BSME Scheme of Studies

Revision III prepared For Fall 2014 and onward

Semester/Term1

	Subjects		**Credit Hrs**		**Credit Hours**
			Theory	**Lab**	
1	GS-101	Math-I Calculus and Analytical Geometry	3	0	3
2	GS-102	Applied Physics	2	1	3
3	GS-103	Applied Chemistry	2	0	2
4	EN-101	Functional English	2	0	2
5	CS-101	Computer Systems and Programming	2	1	3
6	ME-111	Engineering Drawing and Graphics	2	1	3
7	GR-101	Arabic for Understanding Quran-I	2	0	2
		Total:	15	3	18

Semester/Term2

	Subjects		**Credit Hrs**		**Credit Hours**
			Theory	**Lab**	
1	GS-104	Math-II Linear Algebra and Ordinary Differential Equations	3	0	3
2	EE-101	Electrical Engineering	2	1	3
3	ME-121	Thermodynamics-I	3	0	3
4	ME-112	Workshop Practice	0	2	2
5	ME-113	Engineering Mechanics-I:Statics	3	1	4
6	GR-102	Arabic for Understanding Quran-II	2	0	2
		Total:	13	4	17

Semester/Term3

	Subjects		CreditHrs		CreditHours
			Theory	Lab	
1	GR-201	Pakistan Studies	2	0	2
2	ME-221	Thermodynamics-II	3	1	4
3	ME-211	Engineering Mechanics-II: Dynamics	3	1	4
4	ME-212	Mechanics of Materials–I	3	0	3
5	ME-222	Fluid Mechanics-I	3	0	3
6	EN-201	Communication Skills& Report Writing	2	0	2
		Total:	16	2	18

Semester/Term4

	Subjects		Credit Hrs		Credit Hours
			Theory	Lab	
1	ME-213	Engineering Materials	3	0	3
2	EE-201	Electronics Engineering	2	1	3
3	GS-201	Statistics and Probability for Engineer	2	0	2
4	ME-215	Mechanics of Materials–II	3	1	4
5	ME-223	Fluid Mechanics-II	3	1	4
6	GR-202	Islamic Studies/Ethics	2	0	2
		Total:	15	3	18

Semester/Term5

	Subjects		Credit Hrs		Credit Hours
			Theory	Lab	
1	ME-311	Machine Design and CAD-I	2	1	3
2	ME-312	Mechanics of Machines	3	1	4
3	ME-313	Manufacturing Processes	3	1	4

5	ME-314	Introduction to Mechatronics	2	1	3
6	GS-301	Applied Math-III Vector Calculus and PDEs)	3	0	3
		Total:	13	4	17

Semester/Term6

	Subjects		**Credit Hrs**		**Credit Hours**
			Theory	**Lab**	
1	ME-315	MachineDesign and CAD-II	2	1	3
2	MS-301	Engineering Management and Economics	2	0	2
3	ME-316	ControlEngineering& Instrumentation	2	1	3
4	GS-302	Applied Math-IV (Complex Variable Technique& Fourier Transform)	3	0	3
5	ME-321	Heat & Mass Transfer	3	1	4
6	GR-301	Ethical and Legal Dimensions for Engineers	2	0	2
		Total	14	3	17

Semester/Term7

	Subjects		**Credit Hrs**		**Credit Hours**
			Theory	**Lab**	
1	ME-421	IC Engines	2	1	3
2	GS-401	Numerical Analysis& Computation	2	1	3
3	ME-422	Refrigeration and Air Conditioning	2	1	3
4	ME-4xy	Technical Elective-I	3	0	3
5	ME-499	Project	0	3	3
		Total:	10	5	15

Semester/Term8

	Subjects		CreditHrs		CreditHours
			Theory	Lab	
1	ME-4xy	Technical Elective-II	3	0	3
2	ME-411	Mechanical Vibrations	3	1	4
3	ME-4xy	Technical Elective-III	3	0	3
4	MS-4xy	Management Elective	3	0	3
5	ME-499	Project	0	3	3
		Total:	12	4	16
		Grand Total:	106	28	134

Non Engineering Courses Credit Hours	44
Engineering Courses Credit Hours	92
Engineering Percent	67.7%

List of Elective Courses in BS Mechanical Engineering

(Recommended by the Board of Studies DME)

echnical Electives		Course Title	Credit Hrs
r.#	Course Code		
1	ME423	Renewable Energy Technology	(3,0)
2	ME412	Tribology	(3,0)
3	ME413	Maintenance Engineering	(3,0)
4	ME424	Computational Fluid Dynamics	(2,1)
5	ME425	Gas Dynamics	(3,0)
6	ME426	Aerodynamics	(3,0)
7	ME427	Heating Ventilation and Air-conditioning System (HVAC)	(2,1)
8	ME414	Fracture Mechanics	(3,0)
9	ME415	Mechanical Engineering Design Analysis	(3,0)
0	ME416	Automation and Robotics	(3,0)
1	ME417	Production Engineering	(2,1)
2	ME418	Modeling and Simulation	(2,1)
3	ME419	Engineering Optimization	(2,1)
4	ME428	Introduction to Nuclear Engineering	(3,0)

15	ME431	Finite Element Methods	(2,1)
16	ME432	CAD/CAM	(2,1)
17	ME429	Power Plant	(2,1)
18	ME433	Hydraulics & Pneumatics	(3,0)
19	ME434	Introduction to Composites Materials	(3,0)

Ianagement Electives		**Course Title**	**Credit Hrs**
r#	**Course Code**		
1	MS401	Industrial Management	(3,0)
2	MS402	Project Management	(3,0)
3	MS403	Operation Research	(3,0)
4	MS404	Total Quality Management	(3,0)
5	MS405	Operations Management	(3,0)
6	MS406	Business and Entrepreneurship	(3,0)
7	MS407	Safety, Health and Environment	(3,0)
8	MS408	Production Management	(3,0)

Course codes:

0 Non Mechanical

1, 3 Design

2 Thermo-Fluid

9 Project

COURSE CODE METHODOLOGY

The following course code methodology is followed for the curriculum and syllabus of this program

- The first two alphabets in the course code indicate the discipline being referred to, for example, ME for Mechanical Engineering
- The first digit in the course code indicates the academic year during which the course is offered. These cond digit indicates the stream and third digit indicates these quence of the course in the respective area in that year.

Second Digit Stream

0 NonMechanicalEngineeringCourses

1, 3 DesignandManufacturingCourses

2 ThermofluidCourses

For different domain abbreviation used are as follow

ME: Mechanical Engineering

EE: Electrical Engineering

CS: Computer Systems Engineering

GS: General Sciences
EN: English Sciences
MS: Management Sciences
GR: Arabic/Islamic Studies/Pakistan Studies