



Covenant University

B.Eng. Degree Programme in

Information and Communication Engineering

COURSE STRUCTURE

Course Structure

The programme workload of the students in Information and Communication Engineering (ICE) Programme is seen in Table 1 for the 10 semesters (5 years 2 semesters for each year)

Table 1: Programme Workload of Students

SEMESTER 1							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	MAT111	Algebra	3	3			3
2	MAT112	Trigonometry and Geometry	3	3			3
3	PHY111	Mechanics and Properties of Matter	3	3			3
4	PHY112	Heat, Sound and Optics	3	3			3
5	PHY119	Physics Practical I	1			3	3
6	GEC117	Technical Drawing	1	1			1
7	CHM111	General Physical Chemistry	3	3			3
8	CHM119	General Chemistry	1			3	3
University Courses							
9	EDS111	Entrepreneurial Development Studies I	1	1			1
10	TMC111	Total Man Concept I	1	1			1
11	TMC112	Total Man Concept - Sports I	-				-
General Courses							
12	CST111	Computer Applications and Library Studies I	2	2			2
13	GST111	Communication in English I	2	2			2
		Total	24				28
SEMESTER 2							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	MAT121	Calculus	3	3			3
2	MAT122	Vector Algebra	3	3			3
3	PHY121	Electricity and Magnetism	2	2			2
4	PHY122	Atomic and Nuclear Physics	2	2			2
5	PHY129	Physics Practical II	1			3	3
6	CHM123	General Organic Chemistry	3	3			3
7	CHM122	General Inorganic Chemistry	2	2			3

8	CHM129	General Chemistry Practical II	1			3	3
University Courses							
9	EDS121	Entrepreneurial Development Studies II	1	1			1
10	TMC121	Total Man Concept II	1	1			1
11	TMC122	Total Man Concept - Sports II	-				-
General Courses							
12	CST121	Computer Applications and Library Studies II	2	2			2
13	GST121	Communication in English II	2	2			2
14	GST122	Communication in French	2	2			2
		Total	25				30
SEMESTER 3							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC210	Engineering Mathematics I	3	3			3
2	GEC211	Fundamentals of Electrical Engineering I	2	2			2
3	GEC212	Engineering Graphics	2	2			2
4	GEC213	Material Science and Engineering	2	2			2
5	GEC214	Applied Mechanics	3	3			3
6	GEC215	Applied Computer Programming I	2	2			2
7	GEC216	General Engineering Laboratory I	1			3	3
8	GEC217	Engineer-In- Society	2	2			2
9	GEC218	Workshop Technology	2			6	6
10	GEC219	Applied Mechanics Practical	1	1			1
University Courses							
11	EDS211	Entrepreneurial Development Studies III	1	1			1
12	TMC211	Total Man Concept III	1	1			1
13	TMC212	Total Man Concept - Sports III	-				-
General Courses							
14	GST211	Logic, Philosophy and Human Existence	2	2			2
		Total	24				30
SEMESTER 4							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC220	Engineering Mathematics II	3	3			3

2	GEC221	Thermodynamics	3	3			3
3	GEC222	Computer Aided Design & Manufacture	2	2			2
4	GEC223	Fluid Mechanics	3	3			3
5	GEC224	Strength of Materials	3	3			3
6	GEC225	Applied Computer Programming II	1	1			1
7	GEC226	General Engineering Laboratory II	1			3	3
8	GEC228	Fundamentals of Electrical Engineering II	2	2			2
9	GEC229	Student Workshop Experience Program (SWEP)					
University Courses							
10	EDS221	Entrepreneurial Development Studies III	1	1			1
11	TMC221	Total Man Concept III	1	1			1
12	TMC222	Total Man Concept - Sports III	-				-
General Courses							
13	GST221	Logic, Philosophy and Human Existence	2	2			2
14	GST222	Peace Studies and Conflict Resolution	2	2			2
		Total	24				26
SEMESTER 5							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC310	Engineering Mathematics III	3	3			3
2	EIE311	Electromagnetic Fields & Waves	3	3			3
3	EIE312	Communication Principles	3	3			3
4	EIE313	Physical Electronics	3	3			3
5	EIE314	Electric Circuit Theory I	3	3			3
6	EIE315	Electrical Machines	2	2			2
7	EIE318	Laboratory Practical I	2			6	6
8	EIE317	Electric Machine Practical	1			3	3
University Courses							
9	EDS311	Entrepreneurial Development Studies V	1	1			1
10	TMC311	Total Man Concept V	1	1			1
11	TMC312	Total Man Concept – Sports V	-				-
General Courses							
12	GST311	History and Philosophy Science	2	2			2
		Total	24				30

