Program Specification

(Bachelor)

Program:	**Bachelor of Science in Electrical Engineering**
Program Code (as per Saudi university ranking):	**071301**
Qualification Level:	Bachelor (Level 6)
Department:	Department of Electrical Engineering
College:	Faculty of Engineering
Institution:	University of Tabuk
Program Specification:	New ☐ updated* ☒
Last Review Date:	14/04/2022

*Attach the previous version of the Program Specification.

Table of Contents

A. Program Identification and General Information

1. Program's Main Location:
University of Tabuk, Tabuk

2. Branches Offering the Program (if any):
None

3. Partnerships with other parties (if any) and the nature of each:
None

4. Professions/jobs for which students are qualified
215101: Electrical Engineer 215201: Electronics Engineer 215105: Control Engineer 215301: Telecommunications Engineer 215107: Power Engineer

5. Relevant occupational/Professional sectors:
Engineering, Electrical Power, Industry, Telecommunications, Renewable Energy, Construction, Government, Military.

6. Major Tracks/Pathways (if any):

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1. Not Applicable		

7. Exit Points/Awarded Degree (if any):

exit points/awarded degree	Credit hours
1. Not Applicable	

8. Total credit hours: (164)

B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

To offer a comprehensive education that develops technical and professional engineering skills, instills moral values and ethical behavior, and motivates and prepares students to engage in research and community service.

2. Program Goals:

1. Produce competent Electrical Engineers.
2. Inculcate moral values and professionalism among students.
3. Engage students in community services.
4. Empower graduates to contribute towards economic prosperity of the country.

3. Program Learning Outcomes*

Knowledge and understanding	
K1	An ability to demonstrate knowledge and comprehension with both breadth and depth in the underlying theories, principles, and concepts of electrical engineering and science.
Skills	
S1	An ability to identify, formulate, and solve complex engineering problems by applying principles of electrical engineering, science, and mathematics.
S2	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.
S3	An ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgement to draw conclusions.
S4	An ability to communicate effectively with a range of audiences.
Values, Autonomy, and Responsibility	
V1	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
V2	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.
V3	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Add a table for each track or exit Point (if any)

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	16	45	27.44%
	Elective	0	0	0.00%
College Requirements	Required	13	32	19.51%
	Elective	0	0	0.00%
Program Requirements	Required	28	69	42.07%
	Elective	4	12	7.32%
Capstone Course/Project		2	4	2.44%
Field Training/ Internship		1	2	1.22%
Residency year		0	0	0.00%
Others		0	0	0.00%
Total		64	164	100.00%

* Add a separate table for each track (if any).

2. Program Courses

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	ELS001	English Language (1)	Required		5	Institution
	LTS001	Learning, Thinking, and Research Skills	Required		3	Institution
	BIO101	General Biology	Required		3	Institution
	CHEM101	General Chemistry	Required		3	Institution
	MATH100	Mathematics	Required		3	Institution
Level 2	COMM001	Communication Skills	Required		2	Institution
	CSC001	Computer Skills and Applications	Required		3	Institution
	ELS002	English Language (2)	Required	ELS001	5	Institution
	MATH101	Mathematics (2)	Required	MATH100	3	Institution
	PHYS101	General Physics	Required		3	Institution
Level 3	ENG201	Engineering Drawing and Graphics	Required		3	College
	ENG203	Engineering Mechanics (1)	Required	PHYS101	2	College
	ENG205	Introduction to Engineering Design (1)	Required	MATH101 ELS002	3	College
	ISLS101	Islamic Culture (1)	Required		2	Institution
	MATH284	Mathematical Geometry	Required	MATH101	3	College
	PHYS205	Physics	Required	PHYS101	4	College
	PHYS281	General Physics Lab	Required	PHYS101	1	College
Level	ELEN200	Electrical Circuits I	Required	PHYS205 MATH101	3	Department

