines. This situation is more pronounced in rural regions of the country where cultural practices are a major challenge. Given that the length of lockdown is unknown, many students and staff are likely to become anxious and their coping ability compromised.

The current study was an exploratory baseline survey and intervention programme for COVID-19 targeting MMUST students and staff and the surrounding community. The study assessed the current knowledge, attitudes and practices of MMUST students and staff on COVID-19. The results of the baseline survey will be documented and disseminated in research journals. This Report captures the intervention phase of the research, that is, ten (10) sessions of presentations by experts on various issues concerning COVID-19. A link has been provided for each presentation on YouTube. I welcome you to read and share the document to all your networks.

Finally, I wish to thank the team of researchers who worked on this Project. They brought their multidisciplinary experiences on board and ensured the programme goals were achieved as per the work plan.



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## MMUST ADAPTS TO NEW CHALLENGES OCCASIONED BY COVID-19 PANDEMIC



**Prof. Solomon I. Shibairo,  
The Acting Vice Chancellor MMUST**

Prof. Solomon Shibairo, the acting Vice Chancellor, who is also a researcher, community worker, scientist and lecturer was the first guest to appear on the special COVID-19 radio program series on 103.9 MMUST FM. His topic of discussion was on *MMUST Preparedness towards COVID-19*.

During the interview, Prof. Shibairo informed listeners that, together with the University Management Board (UMB) and the Council, the University had put measures in place to ensure smooth running of all essential services in the Campus despite closure. He also said that he had met with the Governor of Kakamega County, H.E Hon. Wycliffe Oparanya, to discuss collaborations with the County government in terms of providing health services, training and carrying out research.

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According to Prof. Shibairo, the University had set up measures to ensure that the guidelines and policies placed by the Government, through the Ministry of Health (MOH), and the World Health Organization (WHO) with regards to COVID-19 had been adhered to. Firstly, MMUST had communicated the laid down WHO and Government directives to the entire staff as well as students regarding hand washing, social distancing and wearing of masks. Secondly, the University had set up hand washing basins at various points within the compound and at all entry points. Thirdly, staff working in shifts under the essential services category were provided with face masks and hand sanitizers for their protection as they undertook their duties. Finally, the University had implemented the work-from-home directive whereby majority of the staff were working from home and teaching through online platforms.

Asked on how prepared the University had been in the wake of COVID-19 in Kenya, the acting VC said that MMUST has relevant programs and well-trained professionals who were ready to tackle COVID-19 since its onset. According to him, MMUST had converted into a COVID-19 emergency mode with ease.

“The Chemistry Department has facilitated the production of sanitizers, hand-washing soaps, bleach and disinfectants while the School of Medicine is working with the School of Nursing, Midwifery and Paramedical Sciences and our health facility to handle emergencies, monitoring and treatment of COVID-19. In addition, the School of Public Health, Biomedical Sciences and Technology is creating awareness on nutrition and general wellness while the School of Computing and



**Prof. George Magoha, the Cabinet Secretary in the Ministry of Education, inspecting one of the University washing points in preparation for re-opening. Looking on is the Chairperson of Council, Dr. Musangi Jane Mutua, and the Acting Vice Chancellor (Right), Prof. Solomon Shibauro.**

Informatics is ensuring a smooth transition to online learning,” he said. Subsequently, the Acting Vice Chancellor pointed out that the University had minimized the points of entry into the Campus and had only left one open for access.

“This entry point is manned by the University’s security and health personnel who carry out screening for all staff and visitors. In addition, we have procured thermoguns which our health workers are using to record the temperature of every person entering the University. We have also erected tents at various points with qualified paramedics at hand to deal with any arising emergencies.”

Furthermore, he mentioned that MMUST had set up a COVID-19 hotline (0794653300) which connected the caller directly to a paramedic for quick response.

“We also have a toll-free customer care number (057-2505222/3) which connects the caller to our customer care assistants who then direct the caller to relevant offices for assistance.”

An Emergency Response Team (ERT), chaired by Rt. Col. Prof. John Okoth, was formed to engage in emergency response, sensitization of masses, case management and a number of other activities. The ERT team acted as an advisory to the University on matters COVID-19 and represented the institution in County and National COVID-19 response meetings.



**The Acting Vice Chancellor, Prof. Solomon Shibauro, addressing members of the MMUST COVID-19 Emergency Response Team and other trainees.**



It is worth noting that a hostel in MMUST, namely Hall 4, was identified as one of the quarantine centers in Kakamega County. This is because it has all the necessary facilities, that is, enough rooms, beds, running water, electricity and ample security. It is also properly independent as it is not within the main Campus.

Once normal university operations resume, the University will ensure that both students and staff are safe by disinfecting the hostels, continued information sharing, psycho-social support for both staff and students, continued monitoring of staff and students, sustenance of the Emergency Response Team and encouraging social distancing, hand-washing, screening and wearing of masks when necessary.

### **COVID-19 Research**

“We have set aside funds for our scholars to carry out research on COVID-19. We have also encouraged our members of staff to write proposals to be funded and they have already collaborated with not only Kenyan institutions, but also all over the East African Community,” said Prof. Shibairo, adding that the University had one major research that it was proud of, and that is the Artemisia Annu which, in the past, was done for the sake of Malaria but due to its benefits in treating COVID-19, the University was planning to revive it.

### **Community Outreach**

As stated by the Acting Vice Chancellor, MMUST had another way of controlling the pandemic and that was through the people. In his words, the most powerful thing that one can do is to equip the community with knowledge.

“We have developed teams to go out there and teach people on the guidelines that have been provided by WHO. Through our unions, we donated sanitizers, water tanks, bar soaps, face masks and sanitary towels to the inmates at Kakamega Prisons and Shikusa Farm Prison, aside from training them. Our very own student community reached out to the street children, taught them and gave them COVID-19 protective equipment,” he said.

**“ Once normal University operations resume, the University will ensure that both students and staff are safe. ”**



**MMUST Team at a community outreach event**

In addition, MMUST has set up a community outreach unit to specifically engage the community in the activities of the University, including COVID-19. MMUST continues to engage the community through its radio station which reaches to listeners as far as Shinyalu, Bunyala, Malava and Khayega.



**MMUST Union Chapters also took part in the outreach activities**

Click: <https://www.youtube.com/watch?v= 8A3PyBqJvU&t=435s>



## MEDICAL EXPERT'S TAKE ON COVID-19 PANDEMIC



***Prof. Charles Chunge,  
The Dean, School of Medicine***

Masinde Muliro University of Science and Technology took on the mandate of sensitizing the public on different aspects of COVID-19 through a series of radio programs at the University's radio station, 103.9 MMUST FM. Prof. Charles Chunge, a medical expert and the Executive Dean, School of Medicine, held in-depth discussions on the Coronavirus breaking down its symptoms, diagnosis, causes and means of transmission.

