

# AlShaab University

## جامعة الشعب



### *First Cycle – Bachelor's degree (B.Sc.) – Communication Engineering*

بكالوريوس – هندسة الاتصالات



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# 1. **Mission & Vision Statement**

## *Vision Statement*

Communication engineering is considered a surprisingly wide-ranging field that is well equipped to offer many technologies. The focus of this field is on using electromagnetic signals to transfer data and information from one point to another through a series of operations and processing which starting from the source through the modulation processes and ending with the transmission in the wired or by antenna to be launched in wireless medias. When receiving a signal in the receiver, it will be submitted to a series of operations and processing to extract the data and information that was carried on the carrier signal. The philosophy of data transmission from one place to another and its passage through complex conditions to reach the receiver makes the specialization a significant scientific field to find advanced technologies and always makes the students desire to reach the best scientific results. The staff of the Department of Communications Engineering seeks to prepare students to start practicing the professions and the challenges which are facing communications engineers in the twenty-first century through competitive programs and facilities, such as modern laboratories, modern teaching aids, and computers.

## *Mission Statement*

The mission of the communication academic staff will be pursuing a multifaceted charge at University of AlShaab University. The Program seeks to provide all students with fundamental knowledge of the communication engineering, as well as expanding the base of education and modern applications in the field of information and communication technology through both the international network, devices, cellular phones and all advanced communication systems in a way that meets the needs of institutions, whether they belong to the state or the private sector, through education, training and rehabilitation. From the inputs of human resources (students) and making them able to deal with modern technologies and work in various institutions efficiently and effectively to serve our dear country.

# 2. **Program Specification**

<b>Programmed code:</b>	BSc-COMM	<b>ECTS</b>	240
<b>Duration:</b>	4 levels, 8 Semesters	<b>Method of Attendance:</b>	Full Time

The program of the Communication Engineering is a wide-ranging subject and is well equipped to deliver. The emphasis of the program on the electromagnetic signal to which everything is related such as sources, transmission and receiving components. All students have the opportunity to transfer onto our specialist degrees in communication engineering at the end of the first year.

The students of level 1 will be studying the fundamentals of the electrical and electronic engineering with the laboratories, as well as other topics connected with the communications engineering. Consequently, they will be ready to study the programme-specific core topics covered at Level 2 and preparing for studying programme-specific core topics at Levels 3 and 4.

At Levels 2, 3 and 4, the student will be studying the communications principles, methods and techniques from the basic to the advanced level. The student will have the knowledge of the types of analog and digital modulations, data and information, antennas and propagation waves, control and systems of communications....etc. This allows students to develop their own wide-ranging interests in modern communications engineering. Decisions on what to study are made with input from personal tutors.

The research ethos is developed and fostered from the start via practical part in the laboratories, which are either embedded in lecture modules or taught in dedicated practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3 and 4. At Level 4 all students carry out an independent research project. Academic tutorials are held at Levels of program with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. reports and presentation skills, followed by assessed exercises, as opportunities to practice these skills in a subject-specific context. International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

### **3. Program Objectives**

1. Building Students in a scientific and rehabilitation work in the field of telecommunications engineering techniques and scientific field and its applications in government departments.
2. Rehabilitation of graduates able to work in government departments and the private sector as specialized engineering staff efficiently and effectively.
3. Contribute to provide an advanced level of related activities with the realization of institutions experience and lead to the fulfillment of their need of human resources in order to achieve their success, the evolution and continuation consistency of the Program Educational Objectives with the Mission of the College of engineering.
4. Preparing competent engineers capable of meeting the needs of society in all sectors and all its branches.
5. To develop the cognitive abilities and technological skills required for the number of professional leaders in various engineering disciplines.
6. Provide a distinctive education to contribute to the preparation and arrangement of human cadres of graduates to qualify them scientifically, culturally and professionally to support the public and private sector and mixed.
7. To provide a comprehensive education in biology that stresses scientific reasoning and problem solving across the spectrum of disciplines within biology
8. To prepare students for a wide variety of post-baccalaureate paths, including graduate school, professional training programs, or entry level jobs in any area of communication engineering.
9. To provide extensive hands-on training in electronic technology, statistical analysis, laboratory skills, and field techniques
10. To provide thorough training in written and oral communication of scientific information
11. To enrich students with opportunities for alternative education in the area of communication engineering through undergraduate research, internships, and study-abroad

## **4. Student Learning Outcomes**

Communication Engineering is the study of sending data and information from a point to another by modulating data signal in a carrier signal with large scale of frequencies. Graduates obtain information on the technical aspects of communications and utilize basic knowledge toward realizing broader concepts. The Department offers a Bachelor of Science in communications engineering. Additionally, the Department offers courses to a large number of students from other departments and supports pre-professional programs. The communications engineering curriculum and experiences are designed to prepare students, in part, for entry into professional programs, graduate studies, technical careers and education

### **Outcome 1**

#### **Understand and develop systems**

**Graduates will be able to understand and develop the communications systems with applying modern techniques.**

### **Outcome 2**

#### **Development of skills**

**Graduates will be able to compete with other engineers for jobs and obtain the required seats in the completion of higher studies.**

### **Outcome 3**

#### **Laboratory and Field Studies**

**Graduates will be able to perform laboratory experiments and field studies by using scientific equipment and computer technology while observing appropriate safety protocols.**

### **Outcome 4**

#### **Scientific Knowledge**

**Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.**

### **Outcome 5**

#### **Data Analyses**

**Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.**

### **Outcome 6**

#### **Critical Thinking**

**Graduates will be able to use critical-thinking and problem-solving skills to develop projects and publish scientific paper.**

## 5. Academic Staff

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## 6. Credits, Grading and GPA

### *Credits*

AlShaab University is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

### Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
<b>Success Group (50 - 100)</b>	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
<b>Fail Group (0 - 49)</b>	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Number Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

### Calculation of the Cumulative Grade Point Average (CGPA)

- The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

CGPA of a 4-year B.Sc. degree:

$$CGPA = [ (1st^{module} \text{ score} \times ECTS) + (2nd^{module} \text{ score} \times ECTS) + \dots ] / 240$$

## 7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
COME108	Mathematics I	78	72	6	B	
COME101	Electrical Engineering Fundamentals I	124	76	8	C	

COME103	Digital techniques	93	82	7	C	
COME106	Engineering Drawing	48	52	4	B	
COME110	Computer Skills	64	36	4	B	
UREQ100	English Language	33	17	2	B	

**Semester 2 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
COME109	Mathematics II	78	72	6	B	
COME102	Electrical Engineering Fundamentals II	124	76	8	C	
COME104	Electronic Physics	78	72	6	C	
COME105	C++ Programming	64	61	5	C	
COME107	Workshops skills	48	27	3	B	
UREQ101	Human Rights and Democracy	33	17	2	B	

## 8. **Contact**

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