Program Specification

Program Name:	Electrical Engineering
Qualification Level:	Bachelor's in electrical engineering
Department:	Electrical Engineering
College:	Engineering
Institution:	Majmaah University

Content

A. Program Identification and General Information

1. Program Main Location:

Engineering Building - Majmaah City - (Main Campus)

2. Branches Offering the Program:

None

3. Reasons for Establishing the Program:

(Economic, social, cultural, and technological reasons, and national needs and development, etc.)

The EE Program is essential to the community to provide graduates with distinguished electrical engineering knowledge, professional and engineering problem solving skills. These skills are essential for both community services, industry and for technological development.

The EE program meets the national science, technology and innovation plan of the Kingdom of Saudi Arabia where two of the main strategic priorities: the electronics and communication technology, and the energy technology.

In addition, the EE program provides Graduates with the competencies: Independency, responsibility, practicing of new technologies and teamwork.

4. Total Credit Hours for Completing the Program: (133)

The total Credit Hours needed to complete the EE Program are 133 excluding PY=29 Credit Hours. The Program has 8 levels.

5. Learning Hours: (5568)

The length of time that a learner takes to complete learning activities that lead to achievement of program learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times)

The learning hours is approximately calculated based on the following considered times of the following learning activities:

The total learning hours consist with the Saudi Qualification Framework 2018

Item	Total Learning Hrs.
Contact hrs.	1680
Homework, assignments	837
Extra Project work	75
Engineering practice	320
Library time	848
Preparing Presentation	15
Preparing Courses	837
Preparing for Exams	837
Research and Self-Study	60
Community Service	60
Total	5568

Details can be seen in the attached Excel file Learning Hours Calculations

6. Professional Occupations/Jobs:

- Electrical Engineer
- Electronics Engineer
- Control Engineer
- Communications Engineer
- Electrical System Engineer

7. Major Tracks/Pathways (if any)**:**

Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)
1. Telecommunications and Electronics	30	- Electronics Engineer - Communications Engineer
2. Power and Machines	30	- Power Engineer - Electrical Machines Engineer
3. Control and Systems	30	- Control Engineer - Electrical Systems Engineer

8. Intermediate Exit Points/Awarded Degree (if any)**: None**

Intermediate exit points/awarded degree	Credit hours
1.	
2.	
3.	

B. Mission, Goals, and Learning Outcomes

1. Program Mission:

To provide graduates with distinguished engineering knowledge, professional and engineering problem solving skills and be engaged in research and experiential work for the benefit of community.

2. Program Goals (Objectives):

The Electrical Engineering Program prepares graduates to be:

1- Professionals in electrical engineering having developed superior technical competence and be actively engaged in lifelong learning.

2- Successful researchers, entrepreneurs, experts and educators practicing high ethical and professional standards for the benefit of the community

3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

The missions of the University and College focus on the education and research for the benefits of the society. The EE program fulfil the mission of the MU by providing an educational program that is based on providing graduates with the knowledge and professional and research skills.

The EE PEOs support the mission statement for MU. The EE program made sure that the designed educational objectives serve the essential mission of MU, to ensure that this is met we mapped the EE educational objectives to MU mission. Tables below show how program objectives are aligned with the University and College missions.

Consistency between University & college Missions

college mission To provide and educate students with the highest quality in engineering knowledge and to facilitate cutting edge research for the benefit of the society	**University mission** The mission of Majmaah University is to offer educational programs with high quality as well as funding all types of research projects and social initiatives that contribute in achieving the sustainable development. We also committed to instill the concept of patriotism and educate students about the culture and heritage of the country.				
	offer educational programs	funding all types of research projects	offer educational programs with high quality	educate students about the culture and heritage of the country	funding all types of social initiatives
Educate students in engineering	X				

Provide high quality Engineering knowledge			X		
Cutting edge research		X			
Benefit of society				X	X

The Consistency of Program Educational Objectives with College Mission Statement

EE Goals (Objectives)	College Mission Keywords			
The Electrical Engineering Program prepares graduates to be:	Educate students in engineering	Cutting edge research	Provide high quality Engineering knowledge	Benefit of society
Professionals in electrical engineering having developed superior technical competence and be actively engaged in lifelong learning.	X		X	
Successful researchers, entrepreneurs, experts and educators practicing high ethical and professional standards for the benefit of the community		X		X

4. Graduate Attributes:

• Knowledge of a comprehensive, coherent and systematic body of knowledge in a field of Electrical Engineering and of the underlying theories and principles associated with it;
• The ability to investigate and solve engineering complex problems and develop creative solutions.
• The ability to apply and use knowledge of mathematical, science and engineering techniques in the analysis and resolution of complex engineering problems;
• The ability to provide leadership and to function on multidisciplinary teams
• The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
• ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
• Depth knowledge, understanding and the ability to design and conduct experiments, as well as to analyze and interpret data Graduates at this level should
• An ability to design a system, component, or process to meet desired needs within realistic constraints

5.Program learning Outcomes*

Knowledge:	
K1	(h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
K2	(j) Knowledge of contemporary issues.
Skills	

S1	(b) An ability to design and conduct experiments, as well as to analyze and interpret data
S2	(c) An ability to design a system, component, or process to meet desired needs within realistic constraints
S3	(e) An ability to identify, formulate, and solve engineering problems
S4	(a) An ability to apply knowledge of mathematics, science, and engineering
S5	(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
Competence	
C1	(i) Recognition of the need for and an ability to engage in life-long learning.
C2	(d) An ability to function on multidisciplinary teams
C3	(f) An understanding of professional and ethical responsibility
C4	(g) An ability to communicate effectively

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

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	--	--	--
	Elective	6	12	9%
College Requirements	Required	15	42	31.6%
	Elective	--	--	--
Program Requirements	Required	31	69	51.9%
	Elective	2	6	4.5%
Capstone Course/Project	Required	2	4	3%
Field Experience/ Internship	Required	1	0	0
Others	--	--	--	--
Total		57	133	100%

* Add a table for each track (if any)

2. Program Study Plan

1. The Preparatory Year (29 CH):

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 1	PENG 111	English Language 1	R	---	8	PY
	PMTH 112	Introduction to Mathematics 1	R	---	2	PY
	PCOM 113	Computer Skills	R	---	2	PY
	PSSC 114	Communication and Education Skills	R	---	2	PY
					14	
	PENG 121	English Language	R		6	PY

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 2	PMTH 127	Introduction to Mathematics 2	R		4	PY
	PENG 123	Scientific and Engineering English Language	R		2	PY
	PPHS 128	Physics	R		3	PY
					15	

