THE NELSON MANDELA
AFRICAN INSTITUTION OF SCIENCE AND TECHNOLOGY
(NM-AIST)

INVITATION TO APPLY FOR ADMISSION INTO MASTER'S AND PhD PROGRAMMES FOR 2020/2021 ACADEMIC YEAR

1.0 BACKGROUND

The Nelson Mandela African Institution of Science and Technology (NM-AIST) in Arusha, Tanzania is one in a network of Pan-African Institutions of Science and Technology located across the continent. These institutions envision training and developing the next generation of African scientists and engineers with a view to influencing, profoundly, on the continent's development through the application of Science, Engineering, Technology and Innovation (SETI).

The NM-AIST, which is accredited by the Tanzania Commission for Universities (TCU) is a research-intensive institution for postgraduate and post-doctorate studies and research in SETI. Its mission is to deliver and promote high quality and internationally competitive teaching and learning, research and innovation, and public service in Science, Engineering and Technology leveraging on entrepreneurship for enhanced value addition to people and natural resources, with a view to stimulating, catalyzing and promoting economic growth and sustainable development in Tanzania and Sub-Saharan Africa.

The training, therefore, incorporates appreciable doses of relevant business studies and humanities ingredients designed to develop attributes that will enable graduates become better scientists and engineers for the society and industry.

The goal of NM-AIST is to catalyze the development of excellent SETI through the production of high quality scientists and engineers in Africa to stimulate, catalyze and promote economic growth and employment creation. Pursuant to this goal, the objective of NM-AIST is to educate the next generation of African scientists and engineers by equipping them with the technical, entrepreneurial and leadership capacities to solve African problems there by contributing to the economic and social transformation of African countries.

More information on NM-AIST is available on the website: www.nm-aist.ac.tz.

2.0 PROGRAMMES, AREAS OF SPECIALIZATION AND RESEARCH AREAS

The NM-AIST hereby invites qualified candidates for admission into various Master's and PhD programmes on offer for 2020/2021 academic year as shown in **Annex 1**.

3.0 ENTRY REQUIREMENTS

3.1 For Master's Programmes

3.1.1 Master's by Course work and Dissertation

To be admitted into a Master's programme by Coursework and Dissertation at the NM-AIST, the following requirements will be taken into consideration:

(i) Possession of at least a second class Bachelor's degree with at least a GPA of 3.0/5.0 or its equivalent or a postgraduate diploma with at least a GPA of 4.0/5.0 or its equivalent in an appropriate area of study from an accredited university or similar institution of higher learning. For an applicant holding unclassified degrees (e.g. M.D, BVM & DDS) should have at least an overall of "C" grade and an average of "B" grade in the relevant subject or field of his/her specialization.

(ii) The applicant must satisfy the programme and specialty specific requirements as specified by the respective School/Department hosting the programme (**See Annexes 2 to 4 below**).

(iii) The applicant may be expected to undergo an entry assessment by a panel appointed by the host School/Department, which may take one of the following methods: (1) personal interview, (2) written assessment, or (3) interview plus written assessment.

3.1.2 Master's by Research and Thesis

To be admitted into a Master's programme by Research and Thesis at the NM-AIST, the following requirements will be taken into consideration:

(i) Possession of a Bachelor's degree from an accredited university or similar institution of higher learning with a GPA of at least 3.5/5.0 or its equivalent or a postgraduate diploma with at least a GPA of 4.0/5.0 or its equivalent in an appropriate area of study from an accredited university or similar institution of higher learning. For an applicant holding unclassified degrees (e.g. M.D, BVM & DDS) should have at least an overall of "C" grade and an average of "B" grade in the relevant subject or field of his/her specialization and, either

    a) Possession of a prototype that requires incubation/scaling up in line with NM-AIST's research and innovation policy and guidelines, or

    b) Evidence of at least ONE-year working experience in related field and at least ONE publication in an accredited peer-reviewed journal as the FIRST author.

