

27	OE310EE	Electrical Installation & Safety	1.9		1.6		1.6	2.4						
28	OE310IT	Intr to Scripting languages	1.6	1.4	1.6									
29	OE310MA	Linear algebra & its applications	2.7	2.7										2.3
30	MC310ME	Introduction to Entrepreneurship		2.7	2.4					2.4	2.5	2.5	2.4	2.3
31	MC300EH	Human Values and Professional Ethics – I								2.7	2.7	2.7		2.7
32	HS310EH	FS-I: Communication Skills in English - I										2.0		2.0
33	BS310MA	Engineering Mathematics-III	2.0	2.0										2.0
34	ES320ME	Thermodynamics	2.0	1.8	1.8	1.8								
35	ES330ME	Metallurgy & Material Science	2.0	2.0	2.0	2.0	2.0							
36	ES330CE	Mechanics of Materials	1.3 8	1.3 8	1.4 2									
37	ES340ME	Machine Drawing	2.3	2.4		2.3						2.3		
38	PC350ME	Mechanics of Fluids	2.2	2.2		2.2					2.3		2.4	2.4
39	ES331ME	Metallurgy and Material Science Lab	3		3					3				
40	ES331CE	Mechanics of Materials Lab	3				3			3	3	3		3
41	OE410CE	Green buildings	1.0	1.2	1.2	1.0								0.8
42	OE410CS	Cyber Security	2.4	2.4	2.4	2.4								
43	OE410EC	Medical Electronics												
44	OE410EE	Non-Conv Energy Sources	2.1	2.1										
45	OE410IT	Intr to Software Engg	2.4	1.4	1	1			3	2	2	3	3	2
46	OE440CH	Corrosion Science and Technology	2.9	3.0				3.0						2.9
47	OE420CE	Disaster Mgmt	3	3	3	3	3	3	3	3	3	3	3	3
48	OE420CS	Intr to Python Programming	2.4	2.4	2.4	2.4	2.4							2.4
49	OE420EC	Sensors for Engg applications	2.5	2.8	2.5									
50	OE420IT	Intr to DBMS	1.7	1.7	2.4									1.0
51	HS420EH	FS-II :Communication Skills in English-II										2.0		2.0
52	BS410MA	Engineering Mathematics - IV	2.4	2.4										2.4
53	MC320CE	Environmental Science	2.6					2.4	2.6	2.4				
54	ES410EE	Basics of Electrical and Electronics Engg.	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.0		2.0
55	PC410ME	Applied Thermodynamics	2.0	2.0	1.9	1.9								
56	PC420ME	Kinematics of Machines	2.1	2.1	2.4	1.9	1.5		1.9				1.7	2.1
57	PC430ME	Design of Machine Elements	2.1	2.1		2.0			2.2					2.1

58	PC411ME	Applied Thermodynamics Lab	3	3	3	3						3		3
59	ES411EE	Basics of Electrical and Electronics Engg. Lab			3	2		3						
60	HS040EH	Economics and Finance for Engineers			2.0						1.7		1.6	1.1
61	PC510ME	Hydraulic Machines	2.5	2.5	2.6	2.6		2.6						2.6
62	PC520ME	Machine Design	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2		2.2	2.2
63	PC530ME	CAD/CAM	2.7	2.5	2.7		2.6		2.7					
64	PC540ME	Manufacturing Processes	2.6	2.7	2.7	2.7	2.7	2.7						
65	MC400EH	Human Values and Professional Ethics – II								2.8	2.8	2.8		2.8
66	HS510EH	Finishing School -III: Soft Skills												3.0
67	MC510ME	Finishing School - III: Technical Skills		3				3						
68	OE510CE	Remote sensing & GPS	2.5	2.5		3.0								2.1
69	OE510CS	Fundamentals of OOP	2.4	2.4	2.4	2.4								
70	OE520CS	Web Design	2.4	2.4	2.4	2.4	2.4							
71	OE510EC	Mathematical programming for Engineers	3.0	3.0	3.0	3.0	3.0							
72	OE520EC	Sensors for Engg applications	2.5	2.6	2.5									
73	OE510EE	Solar Power & applications	2.8	2.8										
74	OE510IT	Intr to DBMS	2.2	1.8	1.5	1.5	1.0							1.0
75	OE520IT	Intr to Statistical Programming												
76	OE510MA	Numerical methods	3.0	3.0										3.0
77	OE520MA	Discrete mathematics for Engineers	2.8	2.8										
78	OE010EH	Technical writing and Professional presentations								2.7	2.7	2.7		2.7
79	PC511ME	Fluid Mechanics &Hydraulic Machines Lab	3		3			3	3				3	3
80	PC531ME	CAD/CAM Lab	3	3	3		3				3			3
81	PC541ME	Manufacturing Processes lab			3	3		3						
82	HS610EH	Finishing School-IV: Soft Skills												3.0
83	PC610ME	Metal Cutting and Machine Tools	2.4	2.3	2.4	2.4	1.8							
84	PC620ME	Dynamics of Machines	2.5	2.5	2.5	2.3	2.6						2.5	2.5

