



EE Course Distribution Plan (Two-Semester Plan)

College: **Engineering**

Department: **Electrical Engineering**

Program: **B.S. in Electrical Engineering**

The general structure of the distribution of academic units on the academic program

Requirements	Courses	No. of Units
University Requirements (8)	Required	4
	Elective	4
College Requirements (54)	Required	54
	Elective	0
Program Requirements (74)	Required	61
	Supportive (if any)	0
	Electives	9
	Graduation Project (if any)	4
Free Elective Courses		0
Field Training		0
The total number of units approved for the academic program		136

Academic Levels:

First Year: Level-1

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	2200-100	ENGR100	Introduction to Engineering	مدخل الى الهندسة	Required (C)	1	1	1	0		
2	2200-106	ENGR106	Engineering Graphics	الرسم الهندسي	Required (C)	2	2	2	0		
3	1722-133	ENG133	English Composition-I	تعبير انجليزي 1	Required (C)	2	2	2	0		
4	0815-140	CHEM140	General Chemistry-I	1 كيمياء عامة	Required (C)	3	3	3	0		
5	0814-140	PHY140	General Physics-I	فيزياء عامة 1	Required (C)	3	3	3	0		0817-144 0814-144
6	0814-144	PHY144	General Physics-I Lab	مختبر فيزياء عامة 1	Required (C)	1	3	0	0		0814-140
7	0817-144	MATH144	Calculus-I	تفاضل وتكامل 1	Required (C)	4	4	4	0		
Total :						16	18	18			

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

First Year: Level-2

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	2200-105	ENGR105	Engineering Computing & Skills	مهارات حاسوبية هندسية	Required (C)	2	2	2	0	2200-100 0817-145	
2	1722-134	ENG134	English Composition-II	تعبير انجليزي 2	Required (C)	2	2	2	0	1722-133	
3	1722-138	ENG138	Fundamentals of Speech Communication	أساسيات التواصل الخطابي	Required (C)	2	2	2	0	1722-134	
4	0814-141	PHYS141	General Physics-II	فيزياء عامة 2	Required (C)	3	3	3	0	0814-140	0814-145
5	0814-145	PHYS145	General Physics-II Lab	مختبر فيزياء عامة 2	Required (C)	1	3	0	3	0814-144	0814-141
6	0815-142	CHEM142	General Chemistry-II	كيمياء عامة 2	Required (C)	3	3	3	0	0815-140	0815-143
7	0815-143	CHEM143	General Chemistry Lab	مختبر كيمياء عامة	Required (C)	1	3	0	3		0815-142
8	0817-145	MATH145	Calculus-II	تفاضل وتكامل 2	Required (C)	4	4	4	0	0817-144	
Total :						18	22	16	6		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Second Year: Level-3

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	1900-101	SSC-101	Creed and Doctrines	والمذاهب العقيدة	Required (U)	2	2	2	0		
2	1900-XXX	SSCXXX	University Elective	اختياري جامعة	Required (U)	2	2	2	0		
3	2202-231	EE231	Digital Logic Design	تصميم المنطق الرقمي	Required (P)	3	3	3	0	0817-145	2202-232
4	2202-232	EE232	Digital Logic Design Lab	معمل تصميم المنطق الرقمي	Required (P)	1	3	0	3		2202-231
5	2202-241	EE241	Electric Circuits-I	I الدوائر الكهربائية	Required (P)	3	3	3	0	0814-141	0817-240 2202-247
6	2202-247	EE247	Electric Circuits Lab	معمل الدوائر الكهربائية	Required (P)	1	3	0	3		2202-241
7	0817-240	MATH240	Differential Equations	المعادلات التفاضلية	Required (C)	3	3	3	0		
8	0817-244	MATH244	Multivariate Calculus	التفاضل والتكامل متعدد المتغيرات	Required (C)	3	3	3	0	0817-145	
Total :						18	22	16	6		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Second Year: Level-4

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	1900-102	SSC102	Islamic Culture	الثقافة الإسلامية	Required (U)	2	2	2	0		
2	1722-137	ENG137	Technical Writing	الكتابة التقنية	Required (C)	2	3	3	0	1722-134 1722-138	
3	0901-204	CS204	Engineering Programming	البرمجة الحاسوبية لطلبة الهندسة	Required (C)	3	3	3	0	0817-144	
4	2202-243	EE243	Electronics-I	إلكترونيات-1	Required (P)	3	3	3	0	2202-241 0815-142	2202-248
5	2202-248	EE248	Electronic Circuits Lab	معمل الدوائر الالكترونية	Required (P)	1	3	0	3	2202-247	2202-243
6	2202-242	EE242	Electric Circuits-II	الدوائر الكهربائية II	Required (P)	3	3	3	0	2202-241	0817-215 2202-247
7	0817-215	MATH215	Math for Electrical Engineering	الرياضيات للهندسة الكهربائية	Required (P)	3	3	3	0	0817-145	
Total :						17	20	17	3		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Third Year: Level-5

