

1.1 Structure of the program

- The first and second year in this section provides students with a strong practical and theoretical foundation in programming languages, object programming, digital and analog electronics, electrical science, basic mathematics and engineering. In addition, students will be scientifically prepared to specialize in communications engineering and mobile computing.
- In the third year, the student will be able to attend many specialized subjects in the field of advanced communications, networking and software engineering for the development of mobile applications.
- In the final year, in addition to the study of advanced specialist subjects, students will implement an important group engineering project aimed at solving the real world problem in the field of communication or computerization of mobile devices. The project includes advanced design, experience in implementation and confidence-building through the application of the skills and techniques acquired during the course of its study.
- The curriculum consists of 154 quarterly units taught by the student in (4) four years of study and two semesters per year. These modules are divided into 9 main areas of specialization in communications and mobile computing engineering, which were distributed in eight semesters sequentially with the progress of the study stages. Figures 1 and 2 below show the share of each module and its distribution within the four years.

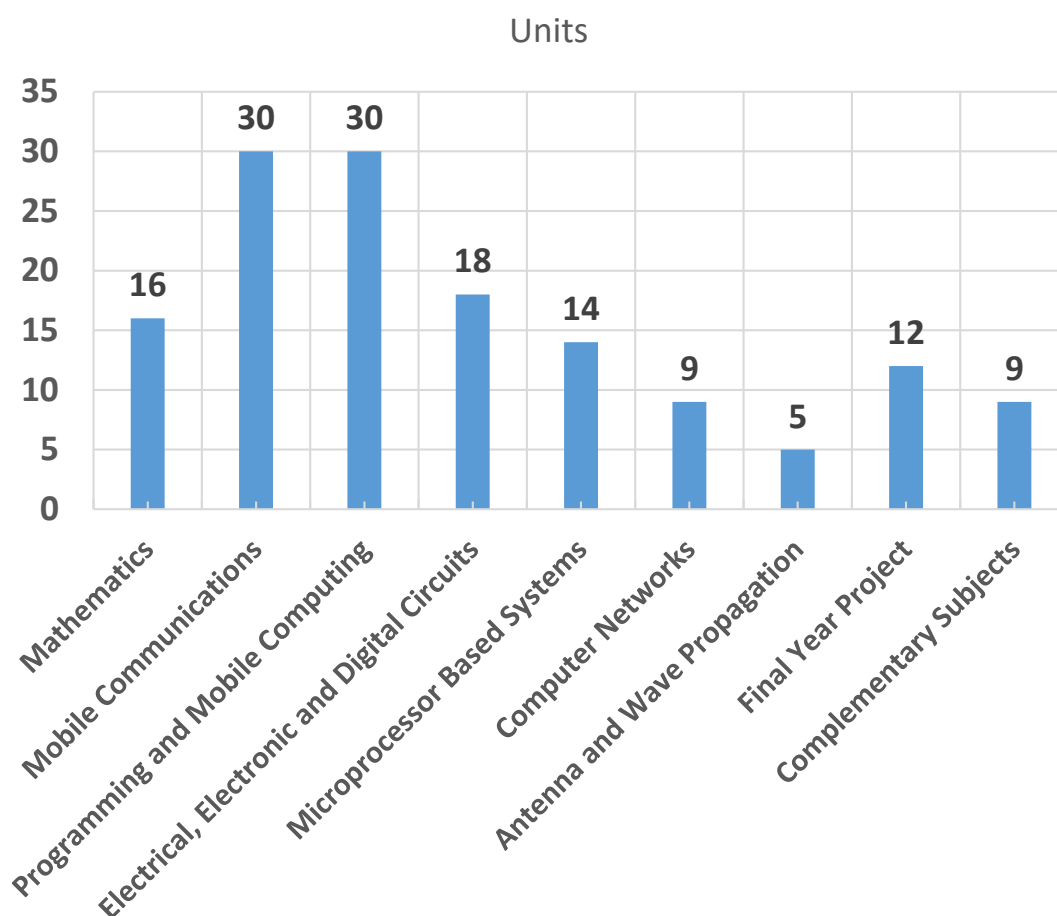


Figure 1

Year 1		Year 2		Year 3		Year 4	
1 st Sem.	2 nd Sem.	1 st Sem.	2 nd Sem.	1 st Sem.	2 nd Sem.	1 st Sem.	2 nd Sem.
Mathematics							
MAT1101	MAT1201 MAC1206	EMA2101 STP2108	EMA2201	16 Units			
Electrical, Electronic and Digital Circuits							
DSD1102 ECT1103	DSD1202 ECT1203	ELE2102	ELE2202	18 Units			
Programming and Mobile Computing							
PRL1104	PRL1204	WPR2105 OOP2106	WPR2205 OOP2206 OPS3107 MCP2208	MAD3102	MAD3202	30 Units	SCP420°
Microprocessor Based Systems							
	CMA1207	MPS2104	MPS2204	EMB3101	EMB3201	14 Units	
