T-103
2022

Program Specification

Program Name:	Electrical Engineering
Program Code (as per Saudi university ranking):	071301
Qualification Level:	6
Department:	Electrical Engineering
College:	College of Engineering
Institution:	**Najran University**
Program Specification:	New ☐ updated* ☒
Last Review Date:	27/02/2023

*Attach the previous version of the Program Specification.

Program Specification 2018

Content:

A. Program Identification and General Information

1. Program's Main Location :

Main campus - Najran

2. Branches Offering the Program (if any):

One branch: Electrical Engineering

3. Partnerships with other parties (if any) and the nature of each:

NA

4. Professions/jobs for which students are qualified

- Teaching assistant in Electrical or Electronics departments in a university.
- Teacher in Electrical or Electronics department in technical colleges.
- Operator in governmental and private electrical companies.
- Operator in Electric power stations.
- Operator in lighting and wiring buildings.
- Operator in Electrical control of industrial machinery.
- Designer in Electrical Engineering.
- Operators in PLC software and control systems.
- Designer of low voltage Electrical systems.

5. Relevant occupational/ Professional sectors:

Electrical Engineering

6. Major Tracks/Pathways (if any):

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1. Electrical Engineering	163	Designer/operator/teaching assistant in Electrical Engineering

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

exit points/awarded degree	Credit hours
1. NA	

8. Total credit hours: 163

B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

To provide the students a conducive environment for academic learning that produces qualified electrical engineers to adequately meet the national requirements, and address the community challenges through research, and advanced technologies.

2. Program Objectives:

- Technically compete in their respective electrical engineering field and conceiving, designing, and executing broad range of electrical engineering tasks locally and globally.

- Meet industry's expectations in electrical engineering.
- Contribute to the society through providing innovative solutions for electrical engineering problems and function on multi-disciplinary teams.
- Pursue their electrical engineering professional development through self-learning and advanced graduate studies if qualified and interested.
- Uphold professional and social ethics necessary in fulfilling their responsibilities towards the Almighty, clients and the society, and contribute to sustainable development of the Kingdom.

3. Program Learning Outcomes*

Knowledge and Understanding

K1 (1)	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
K2 (7)	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Skills

S1 (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.
S2 (6)	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw
S3 (3)	An ability to communicate effectively with a range of audiences

Values, Autonomy, and Responsibility

V1 (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.
V2 (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

* 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
Preparatory Year	Required	12	27	16.56%
	Elective	-	-	-
Institution Requirements	Required	6	12	7.36%
	Elective	-	-	
College Requirements	Required	27	67	41.10
	Elective	-	-	-
Program Requirements	Required	29	63	%38.65
	Elective	4	12	%7.36
Capstone Course/Project	Required	2	5	3.07%
Field Training/ Internship	Required	1	0	0%
Residency year	-	-	-	-
Others	-	-	-	-
Total		69	163	100%

* Add a separated 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	140ENG-2	English Language: Reading Skills	Required	-	2	Preparatory Year
	141ENG-2	English Language: Writing Skills	Required	-	2	Preparatory Year
	142ENG-2	English Language: Listening & Speaking Skills	Required	-	2	Preparatory Year
	140SKL-2	Learning, thinking and Research Skills	Required	-	2	Preparatory Year
	140TEC-2	Computer Skills	Required	-	2	Preparatory Year
Level 2	143ENG-2	English Language: Grammar	Required	-	2	Preparatory Year
	151ENG-2	Report Writing	Required	-	2	Preparatory Year
	140MATH-2	Introduction of Mathematics	Required	-	2	Preparatory Year
	150SKL-2	Communication Skills	Required	-	2	Preparatory Year
	150TEC-1	Technology	Required	-	1	Preparatory Year
Level 3	150ENG-3	English Language: Speaking	Required	-	3	Preparatory Year
	150MATH-4	Algebraic Sciences	Required	-	4	Preparatory Year
	150MAN-1	Occupational Ethics	Required	-	1	Preparatory Year