2. The Current Electrical Engineering Study plan (133 CH)

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 3	MURE	University Requirement	Required	--	2	University
	Math 105	Differential Calculus	Required	--	3	College
	PHY 103	General Physics	Required	--	4	College
	GE 101	Fundamentals of Engineering Technology	Required	--	2	College
	GE 102	Fundamentals of Engineering Drawing	Required	--	3	College
	GE 103	Engineering Mechanics (Statics)	Required	--	3	College
Total Hours					17	
Level 4	Math 106	Integral Calculus	Required	MATH 105	3	College
	Math 107	Algebra and Analytical Geometry	Required	--	3	College
	GE 108	Engineering Mechanics (Dynamics)	Required	GE 103	3	College
	GE 105	Engineering Chemistry	Required	--	3	College
	EE 101	Fundamentals of Electric Circuits	Required	MATH 107	3	Department
	EE 111	Basic Electronic Devices and Circuits	Required	EE 101	3	Department
Total Hours					18	
Level 5	MURE	University Requirement	Required	--	2	University
	Math 204	Differential Equations	Required	MATH 106 MATH 107	3	College
	EE 205	Electric Circuits Lab.	Required	EE 202	1	Department
	EE 208	Logic Design	Required	--	3	Department
	EE 207	Logic Design Lab.	Required	EE 208	1	Department
	EE 202	Electric Circuits Analysis	Required	EE 101	3	Department
	EE 206	Electromagnetics 1	Required	MATH 107	3	Department
	EE 212	Basic Electronic Devices and Circuits Lab.	Required	EE 111	1	Department
Total Hours					17	
Level 6	STAT 101	Statistics and Probability	Required	--	3	College
	CEN 210	Introduction to Programming	Required	--	3	Department
	EE 288	Principles of Electric Machines	Required	EE 202	3	Department
	EE 234	Electromagnetics 2	Required	EE 206	3	Department
	EE 221	Signals and Systems Analysis	Required	MATH 204	3	Department
	EE 270	Fundamentals of Electrical Power Systems	Required	EE 206	2	Department
	EE 271	Principles of Electric Power and Machines Lab	Required	EE 288 EE 270	1	Department
Total Hours					18	
	MURE	University Requirement	Required	--	2	University
	GE 306	Engineering Report Writing	Required	STAT 201	2	College

Level 7	EE 341	Automatic Control Systems	Required	EE 221	3	Department
	EE 307	Analog and Digital Measurements	Required	EE 208	3	Department
	EE 308	Measurements and Control Lab.	Required	EE 307 EE 341	1	Department
	EE 322	Communications Principles	Required	EE 221	3	Department
	EE 323	Communications Principles Lab.	Required	EE 322	1	Department
	EE 360	Microprocessors	Required	EE 208 EE 111	3	Department
	EE 399	Engineering Practice	R	DA	0	Department
Total Hours					18	

2.1 Communications and Electronics Track

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 8	MURE	University Requirement	Required		2	University
	Math 254	Numerical Methods	Required	MATH 204	3	College
	EE 361	Microprocessors Lab	Required	EE 360	1	Department
	EE 314	Analogue and Digital Electronic Circuits	Required	EE 111	3	Department
	EE 315	Analogue and Digital Electronic Circuits Lab	Required	EE 314	1	Department
	EE 324	Digital Signal Processing	Required	EE 221	3	Department
	EE 325	Digital Communications	Required	EE 322	3	Department
Total Hours					16	
Level 9	MURE	University Requirement	Required	--	2	University
	GE 407	Engineering Economy	Required	--	2	College
	EE 435	Antenna & Wave Propagation	Required	EE 234	3	Department
	EE 426	Wireless Communications	Required	EE 325	3	Department
	EE 427	Communication and Signal Processing Lab.	Required	EE 324 EE 325	1	Department
	EE 436	Antennas and Wave Propagation Lab.	Required	EE 435	1	Department
	EE 4**	Elective (1)	Required	--	3	Department
	EE 498	Senior Design (1)	Required	--	2	Department
Total Hours					17	
Level 10	MURE	University Requirement	Required		2	University
	GE 408	Project Management	Required	GE 407	2	College
	EE 415	VLSI Circuit Design	Required	EE 314	3	Department
	EE 4**	Elective (2)	Required	--	3	Department
	EE 499	Senior Design (2)	Required	EE 498	2	Department
Total Hours					12	

2.2 Power and Machine Track:

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 8	MURE	University Requirement	Required	--	2	University
	Math 254	Numerical Methods	Required	MATH 204	3	College
	EE 361	Microprocessors Lab	Required	EE 360	1	Department
	EE 389	Electric Machines	Required	EE 288	3	Department
	EE 372	Electric Power Systems Analysis	Required	EE 288 EE 270	3	Department
	EE 373	Electric Power and Machine Lab 2	Required	EE 372 EE 389	1	Department
	EE 374	Power Electronics	Required	EE 288	3	Department

Total Hours					16	
Level 9	MURE	University Requirement	Required	--	2	University
	GE 407	Engineering Economy	Required	--	2	College
	EE 475	Applied Control	Required	EE 341	3	Department
	EE 476	Electric Power Systems Protection	Required	EE 372	3	Department
	EE 471	High-Voltage Engineering Systems	Required	EE 270	2	Department
	EE 4**	Elective (1)	Required	--	3	Department
	EE 498	Senior Design (1)	Required	--	2	Department
Total Hours					17	
Level 10	MURE	University Requirement	Required	--	2	University
	GE 408	Project Management	Required	GE 407	2	College
	EE 472	Electrical distribution systems planning	Required	EE 372	2	Department
	EE 479	Protection & High Voltage Lab.	Required	EE 471	1	Department
	EE 4**	Elective (2)	Required	--	3	Department
	EE 499	Senior Design (2)	Required	EE 498	2	Department
Total Hours					12	

2.3 Control & Systems:

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 8	MURE	University Requirement	Required	--	2	University
	Math 254	Numerical Methods	Required	MATH 204	3	College
	EE 361	Microprocessors Lab	Required	EE 360	1	Department
	EE 343	Automatic Control	Required	EE 341 EE 308	3	Department
	EE 350	Discrete Event and Hybrid Systems	Required	EE 221 EE 307	2	Department
	EE 362	Introduction to Robotics and Mechatronics	Required	MATH 107 GE 108	3	Department
	EE 363	Programmable Logic Controllers	Required	--	2	Department
Total Hours					16	
Level 9	MURE	University Requirement	Required	--	2	University
	GE 407	Engineering Economy	Required	--	2	College
	EE 451	Modeling and Simulation of Dynamic Systems	Required	MATH 204 EE 343	3	Department
	EE 442	Automatic Control Lab	Required	EE 343 EE 308	1	Department
	EE 452	Advanced system Engineering	Required	--	3	Department
	EE 4**	Elective (1)	Required	--	3	Department
	EE 498	Senior Design (1)	Required	--	2	Department
Total Hours					16	
Level 10	MURE	University Requirement	Required	--	2	University
	GE 408	Project Management	Required	GE 407	2	College
	EE 464	Robotics and Mechatronics Lab	Required	EE 361 EE 362 EE 307 EE 308	1	Department
	EE 453	Introduction to Intelligent Systems	Required	--	3	Department
	EE 4**	Elective (2)	Required	--	3	Department
	EE 499	Senior Design (2)	Required	EE 498	2	Department
Total Hours					13	