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
4	CHEM203	General Chemistry lab	Required	CHEM101	1	College
	ENG213	Introduction to Engineering Design (2)	Required	ENG205	2	College
	ELEN220	Complex Analysis & Discrete Math	Required	MATH101	3	Department
	MATH241	Linear Algebra	Required	MATH284	3	College
	ENG202	Production Technology and Workshops	Required	ENG201	3	College
	MATH383	Differential Equations	Required	MATH284	3	College
Level 5	ELEN202	Electrical Circuits II	Required	ELEN200	3	Department
	ELEN203	Electrical Circuit Lab	Required	ELEN202-M ELEN200	1	Department
	ELEN210	Electronics I	Required	ELEN200	3	Department
	ELEN230	Signals & Systems	Required	ELEN200 MATH241	3	Department
	ELEN240	Electromagnetics I	Required	PHYS205 MATH284	3	Department
	ELEN250	Logic Design	Required	ELEN200	3	Department
Level 6	ELEN232	Control Systems	Required	MATH383 ELEN230	3	Department
	ELEN251	Logic Design Lab	Required	ELEN250 ELEN203	1	Department
	ELEN310	Elctronics II	Required	ELEN210 ELEN202	3	Department
	ELEN311	Electronics Lab	Required	ELEN310-M ELEN210 ELEN203	1	Department
	ELEN322	Numerical Methods	Required	MATH241	3	Department
	ELEN326	Engineering Programming	Required	CSC001	3	Department
	ELEN340	Electromagnetics II	Required	ELEN240 MATH383	3	Department
	ELEN341	Electromagnetics Lab	Required	ELEN340-M ELEN240 ELEN203	1	Department
Level 7	ENG214	Engineering Economy	Required	ENG213	2	College
	ELEN224	Probabilistic Methods in EE	Required	ELEN230	3	Department
	ELEN233	Control Lab	Required	ELEN232 ELEN203	1	Department
	ELEN331	Scientific Computing	Required	MATH241 ELEN200	2	Department
	ELEN352	Embedded Systems	Required	ELEN250 ELEN326	4	Department
	ELEN370	Electrical Machines	Required	ELEN340 ELEN202	3	Department
	ISLS201	Islamic Culture (2)	Required	ISLS101	2	Institution
Level 8	ELEN204	Measurements and Instruments	Required	ELEN310	2	Department
	ENG215	Engineering Management	Required	ENG214	2	College

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	ELEN260	Communication Engineering I	Required	ELEN224 ELEN230	3	Department
	ELEN372	Electric Energy Engineering	Required	ELEN370	3	Department
	ELEN373	Electrical Machines and Energy Lab	Required	ELEN372-M ELEN370 ELEN203	1	Department
	ELEN399	Summer Training	Required		2	Department
	ARB101	Language Skills	Required		2	Institution
	ISLS301	Islamic Culture (3)	Required	ISLS201	2	Institution
Level 9	ELEN330	Digital Signal Processing	Required	ELEN230	3	Department
	ELEN361	Communications Lab	Required	ELEN260 ELEN203	1	Department
	ELEN410	Power Electronics	Required	ELEN310	3	Department
	ELEN495	Graduation Project I	Required	ENG213 ELEN370 ELEN311	1	Department
	ARB201	Writing Skills	Required	ARB101	2	Institution
	ELENxxx	Elective (1)	Elective		3	Department
Level 10	ELEN496	Graduation Project II	Required	ELEN495	3	Department
	ISLS401	Islamic Culture (4)	Required	ISLS301	2	Institution
	ELENxxx	Elective (2)	Elective		3	Department
	ELENxxx	Elective (3)	Elective		3	Department
	ELENxxx	Elective (4)	Elective		3	Department

* Include additional levels (for three semesters option or if needed).
** Add a table for the courses of each track (if any)

3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template (T-104)

Electrical Engineering Course Specifications

4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with program courses, according to the following desired levels of performance *(I = Introduced & P = Practiced & M = Mastered).*

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding		Skills					Values, Autonomy, and Responsibility			
	K1	---	S1	S2	S3	S4	---	V1	V2	V3	---
MATH100	I		I						I		
ECE001						I					
LTS001								I	I	I	

