

Ministry of Higher Education and Scientific Research
Scientific supervision and evaluation
Department of Quality Assurance and Academic Accreditation
International Accreditation Section

The academic program description form for colleges and institutes

For the academic year 2019-2020

University Name: University of Technology
Name of Faculty: Department of Electrical Engineering
Number of sections and scientific branches in the college: (2)
Two Date of file filling: 2020

Director of the Division of Quality
Assurance and University Performance:

Dr. Ali Kareem Nahar

Date 23 /1 / 2020


Signature
Signature

Assistant Dean for Scientific
Affairs:

Dr. Abbas Hussian Issa

Date 23 /1 / 2020


Signature

Name of the Dean of the

College
Dr. Montadher Sami Shaker
Date 23 /1 / 2020



Check the file by:

Quality assurance and university
performance Name of the Director of the
Department of Quality
Assurance and University Performance:
Date

Signature

Model Description of Academic Program

Review of Performance of Higher Education Institutions(Academic Program Review)

Description of the academic program

This description of the academic program provides a brief summary of the main characteristics of the program and the expected learning outcomes of the students to demonstrate whether they have made the best use of the opportunities available. It is accompanied by a description of each course within the program

1. Educational institution	University Of Technology
2. University / Center	Electrical Engineering Department
3. Name of academic program	Electrical program
4. Name of the final certificate	B.Sc.
5. Study system	A course system for the first stage and a semester system for the rest of the stages
6. Accredited accreditation program	The department is preparing to obtain accreditation from an organization ABET
7. Other external influences	none
8. Date of description setting	2019-2020
9. Objectives of the academic program	9 (a) Preparing graduates in the field of understanding and design of electronic circuits and the use of computer skills and software development.
	9 (b) The ability to understand the problems to be solved and to find the target required representative of solving these problems through the collection of

	data for electronic circuits and scientific programs and analysis
<p>10 (a) - Knowledge and understanding</p> <p>10 (b) - Special skills</p>	<p>9 (c) Provide the educational process within the department teachers and researchers and provide public institutions with qualified engineers in the field of competence.</p> <p>1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics. (a)+ (e)</p> <p>2. An ability to apply the engineering design process to produce solutions that meet specified needs with consideration for public health and safety, and global, cultural, social, environmental, economic, and other factors as appropriate to the discipline. (c)</p> <p>3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.(b)</p> <p>4. An ability to communicate effectively with a range of audiences. (g)</p> <p>5. 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. (f)+(h)</p> <p>6. An ability to recognize the ongoing need to acquire new knowledge, to choose appropriate learning strategies, and to apply this knowledge. (i)+(j) +(k)</p> <p>7. An ability to function effectively as a member or leader of a team that establishes goals, plans tasks, meets deadlines, and creates a collaborative and inclusive environment. (d)</p>

Teaching and learning methods

Theory books and theoretical lectures

Scientific laboratories

small projects

Electronic References

Evaluation methods

Exam sudden and evaluation of homework in addition to the written exam quarterly

A quarterly exam

Exam quarterly "small projects

Preparing quarterly reports

Class discussions and discussions

Determine the grade for daily attendance

Emotional goals and values

1-Question: Search for new information and raise questions

2 - Conclusion and reasoning: think about what is beyond the information available to fill gaps in them

3 - Comparison: Note the proportions and differences between things

4- .Classification: Putting things into groups according to common characteristics

Teaching and learning methods

1. Practical labs that develop students' thinking architecture

2. Questions of intellectual tests

3. Interference with other disciplines (mathematical applications)

4. Preparing research and projects related to the subject matter

Evaluation methods

Prepare periodic reports on subjects related to the article

Implementation of small practical and applied projects

Giving the student real problems to find out the extent of his comprehension of the scientific material and linking the subjects with each other

Theoretical and practical tests

General and movable skills

1- Be able to solve any electronic problem

2 - Conducting experiments to develop any electronic circuit

3 - the ability to use the means of illustration to make polymers

- 4 - Identify the software ready and deal with it at a high degree that expands the base rule
5. Paying the application and encouraging them to participate in competitive forums between the branches of one college or a number of colleges
6. The use of theoretical and practical tools in the analysis and implementation of database systems
- 7- Use modern means of communication to interact with the team to solve a specific problem

Teaching and learning methods

by:-

- 1 - Presentation of exercises during the lectures and ask the student to solve at home and laboratory applications in the field of competence
- 2 - Monitoring the ways of learning the students and assess the growth of their learning throughout the academic year, knowledge of the needs of students and points
Weakness and strength and have the ability to assess reality
- 3- Adopting modern electronic means of illustration
- 4 -Adoption of modern books