3. The Electrical Engineering modified study plan starting from the academic year 2018\2019 (139 CH):

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 3	MURE	University Requirement	R	---	2	University
	MATH 105	Differential Calculus	R	---	3	College
	PHYS103	General Physics	R	---	4	College
	GE 101	Fundamentals of Engineering Technology	R	---	2	College
	GE 102	Fundamentals of Engineering Drawing	R	--	3	College
	GE 103	Engineering Mechanics (Statics)	R	--	3	College
					17	
Level 4	MATH 106	Integral Calculus	R	MATH 105	3	College
	MATH 107	Algebra and Analytical Geometry	R	---	3	College
	PHY 108	Physics 2	R	PHYS 103	3	College
	GE 108	Engineering Mechanics (Dynamics)	R	GE 103	3	College
	GE 105	Engineering Chemistry	R	---	3	College
	EE 101	Fundamentals of Electric Circuits	R	MATH 107	3	Department
					18	
Level 5	MURE	University Requirement	R		2	University
	MATH 204	Differential Equations	R	MATH 106	3	College
	EE 209	Basic Electronic Devices and Circuits	R	EE 101	3	Department
	EE 202	Electric Circuits Analysis	R	EE 101	3	Department
	EE 205	Electric Circuits Lab.	R	EE 202 EE 101	1	Department
	EE 206	Electromagnetics 1	R	MATH 107	3	Department
	EE 208	Logic Design	R	---	3	Department
					18	
Level 6	STAT 201	Statistics and Probability	R	---	3	College
	CEN 210	Introduction To Programming	R	---	3	Department
	MATH 309	Advanced Mathematics	R	MATH 204	3	College
	EE 207	Logic Design Lab.	R	EE 208	1	Department
	EE 212	Basics of Electronic Devices and Circuits Lab.	R	EE 209	1	Department
	EE 221	Signals and Systems Analysis	R	MATH 204	3	Department
	EE 234	Electromagnetics 2	R	EE 206	3	Department
					17	
Level 7	MURE	University Requirement	R	---	2	
	GE 306	Engineering Report Writing	R	STAT 201	2	College
	EE 371	Fundamentals of Electrical Power Systems	R	EE 206 MATH 309	2	Department
	EE 375	Principles of Electric Power and Machines Lab	R	EE 388 EE 371	1	Department

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	EE 388	Principles of Electric Machines	R	EE 202	3	Department
	EE 322	Communications Principles	R	EE 221	3	Department
	EE 323	Communications Principles Lab.	R	EE 322	1	Department
	EE 341	Automatic Control Systems	R	EE 221 MATH 309	3	Department
	EE 399	Engineering Practice	R	DA	0	Department
					17	

3.1 Track: Power & Machine

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 8	MURE	University Requirement	R	---	2	University
	MATH 254	Numerical Methods	R	MATH 204	3	College
	EE 307	Analog and Digital Measurements	R	EE 208	3	Department
	EE 308	Measurements and Control Lab.	R	EE 307 EE 341	1	Department
	EE 360	Microprocessors	R	EE 208 EE 209	3	Department
	EE 389	Electric Machines	R	EE 388	3	Department
	EE 372	Electric Power Systems Analysis	R	EE 388 EE 371	3	Department
					18	

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 9	MURE	University Requirement	R	---	2	University
	GE 407	Engineering Economy	R	---	2	College
	EE 462	Microprocessors Lab	R	EE 360	1	Department
	EE 473	Electric Power and Machine Lab 2	R	EE 372 EE 389	1	Department
	EE 474	Power Electronics	R	EE 388	3	Department
	EE 476	Power Systems Protection	R	EE 372	3	Department
	EE 471	High-Voltage Engineering Systems	R	EE 371	2	Department
	EE 498	Senior Design (1)	R	---	2	Department
					16	

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 10	MURE	University Requirement	R		2	University
	GE 408	Engineering Project Management	R		2	College
	EE 472	Distribution System Planning	R	EE 372	2	Department
	EE 475	Applied Control	R	EE 341	3	Department
	EE 479	Protection & High Voltage Lab.	R	EE 471	1	Department

	EE 4xx	Elective (1)	E	---	3	Department
	EE 4xx	Elective (2)	E	---	3	Department
	EE 499	Senior Design (2)	R	EE 498	2	Department
					18	

3.2 Communications & Electronics

	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 8	MURE	University Requirement	R	---	2	University
	MATH 254	Numerical Methods	R	MATH 204	3	College
	EE 307	Analog and Digital Measurements	R	EE 208	3	Department
	EE 308	Measurements and Control Lab.	R	EE 307 EE 341	1	Department
	EE 360	Microprocessors	R	EE 208 EE 209	3	Department
	EE 324	Digital Signal Processing	R	EE 221	3	Department
	EE 325	Digital Communications	R	EE 322	3	Department
					18	

	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 9	MURE	University Requirement	R	---	2	University
	GE 407	Engineering Economy	R	---	2	College
	EE 462	Microprocessors Lab	R	EE 360	1	Department
	EE 414	Analog and Digital Electronic Circuits	R	EE 209	3	Department
	EE 420	Analog and Digital Electronic Circuits Lab	R	EE 314	1	Department
	EE 427	Communication and Signal Processing Lab.	R	EE 324 EE 325	1	Department
	EE 435	Antennas & Wave Propagation	R	EE 234	3	Department
	EE 436	Antennas and Wave Propagation Lab.		EE 435	1	
	EE 498	Senior Design (1)	R	---	2	Department
					16	

	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 10	MURE	University Requirement	R	---	2	University
	GE 408	Engineering Project Management	R	---	2	College
	EE 415	VLSI	R	EE 314	3	Department
	EE 426	Wireless Communications	R	EE 325	3	Department
	EE 4xx	Elective (1)	E	---	3	Department
	EE 4xx	Elective (2)	E	---	3	Department
	EE 499	Senior Design (2)	R	EE 498	2	Department
					18	

3.3 Control and Systems

	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 8	MURE	University Requirement	R	---	2	University
	MATH 254	Numerical Methods	R	MATH 204	3	College
	EE 307	Analog and Digital Measurements	R	EE 208	3	Department
	EE 308	Measurements and Control Lab.	R	EE 307 EE 341	1	Department
	EE 360	Microprocessors	R	EE 208 EE 209	3	Department
	EE 343	Automatic Control	R	EE 341 EE 308	3	Department
	EE 362	Introduction to Robotics and Mechatronics	R	MATH 107 GE 108	3	Department
					18	

	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 9	MURE	University Requirement	R	---	2	University
	GE 407	Engineering Economy	R	---	2	College
	EE 462	Microprocessors Lab	R	EE 360	1	Department
	EE 350	Discrete Event and Hybrid Systems	R	EE 221 EE 307	2	Department
	EE 451	Modeling and Simulation of Dynamic Systems	R	MATH 204 EE 343	3	Department
	EE 442	Automatic Control Lab	R	EE 343 EE 308	1	Department
	EE 452	Advanced system Engineering	R		3	Department
	EE 498	Senior Design (1)	R	---	2	Department
					16	