During the candid live interview, Prof. Chunge explained that Coronavirus is from a large family of zoonotic viruses that causes illnesses ranging from the common cold to severe respiratory diseases. According to the medical

doctor and researcher, COVID-19 presents signs and symptoms such as muscle pain, shortness of breath, dry cough, fever and sore throat.

10 “**The Coronavirus is a new strain of corona viruses that has not been previously identified in humans.**”

“The Coronavirus is a new strain of corona viruses that has not been previously identified in humans. Many people with COVID-19 only experience mild symptoms at the early stages of the disease. Older people and those with underlying medical conditions such as high blood pressure or diabetes are more likely to develop serious illness due to COVID-19 infection,” said Prof Chunge.

COVID-19 is spread from one person to another via droplets produced from the respiratory system of the infected person often during coughing or sneezing, which are the main means of transmission. Prof. Chunge also noted that some people can be infected by touching contaminated surfaces or objects and then touching their eyes, nose or mouth.

“The virus can stay on surfaces for up to 48 hours. This is why it is important for people to wash their hands thoroughly with water and soap or use hand sanitizers, wear face mask and surfaces be disinfected in order to reduce the risk of infection from surfaces,” said Prof. Chunge.

Prof. Chunge said that MMUST COVID-19 Emergency Response Team, led by Prof. John Okoth, the Dean School of Nursing, Midwifery and Paramedical Sciences, is already doing a lot of sensitization and training on COVID -19 in the Western region. He added that the University has improved sanitation by setting up more washing stations, conducting screening and testing and provision of masks to students and staff.



***A member of the MMUST COVID-19 Emergency Response Team disinfects a building at the University***

Click: [https://youtu.be/5l8Baq10J\\_A](https://youtu.be/5l8Baq10J_A)



## IMPACT OF COVID-19 ON ECONOMIC DEVELOPMENT



***Dr. Patrick Ojera,  
Acting Deputy Vice Chancellor  
(Admin and Finance)***

In one of a series of radio programs tackling different aspects of COVID-19 in the country, Dr. Patrick Ojera, the Acting Deputy Vice Chancellor (Administration and Finance) talked about the impact of COVID-19 on economic development during an interview at 103.9 MMUST FM. Dr. Ojera explained that COVID-19 is not only a health issue but also an economic issue that has affected the livelihood of Kenyans.

Speaking in his capacity as a financial expert and the acting DVC in charge of Administration and Finance, Dr. Ojera delved into the complexities of the economic situation in the country and institutions of higher learning citing a reduction in the movement of people and supply of goods which has lowered foreign investments and transactions.

“There is a recession which can lead to reduced Gross Domestic Product (GDP) of the country,” he said.

Dr. Ojera said that COVID-19 has affected the financial base of the education sector giving examples of teachers in primary and secondary schools being laid off or given salary cuts, while tertiary institutions grapple with lowered fee collection, payment of salaries yet non-essential staff are at home, recurrent expenditures such as electricity and internet and government capitation remaining the same yet academic calendar has been affected.

Dr. Ojera said that Masinde Muliro University of Science and Technology (MMUST) has made great strides to ensure that students still get value for their money through online learning.

“We are compliant with the COVID -19 guidelines to ensure that learning goes on. The University is offering a stimulus package

**“ There is a recession which can lead to reduced Gross Domestic Product (GDP) of the country.”**

of 10gb bundles for students and academic staff through partnerships with KENET, Safaricom and Telkom,” he said.

Masinde Muliro University of Science and Technology (MMUST) is already set for an online graduation scheduled for 18<sup>th</sup> December 2020.



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***A member of staff working on the production of MMUST sanitizers. The University provided funds to different teams towards combating COVID-19***

Click: <https://m.youtube.com/watch?v=TAw5x9R2OCY>



***Some of the MMUST hand sanitizers produced by the Pure and Applied Chemistry Department***



## IMPACT OF COVID-19 ON TEACHING AND LEARNING



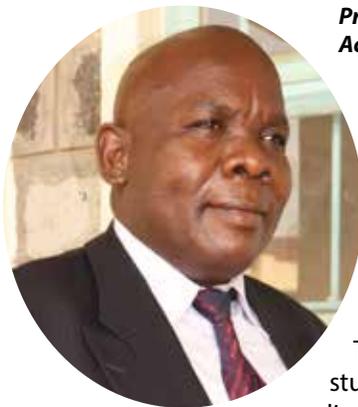
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### ***A student in class (Photo: Courtesy)***

The advent of the Coronavirus in Kenya has impacted teaching and learning not only in Kenya but the entire world. Institutions of higher learning have had to re-invent their operations in order to continue providing quality learning to its students. Masinde Muliro University of Science and Technology has not been spared either. The University has had to start online learning in order to mitigate chances of physical meeting which is a contributing factor to the spread of the virus.

To be able to achieve this, the University approved a raft of measures that would see to it that learning is minimally disrupted. To start with, though the Directorate of Open and Distance e-Learning (ODeL), lecturers were trained on how to conduct online teaching having been provided with teaching materials and modules. The training also included how to conduct online examinations.

“So far, the University has been able to train all its three hundred and thirty-one (331) lecturers and eighty (80) part time lecturers,” said Prof. Sakwa, the acting Registrar (Academic Affairs).



**Prof. Thomas Sakwa**  
**Acting Registrar (Academic Affairs)**

The University also created awareness and sensitization messages, through the media, to reach students and lecturers. Even though online learning has come with its own challenges especially for science and engineering courses, 65% of the student population have been responsive.

There was recorded success in that PhD and Masters students have done their examinations solely via online platforms.

The Director, Open and Distance e-Learning, Dr. Gordon Nguka says that online learning-delivery of content by way of internet or electronic learning- has enabled students continue with studies online.

“We are now able to conduct everything online. We have live classes scheduled by lecturers which enables real-time interaction,” he said.

The University has hosted its online learning platforms on Moodle software-a Learning Management System- and the best in the country.

The Moodle platform has been divided into sections for easier interaction. First, there is the Learner Support section which enables students to receive real time feedback about e-Learning. Then, there is Curriculum Instructional Design which ensures that everything conducted on the platform is uploaded online. Third, there is the self-instruction material module. There is also the Learning Management System which is an administrative management tool of learning. There are also library and financial support sections linked to the Moodle and the Staff lounge which is meant to support staff to deliver content online.

**“ We are now able to conduct everything online.”**

The University has also adopted Microsoft Teams and Zoom as tools of interaction. The Big Blue Button has also been linked to the Learning Management System (LMS) and all act as mechanisms/ components of teaching built within LMS.



**Dr. Gordon Nguka,**  
**The Director, ODeL**

According to Dr. Nguka, online teaching platforms provide a wide range of advantages compared to TV or radio.

