جامعة عجمان
AJMAN UNIVERSITY

Electrical Engineering program - Study Plan

FIRST YEAR

Fall Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
1010000	Orientation	**0**	1	--	--	---
1021400	Communication Skills in Arabic Language	**3**	3	--	--	---
1041200	IT Fundamentals	**3**	2	2	--	---
2171010	Engineering Mathematics I	**3**	3	--	2	---
2171210	Engineering Physics I	**4**	3	2	2	---
2171410	Chemistry for Engineers	**3**	2	2	--	---
2171500	Introduction to Engineering	**1**	1	--	1	---
		17	15	6	5	

Spring Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
1021100	Islamic Culture	**3**	3	--	1	---
2131400	Computer Programming	**3**	3	--	2	1041200
2171020	Engineering Mathematics II	**3**	3	--	2	2171010
2171220	Engineering Physics II	**4**	3	2	2	---
xxxxxxx	University Elective I	**3**	3	--	--	---

	16	15	2	7	

Summer Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
1031200	Environmental Sciences	**3**	3	--	--	---
xxxxxxx	University Elective II	**3**	3	--	--	---
		6	6	0	0	

SECOND YEAR

Fall Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
1031331	Statistics	**3**	2	2	--	---
2132350	Logic Design	**4**	3	2	2	1041200
2132500	Engineering Analysis	**3**	3	--	2	2131400
2152110	Circuit Analysis I	**4**	3	2	2	2171220
2172030	Engineering Mathematics III	**3**	3	--	2	2171020
		17	14	6	8	

Spring Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2112510	Electronic Devices & Circuits I	**4**	3	2	2	2152110
2122210	Signals and Systems	**3**	3	--	2	2172030
2152120	Circuit Analysis II	**4**	3	2	2	2152110
2172040	Engineering Mathematics IV	**3**	3	--	2	2172030
1141300	Innovation and Entrepreneurship	**3**	3	--	--	60 credit hours
		17	15	4	8	

THIRD YEAR

Fall Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2113520	Electronic Devices & Circuits II	**4**	3	2	2	2112510
2123150	Principles of Communication	**4**	3	2	2	2122210
2123850	Electromagnetic Fields and Wave Propagation	**3**	3	--	2	2171220 2172030
2153650	Power Systems and Electrical Machines	**4**	3	2	--	2152120
2173630	Probability and Random Variables	**3**	3	--	2	2171020
		18	15	6	8	

Internal Training (2 Weeks in Spring Break)

Spring Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2113670	Design with Integrated Circuits	**4**	3	2	--	2113520
2143520	Control Systems	**4**	3	2	2	2122210
2143750	Sensors and Instrumentation	**4**	3	2	--	2113520 2132500
2133440	Microcontrollers and Applications	**4**	3	2	--	2131400 2132350
2173220	Report Writing and Presentation	**3**	3	--	1	2171500 + Junior Standing
		19	15	8	4	

2103001: Engineering Training I (6 Weeks in Summer)

FINAL YEAR (ELECTRONICS & COMMUNICATION)

Fall Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2124560	Communication & Switching Networks	**4**	3	2	--	2123150
2114440	Optoelectronics	**3**	3	--	--	2113520 2123850
2164910	Graduation Project I	**3**	1	4	--	2113670
(2114xxx/ 2124xxx/ 2164xxx)	Technical Elective I	**3**	3	--	--	As Specified
2174940	Senior Seminar	**1**	1	--	--	2173220
		14	11	6	--	

Spring Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2124670	Wireless Communication	**3**	3	--	--	2123150 2123850
2164930	Graduation Project II	**3**	1	4	--	2164910
(2114xxx/2 124xxx/ 2164xxx)	Technical Elective II	**3**	3	--	--	As Specified
21x4xxx	Technical Elective III	**3**	3	--	--	As Specified
2174050	Engineering Management	**3**	3	--	--	2173220
		15	13	4	--	

2103001: Engineering Training II (6 Weeks in Summer)

List of Technical Electives for Electronics & Communication Concentration:

The student will take three of the following Technical Electives. At least two of these electives must have the course code as 2114xxx/2124xxx/2164xxx. Approval of academic advisor is required if a student intends to take one 400 level technical elective outside the below list.