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 4	104PHIS-4	Principles of Physics	Required	-	3	College
	106MATH-3	Introduction to Integration	Required	-	3	College
	107ENG-3	Technical Writing	Required	-	3	College
	111ISL-2	Introduction to Islamic Culture 1	Required	-	2	Institution
Level 5	101CHM-3	General Chemistry	Required	-	3	College
	105PHIS-4	Advanced Physics	Required	104PHIS-4	3	College
	108ENG-2	Communication Skills for Engineers	Required	-	2	College
	107MATH-3	Algebra & Analytical Geometry	Required	-	3	College
Level 6	101EE-3	Engineering Mechanics	Required	107MATH-3	3	Department
	203GE-3	Engineering Drawing	Required	-	3	College
	112ISL-2	Islamic Culture II	Required	-	2	Institution
	203MATH-3	Advanced Calculus	Required	106MATH-3	3	College
Level 7	113ISL-2	Islamic Culture III	Required	-	2	Institution
	204GE-3	Computer Programming for Engineers	Required	-	3	College
	216EE-3	Electrical Circuits I	Required	106MATH-3/105PHIS-4	3	Department
	202EE-3	Engineering Mathematics	Required	203MATH-3	3	Department
Level 8	114ISL-2	Islamic Culture IV	Required	-	2	Institution
	217EE-3	Electrical Circuits II	Required	216EE-3	3	Department
	213EE-1	Electrical Circuits Lab	Required	217EE-3	1	Department
	204MATH-3	Differential Equations	Required	106MATH-3	3	College
	324STAT-3	Probability and Engineering Statistics	Required	-	3	College
Level 9	251EE-3	Digital Logic Design	Required	-	3	Department
	252EE-1	Digital Logic Design Lab	Required	251EE-3	1	Department
	231EE-3	Electronics I	Required	216EE-3	3	Department
	240EE-2	Electromagnetism I	Required	202EE-3/ 105PHIS-4	2	Department
	254MATH-3	Numerical Methods	Required	204MATH-3	3	College
Level 10	306GE-2	Engineering Economy	Required	-	2	College
	314EE-3	Instrumentation and Measurements	Required	216EE-3	2	Department
	315EE-1	Instrumentation and Measurements Lab	Required	314EE-3	1	Department

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	320EE-3	Electrical Machines I	Required	217EE-3	3	Department
	332EE-3	Electronics II	Required	231EE-3	3	Department
	333EE-1	Electronics Lab	Required	332EE-3	1	Department
Level 11	201ARAB-2	Arabic Language Skills	Required	-	2	Institution
	344EE-2	Electromagnetism II	Required	240EE-2	2	Department
	342EE-3	Signals and Systems Analysis	Required	202EE-3	3	Department
	353EE-3	Computer Applications in Electrical Engineering	Required	204GE-3	3	Department
	202ARAB-2	Arabic Writing	Required	-	2	Institution
Level 12	354EE-3	Introduction to Microprocessor	Required	251EE-3	3	Department
	355EE-1	Microprocessor Lab	Required	354EE-3	1	Department
	361EE-3	Automatic Control	Required	342EE-3	3	Department
	362EE-1	Automatic Control Lab	Required	361EE-3	1	Department
	343EE-3	Principles of Communication Systems	Required	342EE-3	3	Department
Level 13	420EE-3	Electrical Machines II	Required	320EE-3	3	Department
	421EE-1	Electrical Machines Lab	Required	420EE-3	1	Department
	424EE-3	Power Systems Analysis I	Required	217EE-3	3	Department
	425EE-1	Power Systems Lab	Required	424EE-3	1	Department
	407GE-2	Management of Engineering Projects	Required	-	2	College
Level 14	444EE-3	Digital Communications	Required	343EE-3	3	Department
	445EE-1	Communications Lab	Required	444EE-3	1	Department
	***EE-3	Elective I	Elective		3	Department
	491EE-2	Graduation Project I	Required	361EE-3/ 353EE-3	2	Department
Level 15	492EE-3	Graduation Project II	Required	491EE-2, 407GE-2	3	Department
	***EE-3	Elective II	Elective	-	3	Department
	***EE-3	Elective III	Elective	-	3	Department
	***EE-3	Elective IV	Elective	-	3	Department

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

Elective Courses for 14th Semester

No.	Code	Course Name	Contact Hour (Lect, Lab, Tut.)	Cr	Pre-requisite	Co-requisite
1.	430EE-3	Electrical Drives	3 (3, 0, 0)	3	420EE-3	
2.	434EE-3	VLSI Design	3 (3, 0, 0)	3	332EE-3	

