Covenant University

B.Eng. Degree Programme in

Mechanical Engineering

COURSE STRUCTURE

Course Structure

The workload of the students in Mechanical Engineering Programme.is seen in Table 1 for the 10 semesters (5 years of 2 semesters for each year)

Table 1: Program Workload by Student

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	MCE310	Machine Drawing	3	3			3
3	MCE311	Thermodynamics II	2	2			2
4	MCE312	Mechanics of Machines I	3	3			3
5	MCE313	Tribology	2	2			2
6	MCE314	Workshop Practice	2	1		3	4
7	CVE318	Strength of Materials II	2	2			2
8	MCE317	Fluid Mechanics II	2	2			2
9	MCE319	Thermodynamics And Fluids Laboratory.	1			3	3
University Courses							
10	EDS311	Entrepreneurial Development Studies V	1	1			1
11	TMC311	Total Man Concept V	1	1			1
12	TMC312	Total Man Concept – Sports V	-				-
General Courses							

13	GST311	History and Philosophy Science	2	2			2
		Total	**24**				**28**
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 (see400level Omega)	-				-
5	MCE320	Elements of Automotive Engineering	2	2			2
6	MCE321	Computer and Computing	2	2			2
7	MCE322	Mechanics of Machine II	2	2			2
8	MCE323	Strength of Material Laboratory	1			3	3
9	MCE324	Applied Strength of Materials	2	2			2
10	MCE325	Mechanics of Machines Laboratory	1			3	3
11	MCE326	Fluid Dynamics: (Aerodynamics and Hydrodynamics)	2	2			2
12	MCE328	Computer and Computing Practical	1			3	3
13	CVE328	Elements of Architecture	1	1			1
University Courses							
14	EDS321	Entrepreneurial Development Studies VI	1	1			1
15	TMC321	Total Man Concept VI	1	1			1
16	TMC322	Total Man Concept – Sports VI	-				-
		Total	**24**				**30**
Semester 7							
No.	**Course Code**	**Course Title**	**Credit**	**L**	**T**	**P**	**Total/Week**
Core Courses							
1	GEC410	Engineering Statistics	3	3			3
2	MCE411	Thermodynamics III: (Refrigeration and Airconditioning)	2	2			2
3	MCE412	Machine Design I	3	3			3
4	MCE433	Engineering Metallurgy	2	2			2
5	MCE434	Plasticity	2	2			2
6	MCE416	Fluid Power Systems	2	2			2
7	MCE418	Applied Thermodynamics	2	2			2

8	EIE 412	Control System	3	3			3
9	MCE431	Thermodynamics III: (Refrigeration and Airconditioning) Laboratory	1			3	3
University Courses							
10	EDS411	Entrepreneurial Development Studies VII	1	1			1
11	TMC411	Total Man Concept VII	1	1			1
12	TMC412	Total Man Concept – Sports VII	-				-
		Total	**22**				**24**
Semester 8							
No.	**Course Code**	**Course Title**	**Credit**	**L**	**T**	**P**	**Total/Week**
Core Courses							
1	GEC229	SIWES I (SWEP)	6			38	38
2	GEC329	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	MCE515	Machine Design II	3	1			1
3	MCE516	Manufacturing Technology	2	2			2
4	MCE517	Fracture of Structural Materials Laboratory	1	3			3
5	MCE538	Theory of Elasticity Laboratory	1	2			2
6	MCE552	Thermodynamics IV: Thermal Power and Propulsive Systems	3	2			2
Elective Courses (Pick any two)							
7	MCE518	Corrosion Science and Engineering	3	3			3
8	MCE525	Engineering Vibrations	3	3			3
9	MCE530	Analytical Dynamics	3	3			3
10	MCE531	Fracture of Structural Materials	3	3			3
11	MCE532	Theory of Elasticity	3	3			3
12	MCE533	Introduction to Robotics	3	3			3
13	MCE534	Synthetic of Mechanisms	3	3			3
14	MCE536	Production Engineering I	3	3			3
15	MCE537	Engineering Metallurgy, Foundry and Welding Engineering	3	3			3
16	MCE553	Internal Combustion Engines	3	3			3

University Courses							
17	EDS511	Cost Engineering	2	2			2
18	TMC511	Total Man Concept IX	1	1			1
19	TMC512	Total Man Concept– Sports IX	-				-
		Total	**21**				**21**
Semester 10							
No.	**Course Code**	**Course Title**	**Credit**	**L**	**T**	**P**	**Total/Week**
Core Courses							
1	GEC527	Engineering Management	3	3			3
2	MCE524	Heat Transfer	3	3			3
3	GEC529	Final Year Project	6			18	18
Elective (Pick any two)							
6	MCE520	Metrology and Instrumentation	3	3			3
7	MCE521	Automotive Engineering	3	3			3
8	MCE526	Machine Maintenance and Overhaul Technology	3	3			3
9	MCE541	Introduction to Mechatronics	3	3			3
10	MCE542	Production Engineering II	3	3			3
11	MCE540	Industrial Engineering	3	3			3
4	MCE541	Design Process	3	3			3
5	MCE548	Building Services	3	3			3
12	MCE543	Work Design and Ergonomics	3	3			3
	MCE547	Material Handling and Equipment	3	3			3
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	**21**				**33**