(ii) Submission along with application documents, a concise ONE-page concept notes or details of a prototype of what he/she wishes to work on as part of his/her study provided it be within the NM-AIST research agenda.

(iii) The applicant should be ready to pursue prescribed skills and capacity enhancing courses which are offered to all Master's students at NM-AIST as common core courses and as may be recommended by the supervisors, to enhance research performance. The courses may be taken flexibly during the duration of the programme but MUST be successfully completed before graduation.

3.1.3 Master's by Coursework and Project

This is a professional Master's programme and a student will spend the first three semester's doing coursework and one final semester in a pre-selected industry or NM-AIST laboratory to solve a pre-agreed problem of the industry or community. To be admitted into a Master's programme by Coursework and Project at the NM-AIST, the following requirements will be taken into consideration:

(i)   Possession of at least a second class Bachelor's degree with at least a GPA of 3.0/5.0 or its equivalent or a postgraduate diploma with at least a GPA of 4.0/5.0 or its equivalent in an appropriate area of study from an accredited university or similar institution of higher learning. For an applicant holding unclassified degrees (e.g. M.D, BVM & DDS) should have at least an overall of "C" grade and an average of "B" grade in the relevant subject or field of his/her specialization and working experience in related field (as guided by relevant School) will be added advantage.

(ii)   The applicant must satisfy the programme and specialty specific requirements as specified by the respective School/Department hosting the programme (**See Annexes 2 to 4 below**).

(iii)   The applicant may be expected to undergo an entry assessment by a panel appointed by the host School/Department, which may take one of the following methods: (1) personal interview, (2) written assessment, or (3) interview plus written assessment.

3.2 For PhD Programmes

3.2.1 PhD by Coursework and Dissertation

To be admitted into a PhD programme by Coursework and Dissertation at the NM-AIST, the following requirements will be taken into consideration:

(i)   Possession of at least a second class Bachelor's degree with at least a GPA of 3.0/5.0 or its equivalent or a postgraduate diploma with at least a GPA of 4.0/5.0 or its equivalent in an appropriate area of study from an accredited university or similar institution of higher learning. For an applicant holding unclassified degrees (e.g. M.D, BVM & DDS) should have at least an overall of "C" grade and an average of "B" grade in the relevant subject or field of his/her specialization.

(ii)   Possession of a Master's degree from an accredited university or similar institution of higher learning with a minimum GPA of 3.5/5.0 or its equivalent and at least an average of "B" in the relevant subjects or field of specialization.

(iii)   The applicant must satisfy the Programme and specialty specific requirements as specified by the respective School/Department hosting the programme (**See Annexes 2 to 4 below**).

(iv)   The applicant may be expected to undergo an entry assessment by a panel appointed by the host School/Department, which may take one of the following methods: (1) personal interview, (2) written assessment, or (3) interview plus written assessment.

3.2.2 PhD by Research and Thesis

To be admitted into a PhD programme by Research and Thesis at the NM-AIST, the following requirements will be taken into consideration:

(i) Possession of at least a second class Bachelor's degree with at least a GPA of 3.0/5.0 or its equivalent or a postgraduate diploma with at least a GPA of 4.0/5.0 or its equivalent in an appropriate area of study from an accredited university or similar institution of higher learning. For an applicant holding unclassified degrees (e.g. M.D, BVM & DDS) should have at least an overall of "C" grade and an average of "B" grade in the relevant subject or field of his/her specialization.

(ii) Possession of Master's degree from an accredited university or similar institution of higher learning with a minimum GPA of 3.5/5.0.

