Republic of Iraq

Ministry of Higher Education and Scientific Research

University of Misan

College of Engineering

Department of Electrical Engineering

Program Catalogue 2024 – 2025 دليل البرنامج الدراسي

Bachelor's degree (B.Sc.) of Electrical Engineering

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1- Mission & Vision Statemen

Vision Statement

The Electrical Engineering Department is an academic engineering department in a vital and strategic specialization that seeks to graduate engineering cadres specialized in the field of electrical power and machinery engineering with the aim of supporting and developing electrical energy production projects of high level, efficiency and reliability and delivering them to all community facilities and reducing production costs and energy loss.

Mission Statement

- To prepare electrical engineering graduates for a career with a wide range of opportunities in design, development and, management.
- To promote the intellectual, ethical and technological aspects of the student.
- To actively contribute, improve and sustain an environment of continuous learning with professional ability for engineering application in the local market taking into account all possible technical and economic constraints.

2-Program Specification

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

Electrical engineering is one of the newer branches of engineering, and dates back to the late 19th century. It is the branch of engineering that deals with the technology of electricity. Electrical engineers work on a wide range of components, devices and systems, from tiny microchips to huge power station generators.

Level 1 introduces students to the fundamentals of electrical engineering science and is suitable for progression in all programs within the Electrical Engineering suite of programmes. Core program-specific topics are covered at Level 2 to prepare for the research-led specialized modules at Levels 3 and 4. The University of Missan Electrical Engineering graduate is thus trained to appreciate how research informs teaching, in accordance with the university and college mission statements.

In Level 2, the student learns the basic sciences that qualify him to understand the materials that he will learn about in Levels 3 and 4. The student also learns the basics of specialization courses in electrical engineering, which are power, communications and electronics.

The spirit of research is developed and reinforced from the outset through practical procedures, which are either integrated into lecture units or taught in dedicated practical units such as laboratory experiments conducted by the student in the laboratory. There is a summer training that the student conducts in the field of work in the field of electrical engineering after level 3, which is considered among the graduation requirements for each student, level 4, all students carry out an independent research project, which may be a solution to a practical problem that exists in the scope of work.

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.

3-Program Goals

The Electrical Engineering Department in the Faculty of Engineering at Misan University is committed to graduate electrical engineers who will within a four years of graduation:

1-Be able to investigate engineering problems using modern techniques and propose practical solutions.

2-Manage projects and work in multi-disciplinary teams as skilled persona focusing on responsible conduct and professional development.

3-Support the engineering and technological needs of the local society.

4- Taking into account the ethics of the profession.

5- Encouraging students to continue learning after college.

6- Encouraging students on learning and practicing the skills of teamwork.

7- Informing students about the latest developments in electrical engineering field.

4-Student Learning Outcomes

By successfully completing our electrical engineering program, graduates will:

1-an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3- an ability to communicate effectively with a range of audiences

4- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

6- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions

7- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Outcome 1

Identification of Complex Relationships

Graduates will be able to illustrate the electrical parts of electrical circuit components and explain how they operate it.

Outcome 2

Oral and Written Communication

Graduates will be able to formally communicate the results of electrical engineering 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.

5-Academic Staff

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6-Credits, Grading and GPA

Credits

(Name) 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
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)

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 score x ECTS) + (2nd module score x ECTS) + ……] / 240

7-Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SS WL	USS WL	ECTS	Type
EL111	Fundamental of Electrical Engineering I	109	66	7	Core
ENG122	Mathematics I	78	72	6	Basic
EE113	Basic physics	63	62	5	Basic
UM114	Computer Programming I	64	61	5	Support
ENG126	Chemistry	48	27	3	Support
UM116	Academic English	33	17	2	Support
ENG123	Workshop Technology	33	17	2	Support

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SS WL	USS WL	ECTS	Type
EL121	Fundamental of Electrical Engineering II	94	56	6	Core
ENG124	Mathematical II	63	62	5	Basic
EL125	computer Programming II	63	37	4	Core
EE126	Mechanical Engineering	33	17	2	Basic
ENG128	Engineering Drawing	63	37	4	Basic
UOM121	Democracy and Human Rights	33	17	2	Support
UOM123	Arabic language I	33	17	2	Basic
EL123	Electronics I	63	62	5	Core

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SS WL	USS WL	ECTS	Type
EL211	Electrical Circuit I	63	62	5	Core
EL212	Electrical Machine I	93	32	5	Core
ENG201	Mathematical III	63	37	4	Basic
EL213	Electronics II	93	32	5	Core
EL214	Electromagnetic fields I	48	27	3	Core
EL215	computer Programming III	63	37	4	Core
EL216	Digital Technical I	63	37	4	Core

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SS WL	USS WL	ECTS	Type
EL221	Electrical Circuit II	63	62	5	Core
EL222	Electrical Machine II	94	31	5	Core
EL223	Electronics II	48	27	4	Core
EL224	Electromagnetic fields II	48	27	3	Basic
EL225	computer Programming IV	63	37	4	Core
EL226	Digital Technical II	34	41	3	Core
ENG202	Mathematical IV	63	37	4	Basic
MNS120	Baath crimes	33	17	2	Support

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