3.	441EE-3	Microwave Engineering	3 (3, 0, 0)	3	344EE-2	
4.	446EE-3	Embedded Systems	3 (3, 0, 0)	3	354EE-3	
5.	456EE-3	Digital Signal Processing	3 (3, 0, 0)	3	342EE-3	
6.	463EE-3	Applied Control	3 (3, 0, 0)	3	361EE-3	

Elective Courses for 15th Semester

No.	Code	Course Name	Contact Hour (Lect, Lab, Tut.)	Cr	Pre-requisite	Co-requisite
1.	429EE-3	Selected Topics in Power Systems	3(3, 0, 0)	3	424EE-3	
2.	431EE-3	Power Systems Protection	3 (3, 0, 0)	3	424EE-3	
3.	432EE-3	Power Systems Analysis II	3 (3, 0, 1)	3	424EE-3	
4.	442EE-3	Antennas and Wave Propagation	3 (3, 0, 0)	3	344EE-2	
5.	447EE-3	Data Communications and Networks	3 (3, 0, 0)	3	444EE-3	
6.	448EE-3	Wireless Communications	3 (3, 0, 0)	3	444EE-3	
7.	449EE-3	Selected Topics in Communications	3 (3, 0, 0)	3	444EE-3	
8.	451EE-3	Digital Image Processing	3 (3, 0, 0)	3	342EE-3	
9.	436EE-3	Selected Topics in Electronics	3 (3, 0, 0)	3	354EE-3	
10.	464EE-3	Introduction to Robotics	3 (3,0,0)	3	361EE-3	
11.	418EE-3	Renewable Energy Systems	3(3, 0, 0)	3	424EE-3	
12.	419EE-3	Energy Efficiency	3 (3, 0, 0)	3	418EE-3	

3. Course Specifications:

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

[All course specifications using NCAAA template](#)

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 (1)	K2 (7)	S1 (2)	S2 (6)	S3 (3)	V1 (4)	V2 (5)
140TEC-2	I						
140MATH-2	I						
140SKL-2	I						

Course	1	2	3	4	5	6	7
140ENG-2	I						
141ENG-2	I						
142ENG-2	I						
143ENG-2	I						
145TEC-1	I						
150MAN-1	I						
150MATH-4	I						
150SKL-2	I						
150ENG-3	I						
151ENdiG-2	I						
101CHM-3	I						I
104PHIS-4	I		I				
106MATH-3	I						
107MATH-3	I						
107ENG-3	I						
111ISL-2	I					I	
101EE-3	I	I		I			
203MATH-3	I						
105PHIS-4	I		I	I			I
108ENG-2	I						
203GE-3		I					I
112ISL-2	I					I	
204GE-3	I			I			
204MATH-3	I						
216EE-3	I			I			
202EE-3	I	I		I			
324STAT-3	I						I
113ISL-2	I					I	
240EE-2	I	I		I			
254MATH-3	I			I		I	
217EE-3	I		I	I		I	
213EE-1	I			I	P	P	P
251EE-3	I		I	I			
252EE-1	I		I	I	P	P	P
231EE-3	I		I	I			
114ISL-2	I					I	
332EE-3	P		P	P			
333EE-1		P	P	P	P	P	P
314EE-2	P			P			
315EE-1	P			P	P	P	P
342EE-3	P			P			
320EE-3	P			P			
353EE-3	P		P	P	P	P	P
344EE-2	P			P			

Course	1	2	3	4	5	6	7
361EE-3	P		P	P	P	P	P
362EE-1				P	P	P	P
420EE-3	M		M	M			
421EE-1				M	P	P	P
343EE-3	P		P	P		P	
354EE-3	P			P			
355EE-1	P		P	P	P	P	P
201ARAB-2	P						
491EE-2	M	M	M		M	M	M
444EE-3	M	M	M	M	M	M	M
445EE-1				M	M	M	M
424EE-3		M	M	M			
425EE-1				M	M	M	M
306GE-2	P			P			
407GE-2	M		M	M	M		
492EE-3	M	M	M	M	M	M	M
202ARAB-2	I						
490EE-0			M	M	M	M	M
430EE-3	M		M	M	M	M	M
441EE-3	M	M	M	M	M	M	M
456EE-3	M	M	M		M	M	M
434EE-3	M		M	M			
446EE-3	M		M		M	M	M
418EE-3	M		M	M	M		M
419EE-3	M	M		M		M	
432EE-3	M		M	M	M		M
431EE-3	M		M	M	M	M	M
447EE-3	M		M	M			
448EE-3	M		M	M	M	M	M
451EE-3	M		M	M	M	M	M
442EE-3	M		M	M	M	M	M
463EE-3	M		M	M	M	M	M
464EE-3	M	M	M	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.

