

CS 232	Representation of Technological Data		1	-	-	3
ME 237	Industrial Engineering (II)	ME 201	2	2	-	-
ME 241	Heat Transfer Equipment	ME 203 & ME 204	3	2	2	-
ME 242	Energy Conversion	ME 203	3	2	2	-
ME 243	Refrigeration	ME 203 & ME 204	3	2	2	-
ME 244	Air Conditioning	ME 203 & ME 204	3	2	2	-
ME 245	Combustion	ME 203 & ME 204	3	2	2	-
ME 246	Combustion Engines	ME 203	3	2	2	-
ME 247	Renewable Energy	ME 203 & ME 204	3	2	2	-
ME 248	Energy Conservation & Management	ME 203 & ME 204	3	2	2	-
ME 249	Energy Laboratory (Special)	ME 203 & ME 204	1	-	-	3
ME 261	Industrial Pollution and Control (II)		2	2	-	-
ME 262	Small Projects Planning & Management		2	2	-	-
ME 263	Production Financial Analysis		2	2	-	-
ME 264	Quality Control (II)	ME 201	2	2	-	-
ME 265	Machine Tool Design	ME 201	2	2	-	-
ME 267	Production Cost Analysis	ME 201	2	2	-	-
ME 268	Material Handling Equipment		2	2	-	-
ME 269	Operations Research		2	2	-	-
MNG 211	Operations Management (II)	ME 201	2	2	-	-
MNG 212	Projects Planning & Management	ME 201	2	2	-	-
MNG 213	Feasibility Studies	ME 201	2	2	-	-
MNG 214	Industrial Marketing	ME 201	2	2	-	-
ENG 215	Engineering Material Selection	ENG 241	2	2	-	-

3) Humanities & Language Courses (2 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
LNG 203	German Language(B)	LNG 103	1	-	-	3
LNG 204	French Language (B)	LNG 104	1	-	-	3
MNG 221	Engineering Economy (II)		1	2	-	-
MNG 222	Behavior Discipline		1	2	-	-
MNG 223	Economics of Management		1	2	-	-
HUM 202	English Literature	LNG 201	1	-	-	3
HUM 203	Trade Law		1	2	-	-
HUM 204	Industrial Psychology		1	2	-	-
HUM 205	Islamic Civilization (II)		1	2	-	-
HUM 206	Islamic Studies		1	2	-	-

DEPARTMENT OF MECHANICAL ENGINEERING

Chairman	: Talaat El-Mestikawi,
Staff Members	: Adel Naser, Adel El-Shabrawi, Yehia Hendawi, Nabil El-Sebai, Ahmed Bassiouni, El Desouki El-Soaly, Hesham Moustafa, Helmi El-Gendi, Osama El - Reedi, Mohamed Fikry Abdel- Rahman, Ibrahim Nasr, Abdel Hamid Turki, Abdou Abdalla, Ahmed Hussien, Hesham Sarhaan, Gamal Nada, Ahmed Bayomi, Khalil Abdel Salam, Hany Shafik, Yasser Fouad, Ghada El-Sawah, Ahmed Maziad, John Maher.

Mechanical Engineering

The program of the Department of Mechanical Engineering is designed to provide enough background for a wide variety of careers. The discipline of mechanical engineering is very broad. It is generally understood to emphasize an appropriate combination of energy, power sciences, technology, applied mechanics, design and production. The Department ensures a general background in Mechanical Engineering, but a student may, through the choice of elective courses, follow a line of specialization. The department has recently started a program leading to a B.Sc. degree in Mechatronics.

Graduation Requirements

Engineering students need to complete 44 credits in the preparatory year consisting mainly of basic sciences, languages and introductory technical courses of general nature. The Mechanical Engineering student is required to complete an additional 82.5 credit units to obtain a diploma or an additional 163 credit units to earn a Bachelor Degree in Mechanical Engineering.

Facilities and Laboratories

Facilities and laboratories of Mechanical Engineering Department include 24 Auditoria, 3 Laboratories and a general Workshop complex. They are available for both undergraduate and graduate researches.

CAD/CAM Laboratory

This lab is designed to give the optimum facility for training students. Each student works on a work station. The laboratory is equipped with 12 work stations and the instructor unit. The suitable software programs are used for every level of teaching.

