

Study Plan for Mechanical INDUSTRIAL & MANUFACTURING ENGINEERING PROGRAM (IME) 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 (IME) - 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 (IME) - 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 (IME) - 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 (IME) - 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 (IME) - Fourth Year – Semester 7

Course code	Course title	Credit hours	Pre-requisites
EM 372	Metrology & Instrumentation	3	EM 170
UGE 03	English 3	2	UGE 02
EM 370	Analysis of Metal Cutting Processes	3	EM 272
EM 262	Operations Research	3	None
EE 386	Electrical Machines Technology for Industrial Systems	4	EE 208
HU 133!!	Engineering Statistics	2	None
Total semester credit hours		17	

Mechanical Engineering (IME) - Fourth Year – Semester 8

No.	Course Code	Course Title	Cr. H	Pre-requisite
1	EE 219!!	Electrical Measurements for Industrial Systems	3	EE 208!!
2	EM 327	Numerically Controlled Machines	3	EM 221
3	EM 360	Production Planning & Scheduling	3	None
4	EM 362	Quality Improvement for Industry	3	EM170
5	EM 373	Nontraditional Manufacturing Processes	3	EM 370
6	HU 113!!	Technical Report Writing & Presentation Skills	2	None
Total			17	

Mechanical Engineering (IME) - Fifth Year – Semester 9

Course code	Course title	Credit hours	Pre-requisites
EM 363	Human factors Engineering	3	EM 360
EM 263	Introduction to Engineering Management	3	None
EM 321	Robotics	3	EM 221
EM 400-1	Graduation Project (1)	4	None
EM 366	Maintenance Planning & Management	3	EM 362
EM 371	Manufacturing Process Machine Design	3	EM 272
EM 363	Human factors Engineering	3	EM 360
Total semester credit hours		19	

Mechanical Engineering (IME) - Fifth Year – Semester 10

No.	Course Code	Course Title	Cr. H	Pre-requisite
1	EM 374	Manufacturing Systems	3	EM 272
2	UCS02	Communication Skills	1	None
3	EM 400-2	Graduation Project (2)	4	EM 400-1
4	EM 364	Systems Simulation	3	EM 262
5	EM 361	Facilities Design	3	EM 360
6	HU 132!!	Accounting & Costs for Engineers	2	None
7	UGA 03	Arabic	2	None
Total			18	