Evaluation methods

Practical and theoretical exam

Daily tests

Homework

Work small projects

Class discussions

The contents of the Bachelor of Electrical Engineering program are listed below:

The number of the required units is 148 units (credit hours)

%	credit hours	required	No.
12.16 %	18	University	1
20.95 %	31	College	2
66.89 %	99	Department	3
100%	148	total	

First: University Requirements (18) credit hours (unit)

a. Compulsory requirements (16) credit hours (units)

The course

Last required	hours	Name	code
-	2	Workshops I	WRKS101
WRKS101	2	Workshops II	WRKS105
-	2	English Language I	ENGL102
ENGL102	2	English Language II	ENGL106
-	2	Human rights and democracy	HRDE103
-	2	Computer science	COMP104
-	2	chemistry	CHEM220
-	2	Engineering ethics	ENET401

b. Elective Requirements (2) credit hours (units)

The course			
Last required	hours	Name	code
-	2	Technical report	TERE107
-	Free hours	Sport	SPRT109
-	2	Arabic Language	ARBL108
-	Free hours	the art	ART110
-	2	biology	BIOL127

Second: College Requirements (31) credit hours (unit)

The course			
Last required	hours	Name	code
-	3	Mathematics I	MATH114
MATH114	3	Mathematics II	MATH122
-	3	Fundamentals of Electrical Eng. I	ELEF117
ELEF117	3	Fundamentals of Electrical Eng. II	ELEF125
MATH122	3	Engineering Mathematics 1	ENGM214
ENGM214	3	Engineering Mathematics 2	ENGM221
ENGM221	2	Engineering Mathematics Analytics	ENMA311
-	2	Engineering Drawing	ENGD116
-	3	Electronic Physics II	ELEP115

ELEP115	3	Electronic Physics II	ELEP123
	3	Engineering Mechanics	ENGM124

Third: Department requirements (99) credit hours (unit)

a. Compulsory requirements (84) credit hours (unit)

Last required	hours	code
ENGM221	2	NUMA321
MATH121	2	PRSE326
COMP104	2	COMP212
MATH121	3	ELMF214
ELMF214	3	ELMF222
-	3	DIGE126
DIGE113	3	DIGE226
ELEP124	3	ANAE215
ANAE215	3	ANAE315
DIGE226	3	MICE326
FUEE126	3	ELEM224
ELEM224	3	ELAM314
ELAM314	3	ELAM323
ELAM323	3	SPEM415
ELAM323, POWE414	3	ELMD424
ENGM221, FUEE126	3	CONE312
CONE312	3	CONE322
FUEE126	2	ELEC213
ELEC213	2	ELEC223
ELEC223	2	ELPE316
ELPE316	2	PODS324
ELPE316	3	POSA413
ELPE316, ENGM221	3	POSA422
ELPE316	2	ELED412
ANAE315, ENMA311	3	POWE414
POWE414	3	POWE423
MATH121	3	ANAC226
ANAC226	3	DIGC313
DIGC313	2	COMS325
-	3	GRAP411
GRAP411	3	GRAP421

B. Elective Requirements (15) credit hours (units)

code	hours	Last required
INDM326	3	-
DISP327	3	DIGE226, ANAE315
ELEC328	3	ENMA311
INSM416	3	ANAE315
RENE417	3	ELPE316
ARTI418	3	NUMA321

EMBS425	3	MICE326
ANTP426	3	ELMF222
POSP427	3	POSA413
PSOC428	3	POSA413, CONE322
HIVE429	3	ELAM323, ANAE315
MIGS436	3	ELPE316

The first academic level							
code	Introductory lessons	Number of units	Number of practical hours	Number of theoretical hours	The cores name		required
WRKS101	-	2	6	-	Workshops I		University
ENGL102	-	2	-	2	English Language I		
COMP104	-	2	3	1	Computer Science		
MATH114	-	3	-	3	Mathematics I		College
ELEP115	-	3	-	3	Electronic Physics I		
ELEF117	-	3	2	2	Fundamentals of Electrical Eng. I		
ENGD116	-	2	3	1	Eng. Drawing		
		17	14	12	Total the number of units (First Semester)		
code	Introductory lessons	Number of units	Number of practical hours	Number of theoretical hours	The cores name		required
WRKS105	Workshops I	2	6	-	Workshops II		University
	-	2	-	2	Elective		
MATH122	Mathematics I	3	-	3	Mathematics II		College
ELEP123	Electronic Physics I	3	2	2	Electronic Physics II		
ELEF125	Electronic Physics I	3	2	2	Fundamentals of Electrical Eng. II		
ENGM124	-	3	-	3	Engineering Mechanics		