Material Testing Laboratory

This lab is equipped with a computerized Universal Testing Machine with a Thermal Cabinet for Creep studies. It is capable for performing Tension, Compression, Low cycle Fatigue, and Bending tests. In addition, there is an impact testing Machine, simple rollers, two simple Fatigue machines, puncturing tester, Hardness testers, Complete Microscopic examination devices, Heat Treatment Furnaces, and polscope for photo elastic analysis

Fault Diagnosis Laboratory

The Laboratory has a number of portable recent equipment that can be also used in the field. These equipments include measurement devices for temperature, sound level - vibration, and R.P.M. Some equipments are computerized to analyze the measurement on site. Analyses for oil and exhaust gases are also available and can be performed on site, too.



Mechanical Engineering Workshops

There are a number of up-to-date workshops at the Institute in the main premises at the Tenth of Ramadan City and its branch at the Sixth of October City. The workshops provide adequate practical training for the students in various engineering fields. This will enable them to take a great interest in the work they will be called upon to perform in real life.

The workshops are well equipped with conventional and unconventional machines and equipment for teaching and training purposes. They enable the student to acquire

the skills required after graduation. In addition, there are production workshops to produce different products for sale to the public. Also, the students

Manufacture different components needed for their projects in the workshops.

The workshops include foundry, welding, metal forming, woodwork etc....They are run by a number of efficient technicians whose main responsibility is to impart their outstanding skills to the students and to supervise the various processes of manufactured products.

MECHANICAL ENGINEERING DEPARTMENT PROGRAM

DIPLOMA STAGE (82.5 UNITS)

I) Compulsory Courses (56.5 Units)

1) Basic Courses (8 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
MTH 101	Mathematics (C)	MTH 002	3	2	2	-
ENG 121	Mechanics (C)	ENG 022	3	2	2	-
PHY 106	Physics (C)	PHY 002	2	2	2	-

2) Engineering Courses (26 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
CS 101	Computer Programming (B)	CS 002	2	1	-	3
ENG 141	Material Technology (A)		2	1	-	3
ME 101	Machine Design (A)	ENG 111	2	1	-	3
ME 103	Thermodynamics (A)	ENG 021 & MTH 002	3	2	2	-
ME 104	Fluid Mechanics (A)	ENG 121 & MTH 002	3	2	2	-
ME 105	Theory of Machines (A)	ENG 121	2	1	-	3
ME 107	Automatic Control	MTH 002	2	1	-	3
ME 109	Stress Analysis	ENG 121	2	1	-	3
ME 117	Thermo Fluids Lab. (A)		1	-	-	4
ME 118	Machinery and Design Laboratory (A)		1	-	-	3
EE 191	Principles of Electrical Engineering	PHY 002	3	2	-	3
EE 192	Electrical Machines	EE 191	3	2	-	3

3) Technological Courses (8 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG 101	Production Technology (III)	ENG 006	2	2	-	-
ENG 103	Production Technology Workshop (III)	ENG 010	1	-	-	3
ENG 111	Engineering Graphics (C)	ENG 004	1	-	-	4
ENG 112	Technical Reports		1	1	-	-



ME 106	Maintenance and Repair	1	-	-	3
ME 111	Diploma Project	2	-	-	6

4) Humanities and Language Courses (4.5 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
LNG 101	English (C)	LNG 002	1	-	-	3
ENG 151	Engineering Economy		1	2	-	-
MNG 101	Principles of Management		1	-	2	-
PHE 101	Physical Education and Activities (C)	PHE 002	0.5	-	-	3
PHE 102	Physical Education and Activities (D)	PHE 101	0.5	-	-	3
PHE 103	Physical Education and Activities (E)	PHE 102	0.5	-	-	3

5) Industrial Training (10 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ITR 101	Industrial Training (1)	ITR 001	5	-	-	30
ITR 102	Industrial Training (2)	ITR 101	5	-	-	30

II) Elective Courses (26 Units)

1) Basic Courses (4 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
MTH 102	Mathematics (D)	MTH 101	3	2	2	-
MTH 103	Numerical Methods	MTH 101	3	2	2	-
MTH 104	Mathematical Analysis	MTH 002	3	2	2	-
MTH 105	Statistical Methods	MTH 101	2	2	2	-
ENG 122	Applied Mechanics	ENG 022	2	1	2	-

2) Engineering Courses (7 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG 142	Material Technology (B)	ENG 141	2	1	-	3
ME 102	Machine Design (B)	ME 101	2	1	-	3
ME 110	Heat Technology	ME 103	3	2	2	-
ME 112	Thermo Fluid Machines	ME 104	3	2	2	-
ME 113	Electro Mechanics	ME 105 & EE 191	3	2	-	3
ME 114	Mechatronics	ME 105 & EE 191	3	2	-	3
ME 119	Machine Design (C)	ME 102	2	1	-	3