85	PC630ME	Heat Transfer	1.6	1.6	1.6	1.6								
86	PC640ME	Metrology and Instrumentation	2.6	2.4	2.1	2.3	1.8	2.1		2.2		2.3		
87	OE610CE	Project Mgmt	3	3		3	3	3	3	3			3	
88	OE610CS	Intr to Databases	3.0	3.0	3.0		3.0							
89	OE620CS	Intr to Operating Systems	3.0	3.0	3.0	3.0			3.0					3.0
90	OE610EE	Basics of Power Systems	2.5	2.5										
91	OE610IT	Intr to web application development												
92	OE620IT	Intr to Machine Learning	2.0	1.6	1.7	1.0	1.0						1.0	
93	OE610EH	English for competitive Examinations								2.8	2.8	2.8		2.8
94	OE010EH	Technical writing and Professional presentations								2.8	2.8	2.8		2.8
95	MC610ME	Finishing School-IV: Technical Skills		3	3	3								3
96	PE630ME	PE-1 Renewable Energy	2.4	2.4	2.2			2.4	2.4					
97	PE640ME	PE-1 Operations Research	2.5	2.6			2.4		2.4		2.6		2.4	
98	PE650ME	PE-1 Automobile Chasis Components	2.7	2.6		2.6			2.7		2.7			2.7
99	PC611ME	Machine Tools Lab	3	3	3	3	3	3			3		3	3
100	PC621ME	Dynamics and Metrology Lab	3	3	3	3	3							
101	PW619ME	Mini Project	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
102	PC710ME	Thermal Turbo machines	2.3	2.4	2.4	2.3		2.3		2.3	2.3			
103	PC720ME	Finite Element analysis	2.5	2.6	2.4	2.4	2.1							
104	PC730ME	Refrigeration & Air Conditioning	2.4	2.4	2.4	2.4			2.4					
105	PE720ME	PE-II Comp integrated Mfg	3	3	3	3	3							
106	PE730ME	PE-II Fuels and Combustion	1.9	1.8	1.7				2.1					2.1
107	PE740ME	PE-II Supply Chain Mgmt	2.6		2.6			2.6				2.7	2.6	2.6
108	PE780ME	PE-III Adv IC Engines	2.4	2.4	2.4				2.4					
109	PE790ME	PE-III Production & Operations Mgmt	2.5	2.6	2.8	2.8	2.6		2.5	2.6	2.6	2.5	2.5	2.5
110	PE714ME	PE-IV: Additive Mfg Technologies	3	2.5	2.5		2.6	2.4						
111	PE717ME	PE-IV Vehicle body Engg	2.7	2.5		2.5			2.5		2.7			2.6

112	PC711ME	Thermal Engineering Lab	3	3	3			3			3			3
113	PC721ME	CAE Lab	3	3	3	3	3	3						
114	PW719ME	Project Seminar	3	3	3	3	3	3	3	3	3	3	3	3
115	PE810ME	PE-V Product Design and process Planning	2.8			2.8			2.8	2.8			2.8	
116	PE830ME	PE-V Power plant Engineering	2.4	2.4	2.4			2.4	2.4	2.4		2.4	2.4	2.4
117	PE860ME	PE-VI Composite Materials	2.4	2.4	2.4			2.4						2.4
118	PE870ME	PE-VI Product Life Cycle Mgmt	3	3	3	3	3							
119	PE880ME	PE-VI Design and analysis of Heat Exchangers	2.3	2.1	2.1	2.3			1.8					2.2
120	PW819ME	Project / Internship	3	3	3	3	3	3	3	3	3	3	3	3
Sum			242.88	229.41	180.34	137.5	104.85	78.6	68.05	58.1	86.01	75.95	53.35	171.6
No. Of courses Mapped			98	94	74	56	42	29	27	22	32	29	21	70
Direct PO attainment values			2.48	2.44	2.44	2.46	2.50	2.71	2.52	2.64	2.69	2.62	2.54	2.45