Program learning Outcomes		Teaching and Learning Strategies
Knowledge		
K1	An ability to identify, formulate, and solve complex engineering	- Lectures, which include explanation of basic concepts, discussion of textbook contents,

	problems by applying principles of engineering, science, and mathematics.	problem formulation/problem solving, computer programming, demonstration of relevant software - Students can also benefit from e-learning resources (which can be reached on http://lms.nu.edu.sa/). All teaching materials are posted on Blackboard website. Homework assignments, quizzes, reports, computer exercises, as well as solutions to all assignments, midterm exams, tutorials, and solutions to selected problems are posted on the website. Students can also form discussion groups and they can post questions to the course instructor or discuss solutions with other students. - Active learning to engage students with the course material through discussions, problem solving, case studies.
K2	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	- Lectures, which include explanation of basic concepts, discussion of textbook contents, problem formulation/problem solving, computer programming, demonstration of relevant software - Coverage of contemporary issues through discussions in classrooms.
	Skills	
S1	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.	- PC or software requirements: course related software for homework, use of laptops in classrooms. - Term projects, which include report writing, design project, or teamwork project - Coverage of contemporary issues through discussions in classrooms. - Active learning to engage students with the course material through discussions, problem solving, case studies
S2	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw	- Laboratory work, which includes individual work with each on a set of equipment, group of students working on a set of equipment, coordinated group work as teams, and demonstration of experiments by the instructor. - Term projects, which include report writing, design project, or teamwork project. - Coverage of contemporary issues through discussions in classrooms. - Active learning to engage students with the course material through discussions, problem solving, case studies.
	Values	
V1	An ability to communicate effectively with a range of audiences	- Laboratory work, which includes individual work with each on a set of equipment, group of students working on a set of equipment, coordinated group work as teams, and demonstration of experiments by the instructor. - Term projects, which include report writing, design project, or teamwork project.

		- Courses like 491EE-2 graduation project (I), and 492EE-3 graduation project (II) comprehensively use these teaching strategies.
V2	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.	- Lectures, which include explanation of basic concepts, discussion of textbook contents, problem formulation/problem solving, computer programming, demonstration of relevant software - Laboratory work, which includes individual work with each on a set of equipment, group of students working on a set of equipment, coordinated group work as teams, and demonstration of experiments by the instructor. - Term projects, which include report writing, design project, or teamwork project
V3	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	- Laboratory work, which includes individual work with each on a set of equipment, group of students working on a set of equipment, coordinated group work as teams, and demonstration of experiments by the instructor. - Term projects, which include report writing, design project, or teamwork project. - Courses like 491EE-2 graduation project (I), and 492EE-3 graduation project (II) comprehensively use these teaching strategies.

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).

Program learning Outcomes		Assessment Methods
Knowledge		

K1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	- **Direct methods**
		  1. Midterm examinations, quizzes, and a final examination, which consist of descriptive questions, numerical problems, multiple-choice/true-false questions, fill in the blanks, programming exercise, and others.
		  2. Homework assignments and teamwork projects.
		- **Indirect Methods**
		  1. Exit Survey (Each Semester)
		  2. Graduation Project Assessment
		  3. CLOs satisfaction survey (on all courses each semester)