(iii) Demonstrate working and research experience by either producing evidence of:

    a) At least TWO years working experience in related field and at least TWO publications in accredited peer-reviewed journals, being the FIRST author in ONE publication or

    b) ONE publication and a patent/prototype emanating from his/her research/innovation work in line with NM-AIST's Research and Innovation Policy, or

    c) A prototype that requires incubation/scaling up in line with NM-AIST's Research and Innovation Policy, or

    d) A funded research project with a PhD training component in which the applicant is the project PI/ Co PI in a related field, or

    e) Working experience (in related field) of at least FIVE years and a statement of purpose (education background, motivation for study programme, study plan and map, plan after study, and honors and awards).

(iv) Submission along with application documents, a concise TWO-page concept note or details of a prototype of what he/she wishes to work on as part of his/her study provided it is within the NM-AIST research agenda.

(v) The applicant may be expected to defend the concept note or prototype before a panel appointed by the host School/Department to demonstrate the candidate's research skills and work experience.

(vi) The applicant should be ready to pursue prescribed skills and capacity-enhancing courses that are offered to all PhD students at NM-AIST as common core courses and the supervisors may recommend as, enhancing research performance. The courses may be taken flexibly during the duration of the programme but MUST be successfully completed before graduation.

3.3 English Proficiency

Since English is the primary language of instruction, all applicants seeking admission to academic programmes at NM-AIST must possess adequate knowledge of written and spoken English as a prerequisite for admission. This demonstration may take one of the following forms:

(i) Successful completion of a baccalaureate degree from a recognized university or similar institution of higher learning where English is the language of instruction.

(ii) Successful completion of a postgraduate degree programme at a recognized university or similar institution of higher learning where English is the language of instruction.

(iii) Submission of official results of the Test of English as a Foreign Language (TOEFL) with a paper-based score of 550 (or higher), computer-based score of 213 (or higher) or Internet-based with a score of 80 (or higher).

3.4 Academic Transcripts and Certificates

(i) Candidates who have been awarded Bachelor's and/or Master's degrees at accredited universities or similar institutions of higher learning which issue academic documents in languages other than English shall submit notarized English translations of all supporting documentation including, but not limited to, transcripts, degrees, and diplomas.

(ii) The Tanzania Commission must authenticate the academic levels or equivalence of the qualifications obtained from foreign institutions for Universities (TCU) before being registered for studies at NM-AIST. For the guidelines on how to submit, the documents to TCU follow the following link: http://154.118.230.224/login.php or download the TCU guideline along with this admission application advert.

(iii) You are therefore, advised to start the process of applying for TCU authentication of your transcripts, degrees, or diplomas at least two (2) months before reporting to avoid any delays of registration for your studies at NM-AIST.

3.5 Programme Specialty Requirements

In addition to the minimum entry requirements for Master's and PhD programmes stipulated above, students with diploma level must have at least a GPA of 3.5/5.0 or its equivalent in an appropriate area of study from an accredited university or similar institution of higher learning. Other additional requirements specific for each programme and/or specialty stipulated by the host Department/School that will also be considered for admission into the respective programme or specialty are as shown in **Annexes 2 to 4.**

4.0 FEE STRUCTURE

The fee structure for NM-AIST applicable for 2020/2021 academic year students is available on the NM-AIST website: www.nm-aist.ac.tz.

5.0 SPONSORSHIP OPPORTUNITIES

A limited number of scholarship opportunities may be available on competitive bases in the academic year 2020/2021, which will be uploaded on our website.

6.0 APPLICATION INFORMATION AND INSTRUCTIONS

(i) All applicants must access, register and fill their application information through the Online Admission System (OAS) available on the website: www.nm-aist.ac.tz or click the direct link: https://oas.nm-aist.ac.tz:8443/noas/.

(ii) Applicants are required to read and understand all information and instructions before filling the online application form.