1(b) Indirect PO attainment

S. No	PO1	PO2	PO 3	PO4	PO5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
Exit Survey	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Alumni Survey	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Employer Survey	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
CCA												
Guest lectures	3	3	-	-	-	-	-	-	3	3	3	3
Workshops	3	3	3	3	3	3	3	-	3	3	3	3
Professional Practice School	2	2	2	2	-	2	2	-	2	2	-	2
Student presentations	3	3	3	3	-	3	3	3	3	3	3	3
Theme Based Projects	3	3	3	3	3	3	3	3	3	3	3	3
MOOC courses	3	3	3	3	3	-	-	-	-	-	-	3

ECA												
NSS(includes Sahay, Street cause and all extension activities)						2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extra-curricular clubs												
1. Filmmaking					2			2	2	2		2
2. Mun club								3		3		3
3.Toastmasters								2		2		2
4. Maths club	2	2										2
5. Writers club								3	3	3		3
6. Science club	3				3				3			3
7. Photography					2			2	2	2		2
8. Dramatics							2	2	2	2		2
9. Quiz	3				3			3	3	2		3
10. Arts									2	2		2
11. Sports								3	3	3		3
12. Entrepreneur Ship (SWAYAM/ED CELL)								3	3	3	3	3
13. Inter institute literary and cultural activities								2	2	2		2
14. CRT	3	3								3		3
Sum	34	28	20	20	25	19	21	39	47	51	23	60
No. mapped	13	11	8	8	10	8	9	16	19	21	9	24
Indirect PO attainment	2.62	2.55	2.50	2.50	2.50	2.38	2.33	2.44	2.47	2.43	2.56	2.50

1(c) PO Attainment (2017-21 batch)

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Direct PO Attainment(80%)	2.48	2.44	2.44	2.46	2.50	2.71	2.52	2.64	2.69	2.62	2.54	2.45
Indirect PO Attainment(20%)	2.62	2.55	2.50	2.50	2.50	2.38	2.33	2.44	2.47	2.43	2.56	2.50
PO Attainment	2.51	2.46	2.45	2.47	2.50	2.64	2.48	2.60	2.65	2.58	2.54	2.46

2(a) Course-PSO Direct attainment matrix of 2017-21 batch of BE-Mechanical engineering program.

S No	Course Code	Course title	PSO1	PSO2	PSO3
S.No.	Course code	Course			
1	BS110MA	Engineering Mathematics - I	2.0		
2	BS120PH	Engineering Physics	1.9		
3	ES110CE	Basic Engineering Mechanics	1.41		
4	ES120CE	Engg Graphics - I	2.4	2.3	2.3
5	ES121ME	Engineering Workshop-I	3	3	3
6	BS210MA	Engineering Mathematics - II	1.9		
7	BS220PH	Applied Physics	2.0		
8	ES210CS	Object Oriented Prog.using C++			
9	ES220CE	Engg Mechanics		1.86	
10	ES230CE	Engg Graphics - II	2.5	2.5	2.5
11	BS211PH	Engg Physics Lab	3.0		
12	ES221ME	Engineering Workshop-II	3	3	3
13	OE310CS	Intr to Data Structures	2.4	2.4	
14	OE310EC	Intr to Signals & Systems		2.3	2.3
15	MC310ME	Introduction to Entrepreneurship		2.7	2.4
16	BS310MA	Engineering Mathematics-III	2.0		
17	ES320ME	Thermodynamics	1.8	2.0	1.9
18	ES330ME	Metallurgy & Material Science	2.0	2.0	2.0
19	ES330CE	Mechanics of Materials		1.38	
20	ES340ME	Machine Drawing	2.3	2.1	2.3
21	PC350ME	Mechanics of Fluids	2.3	2.2	2.4
22	ES331ME	Metallurgy and Material Science Lab	3	3	3
23	ES331CE	Mechanics of Materials Lab	3	3	3
24	OE410CE	Green buildings	1.0		
25	OE410CS	Cyber Security	2.4	2.4	
26	OE410EE	Non-Conv Energy Sources	2.1		
27	OE410IT	Intr to Software Engg		2.6	
28	OE420CE	Disaster Mgmt	3.0		3.0
29	OE420CS	Intr to Python Programming	2.4		2.4
30	OE420EC	Sensors for Engg applications	2.7		
31	OE420IT	Intr to DBMS	1.8	1.0	
32	BS410MA	Engineering Mathematics - IV	2.4		
33	ES410EE	Basics of Electrical and Electronics Engg.	2.1	2.1	2.0
34	PC410ME	Applied Thermodynamics	1.9	1.9	1.9
35	PC420ME	Kinematics of Machines	2.4	2.0	1.9
36	PC430ME	Design of Machine Elements	2.1	2.1	2.1
37	PC411ME	Applied Thermodynamics Lab	3	3	3
38	ES411EE	Basics of Electrical and Electronics Engg. Lab	2	3	3
39	PC510ME	Hydraulic Machines	2.6	2.6	2.6
40	PC520ME	Machine Design	2.2	2.2	2.2
41	PC530ME	CAD/CAM	2.7	2.7	2.7
42	PC540ME	Manufacturing Processes	2.6	2.7	2.6
43	MC510ME	Finishing School - III: Technical Skills	3	3	3
44	OE510CE	Remote sensing & GPS	2.5	2.5	2.5
45	OE510CS	Fundamentals of OOP	2.4	2.4	
46	OE520CS	Web Design	2.4	2.4	