	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
Level 10	MURE	University Requirement	R		2	University
	GE 408	Engineering Project Management	R		2	College
	EE 363	Programmable Logic Controllers	R		2	Department
	EE 464	Robotics and Mechatronics Lab	R	EE 462 EE 362 EE 307 EE 308	1	Department
	EE 453	Introduction To Intelligent Systems	R		3	Department
	EE 4xx	Elective (1)	E		3	Department
	EE 4xx	Elective (2)	E	---	3	Department
	EE 499	Senior Design (2)	R	EE 498	2	Department
					18	

3. Course Specifications

Insert hyperlink for 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		Skills					Competence			
	K.1 (h)	K.2 (j)	S.1 (b)	S.2 (c)	S.3 (e)	S.4 (a)	S.5 (k)	C.1 (i)	C.2 (d)	C.3 (f)	C4 (g)
EE 101					I	I					
EE 111				I		I	I				
EE 202				I	I						I
EE 205			I				I				
EE 206				I	I	I	I				
EE 207			I	I							
EE 208				I	I	I					
EE 212			I				I				
EE 221				I		I					
EE 234					I	I					
EE 270					I	I					
EE 271			I				I				
EE 288					I	I					
EE 307				P	P	P					
EE 308			P	P			P				
EE 314				P	P		P				
EE 315			P				P				
EE 322					P	P					
EE 323			P				P				
EE 324				P	P	P					
EE 325				P	P	P					
EE 341				P	P	P					
EE 360				P	P	P					
EE 361			P	P			P				
EE 372				P	P	P	P				
EE 373			P		P		P				
EE 374				P	P	P					
EE 389				P	P	P					
EE 399		M		M	M	M	M		M	M	M
EE 415				M	M	M	M				
EE 426				M	M						
EE 427			M		M		M				
EE 431					M		M				
EE 433				M	M						
EE 435				M	M						

Course code & No.	Program Learning Outcomes										
	Knowledge		Skills					Competence			
	K.1 (h)	K.2 (j)	S.1 (b)	S.2 (c)	S.3 (e)	S.4 (a)	S.5 (k)	C.1 (i)	C.2 (d)	C.3 (f)	C4 (g)
EE 436			M				M				
EE 439				M	M		M				
EE 475				M	M	M					
EE 476				M	M		M				
EE 477					M	M	M				
EE 478				M	M	M					
EE 479			M				M				
EE 480				M	M						
EE 482				M	M	M	M				
EE 490					M	M	M				
EE 491					M	M	M				
EE 498	M	M			M	M	M	M	M	M	M
EE 499	M	M	M	M	M	M	M	M	M	M	M

5. Teaching and learning strategies to achieve program learning outcomes

Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

Knowledge Domain:

Lecture, research activities, debates, case studies, small group work, whole group and small group discussion, lab demonstrations, projects, role playing, memorization and individual presentation

Skills Domain:

Lecture, small group work, research activities, lab demonstrations, projects, individual presentation

Competency Domain:

Debate, small group work, whole group and small group discussion, research activities, projects and brainstorming, Lecture, lab demonstrations, case studies, memorization and individual presentation, role playing.

6. Assessment Methods for program learning outcomes.

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

Knowledge Domain:

Direct assessment:

Reports, discussions, presentations, Standardized exams, Seminars and Assignments

Skills Domain:

Direct Assessment:

Standardized exams, Oral exams, Micro projects Reports, presentations, Behavior observation and reports

Competency Domain:

Behavior observation, presentations, discussions, Reports, Standardized exams, Oral exams, Micro projects.

The program provide Indirect Assessment (PLOs survey for every course) with weight 15-20% to ensure the achievements of PLOs.

D. Student Admission and Support:

1. Student Admission Requirements

Application to the College of Engineering must be directed to the Admission and Registration Dean, which sets university wide admission criteria and imposes the college's specific requirements. Acceptance to the College of Engineering passes through two tiers of selection. In the first tier, the applicant must attain a combined score of 80, where the combined score is calculated as:

Combined Score = 0.4× [high school GPA] +0.6× [GAT]

GAT is the General Aptitude Test administered by the National Center for Assessment in Higher Education. The college may impose other restrictions on admission, such as ceiling on the number of students the college can accept. The application for admission to the College of Engineering is open once per year, as opposed to every semester.

Application dates and submission of documents are announced by Admission and Registration" visit www.mu.edu.sa for more information". The second tier of admission to the College of Engineering requires applicants to pass the Preparatory Year, with its curriculum structured for engineering students. The minimum required GPA necessary for admission to the college is 3.5 out of 5. Admission to the college does not require a student to pass all courses; however, mandatory courses must be passed to be admitted to the college. Mandatory course are: English, Mathematics and Physics course. The other courses, study skills and computer science, can be carried with students to the first semester in the College of Engineering; but these courses must be completed by the first semester, otherwise, if a student cannot complete them by the first semester, the student will be put on hold until these courses are completed.

2. Guidance and Orientation Programs for New Students

- Advising Information are included in the College Student Guide and in the college website. https://www.mu.edu.sa/en/colleges/college-engineering/student-corner
- The EE department participates in organizing an annual Orientation and advising events at the beginning of the first semester to help new students to register their courses, to explain them rules and regulations and to involve them in the extra-curriculum and social activities.
- All new students are distributed among Advisors to support them in their academic lives.

3. Student Counseling Services

(academic, career, psychological and social)

Advising Information are included in the College Student Guide and in the college website. https://www.mu.edu.sa/en/colleges/college-engineering/student-corner

Every Instructor assignee 3 office hours for supporting student' academic counselling. The syllabus distributed to students contains all data needed for academic supporting. All students are distributed among academic advisors and if the performance of a student is low in several courses, the academic advisor will be notified.

One of the responsibilities of an academic advisor is to ensure that students are following proper sequence as outlined in the major curriculum. Therefore, College of Engineering has given academic advisors the authority to approve students request for cases related to changes in registration status, such as dropping of a course or request to change their majors. In addition, college organizes an academic advising day, which is held every semester in the eighth week of the semester. A special form is created to be signed by the instructor, undergraduate committee and head of department to follow the registration process of the students. In addition, for every instructor a number of students are assigned to be advised through their study in the program.

4. Support for Special Need Students

(low achievers, disabled, gifted and talented)

The low performance students are identified each year and are closely monitored and advised by the coordinator of the course and the Undergraduate Coordination & Support Committee. Every case is discussed with the HOD individually.

MU have a program supporting disabled students to make sure that their needs are met. In addition, for external events in MU or outside MU, talented students are reached, encouraged, and supported to participate in these events.

The PY is intended to enhance the English Language, math and basic science knowledge and to prepare students to enter the EEP.

E. Teaching and Administrative Staff

1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professors	Electrical Engineering	Power Engineering	Should be specialized and have good experience in Renewable Energy	2	0	2
Associate Professors						
Assistant Professors						
Lecturers						
Teaching Assistants						
Technicians and Laboratory Assistants	Electrical Engineering	Power, machines and communications	Good experience in maintenance, operating and calibration of electrical Labs devise.	3	0	3
Administrative and Supportive Staff						
Others (specify)						

2. Professional Development

2.1 Orientation of New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

The professional development for faculty members are managed in two levels. First level, is the Quality Deanship for Training and Development where a specialized unit responsible

for identifying training needs of faculty members. After training needs are identified, the unit offers many training course and workshops ranges from academic to soft skills development. For example, providing lectures intended for enhancing the faculty member skills in teaching and student assessment.