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	2202-330	EE330	Signals & Systems	الإشارات والأنظمة	Required (P)	3	3	3	0	0817-240 0817-215 2202-242	
2	2202-244	EE244	Electronics-II	الإلكترونيات 2	Required (P)	3	3	3	0	2202-243	
3	2202-233	EE233	Microprocessor	المعالجات الدقيقة	Required (P)	3	3	3	0	2202-231 0901-204	2202-234
4	2202-234	EE234	Microprocessor Lab	معمل المعالجات الدقيقة	Required (P)	1	3	0	3	2202-232	2202-233
5	2202-331	EE331	Engineering Electromagnetism	الكهرومغناطيسية الهندسية	Required (P)	3	3	3	0	0817-244 2202-242	
6	2200-340	ENGR340	Probability & Random Processes	الاحتمالات والإحصاء للمهندسين	Required (P)	3	3	3	0	0817-215	
Total :						16	18	15	3		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Third Year: Level-6

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	2202-335	EE335	Electric Energy & Power Systems	الطاقة الكهربائية وأنظمة القوى	Required (P)	3	3	3	0	2202-242 2202-331	2202-336
2	2202-336	EE336	Electric Energy & Power Systems Lab	معمل الطاقة الكهربائية وأنظمة القوى	Required (P)	1	3	0	3	2200-137	2202-335
3	2202-332	EE332	Communication Systems Fundamentals	أساسيات نظم الاتصالات	Required (P)	3	3	3	0	2202-330 2200-340	2202-333
4	2202-333	EE333	Communication Systems Fundamentals Lab	معمل أساسيات نظم الاتصالات	Required (P)	1	3	0	3	2202-248	2202-332
5	2200-310	ENGR310	Numerical Methods	طرق الحل العددية	Required (C)	3	3	3	0	0817-240 0901-204 2200-105	
6	2200-307	ENGR307	Engineering Economics	اقتصاديات الهندسة	Required (C)	3	3	3	0	2200-100	
7	2200-223	ENGR223	Engineering Mechanics	ميكانيكا هندسية	Required (P)	3	3	3	0	0817-145 0814-140	
Total :						17	21	15	6		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Field Training

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	2200-399	ENGR399	Engineering Training	تدريب هندسي	Required (C)	0	40	0	40	6th Level and Above, 1722-137	
Total :						0	40	0	40		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Fourth Year: Level-7

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	1900-XXX	SSCXXX	University Elective	اختياري جامعة	Elective (U)	2	2	2	0		
2	2202-429	EE429	Mechatronics	ميكاترونكس	Required (P)	3	3	3	0	2202-233 2202-330	
3	2202-430	EE430	Analogue Control Systems	أنظمة التحكم التماثلية	Required (P)	3	3	3	0	2202-330	
4	2202-431	EE431	Mechatronics & Control Lab	معمل أنظمة التحكم والمكاترونيكس	Required (P)	1	3	0	3	2202-234	2202-429 2202-430
5	2202-434	EE434	Digital Systems & Signal Processing	الأنظمة الرقمية ومعالجة الإشارات	Required (P)	3	3	3	0	2202-330 2200-310	
6	2202-4xx	EE4XX	Technical Elective-I	اختياري قسم #1	Elective (P)	3	3	3	0	6 th Level and Above	
7	2202-495	EE495	Senior-Design-I	مشروع تخرج 1	Required (P)	2	2	2	0	2202-335 ENGR307 ENG137	
Total :						17	20	17	3		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Fourth Year: Level-8

#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	0622-292	MGT292	Management Fundamentals & Skills	مبادئ الإدارة ومهاراتها	Required (C)	3	3	3	0		
2	2200-205	ENGR205	Materials Science	علم المواد	Required (P)	3	3	3	0	0815-142	
3	2200-303	ENGR303	Thermo-Fluids	السوائل الحرارية	Required (P)	3	3	3	0	0814-140 0815-142	
4	2202-4xx	EE4YY	Technical Elective-II	اختياري قسم #3	Elective (P)	3	3	3	0	6 th Level and Above	
5	2202-4xx	EE4ZZ	Technical Elective-III	اختياري قسم #3	Elective (P)	3	3	3	0	6 th Level and Above	
6	2202-496	EE496	Senior Design-II	مشروع تخرج 2	Required (P)	2	2	0	2	EE495	
Total :						17	17	15	2		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

