



University of Babylon
College of Engineering
Department of BioMedical Engineering
Study plan for B.Sc. Degree Courses

First Year

❖ **First Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Unit s
			Th.	Prac.	Tut.	
1	UREQ111	English Language I	1	----	1	1
2	UREQ112	Computer Programming I	2	2	----	3
3	MATH110	Mathematics I	2	----	1	2
4	CREQ110	Engineering Drawings I	1	3	----	2
5	CREQ111	Workshop Technology	----	3	----	1
6	MDER110	Chemistry	2	2	----	3
7	MDER111	Electrical Circuits I	2	2	1	3
Total			10	12	3	10
			25			

❖ **Second Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	UREQ120	Arabic Language I	1	----	----	1
2	UREQ121	English Language II	1	----	1	1
3	UREQ122	Computer Programming II	2	2		3
4	MATH120	Mathematics II	2	----	1	2
5	CREQ120	Engineering Drawings II	1	3	----	2
6	PHYS120	Medical Physics	2	2	----	3
7	BMER120	Bio-Chemistry	2	2	1	3
8	BMER121	Electrical Circuits II	2	2	1	3
Total			13	11	4	18
			28			



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Second Year

❖ **First Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	UREQ211	Arabic Language II	1	----	----	1
2	UREQ212	English Language III	1	----	1	1
3	MATH210	Mathematics III	2	----	1	2
4	CREQ210	Information Technology	1	2	----	2
5	MDER210	Engineering Mechanics I	2	----	1	2
6	MDER211	Material Science	2	2	----	3
7	MDER212	Electronics I	2	3	1	3
8	MDER213	Cell Biology	2	---	1	2
Total			13	7	5	16
			25			

❖ **Second Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	UREQ221	English Language IV	1	----	1	1
2	MATH220	Mathematics IV	2	----	1	2
3	MDER220	Engineering Mechanics II	2	----	1	2
4	MDER221	Electronics II	2	3	1	3
5	MDER222	Electromagnetic fields	2	----	----	2
6	MDER223	Limbs Anatomy	2	2	1	3
7	MDER224	Electrical Networks	2	----	1	2
Total			13	5	1	10
			24			



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Third Year

❖ **First Semester:**

No.	CODE	SUBJECT	Hrs. Per Week			Units
			Th.	Prac.	Tut.	
1	UREQ311	English Language V	1	----	1	1
2	MDER310	Engineering Analysis	2	----	1	2
3	MDER311	Mechanics of Materials I	2	----	1	2
4	MDER312	The Trunk Anatomy	2	2	----	3
5	MDER313	Physiology I	2	2	----	3
6	MDER314	Histology	2	2	----	3
7	MDER315	Electronics III	2	----	1	2
8	MDER316	Fiber Optics	2	----	----	2
Total			10	6	ξ	18
			25			

❖ **Second Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	UREQ321	English Language VI	1	----	1	1
2	CREQ321	Engineering Statistics	2	----	1	2
3	MDER321	Mechanics of Materials II	2	2	1	3
4	MDER322	Neck & Nervous Anatomy	2	2	----	3
5	MDER323	Physiology II	2	2	----	3
6	MDER324	Medical Equipment	2	2	1	3
7	MDER325	Bone Injury and Fractures	2	----	----	2
Total			13	8	ξ	17
			25			



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Fourth Year

❖ **First Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	UREQ411	English Language VII	1	----	1	1
2	MDER410	Biomechanics I	2	3	1	3
3	MDER411	Biomaterials I	2	----	----	2
4	MDER412	Communications I	2	3	1	3
5	MDER413	Medical Instrumentation	2	2	1	3
6	MDER414	Thermo-Fluid Mechanics I	2	2	----	3
7	MDER415	Digital Electronics I	2	3	----	3
8	MDER416	Pathology	2	----	----	2
Total			1°	13	ξ	2·
			32			

❖ **Second Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	UREQ421	English Language VIII	1	----	1	1
2	MDER420	Biomechanics II	2	3	1	3
3	MDER421	Biomaterials II	2	----	----	2
4	MDER422	Communications II	2	3	----	3
5	MDER423	Analytical Mechanics	2	----	----	2
6	MDER424	Therapeutic Instrumentation	2	2	1	3
7	MDER425	Digital Electronics II	2	3	----	3
8	MDER426	Thermo-Fluid Mechanics II	2	2	----	3
Total			1°	13	۳	2·
			31			



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Fifth Year

❖ **First Semester:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	MDER510	Elective I	2	----	----	2
2	MDER511	Diagnostic Instrumentation	2	2	1	3
3	MDER512	Control I	2	2	1	3
4	MDER513	Image Processing	2	2	----	3
5	MDER514	Microprocessor	2	3	----	3
6	MDER515	Hospital System & Design	2	----	----	2
7	CREQ516	Project I	----	4	----	2
Total			12	13	2	18
			27			

❖ **Second Semester:**

No.	CODE	SUBJECT	Hrs. Per Week			Units
			Th.	Prac.	Tut.	
1	MDER520	Elective II	2	----	1	2
2	MDER522	Control II	2	3	1	3
3	MDER523	Computer Network	2	----	----	2
4	MDER524	Biotribology	2	----	----	2
5	MDER525	Neural Networks	2	----	1	2
6	MDER526	Biomedical Sensors	2	----	1	2
7	MDER527	Project II	----	4	----	2
Total			12	7	4	15
			23			

Elective Subjects

- | | |
|------------------------------|-------------------------------|
| 1. Biostatistics | 2. Infrared & Thermal Imaging |
| 3. Finite Element Analysis | 4. Signal and Systems |
| 5. Endoscopy | 6. Mat. Lab |
| 7. Human Body Modeling | 8. Modern Medical Equipment |
| 9. Environmental Engineering | |



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Limbs Anatomy- 2 nd Y. 2 nd S.	تشريح الاطراف
Trunk Anatomy- 3 rd Y. 1 st S.	تشريح الجذع
Physiology - 3 rd Y. 1 st S.	علم وظائف الأعضاء
Histology- 3 rd Y. 1 st S.	علم الانسجة
Neck & Nervous Anatomy- 3 rd Y. 2 nd S.	تشريح الرقبة والعصب
Pathology- 4 th Y. 1 st S.	علم الأمراض
Therapeutic instrumentation- 4 th Y. 2 nd S.	الأجهزة العلاجية
Biotribology- 5 th Y. 2 nd S.	علم الأحياء