The second level is the college level were the Training and Development Unit under the Vice Deanship for Quality and Development provide many workshops supporting assessment skills and general awareness of activities related to quality process.

Regarding supports for research activities, a special research committee is responsible about following the research process in the department. In addition, the unit also supports in determining the research needs and requirements for faculty staff. Furthermore, Deanship of Scientific Research in the university offers, an annually research funds for all faculty members.

In addition, the program organizes a meeting for all new and old members for information and experience exchange and providing them with guides, regulations and institutional, college and department policies.

2.2 Professional Development for Teaching Staff

Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

Several training courses are biannually offered by the Deanship of Quality and Skills Development.
College workshops and lectures intended for enhancing the faculty member skills in teaching and student assessment.
A special research committee is responsible about following the research process in the department and determining the research needs and requirements for faculty staff
Deanship of scientific research in the university annually offers research funds for all program staff members through determining the society needs.

F. Learning Resources, Facilities, and Equipment

1. Learning Resources.

Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

There is a college library that includes all textbooks required by faculty and teaching staff. All faculty members are encouraged every year to fill special form for acquisition of textbooks, references and other resources material.
The undergraduate program committee gathers all required textbooks (With latest updated editions) and send them to the program coordinator to be requested.
The university has its own digital library connected to Saudi Digital Library. Every faculty member has an account and an access to all journals and databases.
All faculty members are encouraged to check number of textbooks and references and number of students in his section. Instructor can request more textbooks from the program coordinator using special form. The vice dean of student affairs is responsible about contacting the university library to provide the department with the required books. Mainly, students use the course evaluation form that partially includes questions about the availability of the textbooks, references and other web or electronic versions.
The following processes are to be provide students with needed books:
There is a college library that includes all textbooks required by faculty and teaching staff and one bookshop.

All students are encouraged borrow the textbook from the college library or from the university Library.
Also, student can buy the textbook and provide the college with the bill and college will pay percentage of the cost of the book.
All textbook already approved by department and college councils.
Replacing the textbook requires approval procedure through undergraduate program committee, Department council and college council. In some case university council approval is required.
The adequacy of textbook should be checked by the instructor before the beginning of the semester and provide the program coordinator with the required number of textbooks needed

2. Facilities and Equipment
(Library, laboratories, medical facilities, classrooms, etc.).

- **Engineering Library:**
The Library in the College of Engineering contains main textbooks of the electrical engineering study plan. There is no borrow process but the library provide an easy access for faculty staff to use the textbook.

- EE laboratories:
1. Digital Logic Lab.
2. Electric Circuit Lab.
3. DSP Lab
4. Electronics and Measurement lab.
5. Machines and power systems Lab.
6. Microprocessor Systems Lab.
7. Digital and Analog Control lab.
8. Communication Lab
9. Microwaves & Optical Fiber Lab
10. Antennas Lab
11. Power Systems Protection
12. Electronics and projects workshop

Laboratories are well equipped for practical training of students according to the course requirements. Certified technicians are available for laboratory management and course tutoring. All the laboratories follow CoE safety instructions that ensure the safety of students and equipment.

Classrooms:
There are several classrooms shared with other engineering program. The department of Electrical Engineering is housed within the CoE building and shares some common facilities with other departments. Most of the equipment in the department is new and bought to accommodate the program needs. Classrooms are adequately equipped with educational electronic media.

3. Arrangements to Maintain a Healthy and Safe Environment (According to the nature of the program)

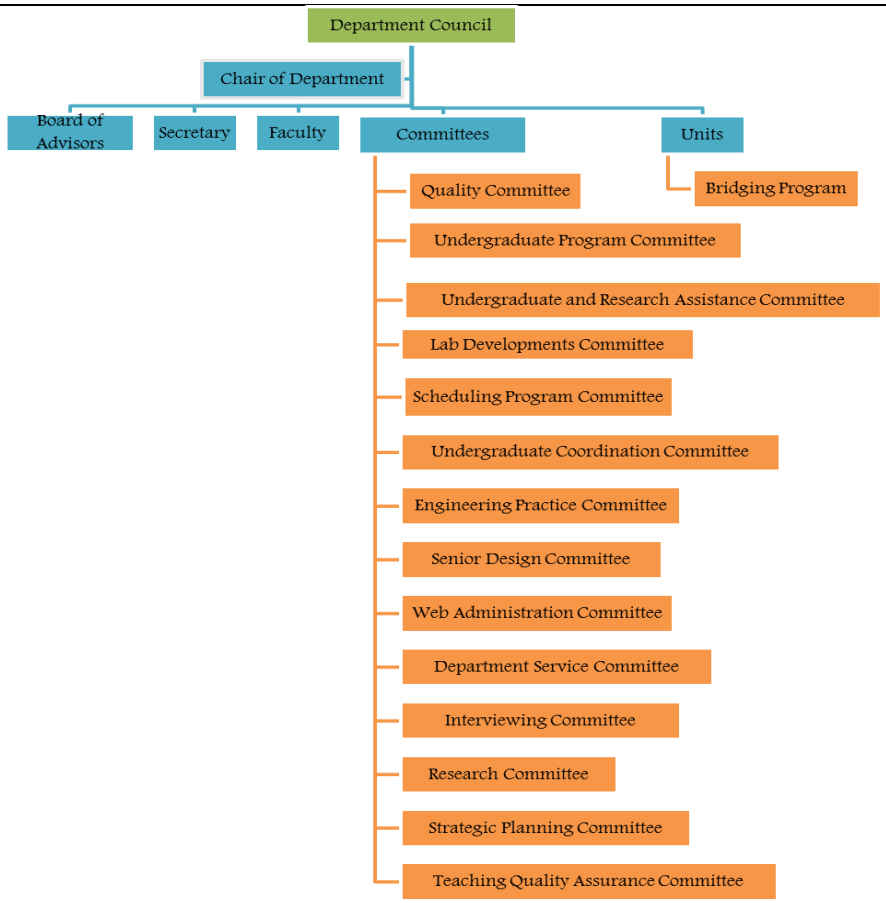
The CoE laboratories are accredited by OHSAS 18001 requirements.
EE department maintains all its laboratories with up-to-date equipment and ensures CoE safety instructions. The laboratories are open to students during the working hours when the technicians are available. However, there is a schedule for each lab stating the times for each of the courses. For a specific course, only students of that course should use the laboratories during the allotted time for that course. The students can also use the laboratories under the supervision of lab instructors for course, project, or other experimentation whenever the laboratories are free.

G. Program Management and Regulations

1. Program Management

1.1 Program Structure

(including boards, councils, units, committees, etc.)



1.2 Stakeholders Involvement

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

Based on the decision of the MU rector, a board of advisors is formed for planning and development of the EE program (See attachment). The board of advisor consists of employers from private sector, alumni and faculty members.

