

MIRPUR UNIVERSITY OF SCIENCE & TECHNOLOGY
BACHELOR'S DEGREE PROGRAM IN MECHANICAL ENGINEERING

SCHEME OF STUDIES 2024

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	2	0	2	None
3	PHY-1108L	Applied Physics Lab	0	1	1	None
4	ENG-1103	Functional English	3	0	3	None
5	CSM-1105	Computer System and Programming	2	0	2	None
6	CSM-1105L	Computer System and Programming	0	1	1	None
7	BME-1106	Engineering Drawing and Graphics	1	0	1	None
8	BME-1106L	Engineering Drawing and Graphics	0	1	1	None
9	BME-1107	Engineering Mechanics-I	3	0	3	None
10	CHE-0004	Chemistry	0	0	0	ICS
11	CHE-0004L	Chemistry Lab	0	0	0	ICS
12	HQT-1128	Holy Quran with Translation, Tajveed and Tafseer	0	0	0	None
		Total	14	3	17	
		Cumulative Total	14	3	17	

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-1205	Workshop Practice	1	0	1	None
7	BME-1205L	Workshop Practice	0	1	1	None
8	ARA-1201	Arabic	2	0	2	None
9	BME-1207	Thermodynamics-I	3	0	3	None
		Total	14	3	17	
		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	BME-1207
7	MDE-2305	Electrical Engineering	2	0	2	None
8	MAT-2306	Complex Variables and Transforms	3	0	3	None
		Total	15	2	17	
		Cumulative Total	43	8	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	Electrical and 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	2	0	2	None
9	BME-2406	Fluid Mechanics-I	3	0	3	None
		Total	14	3	17	
		Cumulative Total	57	11	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 and Mass Transfer	3	0	3	None
7	BME-3505L	Heat and 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	72	14	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-3602	Mechatronics and Robotics Engineering	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	2	0	2	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	15	2	17	
		Cumulative Total	87	16	103	

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	22	119	

Semester 8

Sr. No.	Course Code &Title		Theory Credit Hours	Lab. Credit Hours	Total Credit Hours	Pre-Requisites
1	BME-48XX	Technical Elective-I	3	0	3	None
2	BME-48XX	Technical Elective-II	3	0	3	None
3	BME-4803	Applied Statistics and Data Science	3	0	3	None
4	BME-4804	Reverse Engineering and Inspection Techniques	2	0	2	None
5	MAN-4811	Project Management	2	0	2	None
6	BME-4806	Final Year Project-II	0	3	3	None
		Total	13	3	16	
		Cumulative Total	110	25	135	

Non Engineering Courses Credit Hours	38		%age	28.15
Engineering Courses Credit Hours	97		%age	71.85

Code	TECHNICAL ELECTIVE COURSES
01	Renewable Energy Technology
02	Maintenance Engineering
03	Nuclear Engineering
04	Automotive Engineering
05	Power Plants
06	Tribology
07	Product design and Development
08	Advance Manufacturing Systems
09	Computational Fluid Dynamics
10	Mechanical Engineering Design Analysis
11	Stress Analysis
12	Micr-Electromechanical Systems (MEMS)
13	Gas Dynamics Mechanical
14	Mechanical Engineering Design
15	Composite Materials

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

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