“TV and radio pose a challenge of lack of real time feedback which is not the case with LMS. LMS provides an opportunity where students interact directly with their teachers. They can also ask and receive feedback in real time. In the Moodle system, everything can be uploaded for later use by students as it provides a broader infrastructure for teaching,” said Dr. Nguka.

With the blow that COVID-19 has meted to the world necessitating worldwide closure of all institutions, it is imperative that higher learning institutions think outside the box in order to protect their students from undesirable ventures.

Prof. Sakwa said that MMUST currently has a student population of twenty-four thousand five hundred (24,500) students having recently admitted four thousand four hundred and thirty-one (4431) first year students and is yet to release those who are to graduate. The University closed on the 8th week of learning with only four (4) learning weeks remaining to make it the required twelve (12) weeks. The Senate extended it to by four (4) weeks and administratively to fifteen (15) weeks. A semester is made up of sixteen (16) weeks including exams.

“It is important that completion rate of our students is not affected especially for the 4th year students. The University cannot stay for more than a year without graduating students. This is the reason why we started offering online examinations to PhD and Masters students,” he said.

**“Online learning may become the ‘new normal.’”**

After the completion of the PhD and Masters online examinations, a technical committee was formed to see ways of conducting exams for undergraduate students and how to continue with online learning. Recommendations by the Committee may include carrying out learning in phases starting with 4th Year students, followed by 3rd Year students and then 2nd Year students. Those in 2nd will be required to vacate hostels in order to create room for incoming fresh students.

“A task force for re-opening of University was formed to see how we can continue with learning so that there is no stagnation. We intend to open as soon as the Government lifts the presidential directive for closure of institutions.”

For science and engineering students, there are deliberations to see how students on laboratory teaching and practicals can conduct their studies on Campus. This is especially for School of Medicine and the School of Engineering and the Built Environment (SEBE)-and the School of Business and Economics (SOBE)- the three Schools which have not been able to conduct online learning. Engineering students have a semester on industrial workshop practice which they are yet to conduct. This industrial workshop is a programme requirement which must be done.

With the fact that online learning may become the ‘new normal’, the University Senate is considering opening only for exams and students will be required to go back home because it may be a hard task for twenty-four thousand five hundred (24,500) students to be managed at the University. However, all these would be decided within policy guidelines and regulations of the University so that no legal questions may arise.

Dr. Nguka outlined the benefits of online learning which include: no physical contact, therefore, students are not exposed to COVID-19; It is a safe method while continuing with studies thereby limiting stagnation and examinations delivered are very safe because of the invigilation software. The Safe Exam Browser (SEB) has a webcam which gives it the capacity to know the location of the students taking the exam. It switches off all internet systems around the students sitting the exam, therefore, they cannot attempt to access anything. The exams are administered normally but in a much stricter manner. SEB meets quality standards and gives lecturers an opportunity to invigilate exams from wherever they are.

Even with these benefits, challenges still abound. For some students and lecturers, there is the lack of internet connectivity or bundles, thereby, causing inconsistencies in training. The University Management has, however, tried to meet this challenge by procuring internet bundles for lecturers and students. Another challenge was the use of no premium based software like Zoom which was limiting. The University upgraded it to give it a much longer time via Zoom, Microsoft Teams and the Big Blue Button.

Students also forget their passwords which, in turn, cause challenges of accessing the LMS yet it is imperative that all students are registered in the nominal roll. Failure to access this would mean that affected students would not be considered as MMUST students since LMS is inter-linked with ERP system. To mitigate this, students are asked to submit their requests to odel@mmust.ac.ke in order for their issues to be handled.



In the digital literacy era, all students are required to have a laptop or an Android phone in order to sit for exams or take part in online learning. However, 30% of the student population are not able to catch up with online learning due to lack of these gadgets or poor network connectivity.

‘After COVID-19, those who will not have been able to access learning or take exams online will be considered as a special group. Their learning will be accelerated so that they can catch up with the rest. For special and supplementary exams, students are required to communicate with their Deans of Schools to allow them to sit for the examinations during the second semester examination session. The same applies to first semester exams,’ said Prof. Sakwa

On safety of online learning, Dr. Nguka said that the ODeL Directorate was working on a cyber-security infrastructure against hackers and fake accounts. This will provide safe security around administration of learning in liaison with the Directorate of ICT which provides cyber surveillance and monitoring on daily basis. He advised students to adapt to online learning since it has become the new normal.

“I encourage students to have a Browser-Chrome or Google- where they must be able to type elearning@mmust.ac.ke to get into the ODeL. Each one using the ODeL platform is given a username and a password as a control measure. So far, we have been able to train eight thousand (8000) students,” says Dr. Nguka.

Prof. Sakwa, on the other hand, encouraged all lecturers and students to move towards the direction of e-Learning.

“Before everything goes back to normal, we will continue using the internet. Let us try as much as possible to learn how to use it in learning, examinations and conduct of meetings. With time, we will get used to it. Secondly, those students who have portals should keep on checking them for important announcements concerning their learning.”

Click: <https://www.youtube.com/watch?v=ZaN8ZD7XcTA>

## ROLE OF MEDIA IN COMMUNICATING BEHAVIOUR CHANGE DURING A PANDEMIC



**Prof. Egara Kabaji, Professor of  
Literary Communication**

COVID-19 has transformed how the media report issues and affected the norm of free flow of news and information. Discussing this subject was Prof. Egara Kabaji, a professor of literary communication and former Deputy Vice Chancellor (Planning, Research and Innovation) at MMUST, a media expert and one of the founding members of 103.9 MMUST FM where he was being interviewed.

“The media has a critical role to play in the society. It has a duty to inform, educate and entertain. Apart from that, it has a bigger responsibility to set an agenda for the society. The moment it fails to take up on this in terms of securing the lives of the people, then that is actually deemed as a failure on its part. In this particular time of COVID-19, the media has the role of ensuring that individuals get the correct information. Other than that, it should re-engineer people’s thinking in order to change their attitude towards this pandemic,” said Prof. Kabaji.

“**If, for example, this country has lost 400 people, what does that mean to us and to those left behind?**”

According to Prof. Kabaji, the media had performed its duty of bringing information about the pandemic to the people but that there was another step the media had to get into, and that was the level of analyzing and breaking down this information.

“If for example this country has lost 400 people, what does that mean to us and to those left behind? We have seen situations where the head of the family dies, the wife, the daughter or the son dies. What happens to the other members of the family? These are the things that the media should get into. The story behind the news,” he said, adding that those are the stories that touch human sensibilities. “And so, I would like to see more incisive interpretation, more empathetic stories and more analysis from our journalists than simply telling us the figures. In so doing, people will get to understand more on the real devastation of this pandemic,” he continued.



He added that pandemics like COVID-19 require the media to develop special strategies to ensure effective communication.