SEMESTER 6							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC320	Numerical Methods	3	3			3
2	GEC324	Technical/Engineering Communication	2	2			2
3	GEC321	Engineering Economics	3	3			3
4	GEC329	**SIWES2 (see Semester 8)	-				-
5	EIE321	Electric Power Principles	2	2			2
6	EIE322	Signals and Systems	2	2			2
7	EIE323	Analogue Electronics	3	3			3
8	EIE326	Software Development Techniques	3	3			3
9	EIE327	Digital Electronics	3	3			3
10	EIE328	Laboratory Practical II	2			6	6
11	EIE329	Cyberpreneurship and Cyberlaw	-	2			2
University Courses							
12	EDS321	Entrepreneurial Development Studies VI	1	1			1
13	TMC321	Total Man Concept VI	1	1			1
14	TMC322	Total Man Concept – Sports VI	-				-
		Total	25				31
SEMESTER 7							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC410	Engineering Statistics	3	3			3
2	EIE411	Computer Organization and Architecture	3	3			3
3	EIE412	Control Engineering and Linear Systems	3	3			3
4	EIE413 (ICE413)	Communication Laboratory Practical and Mini Project	2			6	6
5	EIE316	Measurements and Instrumentation	3	3			3
6	ICE415	Antenna and Propagation	2	2			2
7	ICE438	Internet Technology and Programming	3	3			3
8	ICE417	Operations Research	2	2			2
9	EIE418	Data Communication & Computer Networks I	3	3			3
10	EIE414	Design and Installation of Electrical and ICT Services	2	2			2
University Courses							

11	EDS411	Entrepreneurial Development Studies VII	1	1			1
12	TMC411	Total Man Concept VII	1	1			1
13	TMC412	Total Man Concept – Sports VII	-				-
		Total	28				32
SEMESTER 8							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC427	SIWES I (SWEP)	6			38	38
2	GEC428	SIWES II	6			38	38
3	GEC429	SIWES III (IT)	6			38	38
		Total	18				118
SEMESTER 9							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC517	Engineering Law	2	2			2
2	EIE510	Research Methodology	1	1			1
3	EIE512	System Reliability and Maintainability	2	2			2
6	ICE513	Information Theory and Coding	3	3			3
7	ICE514	Telecommunication Engineering and System Planning	3	3			3
8	ICE515	Communication Engineering Practical	3			6	6
9	ICE516	Artificial Intelligence and Applications	3	3			3
10	ICE517	Digital Signal Processing	2	2			2
11	ICE518	Computational Mathematics and Queuing Theory	3	3			3
University Courses							
11	EDS511	Cost Engineering	2	2			2
12	TMC511	Total Man Concept IX	1	1			1
13	TMC512	Total Man Concept– Sports IX	-				-
		Total	25				28
SEMESTER 10							
No.	Course Code	Course Title	Credit	L	T	P	Total/Week
Core Courses							
1	GEC527	Engineering Management	3	3			3
2	ICE524	Microwave Engineering	2	2			2

3	EIE526	Digital Image Processing	2	2			2
4	ICE526	Mobile and Satellite Communication	3	3			3
5	ICE527	Optical Communication	2	2			2
6	EIE529	Final Year Project	6			6	6
Electives (Only 2 to be Selected)							
6	ICE528	Computer Graphics and Animations	2	2			2
7	ICE529	Computer hardware system Design	2	2			2
8	ICE540	Power Electronics and Design	2	2			2
9	EIE521	Electromagnetic Interference (EMI)	2	2			2
10	EIE524	Cryptography Principle and Applications	2	2			2
University Courses							
13	EDS521	Engineering Valuation/Appraisal	2	1			2
14	TMC521	Total Man Concept X	1	1			1
15	TMC522	Total Man Concept – Sports X	-				-
		Total	25				25