2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

Student Admissions

The admission process for all students of MU is performed mainly electronically via the EduGate electronic system. Electronic admission starts by student's applying via the internet and ends by MU sending the acceptance letter and documents of those who are accepted. The following requirements have been stipulated for the admission of the new student:

• An applicant for admission must have a Saudi High School Certificate -Science Section (SHSCSS) or its equivalent. The High school certificate should not be more than five years' old
• Must have an Aptitude Test Certificate (ATC) administered by the National Center for Assessment in Higher Education.
• The minimum qualifying scores in SHSCSS & ATC tests are: A total equivalent percentage of 85% (based on 30% from the SHSCSS + 30% from the ATC + 40% from cumulative Basic Science of SHSCSS).
• Must not have been dismissed from another university for disciplinary reasons.
• When applicants exceed availability, priority is given to the students with higher grades.

Registration Procedure:

The student is automatically registered at the beginning of each semester for some credit hours according to his academic standing. Students with GPA of 2.0 are eligible to register up to 14 credit hours, while those of 4.5 GPA or above are eligible for up to 20 units as a maximum. Students register online (through the EduGate system). The EduGate (https://goo.gl/iLqp6R) in the Deanship of Admissions and Registration is available to all students to register, drop, add, and monitor their progress, etc.

Withdrawal:

The student has the right to withdraw from an academic semester within the withdrawal period announced in the academic calendar for that semester. No withdrawal is allowed during the last five weeks before the final examination. The college's vice dean for academic affairs must approve the withdrawal request after reviewing the authenticity of the student's reasons for withdrawal.

Student Performance

The EE program follows the semester system. Two semesters are offered in each academic year (each semester is also called a level). The duration of each semester is fifteen weeks excluding examinations; in addition, there is an optional 8- weeks summer semester. The B.Sc. is a five-year program which consists of a two-semester preparatory period at preparatory year deanship, one general preparation semester in CoE and seven semesters in the EE Program. Teaching during summer is in fact administrated whenever faculty is available.

Examination and Grading System:

The examination and grading system of the program abide by the following regulations:

- Success in a course is usually based on the combination of a grade awarded for the course work, plus a grade for the final examination.
- Each course will have a total of 100 points, and these are distributed as follows: 60% for the coursework (quizzes, assignments, homework, mini-projects and midterm exams) and 40% for the final examination.
- The passing mark in each course is 60% out of the total.

The program grading system follows the requirements at MU which is based on a maximum of 5 as shown in the following **Table 1-1**.

Table 1-1: Grading system at MU

Letter Grade	Numerical	Point Average
A+	95-100	5.0
A	90-less than 95	4.75
B+	85-less than 90	4.5

B	80-less than 85	4.0
C+	75-less than 80	3.5
C	70-less than 75	3.0
D+	65-less than 70	2.5
D	60-less than 65	2.0
F	Below 60	1.0

A student's grade point average is determined by dividing the cumulative point value of all courses attempted by the number of units in the student's semester schedule. This student's semester grade point average GPA is (50/16) = 3.125. Similarly, for all the semesters taken, the Cumulative Grade Point Average (CGPA) is calculated.
The cumulative grade point value is translated into performance standing as shown in **Table 1-2**

Table 1-2: Cumulative Grade Point Average

Grade Range	Standing
4.50 upwards	Excellent
3.75- 4.50	Very Good
2.75- 3.75	Good
2.00- 2.75	Pass
Less than 2.00	Fail

Attendance:
Considering that regular course attendance is necessary for academic success, MU University requires that students should attend at least 75% of the lectures and labs Students failing to meet this requirement in any of the courses will be prohibited from attending the final examination of that course and will have an F (Fail) grade in that course. Furthermore, the student who is absent in the final examination of a course(s) will not be given a substitute examination, except for a valid reason accepted by the college council.

Scholastic Probation:
All students at MU University are required to maintain a grade point average of at least 2.0 out of 5.0. Those who fail to maintain this average are placed on scholastic probation and are given two semesters to which they must attain a GPA of 2.0. If this condition is not met within the two semesters of probation, the student may then be dismissed from his studies at the College of Engineering. One last opportunity of a third semester to raise the average can be given, after review of the academic record by the academic supervisor and approval of college council. They will be taken off probation if they can attain the 2.0 GPA based, they study a minimum of 12 credit hours and score an overall B average (48 points).

Graduation Requirements
To obtain the bachelor's degree in Electrical Engineering, the student must complete 165 credit hours (29 credit hours from preparatory year are included) and pass the engineering practice after finishing 90 credit hours of his EE program.
More information can be found in the College Student's Guide.
https://www.mu.edu.sa/sites/default/files/content/2017/12/Student%20Guide%20613R1171.pdf

H. Program Quality Assurance

1. Program Quality Assurance System
Provide online link to quality assurance manual

The Electrical Engineering Program implements Quality Assurance System that satisfies the national and international requirements. The vice-deanship of quality and development in the college of engineering has a developed a quality assurance manual that can be found using the ink below:
https://www.mu.edu.sa/sites/default/files/content/2017/04/Procedures_Manual_updated%20V3%20Final%20ver%20May%201%20%202017.pdf
The college of Engineering in Majmaah University has developed a software that is responsible about the documentation of course portfolio and evaluating the program learning outcomes.
Quality Assurance and Quality Control are implemented in the EE where quality assurance to assure the implementing of quality standards all procedure and processes. While Quality Control to monitor the quality environment in the EE program and recommend any action if needed. These practices are performed at different levels:

University level:

The deanship of quality and skills development performing an annual monitoring process and evaluating the quality documents of the EE program through what is called "The readiness of programs for accreditation". This is an annual accreditation on-site-visit to check the consistency of the quality program with the quality standards.

College level:

The Vice-Deanship for Quality and Development perform an annual internal audit review. This process is implement under the supervision of the Quality Assurance Committee in the college. The internal review uses special forms that covers the required standards and processes. At the end of the internal audit review, the EE department receives a written formal feedback to be used as a tool for improvement.

All reports are to be discussed in the EE department council and a feedback response is to be sent to all quality-authorized bodies.

Department Level:

The Quality Unit in the EE Department is responsible for the implementation of quality requirements and standards. One of the major responsibilities is to evaluate the quality of the process by following NCAAA standards and documents such as:

1- Annual program report
2- Course reports
3- Exam results
4- Quality documentation and archiving
5- Updating manuals and guides
6- Reports from internal and external reviews

7- The EE program uses self-evaluation scale to evaluate the education and quality procedures every two years

More detailed information about quality monitoring and reviewing cycles are explained in the procedure's manual:
https://www.mu.edu.sa/sites/default/files/content/2017/04/Procedures_Manual_updated%20V3%20Final%20ver%20May%201%20%202017.pdf

2. Program Quality Monitoring Procedures

The EE department Quality Committee and Academic Accreditation Committee are responsible for monitoring the quality of the EE program. The EE program follows the NCAAA requirements and implements its regulations, forms, KPIs and surveys.
The procedure used to monitor the quality of EE program contains several steps:

- Evaluation of teaching and assessment.
- Evaluation of Annual Program report and Course Reports
- Monitoring the implementation of the quality regulations.
- Ensure that only approved documents are used in all reports and forms.
- Conducting survey and following up with analysis, recommendation and actions if needed. Example for surveys are: Students surveys (Course, program and experience), faculty survey and satisfaction surveys.