(iii)   The following documents MUST be organized, processed in PDF file, uploaded and submitted through Online Admission System:
    a)   Certified copies of all academic transcripts and certificates;
    b)   Certified copies of Secondary Education Examinations;
    c)   All evidences required for the Master's or PhD by Research and Thesis degree mode;
    d)   Evidence of English Proficiency if the medium of communication in the preceded academic levels were not in English Language;

7.0 PAYMENT OF APPLICATION FEES
The admission application fees are as follows:
(i)   For Tanzanians: TZS. 50,000/= for Masters or TZS.65, 000/= for PhD applicants.
(ii)   For Internationals: USD 25 for Masters or USD 32 for PhD applicants

All payments are done by using control numbers, by following instructions directly from the Online Admission System (OAS) (https://oas.nm-aist.ac.tz:8443/noas/) after login and filling personal information form. Please carefully read the payment instructions provided after receiving the control number for payment.

8.0 DEADLINE OF APPLICATIONS
All applications MUST be submitted before the end of **31 October 2020** for students intending to commence studies in the subsequent academic year. However, applications for Master's and PhD by Research and Thesis programmes may be submitted throughout the specific academic year.

Note: For assistance or more inquiries on general admission applications write to admission@nm-aist.ac.tz or call +255 628 183 676/+255737739529 during office hours. For information regarding international assistance such as TCU foreign degree awards authentication, VISA or permits applications write to international.office@nm-aist.ac.tz or call the same provided phone numbers.

Annex 1: Degree Programmes and Specializations

School	Degree Programmes	Area of Specialization
Life Sciences and Bio- Engineering (LiSBE)	1. Master of Science in Health and Bio-Sciences (HBS) 2. PhD in Health and Bio-Sciences (HBS)	i) Health and Biomedical Sciences
	1. Master of Science in Biodiversity and Ecosystem Management 2. PhD in Biodiversity and Ecosystem Management	i) Molecular Biodiversity and Bio-Prospecting ii) Sustainable Utilization of Natural Resources.
	1. Master of Science in Sustainable Agriculture 2. PhD in Sustainable Agriculture	i) Plant Molecular Breeding ii) Agricultural Systems Management iii) Molecular Plant Pathology
	1. Masters' in Food Science and Biotechnology (FoSB) 2. PhD in Food Science and Biotechnology (FoSB)	i) Postharvest Handling and Processing ii) Technologies Food Safety and Quality.
	1. Master of Science in Human Nutrition and Dietetic (HuND) 2. PhD in in Human Nutrition and Dietetic (HuND)	i) Clinical Nutrition ii) Community Nutrition
	1. Master of Science in Public Health Research	i) Determinants of Health and Diseases ii) Intervention Research iii) Implementations and Health Systems Research
Computational and Communication Science and Engineering (CoCSE)	1. Master's in Mathematical and Computer Science and Engineering 2. PhD in Mathematical and Computer Science and Engineering	i) Applied Mathematics and Computational Science
	1. Master's in Information and Communication Science and Engineering 2. PhD in Information and Communication Science and Engineering	i) Information Technology Systems Development and Management ii) Electronics and Telecommunications Engineering
	1. Master of Science in Embedded and Mobile System (EMoS)	i) Embedded Systems ii) Mobile Systems
	1. Masters of Wireless and Mobile Computing (WiMC) 2. Masters of Information System and Network Security (ISNS)	i) Wireless and Mobile Computing ii) Information Systems and Network Security
Materials, Energy, Water and Environmental Sciences (MEWES)	1. Master's in Materials Science and Engineering 2. PhD in Materials Science and Engineering	i) Structural Materials ii) Energy Materials
	1. Master's in Sustainable Energy Science and Engineering 2. PhD in Sustainable Energy Science and Engineering	i) Sustainable Power Generation and Energy Utilization ii) Sustainable Renewable Energy Engineering

	1. Master's in Hydrology and Water Resources Engineering 2. PhD in Hydrology and Water Resources Engineering	i) Hydrology and Climate Studies ii) Water Resources Engineering iii) Water Supply and Sanitation
	1. Master's in Environmental Science and Engineering 2. PhD in Environmental Science and Engineering	i) Environmental Science ii) Environmental Engineering