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding		Skills					Values, Autonomy, and Responsibility			
	K1	---	S1	S2	S3	S4	---	V1	V2	V3	---
BIO101	I		I						I		
CHEM101	I		I					I	I		
CSC001	I		I						I		
COMM001						I			I		
ECE002						I					
MATH101	I		I			I			I		
PHYS101	I		I								
ENG201	I		I								
ENG203			I								
ENG205	I		I	I		I			I		
ISLS101								I			
MATH284	I		I					I			
PHYS205	I		I			I		I	I		
PHYS281	I		I		I	I			I		
ELEN200	I		I								
CHEM203	I				I			I	I		
ENG213	I		I	I		I		I	I	I	
ELEN220			P								
MATH241	I		I								
ENG202	I		I		I						
MATH383	P		P								
ELEN202			P								
ELEN203					P	I			P		
ELEN210	P		P	I							
ELEN230			P								
ELEN240			P								
ELEN250			P	P							
ELEN232	P		P								
ELEN251					P	I			P		
ELEN310			P								
ELEN311					P	I			P		
ELEN322			P								
ELEN326	P		P	P							
ELEN340			P								
ELEN341					P	P			P		
ENG214	P		P								
ELEN224			P								
ELEN233	P				P	P			P		

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding		Skills					Values, Autonomy, and Responsibility			
	K1	---	S1	S2	S3	S4	---	V1	V2	V3	---
ELEN331			P								
ELEN352	P			P	P						
ELEN370	M		M								
ISLS201								P			
ELEN204	M		M	M							
ENG215	M		M								
ELEN260	M		M								
ELEN372	M		M								
ELEN373	M				M	P			P		
ELEN399						M		M	M	P	
ARB101						M					
ISLS301								M			
ELEN330			M								
ELEN361					M	M			M		
ELEN410	M		M								
ARB201						M					
ELEN495			M	M		M		M	M	M	
ELEN496			M	M	M	M		M	M	M	
ELEN412			M		M						
ELEN432	M			M							
ELEN436	M			M							
ELEN440			M								
ELEN462	M		M	M							
ELEN464	M		M	M							
ELEN466	M		M	M							
ELEN468	M		M								
ELEN470	M		M								
ELEN472	M		M	M							
ELEN474			M								
ELEN476	M		M								
ELEN478	M		M								
ELEN480	M		M								
ELEN482	M		M								
ELEN490	M			M							

* Add a separated table for each track (if any).

5. Teaching and learning strategies applied to achieve program learning outcomes.

Describe teaching and learning strategies, including curricular and extra-curricular activities, to achieve the program learning outcomes in all areas.

1. Lecturing:
Description: instructors use lectures to deliver content to students related to the course material. Lectures are a way for instructors to provide foundational knowledge and introduce fundamental concepts and theories to students. Lectures may be supplemented with: visual aids such as slides, diagrams, and videos and interactive simulations that can help to illustrate key points. Use of technology such as using online resources, interactive whiteboards, and polling software. Incorporation of real-world application can help to illustrate abstract concepts and make the lecture more relevant to students.
Suitable for presenting foundational knowledge, theoretical concepts, and complex information.
Application: Applied in almost all BSc. EE courses.

2. Problem-Based Learning (PBL):
Description: instructors engage students in the learning process by presenting them with real-world problems that require them to work individually or as a team to apply their knowledge of the course material, develop their critical thinking and problem-solving skills, exchange ideas, share their insights, and learn from each other. Problem-Based Learning includes a variety of activities such as problem-solving exercises, case studies of real-world problems, research projects (self-direct learning), design projects, group discussions, class discussions, industry visit, Guest speakers, and reports and presentations.
Application: Applied in most of EE courses linked with PLO (S1)

3. Experimental-Based Learning:
Description: Instructors provide students with the opportunity to actively engage in the learning process by performing experiments, making observations, and drawing conclusions. Before the experiments, instructors typically provide a pre-lab explanation that includes background information on the experiment and its expected outcomes, and Safety procedures. This information helps students understand the context of the experiment and how it relates to the theoretical concepts they are learning. During the hands-on experimentation phase, students work in small groups or individually to conduct experiments, collect data, analyze their findings, and write Lab report. They are encouraged to ask questions, make observations, and draw conclusions based on their data. This process helps students develop important skills such as critical thinking, problem solving, and decision-making.
Application: Applied in Lab courses.

