

University of Anbar

جامعة الأنبار



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

بكالوريوس هندسة - الهندسة الكهربائية



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1. Mission & Vision Statement

Vision Statement

Pioneering in the sciences of the electrical engineering and their applications that effectively contributes to serve and develop local and global communities

Mission Statement

Providing the highest quality of education and scientific research in the field of electrical engineering by utilizing technology, innovation, and exchange of knowledge to find solutions to the engineering problems and challenges.

2. Program Specification

Programme code:	BSc-EE	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

Electrical engineering is a remarkably diverse field of study. The focus of the program revolves around exploring and implementing electrical systems, devices, and technologies. This degree attracts popularity due to its broad applicability, the constant progress in technological advancements, the abundance of career prospects, the potential for making a societal impact, the competitive salaries offered, and the intellectual challenges it presents. Additionally, the highest-ranking student in Level 1 from majors such as computer science or physics is given the chance to transfer into our electrical engineering program.

During Level 1 of the program, the primary emphasis is on establishing a strong base in mathematics, physics, and introductory engineering courses. As students progress to Level 2, they delve deeper into fundamental electrical engineering concepts. While continuing to strengthen their mathematical and scientific knowledge, they focus on areas such as electrical circuit analysis, electronics, and computer programming. In Levels 3 and 4, students are afforded more flexibility in selecting elective courses that align with their specific interests. They also have the opportunity to engage in a capstone project or senior design project, where they apply their accumulated knowledge to solve real-world engineering challenges. As a result, graduates are equipped with the ability to recognize the vital connection between research and teaching, in accordance with the mission statements of the University and School.

The research culture is nurtured and instilled from the beginning through hands-on practical sessions, which are integrated within lecture modules or taught separately as dedicated practical modules. Additionally, research seminars and tutorials contribute to the development of this ethos. In Level 1, students are required to successfully complete a mandatory field course in order to advance to Level 2. At Level 4, all students undertake an independent research project, which can be conducted either in a laboratory or in the field.

For Levels 1 and 2 students, academic advisors are accessible to offer step-by-step guidance, with each student group assigned to a dedicated advisor. The program offers workshops aimed at instructing students on various skills such as presentation skills. These workshops are followed by assessed exercises, providing students with practical opportunities to apply and refine these skills within the context of their specific subjects.

3. Program Goals

- To prepare pioneer electrical engineers in their workplace by providing them with the required learning and training courses.
- To conduct novel scientific research, including graduate studies, that mainly contributes to finding solutions for different engineering problems.
- To prepare electrical engineers adhered to the professional ethics, standards, and applicable laws to avoid corruption and deviation.
- To develop the abilities of the faculty and staff members to improve the quality of education and scientific research.
- To provide engineering consultancy services that meet the essential requirements of community and institutions.
- To open graduate studies in the department.

4. Student Learning Outcomes

The Electrical Engineering program is providing graduates with solid practical and professional knowledge to excel in this field of engineering. Within a few years after graduating.

Outcome 1

Successful Professionals

Graduates will be successful professionals in Electrical Engineering and related fields.

Outcome 2

Ethics and Standards

Graduates will be adhered to professional ethics and the accepted standards.

Outcome 3

Leadership, communication, and collaboration

Graduates will be pursue leadership roles and demonstrate effective communication and collaboration in their workplace and the society.

Outcome 4

Lifelong learning

Graduates will be perusing lifelong learning through continued development of their technical and professional skills.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

The University of Anbar 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:				
<p>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.</p>				

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:

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

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENG003	Calculus I	63	87	6	B	-
ENG002	Chemistry	78	47	5	B	-
ENG007	Engineering Drawing	93	57	6	S	-
ENG005	Fundamentals of Electrical Engineering I	78	72	6	C	-
UOA005	Human Rights and Democracy	33	17	2	S	-
ENG001	Physics	78	47	5	B	-

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOA001	Arabic Language I	33	17	2	S	-
ENG004	Calculus II	63	87	6	B	ENG003
UOA007	Computer Science I	48	27	3	S	-
ELE002	Digital Techniques	63	62	5	C	-
ENG006	Engineering Mechanics (Static)	63	87	6	S	-
UOA003	English Language I	33	17	2	S	-
ELE001	Fundamentals of Electrical Engineering II	93	57	6	C	ENG005

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOA002	Arabic Language II	30	20	2	S	-
ENG008	Calculus III	63	87	6	B	ENG004
UOA006	Crimes of Baath Party	33	17	2	S	-
ELE015	DC Machines I	78	22	4	C	ELE001
ELE003	Electric Circuits I	63	62	5	C	ELE001
ELE005	Electromagnetic Fields I	48	77	5	C	ENG004

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENG009	Calculus IV	63	87	6	B	ENG008
UOA008	Computer Science II	45	30	3	S	-
ELE016	DC Machines II	78	22	4	C	ELE015
ELE004	Electric Circuits II	63	37	4	C	ELE003
ELE006	Electromagnetic Fields II	48	77	5	C	ELE005
ENG010	Engineering Statistics	48	52	4	B	ENG008

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ELE017	AC Machines I	78	47	5	C	ELE004; ELE016
ELE013	Analog Communications and Noise	48	52	4	C	ELE011
ELE020	Computer Networks	48	52	4	C	-
ELE021	Electric Power I	48	77	5	C	ELE004
ELE009	Electronics I	78	47	5	C	ELE004
ELE011	Engineering Analysis I	63	112	7	B	ENG009

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ELE018	AC Machines II	78	47	5	C	ELE017
ELE019	Computer Programming	48	52	4	B	-
ELE014	Digital Communications	78	47	5	C	ELE013
ELE022	Electric Power II	48	77	5	C	ELE021
ELE010	Electronics II	78	47	5	C	ELE009
ELE012	Engineering Analysis II	63	87	6	B	ELE011

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ELE025	Control Theory I	78	72	6	C	ELE012; ELE018
ELE023	Electric Power III	48	102	6	C	ELE022
ENG011	Engineering Numerical Methods	78	47	5	B	ENG009; UOA007
ENG012	Ethics and Leadership Skills	33	17	2	S	-
ELE028	Final Year Project I	63	37	4	C	-
ELE027	Information Theory	48	127	7	C	ELE014

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ELE026	Control Theory II	78	72	6	C	ELE025
ELE034	Digital Electronics	48	77	5	E	ELE002
ELE029	Final Year Project II	63	37	4	C	-
ELE024	Power Electronics	48	77	5	C	ELE008
ELE039	Power System Analysis	48	77	5	E	ELE023
ELE036	Programmable Logic Controller (PLC)	78	47	5	E	ELE002; ELE010

8. Contact

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