Study Plan for Mechanical Power Engineering

2023-2022

Study Plan- (First Year)- First Semester

Course code	Course title	Credit hours	Pre-requisites
EB 101	Engineering Mathematics (1)	3	None
EB 111	Engineering Mechanics (1)	3	None
EB 121	Engineering Physics (1)	3	None
EB 141	Eng. Drawing & Descriptive Geometry (1)	3	None
UEC 01	Computer Skills & Programming Concepts (1)	2	None
UGE 01	English Language (1)	2	None
HU 121	Engineering Perspectives and Technology	2	None
	Total semester credit hours	**18**	

Study Plan- (First Year)- Second Semester

Course code	Course title	Credit hours	Pre-requisites
EB 102	Engineering Mathematics (2)	3	EB101
EB 112	Engineering Mechanics (2)	3	EB101
EB 122	Engineering Physics (2)	3	EB101
EB142	Eng. Drawing & Descriptive Geometry (2)	2	EB141
EB 131	General Chemistry	2	None
EM170	Introduction to Manufacturing Processes	2	None
UEC02E	Computer Skills & Programming Concepts (2)	2	UEC 01
UCS01	Communication skills 1	1	
	Total semester credit hours	**18**	

Mechanical Engineering (Power) - Second Year – Semester 3

Course code	Course title	Credit hours	Pre-requisites
EB 103	Engineering Mathematics (3)	3 (2-2-1)	EB 102
EB 113	Engineering Mechanics (3)	3 (3-1-0)	EB 112
EM 203	Mechanical Drawing	2 (1-3-0)	EB 142
EM 211	Mechanics of Materials	4(3-1-2)	EB 111
EM 251	Fluid Mechanics (1)	3 (2-2-1)	EB 111
EM 270	Materials Engineering	3 (2-2-1)	EM 170
	Total semester credit hours	**18**	

Mechanical Engineering (Power) - Second Year – Semester 4

No.	Course Code	Course Title	Cr. H	Pre-requisite	Contact Hours/Week			
					L	P	T	Total
1	EB 104	Linear Algebra	3	EB 102	2	1	2	5
2	EB 204	Engineering Mathematics (4)	3	EB 103	2	1	2	5
3	EM 212	Mechanics of Machinery	3	EB 113	2	1	1	4
4	EM 210	Computer Aided Mechanical Drawing	2	EM 203	1	3	1	5
5	EE 208	Fundamentals of Electrical for mech. engineering	3	EB 102, EB 122	2	1	2	5
6	EM 271	Manufacturing Processes (1)	3	EM 170	2	2	1	5
Total			**17**	29				

Mechanical Engineering (Power) - Third Year – Semester 5

Course code	Course title	Credit hours	Pre-requisites
EB 207	Numerical Analysis with MATLAB	4(3-1-2)	EB 102
EM 213	Mechanical Design (1)	3(2-2-1)	EM 211
EM 214	Mechanical Vibrations	3 (2-1-1)	EM 212
EM 230	Thermodynamics (1)	3 (2-2-0)	EB 121
EM 272	Manufacturing Processes (2)	3 (2-1-1)	EM 170
EM 261	Eng. Economy & Cost Analysis	2(2-1-0)	None
	Total semester credit hours	**18**	

Mechanical Engineering (Power) - Third Year – Semester 6

No.	Course Code	Course Title	Cr. H	Pre-requisite	Contact Hours/Week			
					L	P	T	Total
1	EB 209	Complex Variables	3	EB 204	3	0	1	4
2	EM 215	Mechanical Design (2)	3	EM 213	2	0	2	4
3	EM 221	Automatic Control	3	EM 214	2	1	2	5
4	EM 231	Heat Transfer (1)	3	EM 230	2	1	1	4
5	EM 252	Engineering Fluid Mechanics	3	EM 251	2	1	2	5
6	UGE 02	English (2)	2	UGE 01	2	2	0	4
Total			**17**	26				

Mechanical Engineering (Power) - Fourth Year – Semester 7

Course code	Course title	Credit hours	Pre-requisites
EM 220	Measurement and Sensors	3(2-2-1)	EB 122
EM 232	Thermodynamics (2)	3 (2-2-1)	EM 230
EM 234	Heat exchangers	3 (2-1-1)	EM 231
EE 369!!	Electrical Power for Mech.Engineers	4(3-2-1)	EE 208!!
EM 233	Heat transfer (2)	3 (2-1-1)	EM 231
UGE 03	English (3)	2 (2-0-2)	UGE 02
	Total semester credit hours	**18**	

Mechanical Engineering (Power) - Fourth Year – Semester 8

No.	Course Code	Course Title	Cr. H	Pre-requisite	Contact Hours/Week			
					L	P	T	Total
1	EM 256	Power generation by fluids	3	EM 252	3	0	2	5
2	EM 201	Fundamentals of Combustion Engineering	3	EM 230	3	1	1	5
3	EM 253	Fluid mechanics (2)	3	EM 251	3	1	2	6
4	EM 333	*Elective Course T.(4.42)* Renewable Energy and Storage Systems	3	EM 230	3	1	1	5
5	EM 240	Refrigeration and Air Conditioning (1)	3	EM 232	3	1	1	5
6	HU 113	Technical Report Writing and Presentation Skills	2	None	2	2	0	4
Total			**17**	30				

Mechanical Engineering (Power) - Fifth Year – Semester 9

Course code	Course title	Credit hours	Pre-requisites
EM353	Fluid Power systems	3 (2-2-0)	EM252
EM 343	Air Conditioning Systems	3 (2-2-0)	EM 240
ME 331	Thermal Power Plants Equipment	3 (2-1-1)	ME 230
EM 254	Compressible Flow	2 (2-1-0)	EM 251
EM 400-1	Graduation Project (1)	4 (3-0-3)	Department Approval
HU 132	Accounting and Costs for Engineers	2(2-1-0)	None
UGA 03	Arabic language	2(2-0-0)	None
	Total semester credit hours	**19**	

Mechanical Engineering (Power) - Fifth Year – Semester 10

No.	Course Code	Course Title	Cr. H	Pre-requisite	Contact Hours/Week			
					L	P	T	Total
1	EM 332	Thermal Power Plants Operation and Management (Elective 3)	3	EM 230	2	0	2	4
2	HU 135	Sales, Marketing and Communication Techniques	2	None	2	0	1	3
3	EM 341	Controls and Safety of Thermal Systems	2	EM 221	2	1	0	3
4	UCS 02	Communication Skills (2)	1	None	2	0	0	2
5	EM 350	Pumps Technology	2	EM 252	2	0	1	3
6	EM 263	Project Management	3	None	2	0	2	4
7	EM 400-2	Graduation Project (2)	4	EM 400-1	3	3	0	6
Total			**17**	25				