Al-Farahidi University

جامعة الفراهيدي

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

بكالوريوس هندسة تقنيات الاتصالات

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١. Mission & Vision Statement

Vision Statement

The Program Educational Objectives of the Bachelor Technical in Communication Engineering program are to:

- Provide Communication engineering professionals with the technical knowledge and skills required by the industry to develop, design, and maintain communication systems to highest level of industry standards.
- Prepare graduates for a successful career as effective decision makers with strong communication and teamwork skills and an understanding of the global,
- ethical and social implications of the industry and Communication Engineering profession.
- Provide graduates with strong commitment to lifelong learning, continuing education, and professional growth.
- provide graduates with leadership qualities and commitment to contribute actively to achieving the vision Reconstruction of Iraq.

Mission Statement

Communication Techniques Engineering (CMTE) program provides highly qualified Communication Engineers with state of the art knowledge, technical and leadership skills. The program also teaches them to embrace innovation and discovery, strive for lifelong learning, and constantly seek professional development to best serve the Communication Engineering profession.

Program Specification ٢.

Programmed code:	BSc-ENGTECH	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full Time

Write something like:
Communication technical Engineering is a wonderfully wide-ranging subject and is well equipped to deliver. The emphasis of the program is the whole organism to which everything is related, be it the molecules that form proteins or communities of organisms in an ecosystem. The degree is popular - – or some it's' the breadth of the subject that appeals, for others it's a path to specialization. All students have the opportunity to transfer onto our specialist degrees in Genetics, Zoology, and Ecology at the end of the first year.

Level 1 exposes students to the fundamentals of Biology, suitable for progression to all programs within the biology program group. Program-specific core topics are covered at Level 2 preparing for research-led subject specialist modules at Levels 3 and 4. The University Biology graduate is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Levels 2, 3 and 4 students are free to choose more than half of their module credits with the proviso a range of modules are selected that reflect the complexity of mobile and wireless communication, through networks ensure the breadth of knowledge expected of a graduate with a technical engineering degree. This allows students to develop their own wide-ranging interests in communication. Decisions on what to study are made with input from personal tutors.

The research ethos is developed and fostered from the start via practical, 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, which may be a xx credit library or data analysis project, or a xx credit field or laboratory based project.

Academic tutorials are held at Levels 1 and 2 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. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, 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.

٣. Program Objectives

The Program Educational Objectives of the Bachelor Technical in Communication Engineering program are to:

- Provide Communication engineering professionals with the technical knowledge and skills required by the industry to develop, design, and maintain communication systems to highest level of industry standards.
- Prepare graduates for a successful career as effective decision makers with strong communication and teamwork skills and an understanding of the global,
- ethical and social implications of the industry and Communication Engineering profession.
- Provide graduates with strong commitment to lifelong learning, continuing education, and professional growth.
- provide graduates with leadership qualities and commitment to contribute actively to achieving the vision Reconstruction of Iraq.

٤. Student Learning Outcomes

5. Upon graduation, a ETCN graduate in Bachelor Technical of Communication Engineering:
6. a. An ability to select and apply the knowledge, techniques, skills, and modern tools of communication engineering to broadly-defined engineering technology activities.

b. An ability to select and apply a knowledge of mathematics, science, engineering, and technology to communication engineering techniques problems that require the application of principles and applied procedures or methodologies.

c. An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.

d. An ability to design systems, components, or processes for broadly-defined communication engineering techniques problems appropriate to program educational objectives.

e. An ability to function effectively as a member or leader on technical team.

f. An ability to identify, analyze, and solve broadly-defined communication engineering techniques problems.

g. An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.

h. An understanding of the need for and an ability to engage in self-directed continuing professional development.

i. An understanding of and a commitment to address professional and ethical responsibilities including respect for diversity.

j. A knowledge of the impact of engineering techniques solutions in a societal and global context.

k. A commitment to quality, timeliness, and continuous improvement.

Outcome 1

Identification of Complex Relationships

Graduates will be able to illustrate the structure and function of cellular components and explain how they interact in a living cell.

Outcome 2

Oral and Written Communication

Graduates will be able to formally communicate the results of biological investigations using both oral and written communication skills.

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 a research project and/or paper.