K2	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	- **Direct methods**

		1. Midterm examinations, quizzes, and a final examination, which consist of descriptive questions, numerical problems, multiple-choice/true-false questions, fill in the blanks, programming exercise, and others. 2. Homework assignments which consist of reading exercises, numerical problems, report writing, descriptive questions, drawing exercises, computer programming exercises, life-long learning assignments teamwork projects. - **Indirect Methods** 1. Exit Survey (Each Semester) 2. Graduation Project Assessment 3. CLOs satisfaction survey (on all courses each semester)
Skills		
S1	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.	- **Direct methods** 1. Grading analysis and Course learning outcomes analysis using the accreditation software CLOSO. 2. Teamwork assignments, and teamwork projects - **Indirect Methods** 1. Exit Survey (Each Semester) 2. Graduation Project Assessment 3. CLOs satisfaction survey (on all courses each semester)
S2	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw	- **Direct methods** Homework assignments which consist of reading exercises, numerical problems, report writing, descriptive questions, drawing exercises, computer programming exercises, life-long learning assignments teamwork assignments. - **Indirect Methods** 1. Exit Survey (Each Semester) 2. Graduation Project Assessment
Values		
V1	An ability to communicate effectively with a range of audiences	- **Direct methods** 1. Teamwork assignments, and teamwork projects. 2. Grading analysis and Course learning outcomes analysis using the accreditation software CLOSO. - **Indirect Methods** 1. Exit Survey (Each Semester) 2. Current Student Survey (Each Semester) 3. Graduation Project Assessment
V2	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,	- **Direct methods** 1. Homework assignments which consist of reading exercises, numerical problems, report writing, descriptive questions, drawing exercises, computer programming

		exercises, life-long learning assignments teamwork projects.

	environmental, and societal contexts.	2. Negative marks will be applied due to, for example, use of cell phones in classrooms or labs, talking to each other during the lectures, or cheating in an exam.
		3. Checking plagiarism software for projects and reports
		- **Indirect Methods**
		  1. Exit Survey (Each Semester)
		  2. Graduation Project Assessment

V3	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	- **Direct methods**
		  1. Teamwork assignments, and teamwork projects.
		  2. Bonus marks will be awarded on, for example, good participation in class discussion, evidence of life-long learning, and volunteer presentation in classroom.
		- **Indirect Methods**
		  1. Exit Survey (Each Semester)
		  2. Graduation Project Assessment

D. Student Admission and Support:

1. Student Admission Requirements

Students who want to be admitted in the department of Electrical Engineering, Najran University, should satisfy the following requirements:

1. The student shall only be admitted to the University upon the calculation of his/her average as follows: 10% from secondary school grades and 90 % from preparatory year grades. The minimum requirement for the entry is 72 %.
2. The student should have obtained the general secondary certificate or its equivalent from the Kingdom or abroad.
3. No more than two academic years should have elapsed from the date of his/her obtaining such certificate or its equivalent.
4. The student should have a good conduct and proper behavior.
5. The student should successfully pass any exam or personal interview (if found).
6. The student should be medically fit.
7. The student should obtain approval from his authority to pursue his/her studies, if s/he works for any governmental or private body.
8. The student should not have been expelled from Najran University or any other university for academic or disciplinary reasons.
9. After the student is admitted, if it is turns out that he/she has already been expelled for disciplinary or academic reasons, his/her admission shall be considered as void.
10. The student meeting the requirements should present the documents stipulated by the Deanship of Admission and Registration at the University.
11. The student should not be enrolled for another university degree at the same university or at another university and should not have already obtained such degree.
12. Files of students who are late for admission tests (if found) shall be ruled out.
13. Files of students who are late for personal interviews (if found) and do not present an acceptable excuse shall be ruled out.

Students who are late in carrying out the admission procedures within the deadline set by the University, and who do not present an excuse acceptable.

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).

In general, students applying to the Electrical Engineering program or any engineering program in the college of engineering are centrally admitted by the deanship of admission and registration based on the general requirements listed in the previous section.

The new students are not accepted directly to the Electrical Engineering program unless they spend one year in the Preparatory Year Program (PYP). University Council decides the number of students admitted for each academic year according to the recommendation of various academic colleges. The deanship of admissions and registration implements all policies coordinating with the colleges. Admission takes place in every semester; that is twice a year. The main aims of this PYP are:

a) To improve the students' English language proficiency to make them eligible for the engineering education in English, this is the medium of instruction of the program.
b) To strengthen the students mathematical and physical analytical abilities.
c) To build engineering abilities even in control circumstances.
d) To improve computer skills of the students.

The duration of the PYP is one academic year, divided into three semesters (Level 1, Level 2 and Level 3), in addition to a summer semester upon necessity. The PYP represents the first three levels (semesters). Electrical Engineering program consists of 12 levels spanned over a period of 4 years (level 4 to Level 15).

On successful completion of the PYP, the performance of students seeking admission to the Electrical Engineering program is evaluated based on the GPA in the PYP. A merit list of these students is prepared, and the department accepts the allocated number of students from the top of the list.

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).