Field Training											
#	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature* (U, C, P)*	Credit Units	Contact Hours	Nature of Contact Hours		Pre-requisite(s) (if any)	Co-requisite(s) (if any)
								Theoretical	Practical		
1	2200-399	ENG399	Engineering Training	تدريب تقني	Required (C)	0	40	0	40	6th Level and above 1722-137	
Total :						0	40	0	40		

*(Required or Elective)

* U: University requirements, C: College Requirements, P: Program Requirements

- **Program Elective Courses** (Student must select at least 3 course)

	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature*	Credit Units	Contact Hours	Academic Level (if any)	Pre-requisite(s) (if any)	Co-requisite(s) (if any)
1	2202-480	EE480	Electric Machines	الآلات الكهربائية	Elective	3	3	Level 10 & Above	2202-335 2202-336	
2	2202-481	EE481	Power Systems	أنظمة الطاقة	Elective	3	3	Level 10 & Above	2202-335 2202-336	
3	2202-482	EE482	Power Electronics	إلكترونيات القوى	Elective	3	3	Level 10 & Above	2202-335 2202-336 2202-243	
4	2202-483	EE483	Modern Control Systems	أنظمة التحكم الحديثة	Elective	3	3	Level 10 & Above	2202-430	
5	2202-484	EE484	Industrial Control	التحكم الصناعية	Elective	3	3	Level 10 & Above	2202-429 2202-231	
6	2202-485	EE485	Digital Control Systems	أنظمة التحكم الرقمي	Elective	3	3	Level 10 & Above	2202-430 2202-483	
7	2202-486	EE486	Digital Communication Systems	نظم الاتصالات الرقمية	Elective	3	3	Level 6 & Above	2202-332 2202-333	
8	2202-487	EE487	Communication Electronics	إلكترونيات الاتصالات	Elective	3	3	Level 6 & Above	2202-332 2202-244 2202-333	

9	2202-488	EE488	Wireless and Cellular Communication	الاتصالات اللاسلكية والخلوية	Elective	3	3	Level 6 & Above	2202-486 2202-332	
10	2202-489	EE489	Special Topic	موضوع خاص	Elective	3	3	Level 6 & Above	Dept Approval	
11	2202-490	EE490	Undergraduate Research	البحوث الجامعية	Elective	3	3	Level 6 & Above	Dept Approval	
12	2202-493	EE493	Optical Fiber Communication	اتصالات الألياف الضوئية	Elective	3	3	Level 6 & Above	2202-331 2202-244	
Total Credit Units Required						9	9			

*(Required or Elective

- **University Requirements** (Student must select 2 electives)

	Course Number	Course Code	Course Name (English)	Course Name (Arabic)	Course Nature*	Credit Units	Contact Hours	Academic Level (if any)	Pre-requisite(s) (if any)	Co-requisite(s) (if any)
1	1900-101	SSC101	Creed and Doctrines	و العقيدة المذاهب	Required	2	2	1-8		
2	1900-102	SSC102	Islamic Culture	الثقافة الإسلامية	Required	2	2	1-8		
3	1900-103	SSC103	Islamic Morals and Ethics	الأخلاق الإسلامية وأداب المهنة	Elective	2	2	1-8		
4	1900-104	SSC104	Studies in the Biography of the Prophet	دراسات في السيرة النبوية	Elective	2	2	1-8		
5	1900-105	SSC105	Medical jurisprudence	الفقه الطبي	Elective	2	2	1-8		
6	1900-106	SSC106	Economics & Politics in Islam	الاقتصاد والسياسة في الإسلام	Elective	2	2	1-8		
7	1900-107	SSC107	Islamic Social & Family Behavior	النظام الاجتماعي السلوك و الاسري	Elective	2	2	1-8		
8	1900-108	SSC108	Management & Entrepreneurship	الإدارة وريادة الاعمال	Elective	2	2	1-8		
9	1900-109	SSC109	Health & Fitness	صحة ولياقة	Elective	2	2	1-8		
10	1900-110	SSC110	Research skills	مهارات البحث	Elective	2	2	1-8		
11	1900-111	SSC111	Volunteer Work	العمل التطوعي	Elective	2	2	1-8		
12	1900-112	SSC112	Medicine: Type and Use	الدواء: النوع والاستخدام	Elective	2	2	1-8		
13	1900-113	SSC113	Human Rights in Islam	حقوق الانسان في الإسلام	Elective	2	2	1-8		
14	1900-114	SSC114	Food and Nutrition	الغذاء والتغذية	Elective	2	2	1-8		
Total Credit Units Required						8	8			

*(Required or Elective)