٧. Academic Staff

Aymen Mohammed Khodayer | Ph.D. in Telecommunication engineering | Assistant Prof.
Email: aymenaldulaimi@uoalfarahidi.edu.iq
Mobile no.: 009647735173736

Mushtaq Talib Al-Sharify | Ph.D. in Radio Engineering and Telecommunication means | Lecturer
Email: alsharify@uoalfarahidi.edu.iq
Mobile no.: 009647715333882

Credits, Grading and GPA ٨.

Credits

Alfurat Al-Awsat technical University (ATU) 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**
Success Group (50 - 100)	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
Fail Group (0 – 49)	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)

1. 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 ^{m}odule score x ECTS) + (2nd ^{m}odule score x ECTS) + ……] / 240

Curriculum/Modules .٩

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11101	English	١٨	32	2	S	no
AFU11102	IT Essentials	63	37	4	B	no
AFU11103	Calculus 1	63	62	5	B	no
AFU11104	DC Electrical Circuits	93	82	7	C	no
AFU11105	physics and semi-conductor	93	82	7	C	no
AFU11106	Engineering Drawing	62	63	5	S	no

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11207	Human Rights and Democracy	18	32	2.00	S	none
AFU11208	Calculus 2	63	62	5.00	B	
AFU11209	AC Electrical Circuits	63	62	5.00	B	
AFU11210	Digital Logic	93	82	7.00	C	
AFU11211	Electronic Circuits	108	92	8.00	C	
AFU11212	Engineering Workshops	48	27	3.00	B	

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11301	Electronic Circuits Design	78	72	6.00	B	
AFU11302	SIGNALS AND SYATEMS	78	72	6.00	C	
AFU11303	Electromagnetic Fields 1	48	52	4.00	C	
AFU11304	Calculus 3	63	62	5.00	B	
AFU11105	Digital Circuits Design	78	72	6.00	C	
AFU11306	Visual Basic	48	27	3.00	B	

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11407	C++	63	62	5.00	B	
AFU11408	Calculas 4	63	62	5.00	B	
AFU11409	English 2	18	32	2.00	S	
AFU11410	ANALOG COMMUNICATIONS	108	92	8.00	C	
AFU11411	probability and Statistics	78	47	5.00	B	
AFU11412	Electromagnetic Fields 2	63	62	5.00	C	

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11501	ENGINEERING ANALYSIS	63	62	5	B	
AFU11502	MICROPROCESSOR	93	57	6	B	
AFU11503	ANTENNA	78	72	6	C	
AFU11504	DIGITAL COMMUNICATION	63	87	6	C	
AFU11505	ENGINEERING ETHICS	33	42	3	C	
AFU11506	Mat lab	63	37	4	B	

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11607	NUMERICAL ANALYSIS	63	62	5	B	
AFU11608	Information Theory	48	52	4	C	
AFU11609	DIGITAL SIGNAL PROCESSING	78	72	6	C	
AFU11610	fundametal of optical fiber	63	62	5	C	
AFU11611	Python Programing	63	62	5	B	
AFU11612	Electronics of Communications	78	47	5	S	

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11701	Computer Networks	93	82	7	C	
AFU11702	Programming logic controller	78	72	6	C	
AFU11703	Optical Communication	78	72	6	C	
AFU11704	Research Methodology	33	17	2	B	
AFU11705	Control	78	72	6	B	
AFU11706	Engineering Management	33	42	3	C	

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
AFU11807	Microwave Engineering	78	72	6	C	
AFU11808	Satellite Communication	48	52	4	B	
AFU11809	COMMUNICATION SECURITY	48	52	4	C	
AFU11810	WIRELESS COMMUNICATIONS	33	42	3	C	
AFU11811	Final Project	180	145	13	C	

Contact ١٠.

Program Manager:
Aymen Mohammed Khodayer | Ph.D. in Telecommunication engineering | Assistant Prof.
Email: aymenaldulaimi@uoalfarahidi.edu.iq
Mobile no.: 009647735173736

Program Coordinator:
Mushtaq Talib Al-Sharify | Ph.D. in Radio Engineering and Telecommunication means | Lecturer
Email: alsharify@uoalfarahidi.edu.iq
Mobile no.: 009647715333882