LIST OF COURSES

Code	Course	CR	ECTS	SWL	Lec	Tut	Lab	Pre Req.
(A) University Requirements (13 Credits)								
GEN0X0	Elective - Foreign Language list	1	3	100	1	---	---	---
GEN101	Societal Issues	1	2	50	1	---	---	---
GEN102	Professional Ethics	1	2	50	1	---	---	---
GEN002	Information Technology & Communications	2	3	75	1	---	3	---
GENxxx	Elective - University Requirements list	2	3	75	2	---	---	---
GENxxx	Elective - University Requirements list	2	3	75	2	---	---	---
GENxxx	Elective - University Requirements list	2	3	75	2	---	---	---
GENxxx	Elective - University Requirements list	2	3	75	2	---	---	---
(B) Faculty Requirements (42 Credits)								
BAS010	Differential calculus and algebra	3	5	125	2	2	---	---
BAS011	Physics of Materials & Electricity	3	5	125	2	---	3	---
BAS012	Engineering Chemistry	3	5	125	2	---	3	---
BAS013	Statics	3	5	125	2	2	---	---
BAS014	Integral calculus and analytical geometry	3	5	125	2	2	---	BAS010
BAS015	Physics of Light, Heat and Magnetism	3	5	125	2	---	3	BAS011
BAS016	Dynamics	3	5	125	2	2	---	
BAS110	Differential equations	3	5	125	2	2	---	BAS014
BAS111	Numerical analysis	3	5	125	2	2	---	BAS110
BAS210	Probability and statistics	3	5	125	2	2	---	BAS110
MEC010	Engineering Drawing (1)	2	4	100	1	---	3	---
MEC011	Engineering Drawing (2)	2	4	100	1	---	3	MEC010

Code	Course	CR	ECTS	SWL	Lec	Tut	Lab	Pre Req.
MEC012	Principles of Manufacturing Engineering	2	3	75	1	---	3	---
ELE401	Graduation Project (1)	2	6	150	1	---	3	110 Credit Hours
ELE402	Graduation Project (2)	2	6	150	---	---	6	ELE401
ELE201	Field Training (1)	1	10	250	---	---	3	60 Credit Hours
ELE301	Field Training (2)	1	10	250	---	---	3	90 Credit Hours, ELE201
(C) Major Specialization Subjects (56 Credits)								
ELE141	Principles of Electrical Engineering	3	5	125	2	2	---	BAS011
ELE142	Elements of Semiconductors	3	5	125	2	2	---	BAS011
ELE151	Structure Programming	3	5	125	2	---	3	GEN002
ELE152	Logic Circuits	3	5	125	2	…..	3	GEN002
ELE143	Electrical Circuits	3	5	125	2	---	3	ELE141
ELE144	Electronic Circuits (1)	3	5	125	2	---	3	ELE141, ELE142
ELE153	Object Oriented Programming	3	5	125	2	---	3	ELE151
ELE145	Signals and Systems	3	5	125	2	2	---	BAS110
ELE251	Computer Organization	3	5	125	2	2	---	ELE152
ELE241	Electronic Circuits (2)	3	5	125	2	---	3	ELE144
ELE242	Electromagnetic Fields	3	5	125	2	2	---	ELE141
ELE252	Information Security	3	5	125	2	2	---	BAS110
BAS211	Complex analysis and transformations	3	5	125	2	2	---	BAS110
ELE243	Analog Communication Systems	3	5	125	2	---	3	ELE145
ELE253	Data Structure and Algorithms	3	5	125	2	---	3	ELE153
ELE244	Digital Signal Processing	3	5	125	2	2	---	ELE145
ELE245	Electrical Measurements and instrumentation	3	5	125	2	2	---	ELE141, ELE142