Code	Course Title	Cr. Hrs.	Pre-requisite(s)
2114180	VLSI Design	3	2113520, 2132350
2124340	Digital Signal Processing	3	2122210
2124610	Telecommunication Systems	3	2123150
2144420	Industrial Control Systems	4	2143520
2154550	Renewable Energy Systems	4	2153650
2164900	Selected Topics in Electr. & Comm.	3	2113520, 2123150
2164950	Directed Study in Electr. & Comm.	3	2113670, 2123150 + Approval

FINAL YEAR (INSTRUMENTATION AND CONTROL)

Fall Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2144420	Industrial Control Systems	**4**	3	2	2	2143520
2144380	Power Switching Devices	3	3	--	--	2113520 2152120
2144910	Graduation Project I	**3**	1	4	--	2113670
2144xxx	Technical Elective I	**3**	3	--	--	As specified
2174940	Senior Seminar	**1**	1	--	--	2173220
		14	11	6	2	

Spring Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2144440	Computer-Based Instrumentation and Control	**3**	2	2	--	2143750 2133440
2144930	Graduation Project II	**3**	1	4	--	2144910
2144xxx	Technical Elective II	**3**	3	--	--	As specified
21x4xxx	Technical Elective III	**3**	3	--	--	As specified
2174050	Engineering Management	**3**	3	--	--	2173220
		15	12	6	--	

2103001: Engineering Training II (6 Weeks in Summer)

List of Technical Electives for Instrumentation and Control:

The student will take three of the following Technical Electives. At least two of these electives must have the course code as 2144xxx. Approval of academic advisor is required if a student intends to take one 400 level technical elective outside the below list.

Code	Course Title	Cr. Hrs.	Pre-requisite(s)
2124560	Communication & Switching Networks	4	2123150
2144510	Fuzzy Logic and Neural Networks	3	2132350, 2172040
2144720	Biomedical Instrumentation	3	2143750
2144900	Selected Topics in Instrumentation & Control	3	2143750
2144950	Directed Study in Instrumentation & Control	3	2143750 + Approval
2154380	Power System Protection and Control	3	2143520, 2153650
2154550	Renewable Energy Systems	4	2153650

FINAL YEAR (POWER AND RENEWABLE ENERGY)

Fall Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2154550	Renewable Energy Systems	**4**	3	2	--	2153650
2154640	Power System Analysis	**3**	3	--	--	2153650
2154910	Graduation Project I	**3**	1	4	--	2113670
2154xxx	Technical Elective I	**3**	3	--	--	As specified
2174940	Senior Seminar	**1**	1	--	--	2173220
		14	11	6	--	

Spring Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
2154620	Smart Grid Renewable Energy Systems	**3**	3	--	--	2154550
2154930	Graduation Project II	**3**	1	4	--	2154910
2154xxx	Technical Elective II	**3**	3	--	--	As specified
21x4xxx	Technical Elective III	**3**	3	--	--	As specified
2174050	Engineering Management	**3**	3	--	--	2173220
		15	13	4	--	

2103001: ENGINEERING TRAINING II (6 Weeks in Summer)

List of Technical Electives for Power & Renewable Energy:

The student will take three of the following Technical Electives. At least two of these electives must have the course code as 2154xxx. Approval of academic advisor is required if a student intends to take one 400 level technical elective outside the below list.

Code	Course Title	Cr. Hrs.	Pre-requisite(s)
2144380	Power Switching Devices	3	2152120, 2113520

2144420	Industrial Control Systems		4 2143520
2154380	Power System Protection and Control	3	2153650, 2143520
2154470	Power Generation and Transmission	3	2153650
2154720	Electrical Power Distribution Systems	3	2153650
2154900	Selected Topics in Power & Renewable Energy	3	2154550
2154950	Directed Study in Power & Renewable Energy	3	2154550 +Approval