Annex 2: School of Life Science and Bioengineering (LiSBE)

Degree Program	Specialization	Prerequisite degree Courses
Master of Science in Health and Bio-Sciences (HBS) PhD in Health and Bio-Sciences (HBS)	Health and Biomedical Sciences	Veterinary Science or Medicine (BVSc, BVM, DVM); Human Medicine (MD); Biomedical Sciences; Clinical Sciences; Animal Science; Microbiology; Molecular Biology; Biotechnology; Physiology (Medical or Veterinary), Pathology (Medical or Veterinary); Immunology (Medical or Veterinary); Parasitology; Zoology and related fields.
Master of Science in Sustainable Agriculture PhD in Sustainable Agriculture	i) Plant Molecular Breeding ii) Agricultural Systems Management iii) Molecular Plant Pathology	Agriculture; Crop Science; Biology; Horticulture; Agronomy; Plant Pathology; Biology; Genetics; Biotechnology; Botany and Forestry; Agricultural Economics; Crop Pathology, Agricultural Education and Extension; Agro-ecology, Botanical Science; Range Management and related fields.
Master's in Food Science and Biotechnology (FoSB) PhD in Food Science and Biotechnology (FoSB)	i) Postharvest Handling and Processing ii) Technologies Food Safety and Quality.	Food Science; Home Economics and Human Nutrition; Food Technology; Biochemistry; Clinical Nutrition; Dietetics; Child and Maternal Care; Food Biotechnology; Functional Food; Food Development; Food Safety; Food quality and Safety and related fields.
Master of Science in Human Nutrition and Dietetic (HuND) PhD in Human Nutrition and Dietetic (HuND)	i) Clinical Nutrition ii) Community Nutrition	
Master of Science in Biodiversity and Ecosystem Management PhD in Biodiversity and Ecosystem Management	i) Postharvest Handling and Processing ii) Technologies Food Safety and Quality	Ecology and Biodiversity; Wildlife Science and Conservation; Conservation Biology; Forestry; Silviculture; Aquaculture; Evolutionary Biology; Tropical Biodiversity and Wildlife Management; Organic Chemistry; Microbiology; Agro-ecology; Animal Science; Population Biology and related fields.
Master of Science in Public Health Research (MSc. PHR)	i) Determinants of Health and Diseases	Social Sciences (Sociology, Anthropology), Environmental Sciences, Doctor of Medicine, Veterinary Science/Medicine, Human Nutrition Sciences, Statistics, Biology, Informatics and related fields
	i) Intervention Research	Statistics, Doctor of Medicine, Veterinary Science/Medicine, Environmental Sciences, Human Nutrition Sciences, Biology and related fields
	ii)Implementations and Health Systems Research	Social Sciences, Doctor of Medicine, Environmental Sciences, Health System Management, Economics, Statistics, Informatics and related fields

Annex 3: School of Computational and Communication Science and Engineering (CoCSE)

Degree Programme	Specialization	Prerequisite degree Courses
Mathematical and Computer Science and Engineering (MCSE)	i)Applied Mathematics and Computational Science (AMCS)	Mathematics; Applied Mathematics and related fields. A student to be admitted in Master's or PhD in Applied Mathematics and Computational Science Specialty, shall be required to have at least 2 Principal passes of which one shall be from Advanced Mathematics in Advanced Level Certificate of Secondary Education. The students must also have taken Mathematics or Statistics at the Bachelor degree.
Information and Communication Science and Engineering (ICSE)	i) Information Technology Systems Development and Management (ITSDM)	Information Systems; Information Technology; Informatics; Computer Science; Software Engineering; Computer Engineering, or related fields
	i) Electronics and Telecommunications Engineering (ETE)	Telecommunications Engineering; Electronics Engineering; Electrical Engineering; Computer Networks, or related fields
Embedded and Mobile Systems (EMoS)	i) Embedded Systems ii) Mobile Systems	Mobile Computing; Wireless Networks; Software Engineering; Computer Science; Computer Engineering; Electronics Science and Engineering; Telecommunication Engineering; Electrical Engineering, Embedded systems, or related fields.
Wireless and Mobile Computing (WiMC)	i) Wireless and Mobile Computing	Information Systems; Informatics; Mobile Computing; Wireless Networks; Software Engineering; Computer Science, electronics and Computer Engineering.
Information Systems and Network Security (ISNS)	i) Information Systems and Network Security	Information Systems; Information Technology; IT Security, Informatics; Software Engineering; Computer Science; and Computer Engineering.