Communications							

30 Units	COM2103	COM2203	DCM3106 WCN3103	DSP3206 WCN3203	MCM4102 ITC3205	MCM4202 OFC4204
Computer Networks						
9 Units			CMN3107	CNP3207	CNA4104	
Antenna and Wave Propagation						
5 Units	EMF2107			AWP3204		
Final Year Project						
12 Units					PRJ4101 PMT4103	PRJ4201 PMT4203
Complementary Subjects						
11 Units			MMS310V HCI3104	DBS3207	NWS4106	IOT4206

Figure 2

(T): theoretical (p): practical (U): Unity

The first stage

First Semester (11)

#	Subject	Subject Name	T	P	U	Code
1	Mathematics I	رياضيات ١	3	-	3	MAT1101
2	Digital Systems Design I	تصميم النظم الرقمية ١	2	3	3	DSD1102
3	Electrical Circuits Analysis I	تحليل الدوائر الكهربائية ١	2	3	3	ECA1103
4	Programming Fundamentals I	أساسيات البرمجة ١	2	2	3	PRL1104
5	English Language I	لغة انكليزية ١	2	-	2	ENL1105
6	Engineering Drawing	رسم هندسي	-	3	1	EDR1106
7	Human Rights	حقوق انسان	1	-	1	HRS1107
8	Arabic Language	لغة عربية	2	-	2	ARL1108
	Total		14	11	18	

Second Semester (12)

#	Subject	Subject Name	T	P	U	Code
1	Mathematics II	رياضيات ٢	3	-	3	MAT1201
2	Digital System Design II	تصميم النظم الرقمية ٢	2	3	3	DSD1202
3	Electrical Circuits Analysis II	تحليل الدوائر الكهربائية ٢	2	3	3	ECA1203
4	Programming Fundamentals II	أساسيات البرمجة ٢	2	2	3	PRL1204
5	English Language II	لغة انكليزية ٢	2	-	2	ENL1205
6	Mathematics for Computing	رياضيات الحوسبة	2	-	2	MAC1206
7	Computer Architecture	معمارية الحاسبة	2	-	2	CMA1207
8	Freedom and Democracy	ديمقراطية و حرية	1	-	1	ARL1208
	Total		16	8	19	

The second Stage

First Semester (21)

#	Subject	Subject name	T	P	U	Code
1	Engineering Mathematics I	رياضيات هندسية ١	3	-	3	EMA2101
2	Electronics I	اليكترونيك ١	2	3	3	ELE2102
3	Communications I	إتصالات ١	2	2	3	COM2103
4	Microprocessors I	معالجات ١	2	2	3	MPS2104
5	Web Programming I	برمجة المواقع ١	2	2	3	WPR2105
6	Object Oriented Programming I	برمجة شئية ١	2	2	3	OOP2106
7	Electromagnetic Fields	مجالات كهرومغناطيسية	2	-	2	EMF2107
8	Statistics and Probability	احتمالية و احصاء	2	-	2	STP2108
	Total		17	11	22	

First Semester (22)