“Ways of conveying information are many and varied but in the case of a pandemic, the media must select a way of communicating that will make sure people appreciate what it is saying and that they change for the betterment of society,” he stated, adding that people need to be convinced and see the sense that the media is making.

Subsequently, he talked about the connection between politics and the kind of information that was coming from various countries and leaders about COVID-19.

“We need to understand the psychology of politicians. They want to be re-elected and they can do anything even misleading the public and the world about certain realities. Some want to be seen as effective leaders by giving wrong figures,” he stated.

Prof. Kabaji also emphasized on the need to rethink and restructure the training of journalists specifically in specialized areas.

“When I designed the journalism course for MMUST, way back in 2004, I operated from certain fundamental principles. I needed to make sure that the journalists I produce, are well-rounded and multi-lingual and can communicate effectively” he said.

Click: <https://www.facebook.com/kabaji.egarasnr/videos/10157594402847081/>

Click: <https://www.facebook.com/kabaji.egarasnr/videos/10157594342982081/>

## CHAPLAINCY GIVES HOPE AMIDST COVID-19 PANDEMIC



**Rev. Dr. Willis Otuya**  
**University Chaplain**

Masinde Muliro University of Science and Technology (MMUST) protestant chaplain, Rev. Dr. Willis Otuya, discussed the psychological and social (psycho-social) effects of COVID-19 at 103.9 MMUST FM on 9<sup>th</sup> July 2020.

During the live interview, Rev. Otuya urged parents to re-define themselves as they interact more with their children at home due to the closure of schools in the country. He emphasized that children should respect their parents especially during this tough time. He added that COVID-19 has also brought a surge in conflicts among couples which he attributed to financial frustrations, loss of jobs, depression and closeness that makes the couples realize weaknesses in their spouse. However, Rev. Otuya called upon married couples to take this time to re-evaluate aspects of their marriage and anchor it on God.

“Some of the causes of strife among couples have been there before COVID-19. When you get into marriage, your first obligation is to your spouse.” He urged families to look for alternative means of livelihood, invest more in food, stock drugs, adjust their budgets to only essentials and keep abreast with current information on corona virus disease in order to manage the situation.

“**Some of the causes of strife among couples have been there before COVID-19.**”

In his last remarks, the Reverend indicated that Masinde Muliro University of Science and Technology (MMUST) was helping its staff and students to cope with the pandemic through sensitization programmes, provision of masks and sanitizers, allocation of more funds for research on COVID-19 and allowing staff to access internet for online teaching from the comfort of their homes.

Click: <https://www.youtube.com/watch?v=vuM3uRF1e-Y>



## MMUST EMERGENCY RESPONSE AND MANAGEMENT OF COVID-19



***Dr. Tecla Sum, the Chairperson of Department, Paramedical Sciences Department***

In a bid to develop a comprehensive plan designed to limit individual exposure to COVID-19 and spread, Masinde Muliro University of Science and Technology (MMUST), formed an emergency response team to carry out screening and triage, education and sensitization training in the community, distribution of PPEs among other duties.

Dr. Tecla Sum, who doubles up as a member of MMUST Emergency Response Team and the Chairperson of the Paramedical/Emergency Department, spoke about the preparedness of MMUST on emergency response and management of COVID-19.

Speaking to radio presenters at 103.9 MMUST FM, Dr. Sum said that MMUST was giving back to the society by ensuring that vulnerable groups such as the elderly and infants are well protected against COVID -19. She added that the pandemic had led to adverse effects such as increased poverty and unemployment as a result of people being laid off from their work stations, inadequate isolation wards, unpreparedness of health facilities and exposure to COVID-19 by the vulnerable population.

“**The pandemic has led to adverse effects such as increased poverty and unemployment.**”

After the first case of COVID-19 was announced in the country on 12th March 2020, President Uhuru Kenyatta gave directives such as restricted travel, closure of schools, working from home except from essential service providers, cashless transactions, training of first responders, no congregational meetings, shopping malls to provide soap and water or hand sanitizes and regular cleaning facilities.

MMUST COVID-19 Emergency Response Team, led by Prof. John Okoth, the Dean-School of Nursing, Midwifery and Paramedical Sciences (SONMAPS), conducted training on COVID-19

for staff, health workers and Kakamega County Management. Dr. Sum expressed her gratitude to the University management for financially supporting the emergency response team to carry out strategies in the mitigation of COVID-19 effects such as the distribution of face masks, soaps or sanitizers and food to prisons, children's homes and flood victims in Budalangi. MMUST also set aside one of its hostels (Hall 4) to be used as an isolation center for emergency cases in Kakamega County.

Dr. Sum said that MMUST had made great strides in COVID-19 emergency response and management.

"I am proud to be a member of MMUST fraternity," she said.

Dr. Tecla Sum, a trauma and emergency expert, also talked in depth about the eKonnnect app that she developed which carries out seamless COVID-19 contact tracing, tracing other infectious diseases, triggering the nearest ambulances and healthcare facilities and tracking all the care processes that COVID-19 patients receive. MMUST has patented, trademarked, and copyrighted the innovation as is required.



Click: <https://studio.youtube.com/video/eUgeCeqRTfY/edit>



## IMMUNOLOGY EXPERT ON COVID-19 AND VULNERABLE GROUPS



**Dr. Tom Were**

Dr. Tom Were, a Senior Lecturer in the Department of Medical Laboratory Sciences, was the lead discussant on an hour long live interview at 103.9 MMUST FM during which he discussed the topic ‘COVID-19 and the Vulnerable Groups.’ Dr. Were began by stating that a vulnerable person is an individual with some degree of inability to anticipate, cope with, resist and recover from the impacts of a disease or a disaster.

“An individual in need of community care services by virtue of mental illness, developmental disability or delay, other disabilities, age, illness or emotional disturbance and who is unable to take care of himself or herself or unable to protect himself or herself against harm or exploitation is considered susceptible,” he said.

Therefore, as stated by Dr. Were, with regard to COVID-19, a vulnerable person is one who is at a higher risk of getting infected, one who, once infected, is likely to develop severe disease, complications and death; or one who is more likely to suffer from the social, economic, education and learning, spiritual and other impacts of the COVID-19 infections to individuals, communities and countries.

“Majority of senior Professors at the University are fifty-eight (58) years and above.”

According to Dr. Were, COVID-19 vulnerable groups can be categorized into the elderly, that is fifty eight (58) years and older, those with underlying conditions such as; cardiovascular, cerebrovascular and lung diseases, immunocompromised states, diabetes mellitus, hemoglobin disorders, and chronic kidney and liver diseases; pregnant women, people experiencing malnutrition and other nutrition insufficiencies, tobacco smoking and other substance users, those with disabling conditions, individuals involved in health care, transport or sexual industry, business persons and their customers as well as the youth.