3) Technological Courses (13 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG 102	Production Technology (IV)	ENG 101	2	2	-	-
ENG 104	Prod. Technology Workshop (IV)	ENG 103	1	-	-	3
CS 102	Computer Aided Graphics	ENG 111	1	-	-	3
CS 123	Computer Applications (I)	CS 001	1	-	-	3
ME 115	Fault Detection	ME 106	1	-	-	3
ME 121	Heat Transfer and its Applications	ME 103 & ME 104	3	2	2	-
ME 122	Energy Conversion Technology	ME 103	3	2	2	-
ME 123	Refrigeration Technology	ME 103	3	2	-	3
ME 124	Air Conditioning Technology	ME 103	3	2	-	3
ME 125	Combustion Systems Technology	ME 103	3	2	-	3
ME 126	Renewable Energy Technology	ME 103	3	2	2	-
ME 127	Industrial Pollution and Control (I)		3	2	-	3
ME 129	Energy Technology Laboratory	ME 103	1	-	-	3
ME 131	Introd. to Computer Aided Design (CAD)		3	2	-	3
ME 132	Introd. to Computer Aided Manuf. (CAM)		3	2	-	3
ME 133	Quality Control (I)		2	2	-	-
ME 134	Tools and Dies Design	ME 102 & ENG 101	2	1	-	3
ME 135	Metrology		2	1	-	3
ME 136	Cost Analysis		2	2	-	-
ME 137	Industrial Engineering (I)		2	2	-	-
ME 140	Production and Inventory Control		2	2	-	-
ME 142	Principles of Operation Research		2	2	-	-
ME 143	Industrial Safety		2	2	-	-
MNG 111	Operations Management (I)		2	2	-	-
MNG 112	Project Planning		2	2	-	-
MNG 113	Feasibility Studies		2	2	-	-
MNG 114	Marketing Studies		2	2	-	-

4) Humanities and Language Courses (2 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
HUM 102	Modern Egyptian History		1	2	-	-
HUM 103	Islamic Civilization (I)		1	2	-	-
HUM 104	Arabic Literature		1	2	-	-
LNG 103	German Language (A)		1	-	-	3
LNG 104	French Language (A)		1	-	-	3



BACHELOR STAGE (80.5 Units)

I) Compulsory Courses (48.5 Units)

1) Basic Courses (3 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
MTH 201	Mathematics (E)	MTH 102	3	2	2	-

2) Engineering Courses (23 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
CS 201	Computer App. In Eng. Industry	ENG 213	1	-	-	3
EE 201	Electrical Machinery and Control	EE 192	2	1	-	3
ENG 241	Engineering Materials	ENG 141	2	1	-	3
ME 203	Thermodynamics (B)	ME 103	3	2	2	-
ME 204	Fluid Mechanics (B)	ME 104	3	2	2	-
ME 205	Theory of Machines (B)	ME 105	3	2	2	-
ME 207	Automation Control Systems	ME 107	2	1	-	3
ME 209	Heat and Mass Transfer	ME 103 & ME 104	3	2	2	-
ME 210	Mechanical Systems Design		2	1	-	3
ME 217	Thermo Fluids Lab. (B)	ME 117	1	-	-	4
ME 218	Machinery & Design Laboratory (B)	ME 118	1	-	-	3

3) Technological Courses (8 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ME 201	Production Engineering		2	2	-	-
ME 202	Production Engineering Workshop		1	-	-	4
ME 211	B.Sc. Project		3	-	-	6
ENG 212	Tech. Writing & Tech. Communications		1	-	2	-
ENG 213	Information Processing		1	-	-	3

4) Humanities and Language Courses (4.5 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
HUM 201	History of Egypt Tech. Development		1	-	2	-
LNG 201	English Language (D)	LNG 101	1	-	-	3
MNG 201	Project Management		1	2	-	-



PHE 201	Physical Education & Activities (1)	PHE 103	0.5	-	-	3
PHE 202	Physical Education & Activities (2)	PHE 201	0.5	-	-	3
PHE 203	Physical Education & Activities (3)	PHE 202	0.5	-	-	3

5) Industrial Training (10 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ITR 201	Industrial Training (3)	ITR 102	5	-	-	30
ITR 202	Industrial Training (4)	ITR 201	5	-	-	30

II) Elective Courses (32 Units)

