

COURSES OF BSc MECHANICAL ENGINEERING

1st Semester

S/N	Course Code	Course	Credit hour
1	GS-101	Calculus and Analytical Geometry	(3,0)
2	HS-101	Functional English	(2,0)
3	GS-102	Applied Physics	(2,0)
4	GS-103	Applied Chemistry	(2,0)
5	ME-111	Engineering Statics	(2,1)
6	ME-131	Workshop Practice	(1,1)
Total Credit Hours			(12,2)

2nd Semester

S/N	Course code	Course	Credit hours
1	CS-101	Computer System and Programing	(2,1)
2	EE-101	Electrical Engineering	(2,1)
3	GS-104	Linear Algebra and Ordinary Differential Equations	(3,0)
4	ME-112	Engineering Dynamics	(3,1)
5	ME-113	Engineering Drawing and Graphics	(2,1)
6	ME-121	Thermodynamics-I	(3,1)
Total Credit Hours			(15,5)

3rd Semester

S/N	Course Code	Course	Credit hours
1	IS-201	Islamic Studies/Ethics	(2,0)
2	GS-205	Complex Variables and Transform	(3,0)
3	ME-222	Fluid Mechanics-I	(3,1)
4	ME-214	Mechanics of Materials-I	(2,1)
5	ME-215	Machine Design and CAD-I	(2,1)
6	ME-223	Thermodynamics-II	(2,1)
Total Credit Hours			(14,4)

4th Semester

S/N	Course code	Course	Credit hour
1	PS-201	Pakistan Studies	(2,0)
2	EE-202	Electronics Engineering	(2,1)
3	GS-206	Numerical Analysis	(3,0)
4	ME-216	Engineering Materials	(2,1)
5	ME-217	Mechanics of Materials-II	(3,1)
6	ME-224	Fluid Mechanics-II	(2,1)
Total Credit Hours			(14,4)

5th Semester

S/N	Course code	Course	Credit hours
1	MS-301	Engineering Economics	(2,0)
2	HS-302	Technical Report Writing	(2,0)
3	ME-318	Machine Design & CAD-II	(3,1)
4	ME-325	Heat and Mass Transfer	(3,1)
5	ME-332	Precision Engineering & Metrology	(2,1)
6	ME-333	Manufacturing Processes-I	(2,1)
Total Credit Hours			(14,4)

6th Semester

S/N	Course code	Course	Credit hour
1	MS(Elec.)-3XY	Management Elective-I	(2,0)
2	HS-303	Communication Skills	(2,0)
3	EE-303	Control Engineering	(2,1)
4	GS-307	Applied Statistics	(2,0)
5	ME-319	Mechanics of Machines	(3,1)
6	ME-326	Refrigeration and Air Conditioning	(2,1)
Total Credit Hours			(13,3)

7th Semester

S/N	Course code	Course	Credit hour
1	MS(Elec.)-4XY	Management Elective-II	(2,0)
2	ME-427	Internal Combustion Engines	(2,1)
3	ME-434	Manufacturing Process-II	(2,1)
4	ME-41X	Mechanical Vibrations	(3,1)
5	ME(Elec.)-4XY	Technical Elective-I	(2,1)
	ME-499	Design Project	(0,3)
Total Credit Hours			(11,7)

8th Semester

S/N	Course code	Course	Credit hour
1	HS-404	Social Sciences	(2,0)
2	ME(Elec.) - 4XY	Technical Elective-II	(2,1)
3	ME(Elec.) - 4XY	Technical Elective-III	(2,1)
4	ME(Elec.) - 4XY	Technical Elective-IV	(2,1)
5	ME-499	Design Project	(0,3)
Total Credit Hours			(8,6)

List of Elective Courses

Technical Electives: (ME-4XY)

- a) ME(Elec.)-41_ Tribology
- b) ME(Elec.)-41_ Mechanical Engineering Design Analysis
- c) ME(Elec.)-41_ Stress Analysis
- d) ME(Elec.)-41_ Composite materials
- e) ME(Elec.)-42_ Power Plants
- f) ME(Elec.)-42_ Renewable Energy Technology
- g) ME(Elec.)-42_ Gas Dynamics
- h) ME(Elec.)-42_ Aerodynamics
- i) ME(Elec.)-42_ Computational Fluid Dynamics (CFD)
- j) ME(Elec.)-42_ Nuclear Engineering
- k) ME(Elec.)-42_ Automotive Engineering
- l) ME(Elec.)-43_ Advanced Manufacturing Systems
- m) ME(Elec.)-43_ Introduction to Mechatronics
- n) ME(Elec.)-43_ Robotics
- o) ME(Elec.)-43_ Maintenance Engineering

Management Electives: (ME-4XY)

- a) MS(Elec.)-40_ Operations Management
- b) MS(Elec.)-40_ Total Quality Management
- c) MS(Elec.)-40_ Project Management
- d) MS(Elec.)-40_ Operations Research
- e) MS(Elec.)-40_ Engineering Law
- f) MS(Elec.)-40_ Entrepreneurship
- g) MS(Elec.)-40_ Safety Health and Environment
- h) MS(Elec.)-40_ Supply Chain Management

Total No of Courses=47

Total Credit hours=136

Engineering Domain=97 (71.3%)

Non-Engineering Domain=39 (28.7%)

According to HEC 2012 revised curriculum of BS-Mechanical Engineering

Total No of Credit hours: 130-136

Engineering Courses (Minimum):70%

Non-Engineering Courses (Maximum): 30%

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. The second digit indicates the stream and third digit indicates the sequence of the course in the respective area in that year.

Stream

0 Non Mechanical Engineering Courses

1 Design

2 Thermo fluid courses

3 Manufacturing