Thus, he said, the following preventative mechanisms should be observed in order to support these susceptible groups; take body temperature twice daily, regular hand washing (hand hygiene), regular cleaning of utensils

and surfaces, avoiding close contact with anyone showing symptoms of respiratory illness for example, coughing and sneezing, staying at home, have protected space, and limit visitors, working from home, wearing a mask throughout whenever one goes out or meeting other people, avoiding contact with individuals displaying symptoms of COVID-19 infection such as high temperature and/or new and continuous cough and avoiding large gatherings (funerals, public places, pubs, restaurants) as infections spread easily in closed crowded spaces.



***The temperature of a visitor to the University is taken at the gate using a thermogun***

Further preventative measures include avoiding gatherings with friends and family (keep in touch using remote technology like phone, internet, and social media), observing respiratory hygiene and cough etiquette, that is, using tissue, covering mouth and nose when coughing and sneezing, social distancing, healthy diets rich in micronutrients (vegetables and fruits) for optimal immune function, adhering to treatment protocols for their underlying condition as advised by the doctor, tracking, testing and isolation, for example, mentally ill people on streets should be tested and if infected isolated, treated and provided with food so they do not rummage in waste dump sites, avoiding non-essential use of public transport when possible and using telephone or online services to contact a doctor or other essential medical services and telemedicine if one feels unwell.

During the interview, a number of concerns were raised. One of them was from a report indicating that pregnant women were not attending antenatal care out of fear of contracting COVID-19 in health care facilities.



“Attending Antenatal and Postnatal care by expectant women and those with newborns is important in ensuring the well-being of the mother and her baby,” said Dr. Were, adding that failure to attend ANC for optimal care can result in: complicated pregnancies leading to death of the babies, and the mothers, for example, from postpartum hemorrhage, one of the top causes of maternal deaths in Kenya; mothers may resort to delivering at home by traditional birth attendants who are ill equipped to manage complications of birth; missed vaccinations resulting to neonatal and childhood deaths from vaccine preventable diseases and possible complications of COVID-19 if infected.

“Moreover, HIV care services are integrated in to the ANC/MCH services, hence, missing HIV medication by pregnant mothers leads to increased HIV replication and viral load which promotes mother-to-child transmission, that is, in-utero, at birth or via breast milk; complicated pregnancies; fetal growth restrictions; poor birth outcomes; miscarriages and spontaneous abortions among others,” advised Dr. Were.

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Secondly, given that a majority of senior Professors at the University are fifty-eight (58) years and above, there was a concern of how this would affect University teaching since they had been advised to work from home. Dr. Tom Were said that as a result of the COVID-19 pandemic, University closures, and isolation measures have forced students and staff to adopt and adapt to working and studying remotely from home. A majority of professors and lecturers are now conducting their lectures, post-graduate research supervision including thesis defenses via online platforms, and video conferencing completing tasks remotely ensuring continuity of University functions. In a short space of time, academic staff had to adopt and get to grips with technology and distant learning, in which they may have had little or no experience prior to this global crisis. Universities have been investing in, up-scaling and updating institutions’ online platforms, and ensuring staff are fully trained in their use.

Popular online learning platforms include: Zoom, Microsoft Team, Google Hangouts, Skype, Moodle, ODeL, among others. These platforms have provided opportunities for the professors and lecturers to connect with their students no matter their location. In addition, Zoom and Blackboard have extra features that allow participants to raise hands, share screens, message the host and other attendees, and break off into smaller discussion groups.

Click: <https://youtu.be/PhHY9xZk3fk>

## FITNESS EXPERT ADDRESSES NEED FOR PHYSICAL ACTIVITY DURING COVID-19 PANDEMIC



**Mr. Issa Kweyu, a fitness expert**

The COVID-19 pandemic has presented a situation where most people are staying at home and doing less in terms of exercise. Those whose professions rely on physical activities have been hit even harder. Mr. Issa Kweyu, a fitness expert from the Department of Health Promotion and Sports Science, addressed the effect of this virus on sports and recreation in a live interview on 103.9 MMUST FM.

“During this pandemic, it is very important to be active. Doing at least 3-5 minutes of physical movement such as cycling, walking, stretching, among others, will help ease muscle strain, relieve mental tension and improve blood circulation,” said Mr. Kweyu, adding that inactivity can lead to susceptibility to weight gain and exposure to diseases.

“**During this pandemic, it is very important to be active.**”

As stated by Mr. Kweyu, the World Health Organization (WHO) has recommended the amount of physical activities that people of different ages should do in order to maintain good health: infants under the age of 1 year should be physically active several times a day. For those not yet mobile, this includes thirty (30) minutes in prone position, all children should spend one hundred and eighty (180) minutes a day in a variety of physical activities, children between 3-4 years of age should spend at least sixty (60) minutes of their time on moderate to vigorous physical activities.

It is also advisable that children and adolescents aged 5-17 years should do at least sixty (60) minutes a day of moderate to vigorous intense physical activities that strengthen muscles and bones at least 3 days per week while adults aged over 18 years should do at least one hundred and fifty (150) minutes of moderate to intense physical activities throughout the week. In addition, older adults with poor mobility should do physical activity to enhance balance and prevent falls on 3 or more days per week. He advised that it is good to do activities that develop musculoskeletal fitness throughout the week.



***A section of MMUST gymnasium used for physical exercise at the University***

The fitness expert also mentioned that having a proper routine program is key while at home.

“Start it slowly and engage other family members to enjoy it. Start with low intensity activities like walking and gradually progress to high intensity exercises,” he said.

In conclusion, he urged people to stay safe and exercise during COVID-19 period.

“Several measures should be kept in place. Do not exercise if you have a fever, cough and difficulty in breathing. In such scenarios, stay home and rest, seek medication or health attention. If you are able to go for a walk or bicycle ride always practice social distancing and hand-washing with soap and water,” he said.



## VETERAN RESEARCHER DISCUSSES KENYA'S POLICIES IN RESPONSE TO COVID-19 PANDEMIC



*Dr. Damaris Ochanda*

As the world grappled with the advent of Coronavirus, the World Health Organization (WHO) set up a strategic preparedness and response plan which outlines the priority steps and actions to support all countries to prepare for and respond to COVID-19. MMUST veteran researcher Dr. Damaris Ochanda discussed in detail the priority steps entailed in the response plan on 103.9 MMUST FM.

Dr. Ochanda said that it is important for people to know the policies that have been set in place, how the Ministry of Health is complying, whether the health policies have been affected and the role citizens are to play. She explained the eight (8) priority steps namely country-level coordination, planning and monitoring, activation of national public health emergency management mechanism, risk communication and community engagement, surveillance, rapid response teams and case investigation, points of entry management, large scale testing for COVID-19 by national laboratories, infection prevention and control, case management and operations support and logistics.