1) Basic Courses (7 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
MTH 202	Mathematics (F)	MTH 201	3	2	2	-
MTH 203	Numerical Analysis	MTH 103	3	2	2	-
MTH 204	Statistical Analysis	MTH 101	3	2	2	-
ENG 221	Modeling and Simulation	MTH 101	2	2	-	-

2) Engineering Courses (8 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ME 221	Systems Analysis	ME 205	2	2	-	-
ME 222	Computer Aided Design (CAD)	ME 210	2	1	-	3
ME 223	Computer Aided Manufacturing(CAM)	ME 201	2	1	-	3
ME 224	Robot Applications	ME 207	2	1	-	3
ME 231	Thermal Engineering	ME 203	3	2	2	-
ME 232	Fluid Machinery	ME 204	3	2	2	-
EE 203	Applications of Industrial Computers	EE 191	2	1	-	3
EE 292	AC and DC Machines	EE 191	3	2	-	3
MNG 202	Material Management	ENG 141	2	2	-	-

3) Technological Courses (15 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG 231	Automated Manufacturing Systems		2	2	-	-
ME 234	Systems Fault Diagnosis	ME 106	1	-	-	3
CS 231	Data Base Applications		1	-	-	3
CS 232	Representation of Technological Data		1	-	-	3

ME 237	Industrial Engineering (II)	ME 201	2	2	-	-
ME 241	Heat Transfer Equipment	ME 203 & ME 204	3	2	2	-
ME 242	Energy Conversion	ME 203	3	2	2	-
ME 243	Refrigeration	ME 203 & ME 204	3	2	2	-
ME 244	Air Conditioning	ME 203 & ME 204	3	2	2	-
ME 245	Combustion	ME 203 & ME 204	3	2	2	-
ME 246	Combustion Engines	ME 203	3	2	2	-
ME 247	Renewable Energy	ME 203 & ME 204	3	2	2	-
ME 248	Energy Conservation & Management	ME 203 & ME 204	3	2	2	-
ME 249	Energy Laboratory (Special)	ME 203 & ME 204	1	-	-	3
ME 261	Industrial Pollution and Control (II)		2	2	-	-
ME 262	Small Projects Planning & Management		2	2	-	-
ME 263	Production Financial Analysis		2	2	-	-
ME 264	Quality Control (II)	ME 201	2	2	-	-
ME 265	Machine Tool Design	ME 201	2	2	-	-
ME 267	Production Cost Analysis	ME 201	2	2	-	-
ME 268	Material Handling Equipment		2	2	-	-
ME 269	Operations Research		2	2	-	-
MNG 211	Operations Management (II)	ME 201	2	2	-	-
MNG 212	Projects Planning & Management	ME 201	2	2	-	-
MNG 213	Feasibility studies	ME 201	2	2	-	-
MNG 214	Industrial Marketing	ME 201	2	2	-	-
ENG 215	Engineering Material Selection	ENG 241	2	2	-	-

4) Humanities and Language Courses (2 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
LNG 203	German Language (B)	LNG 103	1	-	-	3
LNG 204	French Language (B)	LNG 104	1	-	-	3
MNG 221	Engineering Economy (II)		1	2	-	-
MNG 222	Behavior Discipline		1	2	-	-
MNG 223	Economics of Management		1	2	-	-
HUM 202	English Literature	LNG 201	1	-	-	3
HUM 203	Trade Law		1	2	-	-
HUM 204	Industrial Psychology		1	2	-	-
HUM 205	Islamic Civilization (II)		1	2	-	-
HUM 206	Islamic Studies		1	2	-	-



MECHATRONICS ENGINEERING SECTION PROGRAM

DIPLOMA STAGE (82.5 UNITS)

I) Compulsory Courses (74.5 Units)

1) Basic Courses (10 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
MTH 101	Mathematics (C)	MTH 002	3	2	2	-
ENG 121	Mechanics (C)	ENG 022	3	2	2	-
PHY 106	Physics (C)	PHY 002	2	2	2	-
MTE 102	Basic Electronics Laboratory	PHY 001	1	-	-	3
MTE 103	Transducers and Interfaces Lab.		1	-	-	3

