BSME 4-Year Program Outline (Total Credit Hours: 144)					
Semester – I			**Semester – II**		
Code	**Course Title**	**Credit Hrs**	**Code**	**Course Title**	**Credit Hrs**
ME1201	Introduction to Mechanical Engineering	1+1	ES1303	Calculus 2	3+0
ES1301	Calculus 1	3+0	ES1404	Engineering Physics 2	3+1
EE1201	Applied Electronics	1+1	CS1202	Computing Core 2	2+0
ME1202	Engineering Drawing and Graphics	1+1	LA1302	Islamic Studies	3+0
LA1201	English 1	2+0	ME1305	Engineering Mechanics 1: Statics	3+0
ES1402	Engineering Physics 1	3+1	DS1201	Design Core 1	2+0
CS1201	Computing Core 1	2+0	CS1203	Fundamentals of Logic Design	2+0
	Total Credit Hours	**17**		**Total Credit Hours**	**19**

Semester – III			**Semester – IV**		
Code	**Course Title**	**Credit Hrs**	**Code**	**Course Title**	**Credit Hrs**
ES2305	Differential Equations and Linear Algebra	3+0	LA2305	Pakistan Studies	3+0
ME2410	Engineering Mechanics 2: Dynamics	3+0	ME2317	Fluid Mechanics 1	3+0
ME2211	Mechanical Workshop	0+2	ES2306	Probability and Statistics	3+0
ME2312	Thermodynamics 1	3+0	ME3453	Mechanics of Materials	3+0
LA2303	Political Science 1	2+0	ME2219	CAD/CAM 1	0+2
DS2202	Design Core 2	2+0	EE2202	Embedded Systems 1	1+1
LA2204	English 2	2+0	ME2120	ME Lab 1	0+1
	Total Credit Hours	**17**		**Total Credit Hours**	**17**

Semester – V			**Semester – VI**		
Code	**Course Title**	**Credit Hrs**	**Code**	**Course Title**	**Credit Hrs**
ME3424	Machine Design	3+0	ME33XX	(ME Elective 2)	3
ME2318	Thermodynamics 2	3+0	ME3350	Manufacturing Processes	3+0
ME3325	Engineering Materials	3+0	ENTXXX	Entrepreneurship Core 1	2+0
ME3326	Measurements and Instrumentation	2+1	ME3351	Heat & Mass Transfer	3+0
ME3127	ME Lab 2	0+1	ME3452	Mechanics of Machines	3+1
ME33XX	(ME Elective 1)	3	LA2206	English 3	2+0
ES3307	Chemistry	2+1	LA3307	Political Science 2	2+0
	Total Credit Hours	**19**		**Total Credit Hours**	**19**

Semester – VII			**Semester – VIII**		
Code	**Course Title**	**Credit Hrs**	**Code**	**Course Title**	**Credit Hrs**
ME4360	Control Engineering	3+0	ME4371	Final Year Project	1+2
ME4261	Technical Report Writing	2+0	DS4203	Design Core 3	2+0
ME43XX	(ME Elective 3)	3	EE4303	Industrial Automation	2+1
ME4370	Final Year Project	1+2	ENTXXX	Entrepreneurship Core 3	2+0
ENTXXX	Entrepreneurship Core 2	1+0	EN4204	Engineering Economics	2+0
CS4204	Computing Core 3	2+0	ME43XX	(ME Elective 4)	3
ME4480	Mechanical Vibrations	3+1	-	*Free Elective*	3
	Total Credit Hours	**18**		**Total Credit Hours**	**18**

Electives *(May be revised periodically)*					
Code	**Stream A: Robotics and Control**	**Credit Hrs**	**Code**	**Stream C: Fluid Systems**	**Credit Hrs**
32	Embedded Systems 2	3+0	34	Fluid Mechanics 2	3+0
40	Industrial Robotics	3+0	42	Computational Fluid Dynamics (CFD)	3+0
62	Mobile Robotics	3+0	64	Fundamentals of Aerodynamics	3+0
81	Control Engineering 2	3+0	83	Fundamentals of Gas Dynamics	3+0
Code	**Stream B: Design & Manufacturing**	**Credit Hrs**	**Code**	**Stream D: Energy**	**Credit Hrs**
33	CAD/CAM 2	1+2	35	Energy Resources and Utilization	3+0
41	Finite Element Methods (FEM)	3+0	43	Solar Energy Systems	3+0
63	Industrial Manufacturing	3+0	65	Renewable Energy Technologies 1	3+0
82	Production Engineering	3+0	84	Renewable Energy Technologies 2	3+0

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