وزارة التعليم العالي والبحث
جهاز الاشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي

استمارة وصف البرنامج الأكاديمي للكليات والمعاهد

الجامعة: تكريت
المعهد /الكلية: هندسة الشرقاط
تاريخ ملئ الملف: 2024/9/10

التوقيع
اسم المعاون العلمي
م.د. علاء يوسف علي
التاريخ:2024/9/10

م.د.
علاء يوسف علي
معاون العميد للشؤون العلمية

التوقيع
دققت من قبل شعبة ضمان الجودة
والاداء الجامعي
م.م. عبدالله عيسى صبح
التاريخ: 2024/9/10

مصادقة السيد العميد

أ.د. خميس خلف حسن
أ.د 2024/9/10

خميس خلف حسن
عميد كلية هندسة الشرقاط

Tikrit University

جامعة تكريت
كلية هندسة الشرقاط

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

بكالوريوس هندسة كهربائية

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1.   Mission & Vision Statement

Vision Statement

The Department of Electrical Engineering will provide programs of the highest quality to produce globally competent engineers who can address challenges of the millennium to achieve sustainable socio-economic development. Our vision is to be innovators in electrical engineering education and research to spearhead sustainable and environment-friendly economic development.

Mission Statement

The Mission of the Bachelor of Electrical Engineering Programme is to inculcate students with essential knowledge, skills and values required for sustainable design, development and innovation in the field of electrical engineering for socio-economic growth and enabling them for lifelong learning to contribute towards interdisciplinary engineering solutions.

2.   Program Specification

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

The Electrical Engineering program provides a foundation for work in the fields of analog and digital electronics, microelectronics, signal processing, communications, power generation, transmission and distribution, electrical machines, computing systems, controls, and general electrical engineering applications. Topics specific to Electrical Engineering are studied in specialized focus areas in the third and fourth levels.

At level 1, students will develop their essential mathematical and analytical skills and knowledge by studying four core modules: Engineering Math, Basic of Electrical Engineering, Computer programming and digital techniques. Students contextualize and develop their learning further through the following modules, Electronic physics, Engineering mechanics, Engineering Drawings and other basic learning modules. Where possible and appropriate, students are encouraged to draw upon their learning and experience in the workplace to contextualize their learning.

In Level 2, students build on their first-year learning by studying the five core modules: Electrical Networks, Electronic I, DC Electrical Machines, Mathematics II and Computer Programming II. In addition to building on prior learning, these units further develop students' transferable and intellectual skills and knowledge and require students to apply these skills and knowledge. During Level 2, students also undertake more basic modules: Engineering Statistics and Electromagnetic Fields with well-integrated content across courses to reinforce program learning objectives and develop the skills and attitudes that will promote student success.

More specific core topics are covered at Levels 3 and 4. A Leeds Electrical Engineering graduate is therefore trained to appreciate how research informs teaching, according to the University and college Mission statements. At Level 3 and 4 students are free to choose more elective module credits with the proviso a range of modules are selected that reflect the complexity of electrical circuits, through study the electrical networks, power electronics, information and communication systems and electronics to populations to ensure the breadth of knowledge expected of a graduate with an electrical engineering degree. This allows students to develop their own wide-ranging interests in electrical circuits behavior. Decisions on what to study are made with input from personal tutors. At Level 4 all students carry out an independent research project, which may be a credit library or data analysis project, or a credit field or laboratory based project.

3.   Program Goals

The aim of the Electrical Engineering Program is to train students who are willing to become Electrical Engineers to become sound in the field. The trained students should be confident, self-reliant and be able to execute what they have learnt and strive to be the best among equals and to be able to do this independently. Other goals are:

1. To produce graduates in Electrical Engineering who are registerable with professional bodies and have a burning desire to excel in their chosen profession.

2. To provide a comprehensive education in electrical engineering that stresses scientific reasoning and problem solving across the spectrum of disciplines within electrical power system.
3. 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 electrical engineering.
4. To provide extensive hands-on training in electronic technology, statistical analysis, laboratory skills, and field techniques
5. To provide thorough training in written and oral communication of scientific information.
6. To enrich students with opportunities for alternative education in the area of Electrical Engineering, communication Engineering, Control Engineering, power system Engineering, through undergraduate research, internships, and study-abroad.

4. Student Learning Outcomes

Student Learning Outcomes describe the knowledge, skills and dispositions that students have learned from completing the Engineering Technology program. Each student learning outcome is mapped to a program education objective, which prepares graduates to attain the program educational objectives within a few years of graduation.

Outcome 1
Students will be able to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly defined engineering technology activities.

