

INSTITUT SUPERIEUR DE TECHNOLOGIES

Sarl au capital de 10 000 000

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Agréé par le FAFPA (ministère de l'emploi)

Diplômes reconnus par le CAMES

Vingt (20) ans au service de la formation des ressources humaines

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Bachelor of Engineering in Electronics and Telecommunication Engineering

1. TITLE OF PROGRAMME

The programme shall be Bachelor of Engineering in **Electronics and Telecommunication Engineering**

B.Eng. (BETEE)

2 PREAMBLE

2.1 Background

The four-year Degree Programme in Electronics and Telecommunications Engineering provides graduates with acultural and professional profile defined by a solid grounding, as well asin-depth knowledge on various areas, in an overall framework defined by interdisciplinarity, which will allow them to keep up with the constant evolution of the world of Information and Communication Technology (ICT).

These characteristics will give graduates the opportunity to access immediately the world of work with the ability to produce and manage systems, processes and services in the specific field of Electronics Engineering and Telecommunications Engineering, and any other context in which such technologies play a key role. Particular emphasis is placed on the organic structure of the fundamental principles, the use of examples in the illustration of methodological approaches, the presentation of environments and tools which together support the design of systems and architectures specific of the field.

2.2 Justification

B.E. in Electronics and Telecom Engineering is an Under Graduate course with a specialization in the field of electronics and telecommunication (Telecom). The course is divided into eight semesters spanning over a duration of four years. B.Tech Electronics and Telecommunication Engineering is a four-year-long undergraduate course that deals with the study of fundamental electronics, communication protocols, technologies, software, and essential subjects for a

career in telecommunications. Students completing this course have many job opportunities and can work in the telecom industry and top companies in multiple fields. Some of the titles graduates start with are electronics engineers, VLSI engineers, network engineers, design engineers, and communications engineers

2.3 Target Group

The targeted group includes holders of:

- (a) Advanced Level Certificate of Education;
- (b) Diplomas in Engineering and other related Science and Technology fields;
- (c) Degrees in Physical Science or any other Engineering fields;
- (d) Through Mature Age entry scheme

3. Programme Objectives

3.1. General Objectives

The general objectives of the programme are to:

- (a) equip engineers with theoretical and practical technological skills to enhance the sustainability of small and large scale industries;
- (b) carry out research, design of products and modifications to large number of engineering activities within industry.
- (c) instil into engineers technological and managerial skills required for self-employment and problem solving;
- (d) produce engineers who are equipped with healthy and Safety regulations for cleaner production;
- (e) train people who will be able to advance in higher education, research and development;

3.2. Specific Objectives

By the end of the programme students should be able to:

- (a) create jobs for self-employment and problem solving;
- (b) interpret design drawings, specify materials, research, manage operations and resources for the products;
- (c) initiate and manage projects as well as selecting the appropriate technology; work in electronics and Telecommunication and impart the acquired technological skills to other interested persons
- (d) an ability to apply knowledge of mathematics, science, and engineering
- (e) an ability to design and conduct experiments, as well as to analyze and interpret data
- (f) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (g) an ability to function on multidisciplinary teams

- (h) an ability to identify, formulate, and solve engineering problems
- (i) an understanding of professional and ethical responsibility
- (j) an ability to communicate effectively
- (k) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- (l) a recognition of the need for, and an ability to engage in life-long learning
- (m) a knowledge of contemporary issues
- (n) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Duration of the Programme: 4 years (eight semesters) and one Year for advanced Diploma student

Programme Structure

Courses codes	Courses Names	Credit Units
	Year one	
	Semester one	
BSE100	Communication Skills	4
BBA 402	Entrepreneurship and Development	4
BETEE 400	Research Methods	4
CCA 532	Computer Application	4
BBA 011	Organization Behavior	4
BETEE110	Engineering Drawing	5
BETEE111	Engineering Mathematics I	5
	Semester Two	
BETEE120	Thermodynamics	4
BETEE121	Engineering Physics	4
BETEE122	Engineering Mathematics II	4
BETEE123	Environmental Technology	3
BETEE124	Engineering Chemistry	4
BETEE125	Electrical Technology	4
BETEE126	English for Academic Purposes	3
BETEE127	Industrial Training I	4
		60
	Year Two	
	Semester one	
BBA210	Entrepreneurship Skills	4
BETEE 211	Engineering Mathematics III	4
BETEE212	Communication Networks	4

BETEE213	Mechanics of Machines	4
BETEE 214	Materials Science	4
BETEE215	Electrical Devices and Machines	5
BETEE 216	Radio Engineering	5
		60
	Semester Two	
BETEE 220	Engineering Mathematics IV	5
BETEE 221	Computer Aided Drawing	5
BETEE222	Digital Electronics	5
BETEE223	Data Structure & Algorithm	5
BETEE224	Analogue Electronics	5
BETEE225	Workshop Practice	5
		60
	Year Three	
	Semester One	
BETEE 310	Measurements and Instrumentation	4
BETEE311	Digital Electronics	4
BETEE312	Signals and Systems	4
BETEE313	Introduction to Programming	4
BETEE314	Analogue Electronics	4
BETEE315	Research Methods	4
BETEE317	Telecommunication Switching & Network Systems	5
BETEE318	Signal and Systems	5
	Semester Two	
BETEE 320	Electronic Systems Design	4
BETEE321	Computer Architecture	4
BETEE322	Control Systems	4
BETEE323	Telecommunication Engineering	4
BETEE324	Microcontroller Applications	4
BETEE325	Eng. Electromagnetics & Telecom	4
BETEE326	Mobile Communication Systems	5
BETEE327	Intelligent Robotics	5
		60
	Year Four	
	Semester One	
BETEE410	Optical Communication	2
BETEE411	Digital Image and Speech Processing	2
BETEE412	Antenna Engineering	2
BETEE413	Communication System Engineering	2
BETEE414	Information Theory and Coding	2
BETEE415	Digitization	2
BEN416	Adaptive Signal Processing	3
BETEE417	Soft Computing	3
	Semester Two	
BETEE430	Electronic Measurement and Measuring Instrument	3

BETEE431	Computer Networks	3
BETEE422	Internet of Things Design and Competition	3
BETEE423	Intelligent Instrumentation	4
BETEE424	Personal and Mobile Communication	4
BETEE429	Internship	5
BETEE428	Thesis and Defense	20
		60
GCU		240