Academic counseling service in the college of engineering is a continuous process of educational partnership dedicated to the student's academic success. The Faculty members are committed to provide an advising system that guides the students to discover and achieve life goals, support various and equitable educational experiences, advances intellectuality and cultural development, motivates toward active participation, and overall creates them as self-directed learners and competent decision-makers.

a) Objectives of Academic Advising

1. To open a file for students that contains a biography of the student during his study at the university (student behavior during the study, student's activities, student's marks, etc.). Through this file the college can make assessment of the student and find appropriate solutions of the problems they face.
2. To help the students by planning an educational program consistent with their interests, abilities and needs of the labor market.
3. To encourage the outstanding students to enhance their success, direct them toward their abilities and invest their potentiality in areas of excellence in all aspects of their career.
4. To advise the students on the selection of courses appropriate for their level and abilities. The gifted and talented students can select more courses than the normal students provided to obtain the approval of the academic supervisor.
5. To advise PY students to prepare them for the EE program.
6. To guide the students to understand the university policies and procedures.
7. To remind the students regarding academic events (registration, addition, deletion, etc.).

b) Mechanism of Academic Advising

1. Each student has an academic advisor to follow up his academic progress and to help him and solve any problem irrespective of social or educational field. Each academic advisor provides high-quality advising services that promote students' success. Students enrolled in the department are divided into several groups with more than 8 students in each group, and then the academic advisors are assigned to those groups.
2. Each faculty member has more than 10 hours other than his teaching load, scheduled at a definite time to meet his students in his office, to solve the problems asked by the students.
3. The office hour schedule for all faculty members are clearly fixed in front of the respective offices.

Students can also get some guidance and advice through the University website.

4. Special Support

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

There are special facilities provided for the special need students in terms of their facilities include:

- Cars parking
- Special routes
- Toilets
- Lifts
- Classroom modifications: alternate seating arrangements
- Special education support modifications, adjustments, strategies, and services that may be provided to meet the needs of various exceptional students such as:
    1. Specific reading materials
    2. Test and exam support
    3. Attendance monitoring
    4. Behavior management
    5. Learning strategies
    6. Educational assistant support
    7. Technology support

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	– Control Power Systems	PhD	2	-	-
Associate Professor	Electrical Engineering	– Control – Power Systems – Electronics Communications	PhD	4	-	-
Assistant Professor	Electrical Engineering	– Control – Power Systems – Electronics Communications	PhD	10	-	-
Lecturer	Electrical Engineering	– Power Systems – Communications Computer	MSc	3	-	-
Teaching Assistant	Electrical Engineering	– Control – Power Systems – Electronics Communications	Degree	2	-	-
Technicians and Laboratory Assistant	Electrical Engineering	– Control – Power Systems – Electronics Communications	Degree/Diploma	4	-	-
Administrative and Supportive Staff	Business and Administration	– Secretary	Degree/Diploma	2	-	-
Others (specify)	Worker	– Cleaner	-	1	-	-

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.)

- The instructor teaching the course identifies the requirements of textbooks and other materials for teaching.
- Faculty members search for texts on-line, learn of recommended texts in professional journals and from publishers and colleagues at conferences. Those teaching the same course meet and decide upon recommended texts and materials for the course and then submit their recommendations to the program chair for approval.
- The Undergraduate Committee, who may seek the opinion of the other faculty members, reviews the instructor's suggestions. The instructor, proposing the textbook for a course, is asked to review at least two textbooks on the subject and submit justifications for the chosen textbook. The department requests the Purchasing department to procure the textbooks selected by the department.
- Permission is sought from authors and then granted before photocopying excerpts of their works that will be included in handouts to be purchased by students
- Faculty members ensure that the library subscribes to the necessary databases that give students access to the journals that they need.
- Requests for purchases of new materials that should be included in the library's holdings are made at least two months before commencement of classes concerned.
- If a new book or reference or other materials are needed, then a request is sent to the program chair for approval.

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

It is the responsibility of the undergraduate committee formed by the department to evaluate the adequacy of textbooks, and reference materials for each course. The undergraduate committee ensures that the books are current and contents most of the topics covered in syllabuses.

