

## INTRODUCTION

The Department of Electrical and Electronic Engineering opened its doors to the first group of certificate students in 1981. The college became a University College in 1989 and Diploma and Degree students were first enrolled in 1990. The degree course is a 5-year programme and the diploma course was a 3-year programme. From the academic year 2001/2002, the department started the process of phasing out the diploma programme and at the same time introducing a new degree programmes.

This degree programme was started in 1990. During the first three years, the students undertake Mathematics, Basic electrical and electronic principles and General studies. In the final two years, the students choose to specialize either in light current option or heavy current option. The students are expected to learn a systematic and analytic approach to electrical and electronic engineering to enable them to carry out design and research work. They are also expected to develop the right attitude toward the needs and aspirations of the society as well as a sense of responsibility.

## LABORATORIES AND WORKSHOPS

The department has the following laboratories and workshops:

Electrical Machines, lab., Power Systems and High Voltage lab., Telecommunications Lab., Basic Electrical Lab., Electronics lab., Digital Lab., Control lab., Computer lab and Installation workshop. These are well equipped and very conducive for training and research work.

## RESEARCH

### Objectives

The department of Electrical and Electronic Engineering is engaged in a vigorous programme of fundamental and applied research. The objectives are: -

- To give staff members and students an opportunity to broaden their academic experience through practical work and assignments.
- To build scientific competence in the Department by encouraging inter-disciplinary research activities.
- To stimulate and support both scientific and technical research by developing closer links with local industries and government institutions.
- To design research activities that will enhance skills, in both staff and students, in a wide range of technical areas.
- To promote co-operation between departmental researchers and their counterparts in other departments both locally and internationally through collaborative research projects.
- To prepare and conduct workshops/seminars for disseminating research findings and to educate the public at large.

### Research Areas

Currently the members of the department are organised into eight (8) research groups. These research groups are as follows:

- Power Electronics and Machine Drives
- Signal Processing and Communication
- Power Systems and High Voltage Technology
- Energy Studies
- Semiconductor and Magnetic Materials
- Control Engineering

- Electrical Installation and Illumination Engineering
- Software Engineering
- Telecommunication Engineering

Research work is supported by excellent facilities in the labs as well as established computing services in the department.

The department was instrumental in the founding of Kenya Society of Electrical & Electronic Engineers (KSEEE). It is also the registered office of KSEEE. Each year, KSEEE organises conferences that bring together local and international researchers and provides a forum for exchange of research activities.

## PROGRAMME STRUCTURE AND REGULATIONS

**Duration:** The programme will take a total of ten semesters of sixteen weeks each and a total of twenty-four weeks of industrial training.

**Courses:** There are eight course units in every semester.

**Mode of Study:** These are full-time programmes at JKUAT and are conducted during normal semester time.

**Regulations:** All Faculty of Engineering and University Regulations for the degree programmes apply.

**Examinations:** Examinations are taken at the end of every semester for the courses taken in that semester. The University and Faculty Examinations rules and regulations for the degree programmes apply.

## ENTRY REQUIREMENTS

The following shall be eligible for consideration for admission into the degree programme:

I. Kenya Certificate of Secondary Education (KCSE) applicants should satisfy **all** the requirements below:

(i) A candidate must have a mean aggregate of at least grade B– (minus);

**and**

(ii) The mean grade for the total score in the four cluster subjects must be at least B(plain);

**and**

(iii) In the individual cluster subjects, a candidate must have at least the scores given below:

<i>Alternative A</i>		<i>Alternative B</i>	
Mathematics	C+	Mathematics	C+
Physics	C+	Physical Sciences	B
Chemistry	C+	Biological Sciences	C+
Geography or Biology or any Group IV Subjects	C+	Geography or any Group IV Subjects	C+

II. Kenya Advanced Certificate of Education (KACE) or the A-level equivalent should satisfy **all** the requirements below:

(i) Two principal passes in Mathematics and Physics;

**and**

(ii) At least a total score of nine(9) points or equivalent;

**and**

(iii) At least a credit pass in Chemistry at the KCE or its equivalent.

III. Diploma applicants:

A candidate must be a holder of a University Diploma in engineering with at least a credit pass in the relevant discipline. (University Diploma holders will normally be admitted into the second year of study).

IV. A holder of other qualifications recognized by the JKUAT Senate as equivalent to I, II and III above.

### **FACILITIES AND STAFF**

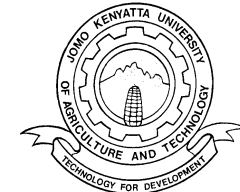
The Department of Electrical and Electronic Engineering as well as the Faculty of Engineering have highly trained and qualified staff complemented by well-equipped laboratories and workshops. There are also computer facilities within the department in addition to the university computer rooms. The university main library stocks a wide range of textbooks and journals relating to Electrical and Electronic Engineering. Additional literature is also available at the departmental library.

### **HOW TO APPLY**

For the self sponsored students, advertisement is usually through the press. The application forms are then obtainable from the office of the Dean, Faculty of Engineering, JKUAT, upon payment of a non-refundable fee of Kshs. 1,500.00 for Kenyan Citizens and US\$ 50.00 for Non-Citizens.

### **TUITION FEES AND SUBSISTENCE**

The estimate for the tuition plus examinations fee is Kshs. 91,000.00 per semester for Kenyan Citizens and 20% over and above for Non-Citizens. Accommodation is available on campus at the students' Halls of Residence at reasonable rates. There are separate halls for males and females. The detailed fee structure and information on accommodation is provided together with the application form.



JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY (JKUAT)

## **DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING**

*FACULTY OF ENGINEERING*

### *BSc IN ELECTRICAL AND ELECTRONIC ENGINEERING PROGRAMME*

**P. O. Box 62000, Nairobi Kenya**  
**Telephone: (067) 52181-4, 52711 Ext. 3229**  
**Fax: (067) 52220**  
**Email: eee@jkuat.ac.ke**