

الهندسة الكهربائية:

● برنامج هندسة الألكترونيات الطبية.

1- المواد المطلوب إنجازها:-

Preparatory Phase

(Minimum 36 credits and one summer training course)

1. Basic Subjects : (Compulsory 30 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
MATH 101	Mathematics (I)		3	2	2	-
MATH 102	Mathematics (II)	MATH 101	3	2	2	-
BENG 103	Mechanics (I)		3	2	2	-
BENG 104	Mechanics (II)		3	2	2	-
BENG 105	Production Engineering (I)		3	2	-	4
CHM 106	Chemistry (I)		3	2	2	1
PHY 107	Physics (I)		3	2	2	1
PHY 108	Physics (II)		3	2	2	1
COMP 109	Introduction to Computer Programming		2	1	1	2
BENG 110	Engineering Drawing (I)		2	1	-	3
BENG 111	Engineering Drawing (II)	BENG 110	2	1	-	3

2. Basic Subjects : (Elective 2 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
CHM 112	Chemistry (II)	CHM 106	2	1	1	2
COMP 113	Computer Programming	COMP 109	2	1	1	2
BENG 114	Production Engineering (II)	BENG 105	2	1	2	2

3. Humanity& Language Courses : (Compulsory 4 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
HUM 115	History of Engineering		2	2	-	-
LNG 116	(Technical English (I		2	2	-	-

LNG 117	(Technical English (II	LNG 116	2	2	-	-
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4. Summer Training: (One complete training period – 5 credits)

STR (I)	Computer& workshop skills		5	-	-	60
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B.Sc. In Electrical Engineering
(Basic phase)
(Bio-Electronics Engineering)
(Minimum 70 credits and two summer training courses)

1. Basic Subjects : (Compulsory 55 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
BIO 201	Mathematics (III)	MATH 102	3	2	2	-
BIO 202	Mathematics (IV)	BIO 201	3	2	2	-
BIO 203	Mathematics (V)	BIO 202	3	2	2	-
BIO 204	Engineering Mechanics	BENG 104	3	2	2	1
BIO 205	Engineering Design (I)		3	2	2	-
BIO 206	Engineering Design (II)	BIO 205	3	2	2	-
BIO 207	Strength of Materials		3	2	1	2
BIO 208	Production Engineering (III)	BENG 105	3	2	2	1
BIO 209	Electrical circuits	PHY 108	3	2	2	1
BIO 210	Solid State Electronic circuits	BIO 209	3	2	2	1
BIO 211	Instrumentations		3	2	2	1
BIO 212	Computer Application		3	2	-	2
BIO 213	Thermodynamics		3	2	2	1
BIO 214	Fluid Mechanics		3	2	2	1
BIO 215	Anatomy and Physiology		4	2	2	2
BIO 216	Bio Electronics Engineering		3	2	2	1
BIO 217	Imaging Technology		3	2	2	-
BIO 218	Waves & Radiating Systems		3	2	2	-

2. Basic Subjects : (Elective 11 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
BIO 219	Micro-Computing Engineering	BIO 212	3	2	-	3
BIO 220	Electrical Drives System		3	2	-	3
BIO 221	Bio- Medical Engineering	BIO 216	3	2	2	1
BIO 222	Civil Engineering		3	2	1	2

BIO 223	Stress Analysis for human body	BIO 207	3	2	2	-
BIO 224	System Dynamics for human body		3	2	2	-
BIO 225	Logic Circuits		3	2	1	3
BIO 226	Digital Signal Processing		3	2	1	3

3. Humanity & Language Courses : (Compulsory 4 credits)

Code	Course title	.Pre. Req	Credits	.Lec	.Ex	.Lab
BIO 227	Technical Report Writing		2	2	-	-
BIO 228	Legislations		2	2	-	-
BIO 229	Projects Evaluation		2	2	-	-

4. Summer Training: (Two complete training period – 10 credits)

STR (II)	Field general training	STR (I)	5	-	-	60
STR (III)	Factories & Practical training	STR (II)	5	-	-	60

B.Sc. In Electrical Engineering ***(Specialized phase)***

(Bio-Electronics Engineering)

(Minimum 65 credits and one summer training course)

1. Specialized Engineering Courses : (Compulsory 50 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
BIO 301	Bio Informatics		3	2	-	3
BIO 302	Microwaves Circuits and Equipment	BIO 218	3	2	1	2
BIO 303	Medical Laboratory Science & Methods		3	2	-	3
BIO 304	Power Electronics		2	1	-	3
BIO 305	CAD of Signals & Systems		3	2	2	-
BIO 306	Modeling of Electrical Machines	BIO 221	3	2	2	-
BIO 307	Data base Management		3	2	2	-
BIO 308	Clinical Engineering		3	2	2	-
BIO 309	Bio-Mechanics Systems		3	2	2	-
BIO 310	Medical Gases System Design		3	2	2	-
BIO 311	Biomaterials		2	1	2	-
BIO 312	Automatic Control		2	1	1	2
BIO 313	Electronic Vision		3	2	2	-
BIO 314	Medical Instrumentation		3	2	2	-
BIO 315	Nuclear & Radio Equipment		3	2	2	-
BIO 316	Sterilization Techniques		2	1	2	
BIO 317	Physiotherapy Equipment		3	1	2	3
BIO 318	TQM in Health Care		3	2	2	-

2. Specialized Engineering Courses : (Elective 3 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
BIO 319	Micro Processor Control		3	2	2	-
BIO 320	Micro controllers		2	1	2	-
BIO 321	Inventory Control		2	2	1	-
BIO 322	Fault Diagnosis		2	1	2	-
BIO 323	Refrigeration & air-condition		2	1	1	2
BIO 324	Robot Technology & Medical Care		3	2	2	-
BIO 325	Real time Operation		3	2	2	-
BIO 326	Medical Space Planning		3	2	2	-
BIO 327	Parametric Estimations Systems Identification		2	1	2	-
BIO 328	Artificial Intelligence & Expert Systems		3	2	2	-
BIO 329	Maintenance Planning Of Hospitals		2	1	2	-

3. B.Sc Projects : (Compulsory 8 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
BIO 330	B.Sc. Project Premium		3	-	4	-
BIO 331	B.Sc. Project	BIO 330	5	1	3	8

4. Humanity& Language Courses : (Compulsory 4 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
BIO 332	Management & Health Care		2	2	-	-
BIO 333	Industrial Psychology		2	2	-	-
BIO 334	Feasibility Study		2	2	-	-

5. Summer Training: (One complete training period – 5 credits)

Code	Course title	Pre. Req.	Credits	Lec.	Ex.	Lab.
STR (IV)	Field training	STR (III)	5	-	-	60