Code	Course	CR	ECTS	SWL	Lec	Tut	Lab	Pre Req.
ELE341	Digital Communication Systems	3	5	125	2	---	3	ELE243
ELE351	Embedded Systems and IoT	2	5	125	1	---	3	ELE241
(D) Minor Specialization Subjects (45 Credits)								
ELE352	Operating Systems	3	5	125	2	---	3	ELE253 + ELE251
ELE353	Database Design	3	5	125	2	2	---	ELE153
ELE354	Artificial Intelligence Systems	3	5	125	2	2	---	ELE253
ELE342	Mobile Communication	3	5	125	2	2	---	ELE341, ELE145
ELE441	Data Communication and Networking	3	5	125	2	2	---	ELE341
ELE442	Robotic Systems	3	5	125	2	2	---	ELE241, ELE351
ELE443	Information Theory and Coding	3	5	125	2	2	---	ELE341
ELE444	Selected Topics in Communications and Computer Engineering	3	5	125	2	2	---	110 credit hours
ELE445	System Analysis and Design	3	5	125	2	---	3	ELE353
ELE3XX	Elective course (1) from "Elective List (1) "	3	5	125	2	2	---	As seen in Table.
ELE3XX	Elective course(2) from "Elective List (1) "	3	5	125	2	2	---	As seen in Table.
ELE3XX	Elective course (3) from "Elective List (1) "	3	5	125	2	2	---	As seen in Table.
ELE3XX	Elective course (4) from "Elective List (1) "	3	5	125	2	2	---	As seen in Table.
ELE4XX	Elective course (5) from "Elective List (2)"	2	5	125	1	--	3	As seen in Table.
ELE4XX	Elective course (6) from "Elective List (2)"	2	5	125	1	--	3	As seen in Table.
ELE4XX	Elective course (7) from "Elective List (2)"	2	5	125	1	--	3	As seen in Table.

23

STUDY PLANS

Level (0), Foundation Year, First Year

FIRST SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
BAS010	Differential calculus and algebra	3	2	2	---	4	-
BAS011	Physics of Materials & Electricity	3	2	---	3	5	-
BAS012	Engineering Chemistry	3	2	---	3	5	-
BAS013	Statics	3	2	2	---	4	-
MEC010	Engineering Drawing (1)	2	1	---	3	4	-
GEN0X0	Elective from Foreign Language List	1	1	---	---	1	-
		15	**10**	**4**	**9**	**23**	

SECOND SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
BAS014	Integral calculus and analytical geometry	3	2	2	---	4	BAS010
BAS015	Physics of Light, Heat and Magnetism	3	2	---	3	5	BAS011
BAS016	Dynamics	3	2	2	---	4	
MEC011	Engineering Drawing (2)	2	1	---	3	4	MEC010
MEC012	Principles of Manufacturing Engineering	2	1	---	3	4	
GEN002	Information Technology & Communications	2	1	---	3	4	
		15	**9**	**4**	**12**	**25**	

Level (1), Second Year

FIRST SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
BAS110	Differential equations	3	2	2	---	4	BAS014
ELE141	Principles of Electrical Engineering	3	2	2	---	4	BAS011
ELE142	Elements of Semiconductors	3	2	2	---	4	BAS011
ELE151	Structure Programming	3	2	---	3	5	GEN002
ELE152	Logic Circuits	3	2	---	3	5	GEN002
GEN101	Societal Issues	1	1	---	---	1	
		16	**11**	**6**	**6**	**23**	

SECOND SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
BAS111	Numerical analysis	3	2	2	---	4	BAS110
ELE143	Electrical Circuits	3	2	---	3	5	ELE141
ELE144	Electronic Circuits (1)	3	2	---	3	5	ELE141, ELE142
ELE153	Object Oriented Programming	3	2	---	3	5	ELE151
ELE145	Signals and Systems	3	2	2	---	4	BAS110
GEN90X	Elective - University Requirements list	2	2	---	---	2	
		17	**12**	**4**	**9**	**25**	

Level (2), Third Year

FIRST SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE251	Computer Organization	3	2	2	---	4	ELE152
ELE241	Electronic Circuits (2)	3	2	---	3	5	ELE144
ELE242	Electromagnetic Fields	3	2	2	---	4	ELE141
ELE252	Information Security	3	2	2	---	4	BAS110
BAS211	Complex analysis and transformations	3	2	2	---	4	BAS110
GEN90X	Elective - University Requirements list	2	2	---	---	2	
		17	12	8	3	23	

SECOND SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE243	Analog Communication Systems	3	2	---	3	5	ELE145
ELE253	Data Structure and Algorithms	3	2	---	3	5	ELE153
ELE244	Digital Signal Processing	3	2	2	---	4	ELE145
ELE245	Electrical Measurements and instrumentation	3	2	2	---	4	ELE141, ELE142
BAS210	Probability and statistics	3	2	2	---	4	BAS110
GEN102	Professional Ethics	1	1	---	---	1	
		16	11	6	6	23	