Dr. Ochanda said that in response to the policies set in place, Masinde Muliro University of Science and Technology (MMUST) suspended its learning activities and set up an emergency response team. She said that the country, through the Ministry of Health, is also conforming to the policies, giving an example of the daily briefings, which ensure that the information on COVID-19 is uniform. Dr. Ochanda said that the closure of borders and counties identified as COVID-19 hotspots slowed down the spread and infection rate.

"Without these policies, the number of COVID-19 cases would be more than they are," said Dr. Ochanda.

She also added that the use of homebased care for asymptomatic patients is important even though the patients should isolate

“**The closure of borders and counties identified as COVID-19 hotspots slowed down the spread and infection rate.**”



and minimize contact with the rest of the family members.

Dr. Ochanda addressed concerns over the low number of people seeking healthcare services for COVID-19 due to fear and stigmatization. She appealed to the general public to seek medical help when necessary.

Kenya has enacted laws that will attract criminal penalties such as infected people exposing themselves willfully to the public can be fined up to Kshs 30,000, imprisonment for up to three (3) years or both. Penalty for failure to observe the curfew includes a fine of up to Kshs 10,000, imprisonment for up to 3 months or both.

In her closing remarks, Dr. Ochanda said that MMUST is doing a remarkable job in as far as the polices on COVID-19 are concerned.

Click: [https://m.youtube.com/watch?v=xnEINR\\_ZXw8](https://m.youtube.com/watch?v=xnEINR_ZXw8)



# Study at MMUST.....

We invite applications in the following programmes:

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### Certificate Programmes:

- Certificate in Radio Production
- Certificate in Music and Dance
- Certificate in Social Work and Community Development
- Certificate in Criminology and Criminal Justice

### Diploma Programmes:

- Diploma in Public Relations and Creative Advertising
- Diploma in Music and Dance
- Diploma in Social Work and Community Development
- Diploma in Criminology and Criminal Justice
- Diploma in Journalism and Mass Communication

### Degree Programmes:

- Bachelor of Criminology and Criminal Justice
- Bachelor of Social Work & Community Development
- Bachelor of Science in Journalism & Mass Communication

### Masters Programmes:

- Master of Arts in Comparative Literature
- Master of Arts in History
- Master of Arts in Religion
- Master of Arts in Criminology & Criminal Justice
- Master of Arts in Applied Linguistics
- Master of Arts in Geography
- Master of Science in Communication Studies
- Master of Arts in Social Work
- Master of Arts in Kiswahili

- Master of Education in Management of Education in Emergencies
- Master of Education in French
- Master of Education in Kiswahili
- Master of Education in Education Management and Policy Studies
- Master of Education in Economics and Planning (Education Planning Option)
- Master of Education in Economics and Planning (Economics of Education Planning Option)

### Doctor of Philosophy Programmes:

- Doctor of Philosophy in Religion
- Doctor of Philosophy in Kiswahili
- Doctor of Philosophy in Literature
- Doctor of Philosophy in Communication Studies
- Doctor of Philosophy in History
- Doctor of Philosophy in French Studies
- Doctor of Philosophy in Education Planning
- Doctor of Philosophy in Economic of Education
- Doctor of Philosophy in Educational Management and Policy Studies
- Doctor of Philosophy in Management of Education in Emergencies
- Doctor of Philosophy in English Language Education
- Doctor of Philosophy in Applied Linguistics

## 2. SCHOOL OF AGRICULTURE, VETERINARY SCIENCES & TECHNOLOGY (SAVET)

### Certificate Programmes:

- Certificate in Mushroom Production



- Certificate in Sugar Technology
- Certificate in Horticulture
- Certificate in General Agriculture

**Diploma Programmes:**

- Diploma in Sugar Agronomy
- Diploma in Horticulture
- Diploma in Animal Production
- Diploma in General Agriculture

**Degree Programmes:**

- Bachelor of Science in Sugar and Agro- Processing Technology
- Bachelor of Science in Food Science and Technology
- Bachelor of Science in Agricultural Economics and Resource Management
- Bachelor of Science in Agribusiness Management and Marketing
- Bachelor of Science in Agriculture & Biotechnology
- Bachelor of Science in Agricultural Education and Extension
- Bachelor of Science in Fisheries and Aquaculture Technology
- Bachelor of Science in Animal Production
- Bachelor of Science in Animal Health and Management

**Masters Programmes:**

- Master of Science in Agricultural Education and Extension
- Master of Science in Agricultural Extension and Rural Development
- Master of Science in Genetics and Plant Breeding
- Master of Science in Animal Nutrition
- Master of Science in Agricultural Information and Communication Management
- Master of Science in Soils and Land Use Management

- Master of Science in Plant Health Management
- Master of Science in Animal Production

**Doctor of Philosophy Programmes:**

- Doctor of Philosophy in Agricultural Education and Extension
- Doctor of Philosophy in Sustainable Agricultural Systems
- Doctor of Philosophy in Agricultural Extension and Rural Development
- Doctor of Philosophy in Horticulture

**3. SCHOOL OF BUSINESS & ECONOMICS (SOBE)**

**Certificate Programmes:**

- Certificate in Business Management

**Diploma Programmes:**

- Diploma in Business Management Specializations

**Specializations:**

1. Accounting
2. Marketing
3. Finance
4. Human Resource Mgt
5. Enterprise Devt. & Mgt
6. Purchasing & Supply Chain Mgt

**Degree Programmes:**

- Bachelor of Commerce

**Specializations:**

1. Accounting
2. Marketing
3. Finance
4. Human Resource Mgt
5. Enterprise Devt. & Mgt
6. Purchasing & Supply Chain Mgt.
7. Insurance & Risk Management

8. Operations and Information Systems Mgt
9. Business Administration
  - Bachelor of Science in Economics
  - Bachelor of Science in Economics & Statistics
  - Bachelor of Science in Accounting

**Masters Programmes:**

- Master of Business Administration
- Master of Science in Human Resource Management
- Master of Science in Economics

**Options:**

1. Strategic Management
2. Entrepreneurship
3. Finance
4. Accounting
5. Purchasing & Supply Chain Management
6. Marketing

**Doctor of Philosophy Programmes:**

- Doctor of Philosophy in Business Administration

**Options:**

1. Strategic Management
2. Entrepreneurship
3. Finance
4. Human Resource Management
5. Marketing
6. Purchasing & Supply Chain Management
7. Accounting

**4. SCHOOL OF COMPUTING & INFORMATICS (SCI)**

**Certificate Programmes:**

- Certificate in Information Technology

**Diploma Programmes:**

- Diploma in Information Technology

- Diploma in Technology in Computer Systems
- Diploma in Software Development
- Diploma in Business Information Technology

**Degree Programmes:**

- Bachelor of Science Computer Science
- Bachelor of Science in information Technology (BSc. IT)
- Bachelor of Technology Education (Computer Studies)
- Bachelor of Science in Computers Security and Forensics
- Bachelor of Science in Information Systems and Knowledge Management