DIGE12 6	-	3	2	2	Digital Electronic I	Dep.
		19	12	14	Total the number of units (Second Semester)	

Electrical Engineering Program 2019-2020
Second Year (Semester System)

Code	First Semester	Hours / Week			Units
	Subject	Lect.	Lab.	Disc.	
EE21 01	Applied Physics I	3	-	-	3
EE21 02	Mathematics III	4	-	1	4
EE21 03	Computer Programming	2	2	-	3
EE21 04	Electronics I	2	-	1	2
EE21 05	Electromagnetic Fields I	2	-	1	2
EE21 06	Electric Networks I	2	-	1	2
EE21 07	DC Machines	2	-	1	2
EE21 08	Electrical Machines Lab.	-	2	-	1
Total		17	4	5	19

Code	Second Semester	Hours / Week			Units
	Subject	Lect.	Lab.	Disc.	
EE22 09	Applied Physics II	3	-	-	3
EE22 10	Mathematics IV	4	-	1	4
EE22 11	Instrumentation & Measurements	2	-	-	2
EE22 12	Electronics II	2	-	1	2
EE22 13	Electromagnetic Fields II	2	-	1	2
EE22 14	Electric Networks II	2	-	1	2
EE2215	AC Machines I	2	-	1	2
EE2216	Electronics Lab.	-	2	-	1
Total		17	2	5	18

EE : Division of Electrical Engineering

	Hours/ Week	Units
First Semester	26	19
Second Semester	24	18

2016-2020
Third Year (Semester System)

Code	First Semester	Hours / Week			Units
	Subject	Lec.	Lab.	Disc.	
EE31 01	Electrical Power Engineering	2	-	-	2
EE31 02	AC Machines II	2	-	1	2
EE31 03	Microprocessor Engineering I	2	-	-	2
EE31 04	Engineering Analysis I	4	-	1	4
EE31 05	Control Engineering I	2	-	1	2
EE31 06	Communication Engineering I	2	-	-	2
EE31 07	Human Rights & Engineering Skills and Ethics	2	-	-	2
EE31 08	Electrical Engineering Lab. III	-	4	-	2
EE31 09	Control Lab.	-	4	-	2
Total		16	8	3	20

Code	Second Semester	Hours / Week			Units
	Subject	Lec.	Lab.	Disc.	
EE32 10	High Voltage Engineering	2	-	-	2
EE32 11	AC Machines III	2	-	1	2
EE32 12	Microprocessor Engineering II	2	-	-	2
EE32 13	Engineering Analysis II	4	-	1	4
EE32 14	Control Engineering II	2	-	1	2
EE32 15	Communication Engineering II	2	-	-	2
EE32 16	Electronics III	2	-	-	2
EE32 17	Electrical Engineering Lab. IV	-	4	-	2
EE32 18	Communication Lab.	-	4	-	2
Total		16	8	3	20

EE : Division of Electrical Engineering

	Hours/ Week	Units
First Semester	27	20
Second Semester	27	20



University of Technology
Department of Electrical Engineering
Division of Electrical Engineering
2016-2020
Fourth Year (Semester System)



Code	First Semester	Hours / Week			Units
	Subject	Lec.	Lab.	Disc.	
EE41 01	Final Year Project I	1	2	-	2
EE41 02	Power System Analysis I	3	-	-	3
EE41 03	Elective Subject I	2	-	1	2
EE41 04	AC Machines IV	2	-	1	2
EE41 05	Power Electronics I	2	-	1	2
EE41 06	Electronics IV	2	-	1	2
EE41 07	Industrial Management	2	-	-	2
EE41 08	Electrical Engineering Lab. V	-	4	-	2
Total		14	6	4	17

Code	Second Semester	Hours / Week			Units
	Subject	Lec.	Lab.	Disc.	
EE42 09	Final Year Project II	1	2	-	2
EE42 10	Power System Analysis II	3	-	-	3
EE42 11	Elective Subject II	2	-	1	2
EE42 12	Drives	2	-	1	2
EE4213	Power Electronics II	2	-	1	2
EE42 14	Communication Engineering III	2	-	1	2
EE42 15	Operations Research	2	-	-	2
EE42 16	Electrical Engineering Lab. VI	-	4	-	2
Total		14	6	4	17

EE : Division of Electrical Engineering

	Hours/ Week	Units
First Semester	24	17
Second Semester	24	17