#	Subject	Subject name	T	P	U	Code
1	Engineering Mathematics II	رياضيات هندسية ٢	3	-	3	EMA2201
2	Electronics II	اليكترونيك ٢	2	3	3	ELE2202
3	Communications II	إتصالات ٢	٢	2	٣	COM2203
4	Microprocessors II	معالجات ٢	2	2	3	MPS2204
5	Web Programming II	برمجة المواقع ٢	2	2	3	WPR2205
6	Object Oriented Programming II	برمجة شئية ٢	2	2	3	OOP2206
7	Operating Systems	انظمة التشغيل	2	-	2	OPS2207
8	Mobile Computing	حوسبة متنقلة	2	-	2	MCP2208
	Total		17	11	22	

Third Stage

First Semester (31)

#	Subject	Subject name	T	P	U	Code
1	Embedded Systems I	أنظمة مضمنة ١	2	2	3	EMB3101
2	Mobile Applications Development I	تطوير تطبيقات النقل ١	2	2	3	MAD3102
3	Wireless Communications Networks I	شبكات الاتصالات اللاسلكية ١	2	2	3	WCN3103
4	Human-Computer Interaction *	تفاعل الإنسان والحاسوب *	2	-	2	HCI3104
5	Digital Communications	اتصالات رقمية	3	3	4	DCM3105
6	Computer Networks	شبكات الحاسوب	2	2	3	CMN3106
7	Multimedia Systems	أنظمة الوسائط المتعددة	2	-	2	MMS3107
	Total		١٥	11	20	

Second Semester (32)

#	Subject	Subject name	T	P	U	Code
1	Embedded Systems II	أنظمة مضمنة ٢	2	2	3	EMB3201
2	Mobile Applications Development II	تطوير تطبيقات النقل ٢	2	2	3	MAD3202
3	Wireless Communications Networks II	شبكات الاتصالات اللاسلكية ٢	2	2	3	WCN3203
4	Antennas and Wave Propagation	هوائيات و انتشار الموجة ٢	2	2	3	AWP3204
5	Digital Signal Processing	معالجة الإشارة الرقمية	2	-	2	DSP3205
6	Computer Networks Protocols	بروتوكولات شبكات الحاسوب	2	2	3	CNP3206
7	Database Systems	نظم قواعد البيانات	2	2	3	DBS3207
	Total		١٤	12	٢٠	

The fourth stage

First Semester (41)

#	Subject	Subject name	T	P	U	Code
1	Project I	مشروع ١	١	4	٣	PRJ4101
2	Mobile Communications I	اتصالات متنقلة ١	2	2	3	MCM4102
3	Project Management I	إدارة مشروع ١	2	2	3	PMT4103
4	Computer Networks Administration	إدارة شبكات الحاسوب	2	2	3	CNA4104
5	Information Theory and Coding *	نظرية المعلومات والتشفير *	3	-	3	ITC4105
6	Networks Security *	أمنية الشبكات *	2	-	2	NWS4106
	Total		12	10	17	

Second Semester (42)

#	Subject	Subject name	T	P	U	Code
1	Project II	مشروع ٢	١	4	٣	PRJ4201
2	Mobile Communications II	اتصالات متنقلة ٢	2	2	3	MCM4202
3	Project Management II	إدارة مشروع ٢	2	2	3	PMT4203
4	Optical Fiber Communications *	إتصالات الالياف الضوئية *	2	2	3	OFC4204
7	Soft Computing *	حوسبة مرنة *	2	-	2	SCP420٥
6	Internet of Things *	انترنت الاشياء *	2	-	2	IOT4206
	Total		١١	١٠	16	

Optional Materials (*)

- ١- **Fifth Generation Wireless Technologies.**
- ٢- **Cloud Computing.**
- ٣- **RF Systems and Circuit Design.**
- ٤- **Image Processing.**
- ٥- **Distributed Database Systems.**
- ٦- **Telecom and Packet Networks.**

Curriculum summary of the department

Details Number of items No. of units	Details Number of items No. of units	Details Number of items No. of units
154	58	Total curriculum
103	37	Total Engineering Materials
16	6	Optional materials
3105		Total number of hours for four years