Outcome 2
Students will be able to select and apply principles of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.

Outcome 3
Students will be able to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.

Outcome 4
Students will be able to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives.

Outcome 5
Students will be able to function effectively as a member or leader on a technical team.

Outcome 6
Students will be able to identify, analyze, and solve broadly-defined engineering technology problems.

Outcome 7

Students will be able to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.

Outcome 8

Students will be able to recognize the need for engage in lifelong learning to maintain and enhance their knowledge of the discipline.

Outcome 9

Students will be able to identify contemporary issues encountered in the engineering technology profession related to diversity and the impact of technology decision on a global society.

Outcome 10

Students will be able to explain the ethical and professional responsibilities associated with the practice of engineering technology.

Outcome 11

Students will be able to demonstrate the importance of quality, timeliness and continuous improvement to the field of engineering technology.

5. Academic Staff

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6.   Credits, Grading and GPA

Credits

Tikrit 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)

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

7. Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module name	SSWL	USSWL	ECTS	Type	Prerequisite
TUSHEE1100	Mathematics I	123	77	8	C	None
TUSHEE1101	Engineering Drawings	123	27	6	B	None
TUSHEE1102	Computer Skills	63	87	6	C	None
TUSHEE1103	Physical Electronic	63	87	6	B	None
TUSHEE1104	Arabic Language	33	17	2	S	None
TUSHEE1105	English Language I	33	17	2	S	None

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Prerequisite
TUSHEE1200	Fundamentals of Electrical Engineering	153	47	8	C	None
TUSHEE1201	Digital Techniques	123	77	8	C	None
TUSHEE1202	Engineering Mechanics	63	37	4	B	None
TUSHEE1203	Engineering Workshop	63	37	4	B	None
TUSHEE1205	MATLAB Programming	63	37	4	B	None
TUSHEE1205	Democracy and Human Rights	33	17	2	S	None

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Prerequisite
TUSHEE2100	Electrical Networks	93	107	8	C	TUSHEE1200
TUSHEE2101	Electronic I	138	62	8	C	None
TUSHEE2102	Electrical Machines I (DC)	138	62	8	C	None
TUSHEE2103	Engineering Statistics	48	102	6	B	None

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Prerequisite
TUSHEE2200	Mathematics II	123	102	9	C	TUSHEE1100
TUSHEE2201	Computer Programming	123	102	9	C	None
TUSHEE2202	Electromagnetic Fields	93	107	8	B	None
TUSHEE2203	English Language II	33	17	2	S	TUSHEE1105
TUSHEE2204	The Crimes of Baath Regime in Iraq	33	17	2	S	None

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Prerequisite

TUSHEE3100	Electrical Power System	78	72	6	C	TUSHEE1200
TUSHEE3101	Engineering and Numerical Analysis	108	42	6	B	TUSHEE2200
TUSHEE3102	Communication Systems	123	77	8	C	None
TUSHEE3103	Transmission Lines and Antenna	63	37	4	B	None
TUSHEE3104	English III	33	17	2	S	TUSHEE2203
TUSHEE310X	Elective Course - Department	48	52	4	E	Based on selected Course

*See Department elective courses to select accordingly.

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
TUSHEE3200	Electrical Machines II (AC)	123	77	8	C	None
TUSHEE3201	Electronic II	123	77	8	C	TUSHEE2101
TUSHEE3202	Microprocessor Engineering	123	77	8	C	None
TUSHEE3203	Electrical Measurements	63	37	4	B	None
TUSHEE320X	Elective Course - Department	33	17	2	E	Based on selected Course

*See Department elective courses to select accordingly.

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Prerequisite
TUSHEE4100	Engineering Control	153	47	8	C	TUSHEE2200
TUSHEE4101	Power Electronics	153	47	8	C	TUSHEE1200
TUSHEE4102	Digital System Design	63	87	6	B	TUSHEE1201
TUSHEE4103	Graduation Project I	33	67	4	C	None
TUSHEE410X	Elective Course - Department	63	37	4	E	Based on selected Course

*See Department elective courses to select accordingly.

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Prerequisite
TUSHEE4200	Information Theory and Coding	63	62	5	C	TUSHEE3102
TUSHEE4201	Power System Analysis and Protections	93	107	8	C	TUSHEE1200
TUSHEE4202	Digital Signal Processing	63	62	5	B	TUSHEE1201

TUSHEE4203	Graduation Project II	33	67	4	C	TKSHEE4103
TUSHEE4205	English IV	33	17	2	S	TUSHEE3104
TUSHEE420X	Elective Course - Department	48	102	6	E	Based on selected Course

*See Department elective courses to select accordingly.

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