2) Engineering Courses (32 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
CS 101	Computer Programming (B)	CS 002	2	1	-	3
ENG 141	Material Technology (A)		2	1	-	3
ME 101	Machine Design (A)	ENG 111	2	1	-	3
ME 103	Thermodynamics (A)	ENG 021 & MTH 002	3	2	2	-
ME 104	Fluid Mechanics (A)	ENG 121 & MTH 002	3	2	2	-
ME 105	Theory of Machines (A)	ENG 121	2	1	-	3
ME 107	Automatic Control	MTH 002	2	1	-	3
ME 109	Stress Analysis	ENG 121	2	1	-	3
ME 117	Thermo Fluids Lab. (A)		1	-	-	4
ME 118	Machinery and Design Laboratory (A)		1	-	-	3
EE 191	Principles of Electrical Engineering	PHY 002	3	2	-	3
EE 192	Electrical Machines	EE 191	3	2	-	3
MTE 100	Electromagnetic Fields & Energy	PHY 001 & MTH 002	3	2	-	3
MTE 101	Electronic Devices & Circuits	PHY 001	3	2	-	3



3) Technological Courses (18 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG101	Production Technology (III)	ENG 006	2	2	-	-
ENG 103	Production Technology Workshop (III)	ENG 010	1	-	-	3
ENG 111	Engineering Graphics (C)	ENG 004	1	-	-	4
ENG 112	Technical Reports		1	1	-	-
ME 106	Maintenance and Repair		1	-	-	3
ME 111	Diploma Project		2	-	-	6
MTE 104	Energy & Electromechanical Systems Laboratory	EE 192	1	-	-	3
MTE 105	Measurement and Instrumentation	PHY 001	3	2	-	3
MTE 106	Electronic Semiconductor Devices	PHY 001	3	2	-	3
MTE 107	Computer System (I)	PHY 001	3	2	-	3

4) Humanities and Language Courses (4.5 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
LNG 101	English (C)	LNG 002	1	-	-	3
ENG 151	Engineering Economy		1	2	-	-
MNG 101	Principles of Management		1	-	2	-
PHE 101	Physical Education and Activities (C)	PHE 002	0.5	-	-	3
PHE 102	Physical Education and Activities (D)	PHE 101	0.5	-	-	3
PHE 103	Physical Education and Activities (E)	PHE 102	0.5	-	-	3

5) Industrial Training (10 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ITR 101	Industrial Training (1)	ITR 001	5	-	-	30
ITR 102	Industrial Training (2)	ITR 101	5	-	-	30

II) Elective Courses (8 Units)

1) Basic Courses (2 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
MTH 102	Mathematics (D)	MTH 101	3	2	2	-
MTH 103	Numerical Methods	MTH 101	3	2	2	-
MTH 104	Mathematical Analysis	MTH 002	3	2	2	-
MTH 105	Statistical Methods	MTH 101	2	2	2	-
ENG 122	Applied Mechanics	ENG 022	2	1	2	-

2) Engineering Courses (1 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG 142	Material Technology (B)	ENG 141	2	1	-	3
ME 102	Machine Design (B)	ME 101	2	1	-	3
ME 110	Heat Technology	ME 103	3	2	2	-
ME 112	Thermo Fluid Machines	ME 104	3	2	2	-
ME 113	Electro Mechanics	ME 105 & EE 191	3	2	-	3
ME 114	Mechatronics	ME 105 & EE 191	3	2	-	3
ME 119	Machine Design (C)	ME 102	2	1	-	3

3) Technological Courses (3 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG 102	Production Technology (IV)	ENG 101	2	2	-	-
ENG 104	Prod. Technology Workshop (IV)	ENG 103	1	-	-	3
CS 102	Computer Aided Graphics	ENG 111	1	-	-	3
CS 123	Computer Applications (I)	CS 001	1	-	-	3
ME 115	Fault Detection	ME 106	1	-	-	3
ME 121	Heat Transfer and its Applications	ME 103 & ME 104	3	2	2	-
ME 122	Energy Conversion Technology	ME 103	3	2	2	-
ME 123	Refrigeration Technology	ME 103	3	2	-	3
ME 124	Air Conditioning Technology	ME 103	3	2	-	3
ME 125	Combustion Systems Technology	ME 103	3	2	-	3
ME 126	Renewable Energy Technology	ME 103	3	2	2	-
ME 127	Industrial Pollution and Control (I)		3	2	-	3
ME 129	Energy Technology Laboratory	ME 103	1	-	-	3
ME 131	Introd. to Computer Aided Design (CAD)		3	2	-	3
ME 132	Introd. to Computer Aided Manuf. (CAM)		3	2	-	3
ME 133	Quality Control (I)		2	2	-	-
ME 134	Tools and Dies Design	ME 102 & ENG 101	2	1	-	3
ME 135	Metrology		2	1	-	3
ME 136	Cost Analysis		2	2	-	-
ME 137	Industrial Engineering (I)		2	2	-	-
ME 140	Production & Inventory Control		2	2	-	-
ME 142	Principles of Operation Research		2	2	-	-
ME 143	Industrial Safety		2	2	-	-
MNG 111	Operations Management (I)		2	2	-	-
MNG 112	Project Planning		2	2	-	-