3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the program)

- At the end of each of every semester, the instructor provides the Undergraduate Committee with a course review including any suggestions for textbook requirements. The instructor's suggestions are reviewed by the Undergraduate Committee, who may seek the opinion of the other faculty members. The instructor, proposing the textbook for a course, is asked to review at least two textbooks on the subject and submit justifications for the chosen textbook. The department requests the Purchasing department to procure the textbooks selected by the department.
- At the end of each semester, the students are asked to fill in a questionnaire including questions about the textbook.

G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to quality assurance manual.

Program Quality System Guide.

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

The same procedure applied for Electrical Engineering quality monitoring is also applied for any course taught by other departments.

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

Not Applicable

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

- The PLOs are being assessed at the end of every semester as per mechanism and assessment reports are prepared and presented to AAC and EE council.
  - Mechanism of PLOs assessment
  - PLOs satisfaction reports 431,432 and 441

5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching and assessment	Students	- A questionnaire is administered upon completing the course syllabus - Open discussion for the students during the semester to recognize their weakness points in the course Feedback from Test 1, Test 2 and Final exam records	End of the semester
Evaluation of teaching	- Peer reviewer Program leader	The peer reviewer will monitor a teaching session for assessment by filling the peer reviewer assessment form	During the semester
Extent of students' achievement of course learning outcomes	- Teaching staff - Program quality coordinator Program leader	CLOSO program	End of the semester
Improvement of teaching	- Students Peer reviewer	- Learning from students' feedback - Learning from peer reviewer and department feedback	- End of the semester End of academic year

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
		- Learning/Using various teaching methods (lecturing, discussions, workshops, exams) Learning/Using various teaching medias (projector, whiteboard, videos, educational visits)	
Quality of learning resources	Students	A questionnaire is administered by end of every semester	End of the semester
Verifying standards of student achievement	- Program leader Independent member teaching staff	Check student's marks by an independent member teaching staff/program leader of a sample of student work and remarking of tests or a sample of assignments.	End of the semester
Continuous improvement development process for effectiveness of teaching and assessment	- Graduates - Alumni Employers	- Surveys - Interviews Visits	- End of the semester End of academic year
Learning resources and partnerships	Administrative staff	Surveys	- End of the semester 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 (4) 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	90%	Data collection form	End of academic year
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	80%	Five-Scale questionnaire	During the last quarter of each academic year

No	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
3	KPI-P-03	Students' evaluation of the quality of the courses	80%	Five-Scale questionnaire	By the end of each semester
4	KPI-P-04	Completion rate	80%	Data collection form	End of academic year after approval of the exams results
5	KPI-P-05	First-year students retention rate	100%	Data collection form	End of academic year after approval of the exams results
6	KPI-P-06	Students' performance in the professional and/or national examinations	N.A	N.A	N.A
7	KPI-P-07	Graduates' employability and enrolment in postgraduate programs a) employed enrolled in further study	50% 10%	Data collection form	During the 3rd quarter of the academic year
8	KPI-P-08	Average number of students in the class	15	Data collection form	During the 1st quarter of the academic year after relative stability of students.
9	KPI-P-09	Employers' evaluation of the program graduate's proficiency	80%	Five-Scale questionnaire	During the 3rd quarter of the academic year
10	KPI-P-10	Students' satisfaction with the offered services	80%	Five-Scale questionnaire	During the 4th quarter of the academic year (before the final exams)
11	KPI-P-11	Ratio of students to teaching staff	15:1	Data collection form	During the 1st quarter of the academic year after relative stability of students.
12	KPI-P-12	Percentage of teaching staff distribution	4 Professor (20%) 6 Associate Professor (30%) 10 Assistant Professor (50%)	Data collection form	During the 1st quarter of the academic year.
13	KPI-P-13	The proportion of teaching staff leaving the program	≤ 10%	Data collection form	During the 1st quarter of the academic year.

No	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
14	KPI-P-14	Percentage of publications of faculty members	80%	Data collection form	During the 2nd quarter of the academic year.
15	KPI-P-15	Rate of published research per faculty member	1:1	Data collection form	By the end of the 2nd quarter (end of the cycle for funded research projects)
16	KPI-P-16	Citations rate in refereed journals per faculty member	10:1	Data collection form	During the 3rd quarter of the academic year
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources	80%	Five-Scale questionnaire	During the 4th quarter of the academic year (before the final exams)

*including KPIs required by NCAAA

H. Specification Approval Data:

COUNCIL / COMMITTEE	Electrical Engineering Department Council
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