4. Project-Based Learning (PjBL):
Description: Instructors provide students with a problem or challenge that requires them to consider multiple factors, such as public health, safety, global, cultural, social, and environmental. Students then conduct research to gain a deeper understanding of the problem and its context, generate potential solutions, develop a final solution or prototype, and then present and document their work. This process encourages students to think critically and creatively, work collaboratively, and develop important skills that are essential in the real world.
Application: Applied in SDP and few other courses

5. Filed Training:

Field training involves providing students with practical, hands-on experiences in real-world settings relevant to EE discipline. This strategy is used to bridge the gap between theoretical knowledge gained in the classroom and the practical application of that knowledge in professional or field settings.

5. Extra-curricular activities.

Alignment with PLOs

Lecturing serves as a foundational element, fostering knowledge and comprehension with both breadth and depth in the underlying theories, principles, and concepts of electrical engineering and science (PLO (K1)). Problem-based learning engages students in identifying, formulating, and solving complex engineering problems, applying principles of electrical engineering, science, and mathematics (PLO (S1)). Project-based learning, in turn, allows students to apply engineering design to produce solutions that consider various factors such as public health, safety, welfare, and global, cultural, social, environmental, and economic considerations (PLO (S2)). Additionally, experimental-based learning facilitates the development of skills related to conducting appropriate experimentation, analyzing and interpreting data, and using engineering judgment to draw conclusions (PLO (S3)). By encompassing these teaching strategies, the BSc EEP ensures that students not only acquire technical knowledge but also develop vital skills in communication (PLO (S4)), ethical decision-making (PLO (V1)), teamwork (PLO (V2)), and continuous learning (PLO (V3)) especially though project-based learning strategy.

PLO Code	Program Learning Outcome	Domain	Teaching Strategies
K1	Demonstrate knowledge and comprehension with both breadth and depth in the underlying theories, principles, and concepts of electrical engineering and science.	Knowledge and understanding	Lecturing
S1	An ability to identify, formulate, and solve complex engineering problems by applying principles of electrical engineering, science, and mathematics.	Skills	Lecturing, Problem-Based Learning, Project-Based Learning
S2	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.	Skills	Lecturing, Problem-Based Learning, and Project-Based Learning
S3	An ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgement to draw conclusions.	Skills	Lecturing, Experimental-Based Learning, and Project-Based Learning

S4	An ability to communicate effectively with a range of audiences.	Skills	Lecturing, Project-Based Learning
V1	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.	Values, Autonomy and Responsibility	Lecturing, Project-Based Learning
V2	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.	Values, Autonomy and Responsibility	Problem-Based Learning, Project-Based Learning
V3	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	Values, Autonomy and Responsibility	Problem-Based Learning, Project-Based Learning

6. Assessment Methods for program learning outcomes.

Describe assessment methods (Direct and Indirect) that can be used to measure the achievement of program learning outcomes in all areas.

The program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least twice in the bachelor program's cycle and once in other degrees).

The BSc EE program employs two distinct assessment methods for Program Learning Outcomes (PLOs): direct and indirect assessment.

Direct Assessment of PLOs

- For the technical outcomes PLO(K1), PLO(S1), PLO(S2), and PLO(S3), a CLOs-based method is utilized. In this approach, the assessment results of Course Learning Outcomes (CLOs) directly contribute to the calculation of PLO achievement. To implement this, the program utilizes student work such as quizzes, midterm exams, final exams, lab exams, and lab reports. The process involves the following steps:

1. Relate Questions to CLOs
2. Relate CLOs to PLOs
3. Utilize assessment excel sheets with this mapping, incorporating students' grades for each question, to determine the actual attainment level of each PLO.

- In contrast, professional outcomes PLO(S4), PLO(V1), PLO(V2), and PLO(V3) are directly using performance indicators (PIs) and rubrics. Professional outcomes are primarily assessed through the Senior Design Project (SDP). Assessment of PLO(S4) is conducted by the SDP committee using the final report and final presentation, while PLO(V1), PLO(V2), and PLO(V3) are assessed by SDP advisors

through observation of students' performance throughout the semester and, sometimes, during the final presentation.

Indirect Assessment of PLOs

The program also conducts indirect assessments through two methods:

1. An exit survey administered to graduating students.
2. An opinion survey of employers regarding the proficiency of the program's graduates.

Additional information regarding the methods, tools, and the plan for PLO assessment can be found in the comprehensive PLO assessment framework. This framework has been prepared and officially approved by the BSc EE program.