Annex 4: School of Materials, Energy, Water and Environmental Science (MEWES)

Degree Programme	Specialization	Prerequisite degree Courses	Specific Requirements
Hydrology and Water Resources Engineering	i) Hydrology and Climatic Studies ii) Water Resources Engineering iii) Irrigation Engineering iv) Water Supply and Sanitation	Water Resources Engineering, Irrigation Engineering, Geology, Hydrogeology, Environmental Science, Environmental Engineering, Geography, Civil Engineering, Sanitation Engineering, Mining Engineering and related fields.	Applicants MUST have at least "B" grades at a Bachelor's degree, in courses majoring the degree programme/ specialty applied for. Work experience and knowledge in modelling will be an added advantage.
Environmental Science and Engineering	i) Environmental Science ii) Environmental Engineering	Chemistry, Biology, Zoology, Aquatic/Marine Sciences, Chemical Engineering, Environmental Science/Engineering, Food Sciences/Engineering, Biochemical Engineering, Agriculture, Wildlife, Forestry, Mining Engineering, Mineral Processing, Geology, Public health, Ecotourism and Natural Resources Conservation Water Resources Engineering, Microbiology and related fields.	In addition to the above, applicants holding Bachelor's degrees majoring in Chemistry or Biology like Bachelor of Education with Chemistry/Biology and Bachelor of Science (Chemistry/Biology) MUST have at least "B" grades in Chemistry, Biology and/or other courses related to Environmental Science/Engineering, Chemical Engineering and related courses.

Materials Science and Engineering	i) Structural Materials ii) Energy Materials	Physics, Chemistry, Biology, Mechanical Engineering, Structural Engineering, Mathematics and/or related courses, Mechanical Engineering, Civil Engineering, Chemical Engineering, Computer Engineering, Computer Science, Electrical Engineering, Polymer Engineering, Materials Science and Engineering and related fields.	Applicants holding Bachelor's degrees majoring in Chemistry, Physics or Biology, like Bachelor of Education with Chemistry/Biology/Physics and Bachelor of Science (Chemistry/Biology/Physics) MUST have at least "B" grades in Chemistry, Biology, Physics courses and/or other courses related to Environmental Sciences/Engineering and Chemical Engineering. Work experience in indigenous raw materials application, material structure and failure and nanotechnology will be an added advantage.
Sustainable Energy Science and Engineering	i) Sustainable Renewable Energy Engineering ii) Sustainable Nuclear Power Engineering iii) Sustainable Power Generation and Energy Utilization	Energy Engineering, Electrical Engineering, Mechanical Engineering, Chemical Engineering, Chemicals and Processing Engineering; Bachelor's degrees in other Engineering disciplines or natural sciences (Physics and Chemistry) may also be sufficient provided that relevant coursework in Thermodynamics, Basic Engineering, Statics and Dynamics Controls, Heat Transfer, Fluid Dynamics, Energy and Mass Transfer, Reactor Design, Electrochemistry, Semiconductors, Mathematics: with a focus on Numerical Analysis, Vector Calculus Differential Equations, Computer Programming knowledge or related fields were pursued	Applicants MUST have at least "B" grades in Chemistry, Physics, Mathematics, Energy Sciences and/or Mechanical Engineering and related courses in their Bachelor's degree.