



Zarqa University

**Faculty of Engineering
Technology**

**Study Plan for Electrical Engineering.
(9)
B.Sc. Program
(160 Credit Hours)**

16/10/2018

Graduation Requirements Summary

item	Requirements	Mandatory Hours	Elective Hours	Total Hours	%
1	University	15	12	27	16.87
2	Faculty	26	-	26	16.25
3	Department	98	9	107	66.87
5	Total	139	21	160	100

Course Numbering System

A course number consists of seven digits: AB CD E F G.	
AB	code of the Faculty, for Engineering it is 09.
CD	code of the Department, for Electrical Engineering Department it is 04.
E	code of the level of the course from 1 to 5
F	code of the subject area as shown in the next table .
G	code of the sequence number of the course in a subject area.

Subject Area Numbering

Group	Group Number
Mathematics, miscellaneous.	0
Electrical circuits.	1
Electronics, Digital electronics, and Power electronics.	2
Logic circuit, microprocessor, and embedded systems.	3
Electromagnetic and Microwave engineering	4
Communications.	5
Electrical machines and Power systems.	6
Measurements and Control.	7
Graduation projects	8

Study Plan Details

1. University Requirements (27credit hours):

A) Compulsory courses(15 Cr. Hr.)as shown in the following list:

Course No.	Course Title	Cr. Hr.	Prerequisites
0200100	Military Science	3	---
0200102	Arabic Language 1	3	Arabic placement test or Arabic 99
0200103	English Language 1	3	English placement test or English99
0200104	National Education	3	---
0200111	Islamic Culture and Contemporary Issues	3	---

B) Elective courses(12 Cr. Hr.) to be chosen from the following groups:

Student must choose a minimum of **3 Cr. Hr.** from each group

Group 1: Humanity Science

Course No.	Course Title	Cr. Hr.	Prereq.	Notes
0200112	Arabic language 2	3	0200102	Arabic Language 1
0200113	History of Jordan and Palestine	3		Except arts fac. students
0200114	Jerusalem: History and Civilization	3	---	---

Group 2: Social and Economics

Course No.	Course Title	Cr. Hr.	Prereq.	Notes
0200122	Principles of Education	3	---	Except education faculty students
0200125	Principles of Law	3	---	Except Law faculty students
0200126	Principles of Communication Science	3	---	---

Group 3: Technology, Health and Agriculture

Course No.	Course Title	Cr. Hr.	Prereq.	Notes
0200127	University code of conduct	3	---	---
0300123	Principles of Astronomy	3	---	---
0300124	Scientific Culture	3	---	---
0300145	Principles of Environmental Science	3	---	---
0300146	Fundamentals of Public Health	3	---	---
0300152	Computer Skills	3	Computer placement test	Except Science and Tech. Fac. Students
0300161	First Aid	3	---	---

2. Faculty Requirements (26 Credit hours):

Course No.	Course Title	Cr. Hr.	Prerequisite
0300101	Calculus 1	3	
0300102	Calculus 2	3	0300101
0300121	General Physics 1	3	---
0302111	General Physics Lab1	1	0300121*
0300122	General Physics 2	3	0300121
0302112	General Physics Lab 2	1	0300122*
1501110	Computer Programming 1	3	---
0902100	Introduction to Engineering and Professional Ethics	1	---
0904306	Technical Writing and Communication Skills	2	0200103
0905100	Engineering Workshops (1)	1	---
0905103	Engineering Drawing	2	---
0906402	Engineering economics and Management	3	100 cr.hr
Total		26	