D. Student Admission and Support:

1. Student Admission Requirements

University of Tabuk Admission Requirements:

1. A candidate should have obtained the national secondary school certificate, or its equivalent from inside or outside the Kingdom of Saudi Arabia.
2. A candidate should have obtained the national secondary school certificate or its equivalent in a period of less than five years prior to the date of application.
3. A candidate must have a record of good behavior.
4. The age of the candidate should not exceed 25 years.
5. The score of the candidate in the Standard Achievement Admission Test (SAAT) should not be less than 50%.
6. The score of the candidate in the General Aptitude Test (GAT) should not be less than 50%.
7. A candidate must successfully pass any examination or personal interview as determined by the University Council.
8. A candidate must obtain the approval of his employer to attend university, if he is an employee of any government or private agency.
9. A candidate must satisfy any other conditions the University Council may deem necessary at the time of application.
10. A candidate must not have been dismissed from any other university.
11. Admission is granted to applicants who satisfy all the admission requirements and is based on the applicant's grades in the secondary school examinations, personal interviews, and admission examinations, if required.

All students are admitted to "General Engineering".

The regulations for admitting students into the Electrical Engineering program:

1. The student's academic status must be" regular".
2. The cumulative GPA should not be less than 2.
3. Adherence to deadlines according to the approved academic calendar.
4. Withdrawal from the allocation is not allowed after the request is accepted.
5. Students who do not apply within the specified period will be allocated based on available seats.

6. Other regulations and available seats are determined by the faculty council.

2. Guidance and Orientation Programs for New Students

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

1. Newly enrolled students undergo a one-day orientation session before the commencement of their first semester, acquainting them with university life, including college programs, study plans, academic advising, regulations related to academics and exams, as well as available services. This session occurs before students select their specialization department. A department representative offers an overview of the BSc Electrical Engineering program during this session for engineering students. 2. Each student is assigned an academic advisor.

3. Student Counseling Services

(Academic, professional, psychological and social)
(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

One of the goals of the department of Electrical Engineering is to build a strong lifelong relationship with its students through a consistent system of student support. The support system is designed to enrich and enhance students' academic and non-academic skills, maximize the benefits to the student's campus life, and provide students with the necessary tools and support that will help them with the problems they face in life. To achieve this goal, the department of Electrical Engineering adopts various initiatives, including academic advising, counseling, career offices, and engineering clubs (skills-based clubs and knowledge-based clubs). Academic advising is a collaborative educational process whereby students and their advisors are partners in meeting the essential learning outcomes, ensuring student academic success, and outlining the steps for achievement of the student's personal, academic, and career goals. Academic advising provides students with the opportunity to build relationships with their advisors to help the students in building their educational plans and careers, learn the skills needed for academic success, and learn how to access a variety of resources and services available to them. This partnership requires both the student and the advisor to have clear responsibilities to ensure the advising partnership is successful. Advising teaches skills like decision-making and critical thinking, as well as content like curriculum and academic regulations. Advising and teaching are both interactive activities that result in student learning. Academic advising at the department of Electrical Engineering covers different aspects that interest students such as curriculum and academic relations, University rules and regulations, the program policies and procedures, career life, and student problems and behavior. To maximize the benefits of the advisor-student partnership and to reach its planned goals, this relationship is built on a strong foundation from the first day of student enrollment in the Electrical Engineering program.

In addition to academic concerns, the advisor may refer students requiring psychological and social guidance to the Counseling and Student Rights Unit at the Deanship of Students Affairs, facilitated through the department and faculty administration. This unit serves as a valuable resource for students, providing support for both academic progress and any challenges they may encounter. Furthermore, the unit collaborates with professional psychologists assigned by the university to offer specialized psychological and social guidance to students.

4. Special Support

(Low achievers, disabled, gifted, and talented students).

1. Low achiever students are encouraged by faculty members to improve by establishing a system for continuous feedback between faculty members and students, and giving them tutorial sessions, and online platforms where underachieving students can access supplementary learning materials, video lectures, and interactive simulations. 2. Disabled students are given special attention, and their special needs are fulfilled either at the department level or the university through the Special Needs Centre at the Deanship of Student Affairs. 3. Gifted and talented students are encouraged to improve their knowledge and skills by giving them more challenging academic tasks and projects. The Faculty of Engineering, with the support of the university, established an Innovation program for gifted students to guide and support them. 4. Faculty administration actively motivates talented students to be considered for inclusion in the deans' appreciation list each semester.

