

MIRPUR UNIVERSITY OF SCIENCE & TECHNOLOGY

BACHELOR’S DEGREE PROGRAM IN MECHANICAL ENGINEERING

SCHEME OF STUDIES 2023

Semester 1

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	QTR-1129	Calculus and Analytical Geometry	3	0	3	None
2	PHY-1108	Applied Physics	1	0	1	None
3	PHY-1108L	Applied Physics Lab	0	1	1	None
4	ENG-1103	Functional English	3	0	3	None
5	CHE-1104	Applied Chemistry	2	0	2	None
6	CSM-1105	Computer System and Programming	2	0	2	None
7	CSM-1105L	Computer System and Programming	0	1	1	None
8	BME-1106	Engineering Drawing and Graphics	1	0	1	None
9	BME-1106L	Engineering Drawing and Graphics	0	1	1	None
10	BME-1107	Engineering Mechanics-I	3	0	3	None
11	CHE-0004	Chemistry	0	0	0	ICS
12	CHE-0004L	Chemistry Lab	0	0	0	ICS
13	HQT-1128	Holy Quran with Translation, Tajveed and Tafseer	0	0	0	None
		Total	15	3	18	
		Cumulative Total	15	3	18	

Semester 2

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	BME-1201L	Computer Aided Drawing	0	1	1	None
2	BME-1202	Engineering Materials	3	0	3	None
3	QTR-1230	Linear Algebra and Ordinary Differential Equations	3	0	3	None
4	BME-1204	Engineering Mechanics-II	2	0	2	None
5	BME-1204L	Engineering Mechanics-II	0	1	1	None
6	BME-1205L	Workshop Practice	0	1	1	None
7	ARA-1201	Arabic	2	0	2	None
8	BME-1207	Thermodynamics-I	3	0	3	None
		Total	13	3	16	
		Cumulative Total	28	6	34	

Semester 3

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	ICT-2326	Applications of ICT	2	0	2	None
2	ICT-2326L	Applications of ICT Lab	0	1	1	None
3	BME-2302	Mechanics of Materials-I	3	0	3	None
4	ISM-2303	Pakistan Studies	2	0	2	None
5	BME-2304	Thermodynamics-II	3	0	3	BME-1207
6	BME-2304L	Thermodynamics-II	0	1	1	
7	MDE-2305	Electrical Engineering	1	0	1	None
8	MDE-2305L	Electrical Engineering Lab	0	1	1	None
9	MAT-2306	Complex Variables and Transforms	3	0	3	None
		Total	14	3	17	
		Cumulative Total	42	9	51	

Semester 4

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	MDE-2401	Electronics Engineering	2	0	2	None
2	MDE-2401L	Electronics Engineering Lab	0	1	1	None
3	MAT-2402	Numerical Analysis	2	0	2	None
4	MAT-2402L	Numerical Analysis Lab	0	1	1	None
5	ISM-2403	Islamic Studies/Ethics	2	0	2	None
6	BME-2404	Mechanics of Materials-II	3	0	3	None
7	BME-2404L	Mechanics of Materials-II	0	1	1	None
8	BME-2405	Machine Design-I	3	0	3	None
9	BME-2406	Fluid Mechanics-I	2	0	2	None
		Total	14	3	17	
		Cumulative Total	56	12	68	

Semester 5

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	BME-3501	Fluid Mechanics-II	3	0	3	BME-2406
2	BME-3501L	Fluid Mechanics-II	0	1	1	BME-2406
3	MDE-3502	Occupational Health and Safety	1	0	1	None
4	BME-3503	Machine Design-II	2	0	2	BME-2405
5	BME-3504	Instrumentation, Measurement and Quality Control	2	0	2	None
6	BME-3505	Heat & Mass Transfer	3	0	3	None
7	BME-3505L	Heat & Mass Transfer	0	1	1	None
8	BME-3506	Control Engineering	2	0	2	None
9	BME-3506L	Instrumentation and Control Engineering	0	1	1	None
10	CCE-3530	Civics and Community Engagement	2	0	2	None
		Total	15	3	18	
		Cumulative Total	71	15	86	

Semester 6

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	ENG-3607	Expository Writing	3	0	3	None
2	BME-36XX	Technical Elective-I	2	0	2	None
3	BME-3603	Manufacturing Processes	3	0	3	None
4	BME-3603L	Manufacturing Processes	0	1	1	None
5	BME-3604	Mechanics of Machines	3	0	3	None
6	BME-3605	Heating, Ventilating and Air Conditioning	3	0	3	None
7	BME-3605L	Heating, Ventilating and Air Conditioning	0	1	1	None
8	BME-3606	Internship/ Industrial Experience	0	0	0	None
9	ETRE-3608	Entrepreneurship	2	0	2	None
		Total	16	2	18	
		Cumulative Total	87	17	104	

Semester 7

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	ECO-4701	Engineering Economics	2	0	2	None
2	BME-4702	Mechanical Vibrations	3	0	3	None
3	BME-4702L	Mechanical Vibrations	0	1	1	None
4	BME-4703	Internal Combustion Engines	3	0	3	None
5	BME-4703L	Internal Combustion Engines	0	1	1	None
6	BME-4704	Introduction to Finite Element Analysis	2	0	2	None
7	BME-4704L	Introduction to Finite Element Analysis	0	1	1	None
8	BME-4705	Final Year Project-I	0	3	3	None
		Total	10	6	16	
		Cumulative Total	97	23	120	

Semester 8

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	BME-48XX	Technical Elective-II	2	0	2	None
2	BME-48XX	Technical Elective-III	2	0	2	None
3	BME-4803	Applied Statistics and Data Science	3	0	3	None
4	MAN-4811	Project Management	2	0	2	None
5	BME-4805	Power Plants	3	0	3	None
6	BME-4805L	Power Plants	0	1	1	None
7	BME-4806	Final Year Project-II	0	3	3	
		Total	12	4	16	None
		Cumulative Total	109	27	136	

Non Engineering Courses Credit Hours	38		%age	27.94
Engineering Courses Credit Hours	98		%age	72.06

Code	TECHNICAL ELECTIVE COURSES
01	Renewable Energy Technology
02	Mechatronics and Robotics Engineering
03	Nuclear Engineering
04	Computational Fluid Dynamics (CFD)
05	Mechanical Engineering Design
06	Aerodynamics
07	Automation and Robotics
08	Fluid Power (Hydraulics & Pneumatics)
09	Maintenance Engineering
10	Gas Dynamics
11	Tribology

Note: XX is the number from the serial no of list of technical electives

Engr. Dr.Khura m Pervez Amber
Chairperson
Department of Mechanical Engineering, MUST