MNG 113	Feasibility Studies	2	2	-	-
MNG 114	Marketing Studies	2	2	-	-

4) Humanities and Language Courses (2 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
HUM 102	Modern Egyptian History		1	2	-	-
HUM 103	Islamic Civilization (I)		1	2	-	-
HUM 104	Arabic Literature		1	2	-	-
LNG 103	German Language (A)		1	-	-	3
LNG 104	French Language (A)		1	-	-	3



BACHELOR STAGE (80.5 UNITS)

I) Compulsory Courses (67.5 Units)

1) Basic Courses (10 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
MTH 201	Mathematics (E)	MTH 102	3	2	2	-
MTE 201	Digital Systems Laboratory		1	-	-	3
MTE 202	Digital Circuits		3	2	-	3
MTE 200	Electrodynamics	MTE 100	3	2	2	-

2) Engineering Courses (27 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
CS 201	Computer App. In Eng. Industry	ENG 213	1	-	-	3
EE 201	Electrical Machinery and Control	EE 192	2	1	-	3
ENG 241	Engineering Materials	ENG 141	2	1	-	3
ME 203	Thermodynamics (B)	ME 103	3	2	2	-
ME 204	Fluid Mechanics (B)	ME 104	3	2	2	-
ME 205	Theory of Machines (B)	ME 105	3	2	2	-
ME 207	Automation Control Systems	ME 107	2	1	-	3
ME 209	Heat and Mass Transfer	ME 103 & ME 104	3	2	2	-
ME 210	Mechanical Systems Design		2	1	-	3
ME 217	Thermo Fluids Lab. (B)	ME 117	1	-	-	4
ME 218	Machinery & Design Laboratory (B)	ME 118	1	-	-	3
MTE 203	Control of Manufacturing Automation	ME 201 & ME 207	2	1	-	3
MTE 204	Digital Signal Processing	ME 207	2	1	-	3

3) Technological Courses (16 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ME 201	Production Engineering		2	2	-	-
ME 202	Production Engineering Workshop		1	-	-	4
ME 211	B.Sc. Project		3	-	-	6
ENG 212	Tech. Writing & Tech. Communications		1	-	2	-
ENG 213	Information Processing		1	-	-	3
MTE 205	Computer System (II)		2	1	-	3
MTE 206	System Identification		2	1	-	3



MTE 207	Computer Controlled Experimentation	ME 207	2	1	-	3
MTE 208	Designing Smart Machines	ME 205	2	1	-	3

4) Humanities and Language Courses (4.5 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
HUM 201	History of Egypt Tech. Development		1	-	2	-
LNG 201	English Language (D)	LNG 101	1	-	-	3
MNG 201	Project Management		1	2	-	-
PHE 201	Physical Education and Activities (1)	PHE 103	0.5	-	-	3
PHE 202	Physical Education and Activities (2)	PHE 201	0.5	-	-	3
PHE 203	Physical Education and Activities (3)	PHE 202	0.5	-	-	3

5) Industrial Training (10 Units):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ITR 201	Industrial Training (3)	ITR 102	5	-	-	30
ITR 202	Industrial Training (4)	ITR 201	5	-	-	30

II) Elective Courses (13 Units)

1) Engineering Courses (4 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ME 221	Systems Analysis	ME 205	2	2	-	-
ME 222	Computer Aided Design (CAD)	ME 210	2	1	-	3
ME 223	Computer Aided Manufacturing (CAM)	ME 201	2	1	-	3
ME 224	Robot Applications	ME 207	2	1	-	3
ME 231	Thermal Engineering	ME 203	3	2	2	-
ME 232	Fluid Machinery	ME 204	3	2	2	-
EE 203	Applications of Industrial Computers	EE 191	2	1	-	3
EE 292	AC and DC Machines	EE 191	3	2	-	3
MNG 202	Material Management	ENG 141	2	2	-	-

2) Technological Courses (7 Units Required):

Code	Course Title	Pre. Req.	Units	Lec.	Ex.	Lab.
ENG 231	Automated Manufacturing Systems		2	2	-	-
ME 234	Systems Fault Diagnosis	ME 106	1	-	-	3
CS 231	Data Base Applications		1	-	-	3