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements /Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professor	Electrical Engineering	Power Systems, Power Electronics, Communications		3	0	3
Associate Professor	Electrical Engineering	Power Systems, Electronics, Communications		8	0	8

Assistant Professor	Electrical Engineering	Power Systems, Electronics, Communications		12	0	12
Lecturer	Electrical Engineering	Communications		1	0	1
Teaching Assistant	Electrical Engineering			0	0	0
Technicians and Laboratory Assistant	Electrical Engineering			4	0	4
Administrative and Supportive Staff				1	0	0
Others (specify)						

F. Learning Resources, Facilities, and Equipment:

1. Learning Resources

Learning resources required by the Program (textbooks, references, and e-learning resources and web-based resources, etc.)

Textbooks
Blackboard
Digital Library

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

- Library services, medical facilities, recreational and sporting facilities, and student services are provided at the institutional level.
- A sufficient number of classrooms is available for the program.
- Specialized laboratories are available for the program. These labs are maintained and upgraded regularly, and new labs are being established.

3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the program)

- Safety guidelines are applied to ensure the facilities, equipment, and tools in the Electrical Engineering program are safe for their intended purposes.
- At the beginning of each semester, a laboratory faculty member reviews the safety guidelines with students during Lab time.
- The faculty hands out safety guideline documentation with each Lab syllabus.

- During the laboratory coursework, the faculty member ensures that safety protocols are followed.
- Safety guidelines are posted in every Lab.
- Any issues noted by students or staff are noted to the laboratories and equipment committee ,the head of the department or the faculty administration. The administration then contacts the corresponding maintenance department, health and safety administration to resolve the issue.
- Fire extinguishers are available at appropriate locations in all buildings.
- An emergency evacuation procedure is affixed in laboratories and in different appropriate places in the faculty buildings.
- Emergency telephone numbers are posted at appropriate locations in all buildings.

G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to quality assurance manual.

Quality Assurance Manul

2. Procedures to Monitor Quality of Courses Taught by other Departments

- Course binders, encompassing course reports and samples of student work, are gathered.
- The assessment procedures approved by the department are employed to evaluate students' attainment of course learning outcomes.
- The Quality Committee meticulously reviews course binders and course reports. Recommendations from the course instructor undergo scrutiny. Proposed actions, whether suggested by the course instructor or additional proposals, are thoroughly discussed.

3. Procedures Used to Ensure the Consistency between Main Campus and Branches (including male and female sections).

NA

4. Assessment Plan for Program Learning Outcomes (PLOs),

Additional information regarding the methods, tools, and the plan for PLO assessment can be found in the comprehensive PLO assessment framework. This framework has been prepared and officially approved by the BSc EE program.

Assessment plan of the technical outcomes

Outcome	Course-Level Direct Assessment				Program-Level Direct Assessment	Indirect Assessment
	Responsibility	Method	Source of Data	Time of collecting data		
PLO(K1)	Course Instructor	Examination	Outcome-related controlled environment questions (CEQ)	End of semesters	The Quality committee aggregates data for each Program Learning Outcome (PLO) from its respective courses.	The Quality Committee administers an exit survey among graduating students Annually
PLO(S1)		Examination				
PLO(S2)		Examination and Observation				
PLO(S3)		Examination	Lab exams and/or reports			

Assessment plan of the professional outcomes

Outcome	Course-Level Direct Assessment			Program-Level Direct Assessment	Indirect Assessment	Time of collecting data
	Responsibility	Method	Source of Data			
PLO(S2) Professional Part	SDP Committees	Utilize rubrics for assessment by observing students' performance.	SDP Report	The SDP and Quality Committees aggregates data for each Program Learning Outcome (PLO) from all SDP groups.	The Quality Committee administers an exit survey among graduating students Annually	End of Semesters
PLO(S4)	SDP Committees		SDP Report & Presentation			
PLO(V1)	SDP Advisor		SDP semester work			
PLO(V2)	SDP Advisor					
PLO(V3)	SDP Advisor					

All Program Learning Outcomes (PLOs) are assessed over a two-year cycle, with four outcomes (PLO(K1), PLO(S1), PLO(S4), and PLO(V3)) evaluated in a given year, and the next four PLOs (PLO(S2), PLO(S3), PLO(V1), and PLO(V2)) assessed in the subsequent year. Afterwards, these two groups are alternated annually and assessed through a designated set of courses.

