



Zarqa University

Faculty of Engineering

Study Plan for Mechanical Engineering.

(9)

B.Sc. Program

(160 Credit Hours)

1. University Requirements (27credit hours):

a) Compulsory courses (15) credit hours as shown in the following list:

Course No.	Course Title	Credit hours	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) credit hours to be chosen from the following groups:

Student must choose a minimum of 3 credit hours from each group

Group 1: Humanity Science

Course No.	Course Title	Credit hours	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	Credit hours	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	Credit hours	Prerequisite	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)

Twenty seven (26) credit hours of core coursework are required to fulfill the faculty requirements:

Course No.	Course Title	Credit Hours	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.h
Total		26	

* Or Co-requisite

2) Department Requirements (107) Credit Hours:

A) Compulsory Courses (98 Cr. Hrs.):

Course No.	Course Title	Credit hours	Prerequisites	Notes
0905201	Advanced Engineering Mathematics	3	0300102	
0905205	Materials Science and Engineering	3	0303101	
0905206	Mechanical Drawing	2	0905103	
0905213	Mechanics of Materials	3	0902221	
0905214	Mechanics of Materials Lab.	1	0905213*	
0905301	Applied Mathematics	2	0905201	
0905311	Dynamics	3	0902221	
0905321	Thermodynamics (1)	3	0300121	
0905322	Thermodynamics (2)	3	0905321	
0905323	Thermodynamics Lab	1	0905322*	
0905330	Manufacturing Processes	3	0905213	
0905331	Theory of Machines	3	0905311	
0905332	Manufacturing Processes Lab	1	0905330*	
0905341	Fluid Mechanics (1)	3	0905311	
0905361	Mechanical Vibrations	3	0905311 + 0905201	
0905362	Dynamics and Vibrations Lab.	1	0905361*	
0905400	Practical Training for Mechanical Engineering**	3	115 credit hours	
0905430	Machine Design (1)	3	0905213	
0905435	Machine Design (2)	4	0905430+0905331	
0905440	Fluid Mechanics Lab	1	0905341 *	
0905455	Heat Transfer (1)	3	0905301+0905322	
0905458	Heat Transfer Lab	1	0905455 *	
0905461	Engineering Measurements and Instrumentation	3	0905341	
0905463	Automatic Control Systems	3	0905201+0905361	
0905464	Engineering Programming Language	2	0905463*	
0905481	Heating Ventilation and Air Conditioning (1)	4	0905455	
0905571	Internal Combustion Engines	3	0905322	
0905585	Design of Sanitary Systems	3	0905341	
0905591	Graduation Project (1)	1	0905400	
0905592	Graduation Project (2)	2	0905591	
0300131	General Chemistry 1	3	---	
0300133	General Chemistry Lab 1	1	0300131*	
0902305	Engineering Statistics	3	0905201	
0902221	Statics	3	0300121	
0904201	Engineering Mathematics	3	0300102	
0904210	Electrical and Electronics	3	0300122	

	Circuits			
0904216	Electrical and Electronics Circuits Lab	1	0904210*	
0904304	Numerical Analysis	3	0905201	
0904362	Electrical Machines	3	0904210	
0904366	Electrical Machines Lab	1	0904362	

* Co-requisite

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

Elective (9 Cr. Hrs.):

Course No.	Course Title	Credit hours	Prerequisites	Notes
0905500	Railways Technology for Mechanical Engineering	3	120 cr.hrs	
0905504	Maintenance Management	3	0906302+0905435	
0905505	Facilities Planning and Design	3	0906302	
0905506	Finite Element Theory	3	0905361	
0905530	Computer Aided Design and Manufacturing	3	0905435	
0905531	Dynamics of Machines	3	0905361+0905435	
0905541	Turbines	3	0905321 +0905341	
0905542	Fluid Mechanics (2)	3	0905301 +0905341	
0905548	Power Hydraulics	3	0905341	
0905556	Heat Transfer (2)	3	0905455	
0905566	Robotics	3	0905463	
0905567	Automation	3	0905463	
0905570	Renewable Energy	3	0905455	
0905572	Thermal Power Plants	3	0905322	
0905580	Refrigeration Systems	3	0905322	
0905581	Heating Ventilation and Air Conditioning (2)	3	0905481	
0905594	Special Topics in Mechanical Engineering (1)	3	5 th year level	
0905597	Special Topics in Mechanical Engineering (2)	3	5 th year level	

* Co-requisite