



**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
<b>Total</b>			10	12	3	15
			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
<b>Total</b>			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	2	---	3
<b>Total</b>			13	9	4	17
			26			

❖ **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
<b>Total</b>			13	5	6	15
			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	3	1	3
8	MDER316	Fiber Optics	2	2	----	3
<b>Total</b>			15	11	4	20
			30			

❖ **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 Equipments	2	2	1	3
7	MDER325	Bone Injury and Fractures	2	----	----	2
<b>Total</b>			13	8	4	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
<b>Total</b>			15	13	4	20
			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
<b>Total</b>			15	13	3	20
			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 & Microcontroller	2	3	----	3
6	MDER515	Hospital System & Design	2	----	----	2
<b>Total</b>			12	9	2	16
			23			

❖ **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
<b>Total</b>			12	3	4	13
			19			

❖ **Annual Subjects:**

No.	CODE	SUBJECT	Hrs Per Week			Units
			Th.	Prac.	Tut.	
1	CREQ500	Project	----	4	----	4

**Elective Subjects**

- |   |   |
|---|---|
| 1. Biostatistics<br>3. Finite Element Analysis<br>5. Endoscopy<br>7. Human Body Modeling<br>9. Environmental Engineering<br>11. Industrial Electronics. | 2. Infrared & Thermal Imaging<br>4. Signal and Systems<br>6. Mat. Lab<br>8. Modern Medical Equipments<br>10. Electromechanical Design.<br>12. DC and AC machines. |
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