5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Program goals	Operational plan Employers, Faculty, Alumni, Students.	KPI of operational plan Surveys, Meeting	End of academic year
Effectiveness of teaching and assessment methods	Quality Committee Program coordinator Course coordinator Peer reviewer Students	• Exam Analysis • Course report • Course Evaluation Surveys (CES) (Indirect) • Staff feedback (Indirect)	End of semester
Performance of teaching staff	Department chair	Evaluation form	End of academic year
Learning resources	Instructors Students	• CES (Indirect) • Staff feedback (Indirect)	End of academic year

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, services, partnerships, etc.)
Evaluation Sources (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others.
Evaluation Methods (e.g., Surveys, interviews, visits, etc.)
Evaluation Time (e.g., beginning of semesters, end of the academic year, etc.)

6. Program KPIs*

The period to achieve the target (5) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	80%	Percentage of performance indicators of the operational plan objectives of the program that achieved the targeted annual level to the total number of indicators targeted for these	End of each Academic year

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
				objectives in the same year.	
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	3.75	Average of overall rating of final year students for the quality of learning experience in the program on a five-point scale in an annual survey.	End of each Academic year
3	KPI-P-03	Students' evaluation of the quality of the courses	3.75	Average students overall rating for the quality of courses on a five-point scale in an annual survey.	End of each Academic year
4	KPI-P-04	Completion rate	60%	Proportion of undergraduate students who completed the program in minimum time in each cohort.	End of each Academic year
5	KPI-P-05	First-year students retention rate	90%	Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year.	End of each Academic year
6	KPI-P-06	Students' performance in the professional and/or national examinations	40%	Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any).	End of each Academic year
7	KPI-P-07	Graduates' employability and	40%	Percentage of graduates from	End of each Academic year

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
		enrolment in postgraduate programs		the program who within a year of graduation were employed or enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year.	
8	KPI-P-08	Average number of students in the class	Lecture: 25 Laboratory: 15	Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory, or clinical session).	End of each Academic year
9	KPI-P-09	Employers' evaluation of the program graduate's proficiency	3.75	Average of overall rating of employers for the proficiency of the program graduates on a five-point scale in an annual survey.	End of each Academic year
10	KPI-P-10	Students' satisfaction with the offered services	3.75	Average of students' satisfaction rate with the various services offered by the program (restaurants, transportation, sports facilities, academic advising, ...) on a five-point scale in an annual survey.	End of each Academic year
11	KPI-P-11	Ratio of students to teaching staff	15:1	Ratio of the total number of students to the total number of	End of each Academic year

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
				full-time and full-time equivalent teaching staff in the program	
12	KPI-P-12	Percentage of teaching staff distribution (Doctoral Qualification)	Lecturer: 20% Assistant: 40% Associate: 25% Professor: 15%	Percentage of teaching staff distribution based on academic ranking.	End of each Academic year
13	KPI-P-13	Proportion of teaching staff leaving the program	≤5.0%	Proportion of teaching staff leaving the program annually for reasons other than age retirement to the total number of teaching staff.	End of each Academic year
14	KPI-P-14	Percentage of publications of faculty members	50%	Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program.	End of each Academic year
15	KPI-P-15	Rate of published research per faculty member	2	The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year).	End of each Academic year
16	KPI-P-16	Citations rate in refereed journals per faculty member	5.5	The average number of citations in refereed journals	End of each Academic year

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
				from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published).	
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources	3.75	Average of beneficiaries' satisfaction rate with the adequacy and diversity of learning resources (references, journals, databases… etc.) on a five-point scale in an annual survey.	End of each Academic year

*including KPIs required by NCAAA

H. Specification Approval Data:

Council / Committee	Department of Electrical Engineering Council
Reference No.	Meeting No. (19) for the academic year 1443 H
Date	14.04.22