* or Co-requisite

3. Department Requirements (107 Cr. Hr.):**A) Mandatory Courses (98 Cr. Hr.):**

Course No.	Title	Cr. Hr.	Prereq.
0904201	Engineering Mathematics	3	0300102
0904211	Electrical circuits (1)	3	0300122
0904212	Electrical circuits (2)	3	0904211
0904213	Electrical circuits lab	1	0904212*
0904221	Electronics (1)	3	0904211
0904234	Digital fundamentals	3	---
0904235	Digital fundamentals lab	1	0904234
0904245	Electromagnetics (1)	3	0300122+0904201
0904300	Signals and systems	3	0904200+0905201+0904211
0904303	Probability and random variables	3	0904300
0904304	Numerical analysis	3	0905201
0904305	Electrical engineering software (1)	1	1501110+ 0904212
0904328	Electronics (2)	3	0904221
0904329	Electronics lab	1	0904213+0904328*
0904330	Microprocessors and assembly language	3	0904204+0904234
0904331	Microprocessors and assembly language lab	1	0904330*
0904345	Electromagnetics (2)	3	0904245
0904361	Electrical machines (1)	3	0904245+0904212
0904365	Electrical machines lab (1)	1	0904361

Course No.	Title	Cr. Hr.	Prereq.
0904374	Measurements and instrumentation	3	0904328
0904375	Measurements and instrumentation Lab	1	0904374*
0904444	**Practical training for Electrical Engineering	3	115 cr.hr
0904403	Electrical engineering software (2)	1	0904305+0904461
0904420	Digital electronics	3	0904328
0904428	Power electronics	3	0904204+ 0904328
0904429	Power electronics lab	1	0904428
0904456	Communications (1)	3	0904300
0904461	Electrical machines (2)	3	0904361
0904462	Electrical power system analysis	3	0904362 +0904361
0904463	Electrical power system lab	1	0904462
0904465	Electrical machines lab (2)	1	0904365+0904461
0904470	Control theory	3	0904300
0904471	Control lab	1	0904470*.
0904474	Programmable Logic Control (PLC) lab	1	0904470*
0904478	Communications (2)	3	0904453+0904303
0904479	Communications lab	1	0904478*
0904537	Microcontrollers	3	0904330+0904538*
0904538	Microcontrollers lab	1	0904537*
0904556	Communications systems	3	0904478
0904571	Project (1)	1	0904444
0904572	Project (2)	3	0904571
0300131	General Chemistry 1	3	---
0300133	General Chemistry Laboratory 1	1	0300131*
0905201	Advanced engineering mathematics	3	0300102
	Total	98	

* Co-requisite

**Practical Training: for a period of (280) hours in an engineering entity after successful completion of 115 credit hours of program's requirements.

B) Elective Courses (9Cr. Hr.): Student must select 9 hours from one of the following groups
(Mix between groups is not allowed)

Group 1: Power

Course No.	Title	Cr. Hr.	Prereq.
0904468	Electrical installation	3	0904361
0904563	Power system distribution and transmission	3	0904462
0904565	Electrical drive	3	0904461
0904566	Power system protection	3	0904462
0904567	High voltage engineering	3	0904462
0904568	Special topics In power engineering	3	0904462
0904569	Power plants	3	0904462
0904560	Railways technology for Electrical Engineering	3	0904556 + 0904462
0906569	Programmable logic control (PLC)	3	0904470

Group 2: Communications

Course No.	Title	Cr. Hr.	Prereq.
0904524	Communications electronics	3	0904456+0904328
0904546	Antennas and wave propagation	3	0904345
0904549	Microwave engineering	3	0904345
0904551	Special topics in communications engineering	3	0904478
0904552	Mobile communications	3	0904478
0904557	Optical communications	3	0904478
0904558	Information theory and coding	3	0904478
0904559	Digital signal processing and filters	3	0904300
0904560	Railways technology for Electrical Engineering	3	0904556 +0904462

Courses Delivered to Other Department

Course No.	Title	Department	Cr. Hr	Prereq.
0904200	Engineering Circuits	Energy Engineering	3	0300122
0904203	Engineering Circuits Lab	Energy Engineering	1	0904200*
0904204	Electronics	Energy Engineering	3	0904200
0904205	Electronics Lab	Energy Engineering	1	0904204*
0904210	Electrical and Electronics Circuits	Mechanical Engineering	3	0300122
0904216	Electrical and Electronics Circuits Lab	Mechanical Engineering	1	0904210*
0904362	Electrical Machines	Mechanical Engineering / Energy Engineering	3	0904210
0904363	Electrical Machines Lab	Mechanical Engineering / Energy Engineering	1	0904362