SUMMER SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE201	Field Training (1)	1	---	---	3	3	60 Credit Hours
		1	0	0	3	3	

Level (3), Fourth Year

FIRST SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE3XX	Elective Course (1) from List "Elective (1)"	3	2	2	---	4	As seen in Table.
ELE352	Operating Systems	3	2	---	3	5	ELE253, ELE251
ELE353	Database design	3	2	2	---	4	ELE153
ELE341	Digital Communication Systems	3	2	---	3	5	ELE243
ELE354	Artificial Intelligence Systems	3	2	2	---	4	ELE253
GEN90X	Elective - University Requirements list	2	2	---	---	2	
		17	**12**	**6**	**6**	**24**	

SECOND SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE351	Embedded Systems and IoT	2	1	---	3	4	ELE241
ELE342	Mobile Communication	3	2	2	---	4	ELE341, ELE145
ELE3XX	Elective course (2) from List "Elective (1)"	3	2	2	---	4	As seen in Table.
ELE3XX	Elective course (3) from List "Elective (1)"	3	2	2	---	4	As seen in Table.
ELE3XX	Elective course (4) from List "Elective (1)"	3	2	2	---	4	As seen in Table.
GEN90X	Elective - University Requirements list	2	2	---	---	2	
		16	**11**	**8**	**3**	**22**	

SUMMER SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE301	Field Training (2)	1	---	---	3	3	90 Credit Hours, ELE201
		1	**0**	**0**	**3**	**3**	

Level (4), Fifth Year

FIRST SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE441	Data Communication and Networking	3	2	2	---	4	ELE341
ELE442	Robotic Systems	3	2	2	---	4	ELE241, ELE351
ELE4XX	Elective course (5) from List "Elective (2)"	2	1	---	3	4	As seen in Table
ELE4XX	Elective course (6) from List "Elective (2)"	2	1	---	3	4	As seen in Table.
ELE401	Graduation Project (1)	2	1	---	3	4	110 Credit Hours
		12	7	4	9	20	

SECOND SEMESTER

Code	Subject	Credits	Contact Hours				Prerequisites
			Lec.	Tut.	Lab.	Total	
ELE443	Information Theory and Coding	3	2	2	---	4	ELE341
ELE444	Selective Topics in Communications and Computer Engineering	3	2	2	---	4	110 credit hours
ELE445	System Analysis and Design	3	2	---	3	5	ELE353
ELE4XX	Elective course (7) from List "Elective (2)"	2	1	---	3	4	As seen in Table.
ELE402	Graduation Project (2)	2	---	---	6	6	ELE401
		13	7	4	12	23	

LIST OF FOREIGN LANGUAGES ELECTIVE COURSES

#	Code	Subject	CR.	Prerequisite
1	GEN010	English Language	1	---
2	GEN020	German Language	1	---
3	GEN030	French Language	1	---

LIST OF ELECTIVE COURSES FROM UNIVERSITY REQUIREMENTS

#	Code	Subject	CR	Prerequisite
1	GEN900	Principles of Entrepreneurship and Project Management	2	---
2	GEN901	Communication and Presentation Skills	2	---
3	GEN902	Leadership skills	2	---
4	GEN903	Human Resources Management	2	---
5	GEN904	History of Science, Engineering and Technology	2	---
6	GEN905	Skills Thinking	2	---
7	GEN906	Occupational Psychology	2	---
8	GEN907	Introduction to Economics and Accounting	2	---

LIST OF SPECIALIZED ELECTIVE COURSES

#	Code	Subject	Hr.	Prerequisite
		List (1) of Elective Courses		
1	ELE343	Electromagnetic Waves	3	ELE242
2	ELE344	Antennas and Waves Propagation	3	ELE242
3	ELE345	Satellite Communication Systems	3	ELE341
4	ELE346	Microwave Engineering	3	ELE242
5	ELE355	Computer Architecture	3	ELE251
6	ELE356	Compilers	3	ELE352
7	ELE357	Machine Learning Algorithms	3	ELE354
8	ELE358	Cryptography and Network Security	3	ELE252