47	OE510EC	Mathematical programming for Engineers		3.0	3.0
48	OE520EC	Sensors for Engg applications	2.5		
49	PC511ME	Fluid Mechanics &Hydraulic Machines Lab	3	3	3
50	PC531ME	CAD/CAM Lab	3	3	3
51	PC541ME	Manufacturing Processes lab	3	3	3
52	HS010EH	Finishing School-IV: Soft Skills			
53	PC610ME	Metal Cutting and Machine Tools	2.4	2.4	2.4
54	PC620ME	Dynamics of Machines	2.5	2.5	2.5
55	PC630ME	Heat Transfer	1.6	1.6	1.6
56	PC640ME	Metrology and Instrumentation	2.5	2.6	2.6
57	OE610CE	Project Mgmt	3		3
58	OE610CS	Intr to Databases	3.0		3.0
59	OE620CS	Intr to Operating Systems	3.0	3.0	3.0
60	MC610ME	Finishing School-IV: Technical Skills	3	3	3
61	PE630ME	PE-1: Renewable Energy	2.4	2.4	2.4
62	PE640ME	PE-1: Operations Research	2.5	2.6	2.5
63	PE650ME	PE-1: Automobile Chasis Components	2.7	2.7	2.7
64	PC611ME	Machine Tools Lab	3	3	3
65	PC621ME	Dynamics and Metrology Lab	3	3	3
66	PW619ME	Mini Project	3.0	3.0	3.0
67	PC710ME	Thermal Turbo machines	2.3	2.4	2.3
68	PC720ME	Finite Element analysis	2.5	2.4	2.4
69	PC730ME	Refrigeration & Air Conditioning	2.4	2.4	2.4
70	PE720ME	PE-II: Comp integrated Mfg		3	3
71	PE730ME	PE-II: Fuels and Combustion	1.9	1.9	1.9
72	PE740ME	PE-II: Supply Chain Mgmt	2.6	2.6	2.7
73	PE780ME	PE-III: Adv IC Engines	2.4	2.4	2.4
74	PE790ME	PE-III: Production & Operations Mgmt	2.5	2.5	2.5
75	PE714ME	PE-IV: Additive Mfg Technologies	2.7	2.5	2.5
76	PE717ME	PE-IV: Vehicle body Engg	2.6	2.6	2.6
77	PC711ME	Thermal Engineering Lab	3	3	3
78	PC721ME	CAE Lab	3	3	3
79	PW719ME	Project Seminar	3	3	3
80	PE810ME	PE-V: Product Design and process Planning	1.6	1.6	1.6
81	PE830ME	PE-V: Power plant Engineering	2.4	2.4	2.4
82	PE860ME	PE-VI: Composite Materials	2.5	2.5	2.5
83	PE870ME	PE-VI: Product Life Cycle Mgmt	3	3	3
84	PE880ME	PE-VI: Design and analysis of Heat Exchangers	1.9	2.2	2.2
85	PW819ME	Project / Internship	3	3	3
		Sum	188.01	168.54	163.1
		No. Of courses mapped	76	67	63
		Direct PSO attainment	2.47	2.52	2.59