**Masters Programmes:**

- Master of Science in Information Technology
- Master of Science in Computer Science

**Doctor of Philosophy Programmes:**

- Doctor of Philosophy in Information Technology

**5. SCHOOL OF EDUCATION (SEDU)**

**Certificate Programmes:**

- Certificate in Early Childhood Education

**Diploma Programmes:**

- Diploma in Early Childhood Education
- Diploma in adult and non-formal education
- Diploma in Counseling Psychology

**Degree Programmes:**

- Bachelor of Education (Science)

**Subject combination:**

1. Mathematics/Physics
2. Mathematics/Biology
3. Mathematics/Chemistry



4. Chemistry/Biology
  5. Chemistry/Physics
- Bachelor of Education (Arts)

**Subject combination:**

1. History/ Geography
  2. Religion/ Kiswahili
  3. English/Literature
  4. Business Studies/  
Mathematics
  5. Music
  6. Physical Education-  
Combined with art or Science
- Bachelor of Education (French)  
Combined with Kiswahili/  
Geography/ History /Religion
  - Bachelor of Education in Early  
Childhood Education
  - Bachelor of Education (Special  
needs Education)
  - Bachelor of Psychology  
(Counseling Psychology)

**Postgraduate Diploma  
Programmes:**

- Postgraduate Diploma in  
Secondary Education

**Masters Programmes:**

- Master of Education in Philosophy  
of Education
- Master of Education in Sociology  
of Education
- Master of Education in History of  
Education
- Master of Education in  
Comparative and International  
Education
- Master of Education in  
Mathematics
- Master of Education in Chemistry
- Master of Education in Biology
- Master of Education in Physics
- Master of Environmental  
Education
- Master of Education in English

Language Education

- Master of Education in Curriculum  
and Instructional Technology
- Master of Education in  
Educational Management and  
Policy Studies
- Master of Education in Education  
Planning
- Master of Education in  
Management of Education in  
Emergencies
- Master of Education in Economic  
of Education
- Master of Education in Guidance  
and Counseling
- Master of Education in Education  
Psychology
- Master of Education in Early Years  
Education
- Master of Education in Special  
Needs Education

**Doctor of Philosophy Programmes:**

- Doctor of Philosophy in Science  
Education
  1. Mathematics Option
  2. Chemistry Option
  3. Physics Option
  4. Biology Option
  5. Environmental Education  
Option
- Doctor of Philosophy in  
Curriculum and Instruction
- Doctor of Philosophy in Planning  
and Management
- Doctor of Philosophy in  
Educational Management and  
Policy Studies
- Doctor of Philosophy in  
Economics of Education
- Doctor of Philosophy in  
Management of Education in  
Emergencies
- Doctor of Philosophy in Education



- Psychology
- Doctor of Philosophy in Comparative and International Education
- Doctor of Philosophy in History of Education
- Doctor of Philosophy in Philosophy of Education

## 6. SCHOOL OF DISASTER MANAGEMENT AND HUMANITARIAN ASSISTANCE (SDMHA)

### **Certificate Programmes:**

- Certificate in Security and Intelligence Management
- Certificate in Disaster Management
- Certificate in Fire Safety Management

### **Diploma Programmes:**

- Diploma in Security and Intelligence Management
- Diploma in Disaster Management

### **Degree Programmes:**

- Bachelor of Disaster Management & International Diplomacy
- Bachelor of Science in Geographic Information Systems (GIS)
- Bachelor of Conflict Resolution and Humanitarian Assistance
- Bachelor of Science in Disaster Mitigation and Sustainable Development
- B Sc. in Climate Change Adaptation and sustainable Development
- BA in Peace Studies and Disaster Management
- BSc in Emergency Management and Humanitarian Assistance
- Bachelor of Sciences in Disaster Preparedness and Environmental Technology

- Bachelor of Science in Disaster Preparedness and Engineering Management

### **Postgraduate Diploma Programmes**

- Postgraduate Diploma in Disaster Management and Sustainable Development
- Postgraduate Diploma in Disaster Preparedness and Engineering Management
- Postgraduate Diploma in Peace Cohesion and Integration

### **Masters Programmes:**

- Master of Science in Disaster Management and Humanitarian Assistance
- Master of Science in Disaster Preparedness and Engineering Management
- Master of Science in Climate Change and Adaptation
- Master of Science in GIS and Remote Sensing
- Master of Science in Diplomacy and International Relations
- Master of Science in Peace and Conflict Studies
- Master of Science in Conflict Resolution and Management
- Master of Science in Disaster Management and Sustainable Development

### **Doctor of Philosophy Programmes:**

- Doctor of Philosophy in Disaster Management and Humanitarian Assistance
- Doctor of Philosophy in Diplomacy and International Relations
- Doctor of Philosophy in Peace and Conflict Studies
- Doctor of Philosophy in Disaster



Management and Sustainable Development

- Doctor of Philosophy in Disaster preparedness & Engineering Management

## 7. SCHOOL OF ENGINEERING AND BUILT ENVIRONMENT (SEBE)

### Diploma Programmes:

- Diploma in Mechanical Engineering
- Diploma in Civil Engineering
- Diploma in Electrical and Electronics Engineering
- Diploma in Building Construction
- Diploma in Water Technology
- Diploma in Refrigeration and Air Conditioning

### Degree Programmes:

- Bachelor of Science in Mechanical and Industrial Engineering
- Bachelor of Science in Civil and Structural Engineering
- Bachelor of Science in Electrical and Communication Engineering
- Bachelor of Science in Renewable Energy Technology
- Bachelor of Technology in Building Construction
- Bachelor of Technology Education (Civil Engineering)
- Bachelor of Technology Education (Mechanical Engineering)
- Bachelor of Technology Education (Electrical and Electronics Engineering)

### Masters Programmes:

- Master of Science in Water Resources Engineering
- Master of Science in Structural Engineering
- Master of Science in Mechanical Engineering
- Master of Science in Industrial

Engineering and Management

## Doctor of Philosophy Programmes:

- Doctor of Philosophy in Mechanical Engineering
- Doctor of Philosophy in Civil Engineering

## 8. SCHOOL OF NATURAL SCIENCES (SONAS)

### Diploma Programmes:

- Diploma in Applied Biology

### Degree Programmes:

- Bachelor of Science in Physics with Appropriate Technology
- Bachelor of Science in Chemistry
- Bachelor of Science in industrial Chemistry
- Bachelor of Technology in Cosmetology and Beauty Therapy
- Bachelor of Science in Mathematics with information Technology
- Bachelor of Science in Applied Statistics with Information Technology
- Bachelor of Science in Biotechnology
- Bachelor of Science in Biomedical Sciences
- Bachelor of Science in Biochemistry
- Bachelor of Science in Biology
- Bachelor of Science in Natural Resources Management
- Bachelor of Science in Environmental Science
- Bachelor of Science (Mathematics and Economics with Information Technology)