The EE program uses Quality manuals and guides to monitor the quality such as SQF, NCAAA standards, University regulations and standards.

3. Arrangements to Monitor Quality of Courses Taught by other Departments.

- Regular meeting with instructor of the course
- Making students surveys and gathering feedback information
- Checking course description, syllabus, exams and score analysis
- Analyzing the Course evaluation survey results by the quality committee.

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

Not applicable

5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any).

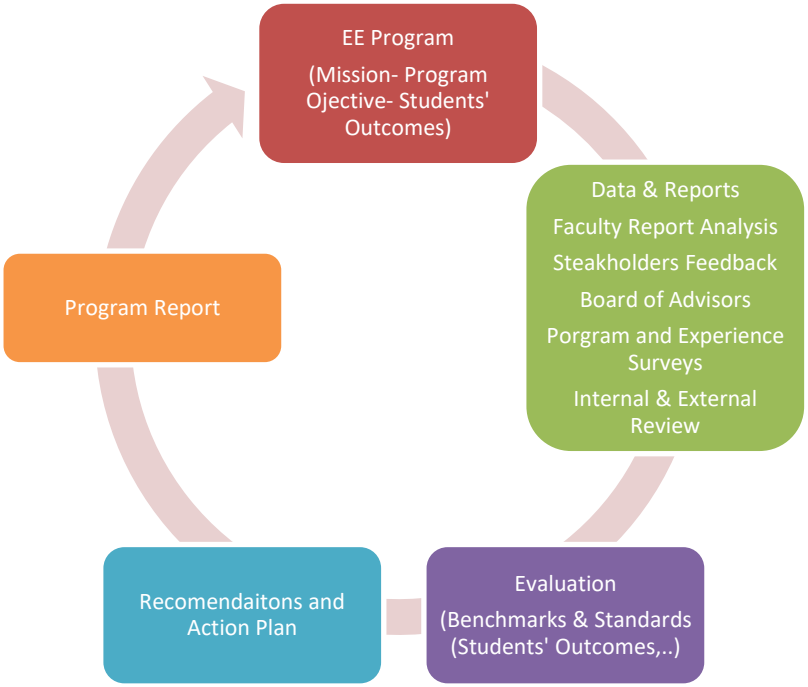
Not applicable

6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes

The EE Program uses several different tools and processes to regularly assess and evaluate the extent to which it's PLOs are being attained. These processes are used to gather the data necessary for assessment. Evaluation, in the form of interpreting the data, is then carried out in order to determine how well the outcomes are being attained. The results of both the assessment and evaluation processes are finally utilized to effect continuous improvement of the program. The steps used for the assessment, evaluation, and feedback to the continuous improvement of the program follow the following three steps:
1. Assessment tools of the PLOs (i.e., collecting appropriate data) are either direct or indirect. Direct assessment of PLOs usually relies on the course work, whereas indirect assessments of PLOs are usually obtained by using surveys. This step includes designing forms of surveys and appropriate questions for the specific and applicable date.

2. Step 1 is followed by analyzing and comparing the data to a pre-set performance indicator, which constitutes the evaluation (interpreting) processes, as well as reviewing those areas that score relatively low.

The Assessment and Evaluation Plan (AEP) of EE program aims to evaluate all learning outcomes during four academic years (2015-2019). The plan results will be used to improve the EE program Mission, objectives course syllabus, teaching strategies, assessment methods and learning outcomes. They will provide the decision makers with a clear picture to make decisions in the future and to know the strengths and weaknesses of the program. The Program Improvement process is shown in figure below:



EE Program Assessment and Evaluation Plan

Table 3: Four-year cycle of assessment and evaluation activity

Assessment and evaluation activities	2015-2016											2016-2017										
	a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	j	k
Reviewing performance criteria			●						●	●							●	●				
Mapping educational strategies		●		●		●													●	●	●	
Reviewing mapping and identify where data will be collected		●		●		●													●	●	●	
Develop and/or review assessment methods		●		●		●													●	●	●	
Collect data							●				●	●		●		●						

Evaluate assessment data including processes	●				●			●					●		●						●
Report findings	●				●			●					●		●						●
Take action where necessary	●				●			●					●		●						●

Assessment and evaluation activities	2017-2018											2018-2019									
	a	b	c	d	e	f	g	h	i	j	k	a	b	c	d	e	f	g	h	i	j	k
Reviewing performance criteria				●				●			●	●	●			●						
Mapping educational strategies	●				●									●				●				●
Reviewing mapping and identify where data will be collected	●				●									●				●				●
Develop and/or review assessment methods	●				●									●				●				●
Collect data		●							●	●					●		●		●			
Evaluate assessment data including processes			●			●	●													●	●	
Report findings			●			●	●													●	●	
Take action where necessary			●			●	●													●	●	

Direct Assessments

The process of assessment of PLOs is carried out by using some combinations of course work such as quizzes, exams, projects, presentations, homework, etc. where the achievements on these exercises are directly tied to program outcomes. The assessment is carried out every time a course is given.

Indirect Assessments

In this stage a survey for every course is preformed to measure the PLOs achievements by students.

PLO achievements:

The process to ensure the PLOs achievements by students:
1- Measuring all PLOs by instructors: Direct and indirect
2- Writing results, analysis, and recommendations in the Course reports
3- The Quality committee evaluates the PLOs for the program to ensure the achievement of all PLOs
4- If some PLOs below the benchmarks, they will be discussed in the department council to figure out the problem and write recommendations and including actions in the next program improvement plan.

B.

7. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching and assessment	Students	Course Survey	By the end of each Academic Semester
Extent of achievement of course learning outcomes	Quality Committee	Analyzing data from Course Reports	By the end of each Academic Semester
Quality of learning resources	Learning resources committee	Analyzing data from Course Reports	By the end of each Academic Semester
Program Readiness for Accreditation	Quality Deanship	On-site-visit	Annual
Program Quality: SEC, SSR	Academic accreditation agency	On-site-visit	Every five years
Course Reports	Quality Committee	Analyzing data from Course Reports	By the end of each Academic Semester
Course Portfolio	Quality Assurance Unit	Quality Management System QMS	By the end of each Academic Semester
Program Experience	Students	Program Survey	Annual
Program Quality	Students	Program experience survey	Annual

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

8. Program KPIs*

The period to achieve the target (2018\2019) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	70%	Data	**Week 15\SS**
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	3.5/5	Survey	**Week 12\SS**
3	KPI-P-03	Students' evaluation of the quality of the courses.	4/5	Survey	**Week 12\FS-SS**
4	KPI-P-04	Completion rate	50%	Data	**Week 12\SS**
5	KPI-P-05	First-year students retention rate	50%	Data	**Week 12\SS**