#	Code	Subject	Hr.	Prerequisite
		List (2) of Elective Courses		
1	ELE480	Optical Communication Systems	2	ELE341
2	ELE481	Digital Control Systems	2	ELE145, BAS 211
3	ELE482	Acoustic Engineering	2	ELE241
4	ELE483	Adaptive Signal Processing	2	ELE244
5	ELE484	Advanced Topics in wireless Communication	2	ELE342
6	ELE485	Radar Engineering	2	ELE242
7	ELE486	Modern networks	2	ELE441
8	ELE487	RF Engineering	2	ELE346
9	ELE488	Modeling and Simulations	2	ELE145
10	ELE489	Neural Networks and Deep Learning	2	ELE354
11	ELE490	Computer Graphics	2	ELE253
12	ELE491	Computer Vision	2	ELE354
13	ELE492	Parallel and Distributed Systems	2	ELE355
14	ELE493	Data Mining	2	ELE354
15	ELE494	Mobile Computing	2	ELE153, ELE342
16	ELE495	Big Data Analysis	2	ELE354
17	ELE496	Web Development	2	ELE353
18	ELE497	Digital Image Processing	2	ELE244
19	ELE498	Microprocessor	2	ELE251
20	ELE499	Digital Systems Design	2	ELE152, ELE241.

Course Dependency Flow Diagram

STUDENT STUDY PLAN FOR COMPUTER ENGINEERING PROGRAM

Prerequisites of these courses are listed in the attached sheet.		
1 Credit Hour	2 Credit Hours	3 Credit Hours

Semester 1
- BAS010 Differential Calculus & Algebra
- BAS011 Physics of Materials & Electricity
- BAS012 Engineering Chemistry
- BAS013 Statics
- MEC010 Engineering Drawing (1)
- GEN0X0 Foreign Language

Semester 2
- BAS014 Integeral Calculus & Analytical Geometry
- BAS015 Physics of Light, heat & Magnetism
- MEC012 Principles of Manufacturing Engineering
- BAS016 Dynamics
- MEC011 Engineering Drawing (2)
- GEN002 Information Technology & Communications

Semester 3
- BAS110 Differential Equations
- ELE141 Principles of Electrical Engineering
- ELE142 Elements of Semiconductors
- GEN101 Social Issues
- ELE152 Logic Circuits
- ELE151 Structure Programming

Semester 4
- BAS111 Numerical Analysis
- ELE145 Signals & Systems
- ELE143 Electrical Circuits
- ELE144 Electronic Circuits (1)
- GEN90X Elictive-University Requirement List
- ELE153 Object Oriented Programming

Semester 5
- GEN90X Elictive-University Requirement List
- ELE252 Information Security
- BAS211 Complex analysis & transformations
- ELE242 Electromagnetic Fields
- ELE241 Electronic Circuits(2)
- ELE251 Computer Organization

Semester 6
- BAS210 Probability & Statistics
- ELE245 Electrical Measurement & Instrumentation
- ELE243 Analog Communication Systems
- ELE244 Digital Signal Processing
- ELE253 Data Structure & Algorithms
- GEN201 Professional Ethics
- ELE201 Field Training (1) After 60 Credit Hours

Semester 7
- ELE3XX Elective (1) from List (1)
- GEN90X Elictive-University Requirement List
- ELE341 Digital Communication Systems
- ELE354 Artificial Intelligent Systems
- ELE352 Operating Systems
- ELE353 Database Design

Semester 8
- ELE3XX Elective (2) from List (1)
- GEN90X Elictive-University Requirement List
- ELE342 Mobile Communication
- ELE3XX Elective (3) from List (1)
- ELE351 Embedded Systems & IoT
- ELE3XX Elective (4) from List (1)
- ELE301 Field Training (2) After 90 Credit Hours

Semester 9
- ELE4XX Elective (5) from List (2)
- ELE4XX Elective (6) from List (2)
- ELE441 Data Communication & Networking
- ELE442 Robotic Systems
- ELE401 Graduation Project (1) After 110 Credit Hours

Semester 10
- ELE4XX Elective (7) from List (2)
- ELE443 Information Theory and Coding
- ELE444 Selective Topics in Communication and Computer Engineering
- ELE445 System Analysis & Design
- ELE402 Graduation Project (2)