### Masters Programmes:

- Master of Science in Applied Mathematics
- Master of Science in Pure Mathematics

- Master of Science in Statistics
- Master of Science in Chemistry
- Master of Science in Physics
- Master of Science in Bioinformatics
- Master of Science in Applied Entomology
- Master of Science in Immunology
- Master of Science in Microbiology
- Master of Science in Molecular Biology
- Master of Science in Environmental Science
- Master of Science in Genetics and Plant Breeding
- Master of Science in Crop Protection
- Master of Science in Natural Resource Management
- Master of Science in Medical Parasitology

#### Doctor of Philosophy Programmes:

- Doctor of Philosophy in Pure Mathematics
- Doctor of Philosophy in Physics
- Doctor of Philosophy in statistics
- Doctor of Philosophy in Bioinformatics
- Doctor of Philosophy in Immunology
- Doctor of Philosophy in Microbiology
- Doctor of Philosophy in Environmental Science
- Doctor of Philosophy in Natural Resources Management
- Doctor of Philosophy in Animal Physiology
- Doctor of Philosophy in Applied Entomology
- Doctor of Philosophy in Medical Parasitology
- Doctor of Philosophy in Molecular

#### Biology

- Doctor of Philosophy in Applied Mathematics
- Doctor of Philosophy in Chemistry
- Doctor of Philosophy in Fish Biology and Aquaculture
- Doctor of Philosophy in Crop Protection

## 9. SCHOOL OF NURSING, MIDWIFERY & PARAMEDICAL SCIENCES (SONMAPS)

### Diploma Programmes:

- Diploma in advanced Emergency Medical Technician

### •Diploma in Community Oral Health and Therapy

#### Degree Programmes:

- Bachelor of Science in Midwifery (Upgrading)
- Bachelor of Science in Nursing (Direct Entry)
- Bachelor of Science in Nursing (Upgrading)
- Bachelor of Science in Nursing (Upgrading – Distance Learning)
- Bachelor of Science in Global Community Health & Travel Medicine
- Bachelor of Science in Medical Social Work
- Bachelor of Science (Paramedic Science)
- Bachelor of Science (Occupational Health)

### Masters Programmes:

- Masters of Science in Advanced Nursing Practice:

#### Specialty Areas:

1. Nursing Education
2. Mental Health and Psychiatry Nursing
3. Oncology and Palliative Care



### Nursing

4. Forensic Nursing
5. Midwifery
6. Community Health and Primary Health Care
7. Nursing, Leadership, Policy and Management
8. Medical - Surgical Nursing
9. Critical Care Nursing
10. Pediatric Nursing
11. Trauma and Emergency Nurse
12. Pre - Operative Nursing
13. Anesthesia

### Doctor of Philosophy Programmes:

- Doctor of Philosophy in Nursing

## 10. SCHOOL OF PUBLIC HEALTH, BIOMEDICAL SCIENCES & TECHNOLOGY (SPHBST)

### Certificate Programmes:

- Certificate in Community Health & Development
- Certificate in Fitness Instruction
- Certificate in Coaching Science Education
- Certificate in Adapted Physical Education

### Diploma Programmes:

- Diploma in Human Nutrition and Dietetics
- Diploma in Hospitality Management
- Diploma in Medical Biotechnology Mean
- Diploma in Community Health & Development
- Diploma in Health Promotion and Education
- Diploma in Sports Administration and Management
- Diploma in advanced emergency Medical Technician

### Degree Programmes:

- Bachelor of Optometry & Vision Sciences
- Bachelor of Science in Health Promotion & Sports Science
- Bachelor of Science in Community Health and Development
- Bachelor of Science in Epidemiology and Biostatistics
- Bachelor of Science in Human Nutrition & Dietetics
- Bachelor of Science in Medical Laboratory Science (Direct Entry)
- Bachelor of Science in Medical Biotechnology
- Bachelor of Science in Health Professions (Medical) Education (Upgrading)
- Bachelor of Science in Physiotherapy (Direct Entry)
- Bachelor of Science in Physiotherapy (Upgrading)
- Bachelor of Science in Clinical Medicine, Surgery & Community Health (BSc. CMSCH) (Direct Entry)
- Bachelor of Science in Clinical Medicine, Surgery & Community Health (BSc. CMSCH) Upgrading)
- Bachelor of Education Science (Physical and health education)

### Postgraduate Diploma programme:

- Postgraduate Diploma in Health Promotion and Sports Science

### Masters Programmes:

- Master of Science in Optometry and Vision Sciences
- Master of Science in Pharmacology and Therapeutics
- Master of Science in Health Promotion and Sports Science
- Master of Science in Community Health and Development

- Master of Science in MedicalDietetics
  1. Clinical Dietetics Option
  2. Nutrition Bioinformatics Option
  3. Therapeutic Dietetics Management Option
- Master of Science in Food Science and Nutrition
- Master of Science in Public Health Nutrition
- Master of Science in Public Health
- Master of Science in Health Profession Education
- Master of Science in Biomedical Sciences
  1. Medical Biochemistry Option
  2. Forensic Science and Technology Option
  3. Medical Microbiology Option
  4. Medical Parasitology Option
  5. Medical Immunology Option
  6. Medical Parasitology and Vector Biology Option
  7. Medical Biotechnology Option
- Master of Science in Medical Laboratory Sciences
  1. Forensic Science and Technology Option
  2. Medical Microbiology Option
  3. Medical Parasitology and Vector Biology Option
  4. Medical Immunology Option
  5. Clinical Chemistry Option
  6. Haematology and Transfusion Science Option
  7. Histology/Cytology Option
  8. Medical VirologyOption
  9. MedicalMycology

### Doctor of Philosophy Programmes:

- Doctor of Philosophy in Pharmacology and Therapeutics
- Doctor of Philosophy in Health Promotion and Sports Science
- Doctor of Philosophy in Medical Dietetics
- Doctor of Philosophy in Medical Education
- Doctor of Philosophy in Biomedical Sciences
  1. Medical Biochemistry Option
  2. Medical Biotechnology Option
  3. Forensic Science and Technology Option
  4. Medical Microbiology Option
  5. Medical Parasitology Option
  6. Medical Immunology Option
  7. Medical Parasitology and Vector Biology Option
- Doctor of Philosophy in Medical Laboratory Sciences
  1. Forensic Science and Technology Option
  2. Medical Microbiology Option
  3. Medical Parasitology and Vector Biology Option
  4. Medical Immunology Option
  5. Clinical Chemistry Option
  6. Haematology and Transfusion Science Option
  7. Histology/Cytology Option
  8. Medical VirologyOption
  9. MedicalMycology

### 11. SCHOOL OF MEDICINE (SOM)

- Bachelor of Medicine and Bachelor of Surgery



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