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
6	KPI-P-06	Students' performance in the professional and/or national examinations	77%	Data from the national assessment Center	**Based on the source of data**
7	KPI-P-07	Graduates' employability and enrolment in postgraduate programs	50%	Survey	**^ months after graduation**
8	KPI-P-08	Average number of students in the class	10%	Data	**Biannual**
9	KPI-P-09	Employers' evaluation of the program graduate's proficiency	20	Survey	**Annual**
10	KPI-P-10	Students' satisfaction with the offered services	3.5/5	Survey	**Annual**
11	KPI-P-11	Ratio of students to teaching staff	15:1	Data	**Annual**
12	KPI-P-12	Percentage of teaching staff distribution	Professor :10% Associate:20% Assistant :50% Lecturer: 15% Other: 5%	Data	**Annual**
13	KPI-P-13	Proportion of teaching staff leaving the program	15%	Data	**Annual**
14	KPI-P-14	Percentage of publications of faculty members	80%	Data	**Annual**
15	KPI-P-15	Rate of published research per faculty member.	1:1	Data	**Annual**
16	KPI-P-16	Citations rate in refereed journals per faculty member	30	Data	**Annual**
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources	4/5	Survey	**Annual**
18	KPI-P-18	The average ratings of faculty to the statement " consistency of the mission with the program objectives "	4/5	Survey	**Annual**
19	KPI-P-19	The average ratings of faculty to the statement " The appropriateness of EE mission "	4/5	Survey	**Annual**
20	KPI-P-20	The average ratings of faculty to the statement " The mission statement guides decision-making processes and development of policies in the department"	4/5	Survey	**Annual**
21	KPI-P-21	Students' satisfaction with the academic advisory	4/5	Survey	

* including KPIs required by NCAAA

I. Specification Approval Data

Council / Committee	**DEPARTMENT COUNCIL /QUALITY COMMITTEE**
Reference No.	**16\SUBJECT 2**
Date	**4\6\1439**

Appendix A: (Contact hours calculations)

Course Name	CODES	Weeks		Contact hrs.	HW and Ass	Project	EP	Library	P Course	Presentation	P Exams	Research	Community	Total
Fundamentals of Electric Circuits	EE 101	15		60	30			30	30		30			180
Basic Electronic Devices and Circuit	EE 209	15		60	30			30	30		30			180
Electric Circuits Analysis	EE 202	15		60	30			30	30		30			180
Electric Circuits Lab.	EE 205	15		30	15			15	15		15			90
Electromagnetics 1	EE 206	15		60	30			30	30		30			180
Logic Design	EE 208	15		60	30			30	30		30			180
		15		0	0			0	0		0			0
Logic Design Lab	EE 207	15		30	15			15	15		15			90
Basics of Electronic Devices and Circuits Lab.	EE 212	15		30	15			15	15		15			90
Signals and Systems Analysis	EE 221	15		60	30			30	30		30			180
Electromagnetics 2	EE234	15		60	30			30	30		30			180
		15		0	0			0	0		0			0
Fundamentals of Electrical Power Systems	EE 371	15		45	22			22.5	22		22			133.5
Principles of Electric Power and Machines Lab	EE 375	15		30	15			15	15		15			90
Principles of Electric Machines	EE 388	15		60	30			30	30		30			180
Communications Principles	EE 322	15		60	30			30	30		30			180
Communications Principles Lab.	EE 323	15		30	15			15	15		15			90
Automatic Control Systems	EE 341	15		60	30			30	30		30			180
Engineering Practice	EE 399	8		0	0		320	0	0		0	15	15	350

Analog and Digital Measurements	EE 307	15		60	30			30	30		30			180
Measurements and Control Lab.	EE 308	15		30	15			15	15		15			90
Microprocessors	EE 360	15		60	30			30	30		30			180
Electric Machines	EE 389	15		60	30			30	30		30			180
Electric Power Systems Analysis	EE 372	15		60	30			30	30		30			180
Engineering Economy	GE 407	15		45	22			22.5	22		22			133.5
Microprocessors Lab	EE 462	15		30	15			15	15		15			90
Electric Power and Machine Lab 2	EE 473	15		30	15			15	15		15			90
Power Electronics	EE 474	15		60	30			30	30		30			180
Power Systems Protection	EE 476	15		60	30			30	30		30			180
High-Voltage Engineering Systems	EE 471	15		45	22	5		22.5	22		22	5	5	148.5
Senior Design (1)	EE 498	15		45	22	30		22.5	22		22	15	15	193.5
Distribution System Planning	EE 472	15		45	22			22.5	22		22			133.5
Applied Control	EE 475	15		60	30	5		30	30		30	5	5	195
Protection & High Voltage Lab	EE 479	15		30	15	5		15	15		15	5	5	105
Elective (1)	EE XXX	15		60	30			30	30		30			180
Elective (2)	EE XXX	15		60	30			30	30		30			180
Senior Design (2)	SD-2	15		45	22	30		30	22	15	22	15	15	216
				1680	**837**	**75**	**320**	**848**	**837**	**15**	**837**	**60**	**60**	**5568.5**

Appendix B: (Forming Board of Advisors)

الرقم: ١/٤١٩٠٦ التاريخ: ١٤٣٠/٠٦/١٣ عدد المرفقات: ٠

المملكة العربية السعودية
وزارة التعليم العالي
جامعة المجمعة
مكتب مدير الجامعة

جامعة المجمعة
Majmaah University

Kingdom of Saudi Arabia
Ministry of Higher Education
Majmaah University
Rector Office

قرار إداري رقم (١٩٠٢)

إن مدير الجامعة .
وبناءً على الصلاحيات المخولة له نظاماً .
واستناداً للقرار الإداري رقم (١٠) وتاريخ ١٤٣١/٧/١هـ بشأن الصلاحيات والاختصاصات.

يقرر ما يلي :

أولاً: إعادة تشكيل المجلس الاستشاري لقسم الهندسة الكهربائية بكلية الهندسة، لمدة سنتين، على النحو التالي:

د. علي بن سعيد الغامدي	رئيسا
د. عبدالرحمن كامل القواسمي	عضوا وأمينا
د. وليد بن خالد الرشيد	عضوا
د. خالد بن إبراهيم الخضيري	عضوا
م. رائد بن محمد الشعلان	عضوا
م. خالد بن غنيمان الحربي	عضوا
م. عبدالله بن سعود الشايع	عضوا
د. عبد الله بن علي المحيسن	عضوا

ثانياً: يبلغ هذا القرار للجهات المعنية لاعتماده وتنفيذه.

مدير الجامعة

د. خالد بن سعد المقرن

الرقم: ... التاريخ: ١٤٣٠/٠٦/١٣هـ المشفوعات: ...

المملكة العربية السعودية - ص.ب ٦٦ المجمعة ١١٩٥٢ - هاتف ٠٦ ٤٣١١٥٢٠ - فاكس ٠٦ ٤٣٢٢٧٨٥
Kingdom of Saudi Arabia - P.O. Box 66 Almajmaa 11952 - Tel: 06 4311520 - Fax: 06 4322785
Email: rector@mu.edu.sa www.mu.edu.sa