

Kenya Medical Training College

Department of Medical Engineering



Introduction

Medical Engineering is a profession that deals with design, manufacture, installation and maintenance of medical and hospital equipment.

Kenya Medical Training College (KMTC) trains professionals in this field in the department of Medical Engineering at various levels and training centres as follows:-

Higher Diploma in Medical Engineering – offered at KMTC Nairobi Campus.

Diploma in Medical Engineering – offered at Nairobi and Eldoret campuses.

Certificate in Medical Engineering – offered at Meru, Loitokitok and Kilifi campuses.

Brief History

In the late 70's there arose a great need to have trained artisans to maintain and service medical and hospital equipment as well as the hospital systems (cold rooms, water and gas supplies) in public health facilities.

The frequent breakdown of the equipment and systems had posed a very great challenge to the Ministry of Health in offering health care services.

In collaboration with the Austrian Government, the Government of Kenya established an artisan training school at Loitokitok District hospital in 1978.

In 1987, the training was upgraded to train technicians because of dynamism in technology. Three more certificate training schools were established in Meru and

Kilifi MTCs, supported by the Swedish Government and Eldoret MTC, supported by the Austrian Government.

At the same time, a diploma course was established at the Mombasa Polytechnic with the support of the German Government through GTZ.

In the year 2000, an in-service diploma course was established at KMTC Nairobi. Two years later, the course was introduced at Eldoret MTC.

Nairobi campus is now offering pre-and-in-service diploma course as well as the higher diploma course while Eldoret MTC has just introduced an in-service diploma course.

Courses Offered

	Course	Minimum Entry Requirement	Duration	Campus Tenable
1.	Certificate in Medical Engineering	Mean Grade C- (Minus) Mandatory Subjects: English/Kiswahili C- (Minus) Mathematics C- (Minus) Physics/Physical Science C- (Minus) Other Subjects: Chemistry, Biology, Metalwork, Electricity or Technical Drawing D+ (Plus)	2 years	Kilifi Meru Loitokitok
2.	Diploma in Medical Engineering	1. Mean Grade C (Plain) Mandatory Subjects: English/Kiswahili C- (Minus) Mathematics C- (Minus) Physics/Physical Science C (Plain) Other Subjects: Chemistry or Biology or Metalwork or Electricity or Technical Drawing C- (Minus) or 2. Certificate or its equivalent in Medical Engineering	3 years 2 years	Nairobi Eldoret Nairobi Eldoret
3.	Higher Diploma in Medical Engineering	Diploma (or its equivalent) in: Medical Engineering Electrical/Electronics Engineering Mechanical Engineering	2 years part time N.B. Full time to be introduced	Nairobi

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Scope of Training per Course

Certificate

The certificate programme aims at:

- Producing overall health oriented medical engineering technicians competent to work in health service units.
- Reducing the down time of equipment, plant and health care facilities, thus ensuring efficient health care delivery.

Course Objectives

By the end of this training program, the graduate should be able:

- Demonstrate adequate knowledge of the working principles underlying medical equipment, plant and hospital utilities in the health institutions and other related institutions.
- Diagnose, service and repair medical equipment, plant and hospital systems
- Manage medical equipment, plant and hospital systems
- Manage medical engineering units
- Practice professional ethics
- Exercise safety procedures at the place of work.

Core Subjects Covered

- Hospital Engineering
- Clinical Engineering
- Electrical/Electronics
- Mathematics

Diploma

This training programme aims at:

- Improving the knowledge, skills and attitudes of the medical engineering technicians to enable them keep abreast with the changing technology in Medical Engineering.
- Producing overall health-oriented medical engineering technologists competent to work in health service units
- Reduce the cost of maintenance of equipment, plant and health care facilities thus ensuring efficient health care delivery.

Course Objectives

By the end of this training program, the graduate should be able:

- Demonstrate adequate knowledge of the working principles underlying medical equipment, plant and hospital systems in health institutions and other related institutions.
- Diagnose, faults in health care equipment
- Maintain health care equipment at maximal working condition
- Repair health care equipment at cost effect levels
- Modify existing health care equipment to improve efficiency and safety
- Supervise and instruct students during their training
- Manage a medical engineering department
- Demonstrate desirable professional attitudes and ethics
- Exercise safety procedures at the place of work.

Core Subjects Covered

- Hospital Engineering
- Clinical Engineering
- Electronics
- Mathematics
- IO & HRM
- Research Project

- Practical Attachment

Higher Diploma

The main aim of the course is to train and qualify competent medical engineers in health care technology management.

Course Objective

To develop engineers with modern technical and managerial skills to enable them respond effectively to industrial development.

Core Subjects Covered

- Medical Physics
- Management & Communication skills
- Entrepreneurship (optional)
- STI, HIV/AIDS (optional)
- Waste management
- Engineering Mathematics
- Computer Applications in Engineering
- Mechanical Engineering Technology
- Electrical/Electronics Technology
- Engineering Systems and Controls
- Engineering Design
- Biomedical Instrumentation
- Hospital Engineering Systems
- Diagnostic & Imaging equipment
- Therapeutic, monitoring and life support equipment
- Project
- Practical attachment.

Present Trainees

We are currently training students from:-

1. The Namibian Government
2. Ethiopia
3. Kenya.

Employment Opportunities

- Government health institutions
- Private and mission health institutions
- Research institutions
- Hospitality industries
- Companies supplying medical equipment
- Pharmaceutical industries
- Laboratories.

DEPARTMENT'S TARGETS BY 2012

1. To up-grade Higher Diploma programme to degree programme in collaboration with an interested university.
2. To become a regional training and research centre for Medical Engineering and also a regional centre for skills improvement or specialized Medical Engineering courses.
3. To improve the current curricula for all Medical Engineering courses in both theory and practicals to cope with the dynamic changes in Health Care Technology.
4. To establish a centre to refurbish used Medical Equipment for use in remote and disadvantaged communities.

You can collaborate with us by identifying any one area of the following so as to achieve the above mentioned targets.

- (i) By contacting us to work out a system of collaboration where your college can award degrees to our graduates
- (ii) By establishing a skills exchange programme
- (iii) Assisting to expand our infrastructure
- (iv) Donating used equipment for training and refurbishment
- (v) Sponsoring our research projects, seminars and workshops.

For further information contact:

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